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THE THIRTY-FIFTH ANNIVERSARY OF THE CLEAN WATER ACT: SUCCESSES AND FUTURE CHALLENGES

(110–81)

HEARING

BEFORE THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

OCTOBER 18, 2007

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October 12, 2007

SUMMARY OF SUBJECT MATTER

TO: Members of the Committee on Transportation and Infrastructure

FROM: Subcommittee on Water Resources and Environment Staff

SUBJECT: Hearing on "The 35th Anniversary of the Clean Water Act: Successes and Future Challenges"

PURPOSE OF HEARING

On Thursday, October 18, 2007, the Committee on Transportation and Infrastructure will hold a hearing to commemorate the 35th anniversary of the Federal Water Pollution Control Act Amendments of 1972, more commonly referred to as the Clean Water Act. The Committee will hear testimony from representatives of Federal, state, and local governments, industry, construction utilities, and nongovernmental organizations.

HISTORY OF CLEAN WATER LEGISLATION (PRE-1972)

The historical underpinnings of the Clean Water Act of 1972 can be traced back to the late 1800s, when Congress established the initial use-based restrictions on U.S. waters, focusing on preventing obstructions to navigation, including the disposal and transportation of waste.

Federal efforts to address water pollution are first recognizable in the Rivers and Harbors Appropriations Act of 1890, which required approval from the Secretary of War for the construction of bridges, bridge piers, and abutments, and other works over navigable waterways of the United States. It also prohibited the placement of fill or other obstructions to navigation in navigable channels without the permission of the Secretary.

The Rivers and Harbors Appropriation Act of 1899 built off these early ideas, requiring Congressional approval for the construction of any bridge, dam, dike, causeway, wharf, pier, or other such structures that may impact navigation. It allowed State legislatures to authorize the construction of bridges, dams, dikes, and causeways with the approval of the Chief of Engineers and

the Secretary of the Army so long as the navigable water in which the structure would be built was entirely within that state. Section 13 of this Act, commonly referred to as the Refuse Act of 1899, prohibited the discharge of "any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States, or into any tributary of any navigable water from which the same shall float or be washed into such navigable water."

The first widespread statement of Federal interest in addressing water quality concerns can be seen in the Water Pollution Control Act of 1948. It established a five-year grants program to defray local governments' costs in planning and designing wastewater treatment facilities, while also supporting research on water pollution control. The 1948 Act maintained the primacy of State responsibilities for water quality, but gave authority to the Federal Government to investigate and prosecute interstate pollution problems.

During the latter half of the 1950s and well into the 1960s, water pollution control programs were shaped by four laws which amended the 1948 statute. They dealt largely with Federal assistance to municipal dischargers and with Federal enforcement programs for all dischargers. During this period, the Federal interest and understanding of the nation's waters shifted from utilizing water for the movement of goods, services, and wastes to the protection of water for both public health purposes and for the protection of the water-related environment.

With the enactment of the Federal Water Pollution Control Act of 1956, Congress, for the first time, authorized Federal grants for the construction of wastewater treatment facilities. In doing so, it also maintained existing State responsibilities for water pollution concerns. The House Report from the Committee on Public Works (the predecessor to the Committee on Transportation and Infrastructure) stated that "The bill...reemphasizes the policy of Congress to recognize, preserve, and protect the primary rights and responsibilities of the States controlling water pollution.... Regulatory authority at the Federal level should be limited to interstate pollution problems and used on a standby basis only for serious situations and which are not resolved through State and interstate collaboration."

The Water Pollution Control Act was again amended in 1961, 1965, 1966, and 1970, further shaping water pollution control programs in the country. Water quality standards became a feature of the law in 1965, requiring states to set standards for interstate waters that would be used to determine actual pollution levels and control requirements. However, because the Water Pollution Control Act primarily remained a state-based program, these water quality standards lacked national consistency.

IMPETUS FOR CHANGE

By the late 1960s, there was a widespread perception that existing enforcement procedures were too time-consuming and that the water quality standards approach was flawed because of difficulties in linking a particular discharger to violations of stream quality standards. In addition, there was mounting frustration over the slow pace of pollution cleanup efforts and a suspicion that control technologies were being developed but not applied to the problems. These perceptions and frustrations, along with increased public interest in environmental protection, set the stage for the 1972 amendments.

Current events were raising the pressure on lawmakers to enact more effective legislation. Although the economy was strong, many believed that degraded air and water quality could begin to decrease quality of life. The list of events and statistics that made headlines at the time can become lengthy, but the following include the more-often cited:

- On June 22, 1969, the Cuyahoga River in Cleveland, Ohio, caught fire; the flames were fueled by oil and other industrial chemicals and waste that polluted the water.

- Due to severe levels of phosphorous in the water that produced algal blooms, Lake Erie was pronounced "dead" by experts and scientists. Eutrophication was robbing the Lake's waters of oxygen, resulting in massive fish kills.

- The Hudson River contained bacteria levels 170 times what was considered safe.

- A 1968 survey concluded that pollution in the Chesapeake Bay caused $3 million in losses to the fishing industry, and an economist at the Federal Water Quality Administration estimated that water pollution cost the nation $12.8 billion a year.

As a result of the growing evidence of the degradation of the nation's waters, both the Nixon administration and Congress began to explore an enhanced water pollution control policy, including the creation of Federal permitting programs. Although President Nixon's Refuse Act Permit Program was later struck down by the Federal District Court in Ohio for failing to comply with the National Environmental Policy Act of 1970, Congress continued to pursue an enhanced Federal role in water pollution control efforts, including the use of permits for discharges into the nation's waters.

The sluggish pace of pollution cleanup, as well as the increased environmental awareness surrounding events such as the first Earth Day on April 22, 1970, and Ralph Nader's 1971 report on the state of the country's waters, led to increased public interest in the environment and set momentum for the 1972 amendments.

CLEAN WATER ACT OF 1972

On October 18, 1972, Congress overrode President Nixon's veto to pass the Federal Water Pollution Control Act Amendments of 1972. Although the 1972 Amendments technically modified existing law, they marked a clear delineation from the previous law by establishing national technology-based standards, enforceable permits, and an increase in Federal assistance for municipal treatment plant construction.

In Title I, the Act states: "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Central to the 1972 Amendments is a national program that is implemented through Federal-state partnerships. Under this framework, states may assume regulatory authority for water pollution prevention programs, provided that, at a minimum, they adopt uniform Federal standards. Individual state programs may adopt more stringent requirements to meet local water quality concerns.

The Clean Water Act identified two *national* goals: that the discharge of pollutants into navigable waters be eliminated by 1985, and that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983 (also known as "swimmable and fishable waters").

In this regard, the Clean Water Act has two large areas of emphasis. The first area of emphasis centers on regulatory provisions that impose progressively more stringent technology-based (or water quality-based) requirements on industries and municipalities to reduce or eliminate the discharge of pollutants, and that regulate the discharge of dredged or fill materials into wetlands. The second area focuses on funding provisions that authorize Federal financial assistance for municipal wastewater treatment plan construction. Planning and financial and technical assistance for various regions and issues are also addressed.

National Pollutant Discharge Elimination System ("NPDES")

Industries must meet technology-based standards based on the type of pollutant discharged and the age of the facility (e.g., "best available technology achievable"). For municipalities, secondary treatment (defined in regulation as an 85 percent reduction in certain conventional pollutant concentrations as well as maintaining pH levels within a certain range) must be achieved. Additional limitations may also be imposed on dischargers where pollution levels in receiving waters continue to be too high to protect the receiving water's designated uses; this is accomplished through water quality-based effluent limitations.

The Environmental Protection Agency ("EPA") is responsible for defining what the required level of treatment is for municipalities and for each type of industry to meet its standards. EPA also must develop water quality criteria, specifying the maximum concentrations of pollutants permitted for different designated uses of waters.

These requirements are implemented and enforced through permits. All point source dischargers that discharge pollutants directly into jurisdictional waters must obtain a permit for that discharge either from EPA or a state, if the state has an EPA-approved permitting program. Permits are based on both technology requirements and water quality impacts, and set the concentration and amount of pollutants allowed to be discharged.

A state may implement its own permit program in lieu of the Federal program if it meets specified requirements and EPA approval of the state's program. For example, the Clean Water Act authorizes a state to establish water quality standards for its waters. Water quality standards consist of a designated use for a body of water, such as fishable and swimmable, suitable for spawning, or drinking water source; criteria for the amounts of various pollutants which will protect and sustain that use; and a policy to prevent or minimize degradation of water quality. For water bodies not meeting water quality standards following implementation of technology-based controls, more stringent ("water quality-based") limitations on dischargers may be imposed in order to protect the quality of the receiving waters.

Indirect dischargers, those that discharge to publicly owned treatment works ("POTWs") rather than directly into waters, must meet pre-treatment standards similar to those established for direct industrial discharges because POTWs traditionally are designed primarily for the treatment of

domestic sewage. Pretreatment requirements are either enforced by the POTW or by state or Federal authorities.

The Clean Water Act also establishes a program for regulating stormwater dischargers and regulates discharges from concentrated animal feeding operations ("CAFOs"). The law includes several enforcement provisions, authorizing administrative, civil, and criminal penalties, as well as citizen suits.

Section 319 of the Act provides Federal financial assistance, in the form of grants, to encourage and assist states in the control of nonpoint sources of water pollution. The provision requires states to identify areas not meeting water quality standards because of nonpoint sources of pollution and to develop programs, as necessary, if states are to receive implementation grants. Notwithstanding the expiration of the authorization for grants, the nonpoint source program has continued to receive appropriations for state implementation efforts.

Wastewater Infrastructure Financing

Titles II and VI of the Clean Water Act provide authority for grants to States and municipalities and the establishment of clean water state revolving loan funds, respectively, for the construction of treatment works. The Construction Grants program contained in Title II was phased out in favor of state revolving loan funds in the Water Quality Act of 1987 (PL 100-4). For the Construction Grants program, Congress appropriated approximately $60 billion over the life of the program.

The Clean Water State Revolving Fund ("CWSRF") was authorized in the Water Quality Act of 1987. Through the CWSRF program, each state and Puerto Rico maintain revolving loan funds to provide low-cost financing for approved water quality infrastructure projects. Funds to establish or capitalize the CWSRF programs are provided through federal capitalization grants and state matching funds (equal to 20 percent of Federal Government grants). SRFs are available to make low-interest loans, buy or refinance local debt, subsidize or insure local bonds, make loan guarantees, act as security or guarantee of state debt, earn interest, and pay administrative expenses. SRF monies also may be used to implement other water pollution control programs such as nonpoint source pollution management and the national estuary program. EPA, the Congressional Budget Office, and a coalition of industry and other interested stakeholders, have all estimated that significant increases in investments are needed to address wastewater needs over the next 20 years.

Other Authorities

The Clean Water Act contains several targeted programs and authorities that were designed to improve water quality throughout the country.

The National Estuary Program authorizes Federal financing for the development and implementation of comprehensive conservation and management plans for improving the overall ecological health of the nation's estuaries.

The Clean Lakes Program, established under section 314, authorizes financial and technical assistance to States in restoring publicly-owned lakes.

In addition, the Act authorizes several targeted programs for improving regional water quality in the areas of the Chesapeake Bay, Great Lakes, Long Island Sound, Lake Champlain, Lake Pontchartrain Basin, and for the management of wet weather discharges and stormwater best management practices.

SUCCESSES AND FUTURE CHALLENGES

The successes and future challenges of the Clean Water Act can be succinctly stated. In 1972, only one-third of the nation's waters met water quality goals. Today, while two-thirds of those waters do meet water quality goals, one-third still remain impaired.

Much of the success of the Clean Water Act can be attributed to the increased number of municipal sewage treatment plants constructed to address point source pollution. From 1972 to 1989, the Federal Government invested $56 billion in construction of these systems, with total federal, state, and local expenditures reaching more than $128 billion. The percentage of the United States population served by wastewater treatment plants has jumped from 42 percent in 1970 to 74 percent by 1985. Industrial point sources also have substantially reduced pollution under the Clean Water Act's pollution control programs further improving water quality across the nation.

However, future challenges remain. First, according to EPA's 1996 Clean Water Needs Survey, small communities will need $13.6 billion within the next nine years to meet Clean Water Act requirements. This funding would help finance construction of 21,000 wastewater treatment plants to meet the requirements of the Act. Specifically, 60 percent of the nation's total small community needs are located in 10 states (Illinois, Indiana, Ohio, Pennsylvania, North Carolina, New York, Texas, Virginia, Wisconsin, and West Virginia).

In addition, nonpoint sources of pollution continue to be identified as a leading source of impairment to the nation's rivers, streams, and lakes. Nonpoint source pollution comes from diffuse sources, rather than a more distinct point source like a discharge pipe. Nonpoint pollution sources include agricultural and urban runoff, silviculture, and construction, transportation, and recreational activities.

Examples of nonpoint pollutants include sediment and nutrients, toxic contaminants (such as heavy metals, chemicals, and pesticides), airborne inputs, and pathogens from organic waste. The pollution can run off the land and affect water quality in lakes, rivers, and wetlands, as well as groundwater and drinking water supplies.

The Act does not formally regulate nonpoint sources of pollution, but provides financial incentives to encourage states to address and control these sources of pollution. In 1992, the EPA found that out of ten sample state programs, the majority did not have nonpoint source programs oriented toward improving water quality on a state-specific basis. Although state-to-state variation is expected, the total report "suggests the need for more program focus at both the federal and state levels."

Finally, there are ongoing questions regarding the jurisdictional scope of the Clean Water Act following two U.S. Supreme Court decisions, *Solid Waste Agency of Northern Cook County* v. *Corps*

of Engineers ("*SWANCC*") (2001) and *Rapanos et ux., et al.* v. *United State* ("*Rapanos*") (2006). These decisions have created uncertainty over which waters are afforded Federal protection under the Act.

COMMITTEE ACTION IN THE 110TH CONGRESS

The Subcommittee on Water Resources and Environment and the Committee on Transportation and Infrastructure have addressed several Clean Water Act issues during the 1st Session of the 110th Congress.

On January 31, 2007, the Subcommittee marked up H.R. 700, the Healthy Communities Water Supply Act of 2007; H.R. 569, the Water Quality Investment Act of 2007; and H.R. 720, the Water Quality Financing Act of 2007. These three bills were then marked up by the Full Committee on February 7, 2007. On March 7, the House passed H.R. 569. On March 8, the House passed H.R. 700. On March 9, the House passed H.R. 720. The three bills authorize almost $16 billion for wastewater infrastructure over the next four years. All three bills await Senate action.

On April 17, 2007 and April 19, 2007, the Subcommittee conducted a two-part hearing on nonpoint source pollution, the first entitled "Atmospheric Deposition and Water Quality" and the second entitled "The Impact of Agriculture on Water Quality".

On July 17, 2007 and July 19, 2007, the Subcommittee conducted a two-part hearing entitled "Status of the Nation's Waters, including Wetlands, Under the Jurisdiction of the Federal Water Pollution Control Act."

HEARING ON THE 35TH ANNIVERSARY OF THE CLEAN WATER ACT: SUCCESSES AND FUTURE CHALLENGES

Thursday, October 18, 2007

HOUSE OF REPRESENTATIVES
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The Committee met, pursuant to call, at 10:50 a.m., in Room 2167, Rayburn House Office Building, the Honorable James L. Oberstar [Chairman of the Committee] presiding.

Mr. OBERSTAR. The Committee on Transportation and Infrastructure will come to order.

Before we undertake the hearing, there is a short business session we need to attend to, and that is to appoint the gentlewoman from California, Ms. Richardson, to Subcommittees. I ask unanimous consent to appoint Ms. Richardson to three existing majority vacancies on the following three Subcommittees, those that were held by her predecessor, Ms. Millender-McDonald: the Subcommittee on Aviation, the Subcommittee on Coast Guard and Maritime Transportation, and the Subcommittee on Highways and Transit.

In pursuance of this, I circulated a letter among the Members on the majority side, asking their concurrence or their questions or concerns, and we had a complete consensus of support for this initiative; and, if there is no objection, it is so ordered.

The purpose of today's meeting is to celebrate, by looking back and looking forward, on the 35th anniversary of the Clean Water Act, to take stock on our how environmental initiatives have unfolded in the years since that legislation was enacted in 1972, and also to remind ourselves of the task that lies ahead. The job of legislation is never complete. We must always be engaged in the process, not only of fashioning the legislation, holding the hearings, of moving legislation, conference with the other body, signature by the President or, in the case of the Clean Water Act, overriding a veto, and then overseeing the implementation of that legislation. That is an unending journey.

And beginning this process, I just take recognition of, acknowledgment of my predecessor, whose portrait hangs in the corner of this room, John Blatnik, who was elected in 1946 in a class, if you will, that was post-World War II, the first election to Congress following World War II, in a class that included John F. Kennedy and Richard Nixon, as well as Robert M. Jones, Bob Jones of Alabama,

Democrat, along with John Blatnik and, I think, 40 or so new Members of Congress.

It is intriguing that both Nixon and Kennedy went on to be president of the United States and John Blatnik, who served behind Nazi lines in what is today Slovenia, rescuing American airmen shot down on the return bombing runs from Ploiesti oil fields of Romania, spent 18 months living in barns, haystacks, and recovering mostly American airmen, but also British, came home and then ran for Congress. He had served in the State Senate. He was a microbiologist, and in 1955 he became Chairman of the Subcommittee on Rivers and Harbors, a Subcommittee on which I started my service in the Congress in 1963 as a clerk on the Subcommittee on Rivers and Harbors, the oldest Committee of the Congress.

And in pursuance of his new role as Subcommittee Chairman, he engaged the Corps of Engineers to make an excursion down the Mississippi River and the Ohio and Illinois River systems to observe the works of the Corps and the needs of navigation and the responsibilities that would lie ahead of him and of this Committee. And while they observed navigation, they saw the locks and they saw the need for improvements, what caught John Blatnik's attention was the discharges of pollutants, of the debris of the jetsam and flotsam moving down the Ohio and the Illinois and the Mississippi, all converging the waste and the discharges from 11 States by the time they reached New Orleans. He said, at that point there were raw phenols bubbling in the waters and that each State they passed, the condition of the river, the condition of the water became worse. He resolved that. Whatever else that was needed to be done by this Committee, cleaning the Nation's water had to be the Subcommittee's top priority.

So he fashioned, with Bob Jones from Alabama, an idea for a three-part program: one, research and development. As a scientist, he placed high store on gathering fact and understanding what would be the limiting factors, what elements, if you take them out of the waste stream, if you remove them from the receiving waters, would restore water quality. What are the factors that would limit growth of algae-producing, oxygen-depriving elements in the waterways and the lakes and the estuaries? And the second was help for communities to build sewage treatment facilities, to treat the wastes before they get in to the receiving stream. The third was an enforcement program to bring States together to agreement on enforcement measures for municipalities and industries.

And it was such a novel idea, John Blatnik thought that this would be something that everybody would want to join in, and he reserved the caucus room of the Cannon House Office Building. There were only two office buildings then, Longworth and Cannon, which was the first built. It can seat 600 people and he thought, surely, there would be great interest in such a cause, and sent out what we call today a Dear Colleague letter, which was unusual in those dates. Rarely did one make such broad appeals.

And on the day they sat for the meeting, he arrived and there were three people: John Blatnik, Congressman Bob Jones, and Murray Stein, an attorney in the U.S. Public Health Service, whose office, as Blatnik said, was in the seventh sub-basement of HEW,

but he was concerned about water quality. And together the three of them fashioned these ideas into a legislative initiative which was introduced in early 1956, passed the House, the Senate, signed by President Eisenhower, providing $30 million in Federal grants, 30 percent Federal participation to help municipalities build sewage treatment facilities.

Time passed, and in the ensuing three years it was clear that much more was needed; clear that we needed a broader program; clear that you had to go into the watersheds and to deal with the sources of pollution; and that much more money was needed. So Blatnik introduced a second bill to expand the funding from $30 million to $50 million, with still 30 percent Federal grant; stronger enforcement and more money for research.

That bill was vetoed by President Eisenhower, with a veto message that read, in its last line: pollution is a uniquely local blight. Federal involvement will only impede local efforts at cleanup.

But that was an election year and John F. Kennedy was pledging to invest substantially in cleanup of the Nation's waters, and one of his first acts in 1961 was to increase funding to $100 million—a vast sum in those days—and 50 percent Federal grants, and a stronger research and a stronger enforcement program; and that passed the Congress and was signed by the President.

Lyndon Johnson further expanded funding, coming up to $1 billion in Federal grants by the mid-1960s. But what galvanized the Nation then in the Johnson White House was that, now, mounds of suds were floating down the Ohio River system. People in various parts of the Country turned on their faucets and found soap suds instead of water coming out.

Then, in 1968, the Cuyahoga River caught on fire, with headlines and photos all across the Nation that said we must do something more significant, and that launched a series of hearings. By that time, I was chief of staff of the Committee on Public Works. We had extensive hearings over the period of a year; moved a bill through the House that vastly expanded, substantially increased construction grants, established laboratories for research, saltwater laboratory in Rhode Island, a freshwater laboratory that eventually was established on the shores of Lake Superior, five regional laboratories to conduct further research; much stronger enforcement programs.

Then we entered in conference with the Senate; 10 months of conference. Some of them here in this very room; others in the Capitol; some in the Senate office buildings. One thing that was clear to all conferees——

And those were the days when Mr. Chairman Young, we actually met. I remember your frustration as Chair of the Committee. You would go to meetings and you wouldn't see Senators, and they would send emissaries. I am sure Mr. Mica has had that same experience during his Chairmanship of the Aviation Subcommittee.

Members actually came, debated with each other, and staff met in between; vigorous, heart-felt debates and discussions. But one thing that was a clear consensus was that the nature of the program needed to focus on the waters of the United States, not just on navigable waters, from which the Committee initially derived its authority; that watersheds were critical to maintaining the quality

of our water, that you had to reach in to the very beginning of the stream in order to be able to maintain water quality.

The opening paragraph, the defining paragraph of the Clean Water Act reads: The purpose of this Act—the purpose of this Act, defining the terms for it—is to establish and maintain the chemical, physical, and biological integrity of the Nation's waters. That conference report was sent to President Nixon, who vetoed it, and the Congress overrode that veto by a 10 to 1 vote in the House, and a considerable margin in the Senate. And it has been our basic act, our basic law that has improved the quality of the Nation's waters. The goal was to have fishable, swimmable, body contact sport quality water throughout the United States.

There are 135 benchmarks set in that legislation. Not a one of them was met in the time frame envisioned. But, eventually, we got to something like 60 percent, 65 percent of the Nation's waters cleaned up. That leaves a third still, yet to be addressed, and that remains our goal, remains our challenge, remains an objective. This Clean Water Act addressed this extraordinary issue of fresh water for all.

You know, we send missions to Mars, to Saturn, to the asteroid belt, with sophisticated spaceships looking for water. Landed one of those on a large asteroid with a probe that was looking for water, water elsewhere in the universe, water that is the source of life. We need to spend as much time and energy and effort here on earth, even more, than we are in interplanetary missions, because all the water that ever was or ever will be is on the earth now, and it is our responsibility to care for it.

Mr. Mica, thank you for being here with us, our Ranking Member.

Mr. MICA. Thank you. If I may, Mr. Chairman, I would like to yield to our former Chairman, who has another obligation, and I will get my remarks.

Mr. YOUNG. Thank you, Mr. Chairman. Thank you, Mr. Chairman. I deeply appreciate this hearing and I agree with everything the Chairman said in the sense that we have made great progress, but we can make more.

My only advice, as we go through this review of how the Clean Water Act, we also have to see how it has been used against clean water itself. Primarily, I am referring to lawsuits by different groups that filed suits, I think, maliciously, trying to subvert the action of the Act itself, as we did pass it and which I voted for. I really believe that we have a responsibility to make sure we achieve our goals of clean water and, yet, also protect our ability for cities and other communities to function, especially our smaller communities.

What I am speaking of primarily is never intended to act on the arsenic quality or quantity in the water that is naturally in there, and you have a small community maybe of 500 people who put in a fine well, et cetera. Now they are required to treat the readers to a certain level that is prohibitive, it is impossible, and what we end up with is people going back to wells. There is no law against having your own well and drinking arsenic. There is a law, if you have a municipality, under the Clean Water Act, that they have to reach a certain standard.

So I think we have to review what has been done. One of the proud things I have is the Potomac River. When you first came down and I first came down, it was a mess. It is now one of the finer fishing streams in the United States. That has been achieved during our time of tenure. So I think we have made the great progress.

You mentioned Ohio and the fire that went on. That was John Seiberling's battle and now it is a clean river.

So we go forward, but let's, as we go forward, review what has been accomplished, and can we improve and still achieve portable water for the smaller communities in this Nation.

I thank the gentleman.

Mr. MICA. Thank you.

Reclaiming my time, if I may, let me just thank Mr. Young. We appreciated hearing his comments. He does have obligations as the Ranking Member of another Full Committee.

First, a couple of items, Mr. Chairman. From our side of the aisle, we want to welcome Laura Richardson.

I don't know if you were here when you were welcomed by the Chairman, but we are all delighted to have you. Congratulations on your election. As I mentioned to you, I knew your predecessor very well, many of us did, and worked with her. I have been out in your district and hope to get back and help you on the projects that are important to your area in Southern California; in fact, was there last weekend. God help you, it is something else. But we do welcome you and congratulations on your new assignments.

One other item of business, Mr. Chairman. I ask unanimous consent, I have a group of Water Advocacy Coalition and American Roadbuilders Transportation, American Council of Engineering Companies, American Society for Civil Engineers. We ask these and other statements be included in this important hearing.

Mr. OBERSTAR. Without objection, so ordered.

Mr. MICA. Okay.

I don't have the depth of history that Mr. Oberstar has. I guess he worked as a staffer when some of this was being done.

Mr. OBERSTAR. All of it.

Mr. MICA. It is good to see something he wasn't a Member that he wrote the damn thing, but he was here as a staffer, as I was, but I wasn't involved in this at all. In fact, my boss, who was the Ranking Member, got defeated when he ran for the Senate and we were all out of a job, that is another story.

I was telling Mr. Cummings it is nice to be here with Mr. Oberstar. I feel like I have a second marriage to him. You know, yesterday we had some disagreements, but together we moved a product forward, rail safety, which was something that he wanted to do. We had some disagreements, but today is a new day, so we wake up and we are at it again, trying to improve our Nation's water today. So sort of like a marriage. The nice thing about this marriage is I don't have to say yes, dear, as much.

[Laughter.]

Mr. OBERSTAR. You can say it more often.

Mr. MICA. Well, sorry, dear.

[Laughter.]

Mr. MICA. But, in any event, our intent today is to review the history, again, and some of the successes and some of the problems we still incur with the adoption of a law that took place some 35 years ago. There are many successes we can point to; you have heard some of them. In 1972, only two-thirds of the waters were estimated at that water quality standard. A few decades ago, wetlands were being lost at an alarming rate and some of the reports we have that we are actually gaining wetlands—and I want to talk about that in a second.

But we have to continue this record of success, and there are some challenges ahead, for example, we have an aging wastewater infrastructure and some of our water treatment, water quality programs. And if everyone will recall, those are some of the first bills that we did in this Committee in a bipartisan effort, and WRDA will be another bill that may also require the override of a presidential veto. But we made a firm commitment to having the resources we needed, and some of those are long overdue. So we have had some successes.

It is important, too, that the Federal Government—we have to look at this. The Federal Government can't do everything in this effort; we have got to call on the States, and several States have taken some very significant programs for funding wastewater and infrastructure and other clean water projects. Some States have approved special bonds to assist local communities. I want to cite the State of Maryland, which established the Chesapeake and Atlantic Bays Coastal Restoration Fund. I think this has to be a true partnership of State, local, and the Federal Government, and also the private sector.

So I think as we approach any future changes—and this hearing today, while it is a review, it is also a prelude to possible future changes. One of the things we have to be cautious about—and Mr. Young spoke about them—is over-jealous regulators and sometimes regulations that don't make sense, and the arsenic that occurs naturally in water, as Mr. Young cited, is a great example, just making sense and not putting burdens and actually putting people in a position where they are subject to some alternative that will not give them what we want, and that is clean water.

The geographic extent of jurisdiction of the Clean Water Act has been a topic of much debate and significant Supreme Court decisions in recent years. Some are concerned that the recent Supreme Court decisions have weakened the Clean Water Act; others have applauded the same Supreme Court decisions as an appropriate step towards a reasonable and constitutional Federal regulation. At a Committee hearing earlier this year, the Governor of Montana told us that his State did not want the long arm of the Federal Government imposing regulations that would threaten the livelihoods of farmers, ranchers, and miners. He asked that the Federal Government be a partner and collaborator with States in a joint effort to protect water resources. However, some do want to expand the jurisdiction to federalize all waters around the Nation, and there are bills that will redefine wetlands that are pending in Congress.

Unfortunately, we can sometimes, through some of these solutions, create even greater problems. We have had 35 years of juris-

prudence related to the Clean Water Act, which has served to refine and clarify the law. I think we have to be very cautious that, as we make any redefinition of wetlands, that we don't upset the apple cart and end up in more lawsuits, more regulation, more dispute. In fact, that we don't open a Pandora's box filled with unintended consequences. That would be one of the cautionary things.

In fact, when I was in Orange County this weekend, in California, one of the main questions I got is what are you going to do with the wetlands redefinition, and they cautioned me about some of the pending legislation. So I urge careful consideration and moderation in any efforts that we undertake, and I look forward to making reasonable improvements, but not those that get us all bound up and not going in the right direction.

So with those comments, I am pleased to yield back.

Mr. OBERSTAR. I thank the distinguished gentleman for his observations and welcome the partnership as we go forward with further legislation on the Clean Water Act to simplify the permitting process, to streamline it, to remove obstacles that have frustrated landowners, restore and maintain the agricultural exemptions of the Clean Water Act itself, and not redefine wetlands, but retain in place the 35 years of jurisprudence that the gentleman referred to, and to observe the concern of Governor Schweitzer, who cautioned about the long arm of Washington, but also, in the end, supported the Clean Water Restoration Act.

I would like to jump over seniority at this moment and invite our newest Member of the Committee, Ms. Richardson, to make comments at this point.

Ms. RICHARDSON. Thank you, Mr. Chairman. First of all, please excuse my delay. I was cheering in Niki Tsongas, who is now the newest Member of Congress, and in five weeks I have already gained seniority. So I was there cheering her on.

Mr. OBERSTAR. Stick around; it gets better.

[Laughter.]

Ms. RICHARDSON. I am counting on it.

Mr. Chairman, I appreciate both you, Ranking Member Mica, and the other Members of the Transportation and Infrastructure Committee for welcoming me. I share your commitment in understanding that, really, although a lot of people don't get it, transportation, to me, is the key issue that is facing us here in the United States, and we have a firm responsibility to handle legislation in a very positive and a forthright way so we can make the progress desperately needed that I believe Americans are looking for.

Finally, Mr. Chairman, I acknowledge your legendary history and knowledge. I look forward to learning from you. And I also hope that the expertise that I bring to the table will be of value to this Committee. So thank you for welcoming me, and I don't mind being a part of the marriage, and I gladly will say yes, dear. Thank you.

[Laughter.]

Mr. OBERSTAR. Thank you. Thank you. We welcome you to the Committee.

[Applause.]

Mr. OBERSTAR. The Ranking Member of the Water Subcommittee, Mr. Baker, distinguished gentleman from Louisiana.

Mr. BAKER. Thank you, Mr. Chairman. I appreciate the opportunity to speak briefly on the important matter before the Committee today and acknowledge your great contributions to this effort, and certainly that of our Ranking Member, Mr. Mica.

I share many of Mr. Mica's views and statements on the matter. I am excited and eager to pursue a goal which would result in streamlining of the regulatory process to bring about a format that would give some rational certainty to the permitting necessary to comply with the Act, and not also make statutory 35 years of judicial findings which I believe the unresolved question, when we make those statutory statements, is the historic view of what the courts have said.

In my opinion, waters of the United States will be found a little more narrowly in scope than perhaps others might choose to decide, but I look forward to a discussion on the scope of the authority. And, perhaps most importantly, the appropriate exercise of authority to not impair logical and rational development, while ensuring that the quality of water in the United States is not deteriorated by those who are irresponsible. And to that end, Mr. Chairman, I look forward to working with you.

Mr. OBERSTAR. Thank you very much. The gentleman from Louisiana is a very thoughtful, scholarly, and diligent Member of the Committee, and we look forward to vigorous participation.

Mr. Space.

Mr. SPACE. Thank you, Mr. Chairman. I would just like to express my gratitude to you for your continued leadership, as well as that of Ranking Member Mica, and I look forward to moving forward in the spirit of the Clean Water Act and wonderful things it has done for my district back in Southeastern Ohio, the home of the Tuscarawas, Muskingum, and Hocking Rivers, some of the most scenic sights on earth, particularly at this time of year. Again, thank you for your leadership.

Mr. OBERSTAR. I thank the gentleman.

Mr. Boozman.

Mr. Westmoreland.

Mr. WESTMORELAND. Thank you, Mr. Chairman. Before I do, I would like to introduce one of the panelists for the second panel, if I might.

Mr. OBERSTAR. The gentleman is recognized.

Mr. WESTMORELAND. I am honored to acknowledge one of the panelists for the second panel, Mr. James King, the President of the Dekalb Pipeline Company of Conyers, Georgia. Mr. King was also elected President of the National Utility Contractors Association in February, and this year Mr. King has served on the Administrative Board of National Utility Contractors Association since 2003, and as President of the Association he represents over 1700 members nationally. Mr. King's Georgia company, Dekalb Pipeline, was started by his father in 1960 and has been a thriving business every since. Dekalb Pipeline has been honored with several awards, including one for its outstanding commitment to employee safety.

As a Georgian, I am very appreciative of Mr. King's dedication to the construction at the local and the national level, and I want to thank him for coming today, and I am looking forward to his tes-

timony regarding the Clean Water Act and its affect on our Nation's water infrastructure.

Now, if I could, Mr. Chairman, have my opening statement.

Mr. Chairman, I want to thank you and Mr. Mica, both, for working together on this very important issue of clean water. But I want to address several members of the panel, if I could, Mr. Woodley and Mr. Grumbles, because, to have clean water, you have to have water. And I know the Chairman mentioned satellite efforts on different planets and on this planet to try to find water, and, Mr. Chairman, I will tell you, if you are looking for water, don't fly over Lake Lanier or West Point Lake, because there is none.

Georgia is in a drought crisis. We, as a congressional delegation, and our governor has been enquiring with the Corps and with the EPA about helping us resolve this problem. We are releasing more water out of Lake Lanier and West Point than is going in. Atlanta is down to an 80 day water supply. This water is being released to help the muscles and the sturgeon. We feel like that clean water is very important, but, in order to have clean water, you must have water. Lake Lanier is down 13 feet and is falling 6 inches a day. There was more water released from Lake Lanier last Monday than has been released since June of 2006. This is totally unacceptable.

I read your comments about clean water but they, to me, do not have any credence because I think, first, we have got to make sure that the citizens—and especially of Georgia—have water to have clean water. West Point Lake is at the level of 621. 619 is mud flats. The water is already below the intakes of many people that take water out of West Point. This is inexcusable from the Corps. We have an interim operating plan from Fish and Wildlife that the Corps has refused to go and get amended so we will not have to release the amount of water downstream that we are having.

So, Mr. Chairman, while I appreciate very much the fact that we are having this hearing on clean water, and everyone wants clean water, but people also want to have water, and in order for us to maintain being able to have consumption in the State of Georgia, we have got to have some relief from the Corps, from EPA, and from Fish and Wildlife. And, Mr. Chairman, I am going to ask you and Mr. Mica, if you would, to look into this, to join us in our efforts to make sure that the people of Georgia have water during this drought. And, Mr. Chairman, if I am not badly mistaken, there is something in the Endangered Species Act that says in a time of drought, that the Corps can intervene to make sure that people have drinking water.

So with that opening statement, I just want to make sure that people understand that while Mr. Grumbles and Mr. Woodley here are testifying about clean water, they need to be testifying about why they are prohibiting or maybe going to force people to go without drinking water, and rather than having soap suds come out of your pipe, we are probably going to have mud. So clean water is a great priority, but water first.

Thank you, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman. I look forward to working with him one-on-one and with Mr. Mica, if he wishes to participate,

with the Corps and with other entities to help the gentleman and his constituents achieve the water they need. Thank you.

Ms. Matsui.

Ms. MATSUI. Thank you, Mr. Chairman, and thank you very much for holding this hearing. It is important that we take a time like this, the 35th anniversary of the Clean Water Act, to take a look at where we are with this important and increasingly complex issue. We do have success to tout, as the Chairman mentioned. In 1969, the Cuyahoga River in Cleveland caught on fire due to pollution. In 1972, only one-third of our Nation's waters met clean water goals. Now, on this 35th anniversary, two-thirds of our waters meet these goals. However, this means that we still have work to do to make sure that the remaining one-third of our waters meet these goals.

But as we look ahead, I have to say a lot has changed, and a lot will continue to change as we address our water infrastructure challenges. Now is a good time to renew our commitment. Since 1972, our focus on water issues has broadened. More issues now play a role in our water quality and the soundness of our water infrastructure. Issues such as the loss of wetlands, flood protection, endangered species, and climate change now play a more integrated role.

In my home State of California, we say water is the next oil. It is an incredible commodity that we do not take for granted. In California, greater than 90 percent of our wetlands have been lost. Wetlands are a valuable natural sponge that helps filter water, which can improve water quality and provide valuable flood protection when there is excess water.

Additionally, California has the second most listed endangered species in the Country. But what is interesting about California is that most of our species have a link to water and spend at least part of their life cycle in water.

How do these issues factor in today, on the 35th anniversary of the Clean Water Act? I think these are precisely the type of questions that we need to hear about from our witnesses today.

In my district of Sacramento, we have taken on a broader, more regional approach with our water issues. We have taken a watershed approach and have begun to reach out to our rural and agricultural friends in the watershed to discuss ways to manage our region's water resources and the overall quality of our water.

Regionally, we have come to realize that we can no longer classify our communities as strictly rural or strictly urban. We are all part of the system or the watershed. And today is a time to renew the dialogue on the management of our water quality, the safety, and the future of our communities.

Thank you, Mr. Chairman. I look forward to hearing from today's witnesses and I yield back the balance of my time.

Mr. OBERSTAR. I thank the gentlewoman for her comments and certainly all understand that phrase, water is the second oil. That is very well put.

The gentlewoman from Virginia, Ms. Drake, who represents the Tidewater area.

Mrs. DRAKE. Thank you, Mr. Chairman. Mr. Chairman, I just want to welcome our panelists, thank them for being here, thank

them for their patience today, and I look forward to their testimony. Thank you.

Mr. OBERSTAR. Mr. Carney.

Mr. CARNEY. Thank you, Mr. Chairman. I want to thank you for holding this hearing on this wonderful anniversary of the 35th year of the Clean Water Act.

And, Mr. Mica, your leadership as well.

But I want to be sure that we address things in balance. We absolutely have to make sure that we protect the future generations' water supply, absolutely, but we need to resolve, in the days ahead, the confusion and the angst that many people who are the users and consumers of the water, and who have to work with water all the time, feel based on a lot of the decisions coming out of the Supreme Court and the way the regulations have been interpreted and enforced.

Clarity is essential here, and I look forward to listening to the testimony of the panel. I, of course, respect the leadership of our Chairman and the Ranking Member on this issue. I learned a lot earlier on in the debates on the discussion of clean water. I intend to learn even more after today's hearings. But, once again, things have to be done in balance here. Protect the environment, absolutely; assure that we have water for the future generations, absolutely; but also we have to remember the economic concerns of many of the interests. In my district, the farming and mining interest, the recreational interests, certainly, they all have to be in balance.

So I really look forward to this testimony. Thank you.

Mr. OBERSTAR. I thank the gentleman for his statement.

Mr. Altmire? Mr. Arcuri.

Mr. ARCURI. I would just like to thank the Chairman and the Ranking Member for having this important hearing, and I would like to thank the panelists, and I look forward to hearing their testimony.

Thank you, sir.

Mr. OBERSTAR. Before we go to the next order of business, which is hearing from our panel, I have a seven minute film, Troubled Waters. It was produced by the Senate Subcommittee on Air and Water Pollution in 1963 for the purpose of encouraging and informing the public of the need for clean water legislation. It included funds for a camera crew from the Public Health Service Communicable Disease Center and they used an Air Force plane to shuttle the crew to and from locations across the Country. It interviews a great many Members of Congress who saw the need for clean water legislation at a time when it wasn't a major public policy concern. So let us roll the film.

[Film played.]

Mr. OBERSTAR. Well, that was a look at the past, a look at the way things were in the years just before passage of the Clean Water Act, but in the days of what was known as the Federal Water Pollution Control Act.

To help us understand what has happened since then and where we are today and where we are headed tomorrow is our first panel, Secretary Woodley, Secretary of the Army for Civil Works; Ben Grumbles, former staff of this Committee and former staff director

for my former colleague from Minnesota, and now the Assistant Administrator for the Office of Water; Linda Eichmiller, Executive Director of the Association of State and Interstate Water Pollution Control Administrators; and the Honorable Kathleen Novak, Mayor of the City of Northglenn, Colorado.

Secretary Woodley, we will start with you. Welcome and thank you.

TESTIMONY OF THE HONORABLE JOHN PAUL WOODLEY, JR., DEPARTMENT OF THE ARMY, ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS; THE HONORABLE BENJAMIN H. GRUMBLES, ASSISTANT ADMINISTRATOR FOR OFFICE OF WATER, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY; LINDA EICHMILLER, EXECUTIVE DIRECTOR, ASSOCIATION OF STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATORS; THE HONORABLE KATHLEEN M. NOVAK, MAYOR, CITY OF NORTHGLENN, COLORADO

Mr. WOODLEY. Good morning, Mr. Chairman, and thank you and the Members of the Committee for holding this hearing. I am very pleased to be here this morning to speak about the 35th Anniversary of the Clean Water Act: Successes and Future Challenges. My testimony briefly summarizes the Army's responsibilities under the Clean Water Act and touches upon the challenges and opportunities in the 21st century. I have provided a full written statement and ask——

Mr. OBERSTAR. All statements, in full, by the witnesses will be included by unanimous consent in the Committee record.

Mr. WOODLEY. Mr. Chairman, the Corps and EPA work together to administer the Clean Water Act. The Corps of Engineers has the primary day-to-day implementation responsibility for section 404, which covers the discharges of dredge and fill material into the waters of the United States, including wetlands. Through the Corps efforts, wetlands and the aquatic environments of which they are an integral part are protected, and the environmental and economic benefits provided by these valuable natural resources are realized, while allowing important development projects to go forward in a responsible manner.

This Administration supports our program and wetlands protection. The Administration has budgeted increases in funding for our regulatory program from $138 million in fiscal year 2003 to $180 million in fiscal year 2008, a 30 percent increase in constant and nominal dollars. Unfortunately, Mr. Chairman, under the year-long fiscal year 2007 continuing resolution, the regulatory program was frozen at $160 million.

The Corps' regulatory program staff makes over 110,000 jurisdictional determinations and provides over 100,000 written authorizations annually. In addition to enforcement duties, the Corps regulators are also adjusting to the many changes in the program caused by court decisions, policy adjustments, program improvements, and the effects of increased coordination under the Endangers Species and National Historic Preservation Acts.

Despite these challenges, the Corps, in coordination and cooperation with the Environmental Protection Agency and our other partners, is helping to exceed the no-net-loss policy on wetlands while

further improving program performance, predictability, and transparency in several ways that are detailed in greater detail in the written testimony.

I have personally, Mr. Chairman, made a point of visiting our regulatory program in each of our 38 regulatory districts, and I have found the Corps of Engineers personnel involved in this program to be very professional individuals committed to the goals of the Clean Water Act. I am proud of their accomplishments and I feel we are very fortunate not have this dedicated workforce who have earned and deserve all of our support.

In conclusion, the Corps and the EPA have a long history of working together closely and cooperatively in order to fulfill our important statutory duties under the Clean Water Act. We remain fully committed to protecting America's waters and wetlands, as intended by Congress and expected by the American people. Although we recognize that there are legal and policy challenges facing the regulatory program, the 35th anniversary of the Clean Water Act finds the program operating robustly, supporting over $200 billion in economic activity annually, while protecting the important wetlands, resources, and aquatic environment.

I very much appreciate the opportunity to be with you and testify on this important matter.

Mr. OBERSTAR. Thank you, Mr. Secretary.

Mr. Grumbles.

Mr. GRUMBLES. Thank you, Mr. Chairman. I cannot think of a better place to be on the birthday of the Clean Water Act than here at the birthplace of the Clean Water Act, so it is quite an honor to be here on behalf of EPA and Administrator Steven Johnson to talk perhaps just very briefly about the accomplishments over the last 35 years, but to really focus in on some of the challenges and priority areas, and the commitment we have to work with you and your colleagues on this great Committee and in the Senate, throughout the Congress, on continuing to maintaining the progress and sustaining for the future.

As you know and Members of this Committee know, I think everyone in this room knows, there has just been absolutely dramatic progress over the last 35 years. The Clean Water Act is the envy of the world in so many ways when it comes to successful environmental laws and programs.

Since the 1972 Act, we have seen the placement of a national standards and affluent guidelines; a national permitting program, which, with our State partners, as it should be, is implemented through the States but with national guidance and assistance under a very strong and clear regulatory framework. We have seen an emphasis on pretreatment. We have seen an emphasis on investment in the Nation's wastewater infrastructure, the gray, the bricks, the mortar, the important components of the building blocks for treating wastewater and restoring waters for downstream users and increasing communities. We have seen, through the partnership with the U.S. Army Corps of Engineers and others, tremendous success on protecting and restoring wetlands through the Clean Water Act.

The Administration is fully committed not just to the no-net-loss goal, but also to an overall increase, an overall gain goal in the

quality and quantity of the Nation's wetlands, which are at the core of this Country's cultural and natural history and heritage.

We have seen progress in so many ways through the regional programs, the Great Lakes, the Chesapeake Bay, the Gulf of Mexico. Many successes.

Mr. Chairman, as you know, as we all know, one of the greatest challenges is with respect to infrastructure, maintaining and building, ensuring adequate capacity, and that is why the Administrator has identified as one of his highest priorities developing and implementing innovative, sustainable, market-based financing and management solutions for wastewater and drinking water infrastructure.

Mr. Chairman, one of the most important things that Congress can do is to enact the Administration's Water Enterprise Bonds proposal. We view that as a very important supplement to traditional financing mechanisms, to other Clean Water Act financing programs, such as the State Revolving Fund. But the Water Enterprise Bonds is a key component of that strategy.

We also are very committed to working with this Congress on Good Samaritan legislation, so another component that we think is very essential and timely is moving a targeted, bipartisan Clean Water Good Samaritan bill to improve the health of watersheds throughout the Country, but particularly in the West, where abandoned hard rock mines present challenges to constituents and to the fish and wildlife.

Mr. Chairman, we also see, particularly as it has been highlighted so well by the City of Atlanta and the concerns over water quantity, that the future of the Clean Water Act depends not so much on new Federal regulatory authorities, but on working at State and local levels to usher in a new era of water conservation and efficiency. That is why EPA's Water Sense program, which is modeled on the Energy Star program, we feel is a very important one to help change the way American's view and value water and to look for ways to reduce waste and inefficiency when it comes to water.

The other item, Mr. Chairman, I would emphasize is increasing our capacity to monitor for progress throughout the Country. The Administration's proposal, the $18.5 million water quality monitoring initiative has precisely put us on the right path, working with States to get a more accurate picture of progress when it comes to wadeable streams and lakes and estuaries and coasts. So we think continued focus on increasing the monitoring under the Clean Water Act is important.

And the last one is the overall watershed approach, Mr. Chairman. In every way we feel that the future relies on green infrastructure and sustainability, and taking a watershed approach, viewing stormwater not just as a waste product, but as a water resource and reusing it, using wetlands, restoring and protecting wetlands to focus not just on the gray infrastructure, but the green infrastructure over the next 35 years.

Thank you, Mr. Chairman, for the Committee's efforts on this regard.

Mr. OBERSTAR. Thank you very much, Mr. Grumbles. Arlan Stangeland would be proud of you, former Member from Min-

nesota, former Member of this Committee. It is also refreshing to have a witness come and speak from the fullness of knowledge as you just did.

Ms. Eichmiller.

Ms. EICHMILLER. Thank you. The Association appreciates this opportunity to share the perspectives of State and Interstate Water Pollution Control Managers on the success of the Act and the challenges the future holds.

The 1972 Act was built, as you know, on effective existing State programs and a vision of a partnership to get to its goals. It has provided a highly effective statutory framework; however, this is a good time to consider adjustments to facilitate further progress.

Major accomplishments, we have talked about quite a few. Waters throughout the Nation have become fishable and swimmable to the extent that the latest generation of children could not envision what the earlier generations had to endure and see in the great pollution of our Nation's waters. Water quality improvements just didn't happen. Virtually every city, town and industry invested very significantly to get us to where we are today. That includes over $500 billion in municipal infrastructure and the capitalization of a State Revolving Loan Fund to over $60 billion.

Comprehensive water pollution control programs have been put into place at the national, State, local, and regional level. We all deserve a lot of credit for that. A strong partnership at the State and Federal level has been developed with national consistency, tempered by the tension of flexibility to get good solutions into place.

Section 106 grants have funded States' implementation. They are one of the most important considerations in thinking about the future of the Act as to how to get implementation most effectively. With those funds, States set priorities with their local stakeholders to make the best use of the limited dollars.

The Clean Water Act has ensured public involvement in all facets of the program. This has been very unique to the Act and very key to its success.

Lastly, States have been monitoring and assessing water quality and reporting to you all and the public on the findings. This wealth of information also helps us focus on the highest priority water quality problems.

Can the Clean Water Act achieve its stated goals? We believe, as managers of the program, absolutely yes; that the interim goal of fishable and swimmable needs to be maintained. However, as some of you have talked today, solutions in the future are going to be costly and complex. Innovative treatment technologies and creative regulatory solutions are going to have to go beyond the traditional command and control way of doing business. The flexibility contemplated in the Act for States to develop creative solutions is key.

As we see major challenges that lie ahead, and has been talked about today, infrastructure is definitely a major need. We have funding gaps that are major for infrastructure; we have funding gaps for State management of the Clean Water program; and we have substantially more stringent requirements for such pollutants as nutrients and other issues that increasingly are pressing upon sources to solve their problems.

We now know that water pollution is caused by air deposition. Mercury contamination is making our fish inedible. We have to face together how to have the nexus between the Clean Air Act and the Clean Water Act to address those problems. Climate change, as was alluded to today, is a major concern for us.

Lastly, we need to work to integrate at the watershed level the problem-solving process and go across State lines to address the challenges. This is going to require a lot of creativity.

In addressing these challenges, there are several conversations we are going to have to have and briefly: obviously, what is the Federal, State, and local role in bridging the funding gap? How can we maintain flexibility to enable, at the watershed level, limited resources to be allocated to priority problems? How can we promote, in the Clean Water Act, that watershed problem-solving? What are we going to do when we realize traditional approaches contemplated in the Act may not work for nutrients, pharmaceuticals, endocrine disrupters? We are going to have to think outside the box a little here. And, lastly, we are going to have to, as you have talked today, deal with the Clean Water Act jurisdictional issue.

In conclusion, we believe the Clean Water Act is sound. Nonetheless, we encourage that we all consider administrative and legislative refinements based on lessons we have learned, our scientific knowledge and advancements, and issues that have emerged since 35 years ago, when the Act was created. Thank you.

Mr. OBERSTAR. Thank you very much. Very thoughtful sweep of the issues before us.

Ms. Novak. Mayor, thank you for coming.

Ms. NOVAK. Thank you. Good morning, Mr. Chairman and Members of the Committee. I am Kathy Novak, Mayor of Northglenn, Colorado, home of the National League Champion Colorado Rockies. I just have to say it. It doesn't happen very often; it may not happen again.

[Laughter.]

Ms. NOVAK. I am here today on behalf of the National League of Cities, the oldest and largest organization, representing over 19,000 local elected officials in America's cities and towns. I appreciate the opportunity to present the views of local government on the impact the Clean Water Act has had on the quality of our Nation's waters and on the quality of the life of our public.

We appreciate the leadership and the dedication of this Committee in protecting our Nation's water resources and I am honored to be part of this hearing that celebrates the 35th anniversary of the Clean Water Act.

The Federal Water Pollution Control Act passed by Congress in 1948 funded State and local water treatment systems and required the establishment of State water quality standards. With States controlling pollution discharge at the local level and the Federal Government having control over interstate and coastal waters, little consistency of laws and regulations existed nationwide. Amendments to the law passed in 1972 and referred to as the Clean Water Act established a national system for controlling pollution and protecting our Nation's waters.

This national system has served local governments well. Only about a third of the States have any State level water standards

and protections in place, and, of those, many are substantially weaker than the Clean Water Act requirements. For the most part, State water protection programs have evolved to work along with the Federal Clean Water Act, not in place of it. Because rivers and streams frequently cross State lines, protections in one State cannot be undermined by a lack of protection in a neighboring State. Local governments have benefitted from a national system for controlling pollution because water everywhere must meet the same water quality standards; communities downstream from waterways face less pollution caused by communities upstream.

The original law passed in 1972 set rigorous goals for all waters of the United States to be fishable and swimmable by 1983 and called for there to be zero discharge of pollutants into the Nation's waters by 1985. To help States and local governments meet those requirements, the legislation also established a general Federal grant program that provided up to 75 percent of the cost to build wastewater treatment facilities. Indeed, most of our Nation's water infrastructure was built in the 1970s. Local governments would not have been able to meet the requirements of the Clean Water Act without this grant program.

Today, the program known as the Clean Water State Revolving Fund provides essential money for local governments to assist in modernizing our water infrastructure. As the population has increased to close to 50 percent and continues to grow, governments at all levels must substantially increase wastewater and drinking water infrastructure funding in order to maintain and improve the quality of our water. Failure to make these necessary investments in our aging water infrastructure will lead to a serious decline in water quality. Unfortunately, the EPA has estimated that we are falling far short on water infrastructure spending by $22 billion per year.

Clean water is the backbone of livable communities and modern society. Effective sanitary and easy access to clean water support our Nation's health and economy. But like other invisible systems, we tend to take them for granted. We turn on our faucet and assume that the water is safe for drinking and bathing. We assume that our lakes, rivers, and coastal waters are safe for swimming and fishing. And while we live in a Country where typically this is the case, it has not always been so. The Clean Water Act is the main reason the Nation's waters have shown dramatic improvement in water quality. The law has been instrumental in improving the health of our lakes, rivers, and coastal waters by preventing billions of pounds of pollution from entering our waterways.

We are now at a crossroad where we must determine the fate of our Nation's waters. Will we continue to move forward and make progress or will we let this progress slip away? As beach closings caused by sewage overflows are occurring at the highest rates ever and economically crucial lakes, rivers, and coastal waters are being crippled by pollution, it is clear that there is much work to be done.

It is NLC's position that we must not let the progress made under this Act be turned back or negated. We must continue to move forward. We owe it to future generations to ensure that they too are able to fully enjoy and appreciate clean water.

While the Clean Water Act has resulted in successes in cleaning up point source pollution in waterways, future challenges remain for non-point source pollution. Previous Congresses have refused to consider attempts to authorize control over non-point source pollution. Unregulated non-point source pollution such as trash in our streets, oil and grease from cars, and fertilizers from lawns seep into our local watersheds, pollute our water, but pass the cost of remediation onto our local communities. In setting the future direction for the Clean Water Act for the next generation, we must address this issue and ensure that all pollution sources are considered.

Finally, in order to maintain the quality, the critical investments to our water infrastructure must be made and local governments cannot bear the cost of this alone. In 2007, the loan for the funding for Colorado was $323 million, while the loan capacity was only $41 million. For cities across the Country, this shortfall will continue to grow more stringent.

We urge you to fully fund the Clean Water State Revolving Fund, as it provides essential funds for local governments to assist in improving and maintaining the Nation's infrastructure, and we thank the Chairman and Committee Members in your leadership in passing H.R. 720, the Water Quality Financing Act of 2007.

I thank you for the opportunity to speak on behalf of cities and towns, and look forward to your questions.

Mr. OBERSTAR. Thank you very much, Mayor Novak. Is Northglenn near Fort Collins?

Ms. NOVAK. Near is a relative term. We are a Denver suburb, on the north end.

Mr. OBERSTAR. Oh, okay. All right. Well, my youngest daughter lives in Fort Collins with her family.

Ms. NOVAK. It is a beautiful city.

Mr. OBERSTAR. She lived in Denver for a time and then in Steamboat Springs, and now Monica and Callie Jo and Drew are very happy up there in Fort Collins. They love the mountains. I don't understand why.

Ms. NOVAK. You need to spend a little more time with us and you will see.

[Laughter.]

Mr. OBERSTAR. You raised a number of issues that are of significance for this hearing and for this Committee, and I will address two of those. One is the State Revolving Loan Fund program. Could I invite you to preach that sermon over in the other body, on the other side, 200 meters from here? They need to hear that. We have passed, as you noted, this legislation, not at the $20 billion level of your testimony, but $14 billion. We had to scale it back in order to comply with the new pay-go rules of the House.

The issue was raised by the Office of Management and Budget that if we extend an increase to funding, States will borrow and they will match the Federal available funds with their local share that will be in tax-exempt bonds and those will be a loss of revenue to the Federal Government. Very curious thinking. They are not borrowing that money now; that revenue is not being lost to the Federal Government; they are not getting it now, but that is the way the Office of Management and Budget thinks, regardless of ad-

ministration. It makes no difference if it is a Democrat or Republican. If Castro came in, they would all grow a beard, the whole crowd down there. I get very frustrated with them.

So we scaled it back and found offsets and came up with $14 billion, and the bill passed the House. It is waiting for action by the Senate for five months, six months, in fact, since we passed that bill. So carry your message across the aisle. I mean, across the Hill for us.

The State Revolving Loan Fund, by the way, is the replacement for the grant program of the Clean Water Act of 1972, which had up to $6 billion a year in 80 percent Federal grants to the major metropolitan areas. At that time, most of the money was committed, I think rightly so, to cleaning up the major waste streams discharging hundreds of millions of gallons of sewage a day into receiving waters, and the intention was that a major shift would come in the second decade of the Clean Water Act to those of less than 250,000 population. The problem is then Ronald Reagan was elected President and he cut the grant program out and we were saddened with a loan program, which was the State Revolving Loan Fund. We need to go beyond the $14 billion.

We also passed legislation through the House, $1,800,000,000 in grants to municipalities to separate combined storm and sanitary sewers. That too awaits action over in the other body.

But you did mention the non-point source issue, which, 20 years ago, I cited as the new frontier, the remaining frontier, after we addressed and were in the process of addressing the point sources, the non-point source from developed lands, shopping centers being built, major housing developments, where you have land runoff. Those all have to be addressed, and I would like to have you expand on that, why the National League of Cities feels that this is a frontier to be addressed.

Ms. NOVAK. Well, I can speak, for example, using my community. We did establish a stormwater utility and have gone to great lengths to educate our citizens about these kinds of issues. We are a suburban community, a bedroom community to Denver, and yet we have faced the challenges of trying to deal with the pollutants that come in to our waste stream and our water stream from people over-fertilizing their yard and letting it run in, from the oil and the gas leaking not only on our streets, people doing oil changes at home and rinsing it down into the gutter and it gets into our water streams.

Here are things that we are encouraging our citizens to do, and I know throughout the Denver Metro region, building green roofs, for example, to try and catch some of that. There are been technological advances in permeable concrete and pavement that allow the water to come in so it doesn't just drain off, take those pollutants with it and dump it right into our rivers and streams.

So I think at the local level we are doing what we can, but it is difficult because we cannot do it alone, and for us to bear the total responsibility of cleaning those up, when they come from sources that are really difficult to determine, is a burden that is really difficult for us to bear.

Mr. OBERSTAR. Thank you. Well said and right on point.

Ms. Eichmiller, you suggested creative solutions for States and localities to develop. What did you have in mind? Can you give us an example or two of creative solutions that are promising for the improvement of water quality and what might be roadblocks we might be able to address?

Ms. EICHMILLER. Yes. Building on the mayor's example, I think Minnesota is a very good example of that, where you have very complicated, very vibrant stakeholder groups that have a myriad of Federal agencies, State agencies, regional agencies, universities, and citizens that have had to convene to see how are we going to solve our watershed problems, and the role of the State water pollution control people—and I think the role of the Clean Water Act—is to help facilitate that process.

If there is a barrier, help remove that barrier and help encourage all of these actors that have to work together to really solve what is a watershed problem that is coming from various different levels. And the solution in the upper Minnesota, upper Mississippi, is not going to be the same as it is going to be in California in the various different regions. We see the future of water pollution control very much in this direction, and the really fundamental issue for the Clean Water Act is how can we help make these efforts happen, whether it is institutional barriers, money. You know, we are a partner in this.

Mr. OBERSTAR. Well, the partnership theme has been the cornerstone of the clean water program since 1956; it was always envisioned a partnership, Federal and State, with the Federal Government leading the charge because water moves among States. So thank you. We will work with you to develop those themes further.

Mr. Grumbles, you cited a number of issues. Oh, and by the way, I just wanted to mention that we will be having an extended set of hearings—three, possibly four; certainly three hearings—on U.S.-Canada water quality agreement that may start in December, depending on our legislative schedule here; possibly November, but certainly December and then on into the next year, to update the hearings that we held 20 years ago. We, that I held with Bill Klinger, my Republican colleague at the time, so prepare for those hearings.

You mentioned Water Enterprise Bonds. Four years ago, our Committee reported legislation to lift the cap on the Private Activity Bonds. The Administration then was not keen on doing this. They didn't threaten vetoes, but they sent messages out that this was not welcome, and the Ways and Means Committee stripped out of its legislation that authority that we provided to lift the cap and pointed out that the problem would be that there would be a decrease in revenue, as I discussed a moment ago, on the State Revolving Loan Fund program, there would be a loss of revenue to States that would all have to be offset. The Ways and Committee didn't want to do that.

So, first, how much are you proposing in Water Enterprise Bonds and how do you address the issue of offsets?

Mr. GRUMBLES. Mr. Chairman, first, can I say how excited we are to hear about your hearings on the Great Lakes water quality agreement? Sustainable solutions transcend political boundaries

and agency boundaries, and it is important to identify priority areas to consider whether to revise a historic agreement.

With respect to the Water Enterprise Bonds, that was four years ago. As we learn more about the challenges and the importance of providing new and innovative financing tools, the leadership of the EPA and the Department of Treasury came together and are now supporting removal of that State volume cap on Private Activity Bonds for water and wastewater, because we view it as a way to increase local choice and opportunity. When it comes to dollar amounts in numbers, the estimates are that that change to the U.S. tax code would result in some loss in revenue—I think it is less than $200 million—but that in the early years it would result in $1 billion or more in new money, new revenue for water and wastewater infrastructure and $5 billion a year or more in the later years of having the cap removed.

So it is an important tool in this Country—which I think has one of the most robust capital markets in the world—to look for innovative financing. So we think now is the time to move that legislation, just like now is the time for targeted bipartisan clean water legislation on Good Samaritans, to remove the potential barriers, legal and bureaucratic barriers, to true Good Samaritans cleaning up impaired watersheds.

Mr. OBERSTAR. Thank you. It sounds to me like Treasury has gone through a fiscal Head Start program here and picked up a little steam and learned a few things. A change of heart is always welcome. That is good to hear. Wonderful. And we will work with you on the issue of the Good Samaritan legislation.

Mr. Boozman?

Mr. BOOZMAN. Thank you, Mr. Chairman.

In June of 2007, the Corps and EPA released guidelines regarding the Supreme Court decision, Rapanos and Carabell. How is the implementation of the guidance coming along? Are permit applications, are they getting reviewed and processed, are permits being issued? What is going on with that?

Mr. GRUMBLES. Well, I would just say from the outset, as JP and the Army Corps lead the day-to-day permitting, what I have seen in terms of the EPA's role in overseeing the jurisdictional determinations under the Clean Water Act, that the guidance is an important step in providing greater clarity and consistency and predictability. I know that a priority for the Congress and for the agencies has been reducing the backlog in permitting that was the result of the confusion that was created by the Supreme Court decisions, and we have seen a reduction in that backlog.

Also, a very important part of that June guidance was an accompanying agreement, a memorandum between John Paul Woodley and myself to improve the coordination procedures on those jurisdictional determinations at the field level in the Corps and EPA offices, that if there is disagreement over those difficult to call wetlands, that they could be elevated through a process. We have seen a number of elevations, but it is a very small amount compared to the day-to-day jurisdictional determinations that occur in the field.

Mr. WOODLEY. My comment would be that there is no question that the implementation of the guidelines is resulting in an additional amount of work for the individual permit writers on the indi-

vidual permit level for each jurisdictional determination, and that is resulting in necessarily longer times being taken for jurisdictional determinations to be made. But with that observation, I will have to say that it is yet in the early innings for implementation on this. I am generally pleased with the way it is being implemented. It generally seems to be successful in its implementation, but we are evaluating it and I cannot make a definitive statement on it today.

Mr. BOOZMAN. So I guess kind of a follow-up, then, is you are comfortable that the word is getting out so that people and entities will understand in such a way that jurisdictional decisions are clear, consistent, so that they will understand? Does that make sense?

Mr. WOODLEY. Yes, sir. My early indications are that it is reasonably positive, given the complexity of the requirement. So I am cautiously optimistic, but in a big program like this, you start something in June, you ordinarily don't know much definitive about it even by October or November. But we are definitely following it very, very closely, and as Mr. Grumbles indicated, there appear to be fewer issues between the two agencies than I had actually anticipated, although there are some and we are working through them one at a time.

Mr. GRUMBLES. Congressman, I just want to add it is very important for us, when we issued the guidance, we understood this isn't the end of the process, this isn't the end of the story. This is needed detailed guidance with an accompanying handbook. We are going to see how it is being implemented in the field and we are also going to take comments from the public through December to see if we need to revise the guidance, reissue it, take another track, a different approach. But so far we have been focused on workshops, getting out information, and looking very carefully to see are there still some areas of uncertainty. And it is clear we need to continue to work on that and oversee it, and help answer, as quickly as we can, policy questions or legal questions that come up.

Mr. BOOZMAN. Very good. Mr. Grumbles, as you know, the Committee has done a lot of work trying to improve the scientific basis of our water programs, particularly focused on improving water quality standards, improving and monitoring data collection. What is the EPA doing to help ensure the success of these initiatives? I know that we faced, and still do face, a situation—I am from Arkansas. We interface with Oklahoma and Missouri with water quality issues and things, but one of the things that we found in doing that was that literally, as the universities talked from different States and things, that there was even basic disagreement about the measurements that are used, just really some very basic things. Are you all addressing some of those problems to make these things easier so that we can actually look at data and it kind of be able to——

Mr. GRUMBLES. Sir, that is particularly important, recognizing we are a Nation of rivers and they can be interstate rivers. As you know and as Linda Eichmiller knows, there are times when it is really important to start with a common understanding of the problem and an understanding of what are the goals and what are the water quality standards that apply. So the agency is focused on

several fronts in that regard to advance sound science and help decision-making legally defensible and collaborative efforts to resolve water quality disputes or problems.

One very important component of that is on the water quality criteria themselves that States then use for designating the uses for their waters. We are very focused on continuing to improve the criteria, particularly in the recreational waters front pursuant to the Beaches Act of 2000, but also inland waters, looking at the best available science to update the criteria that we use for water quality standards.

The other component, Congressman, is the use attainability analysis process. It is very important for States and localities to have a viable tool to modify or adjust their uses based on natural conditions or other changing conditions so that they can then get the designated uses correct. So that, coupled with our focus on monitoring, improving the Nation's water quality monitoring, we think will result in continued progress under the Clean Water Act regulatory programs, not just the permits that are based on technology controls, but on the water quality-based permits, which is more and more relevant in the 21st century.

Mr. BOOZMAN. Thank you very much.

Thanks to the panel. Your testimony was very helpful.

I yield back, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman from Arkansas for very thoughtful and probing questions.

In response to one of those questions, Mr. Grumbles, you cited sort of a decline in the number of permits and the time taken to process them. Yet, the St. Paul District, Secretary Woodley, of the Corps cited, as has done other district engineering officers of the Corps, an increase in a number of permits, a 50 percent increase, in fact, in the number of permits and in the time taken to process them because of uncertainty of how to proceed.

Now, in the aftermath of Scalia and Rapanos—I use that term loosely; Justice Scalia thought he was Senator Scalia for a time, or maybe Congressman Scalia. He was certainly legislating from the bench. He certainly did not read the opening paragraph of the Clean Water Act in making his decision.

So we have roughly three scenarios: the Scalia test, relatively permanent waters; the Justice Kennedy test, significant nexus; and then we have the Administration test, which combines these two. So what are district offices to do? What is EPA to do? And how are you going to establish a clear, consistent, predictable interpretation of the Clean Water Act that does not raise the fears and concerns that have been forthcoming over these many months?

And I will let you toss a coin to decide who wants to answer that.

Mr. GRUMBLES. I am going to turn to John Paul. I just wanted to also clarify a statement. If I said, in terms of backlogs, permit backlogs, I meant jurisdictional determination backlogs. That since the issuance of the June guidance——

Mr. OBERSTAR. Oh, I see. Okay. All right.

Mr. GRUMBLES.—we have seen a significant decrease in the backlog of jurisdictional determinations, which then leads to the permitting process.

But when you are having a hearing on the Clean Water Act and the future of it, permit backlogs is critically important too. And on the 402 front, the non-404 front, we have recognized for several years, with the States, that that is a key priority, and we all, working together, made significant progress because, as you get these permits up for renewal, rather than just an administrative continuance of the permits, it is an opportunity to update, to strengthen, and to improve those permits.

And on 404, I will turn to JP, but just to say that our view on it is that we recognize, both agencies, that there is an added stress on the workload for the government agencies because we didn't choose to go with one of the tests or the other tests; we said you can use either one. If one doesn't meet jurisdictional standards and you don't assert jurisdiction, you can also go through the other one, and on those close-to-all areas, do it on a case-by-case basis, don't just categorically exclude those waters from coverage under the Act. So that puts added stress on the agencies.

Mr. OBERSTAR. Thank you. We look forward to working with both EPA and the Corps, continuing a dialogue on streamlining the process and streamlining the permitting structure that we now work under.

Secretary Woodley.

Mr. WOODLEY. Thank you, Mr. Chairman. I think what our experience has been to date is that the Scalia opinion test is not difficult to administer, and there is very little doubt—there never has been great doubt—with respect to the jurisdictional status of waters described in that rule. The issue that we have had that is causing any uncertainty that exists is the application of the significant nexus test, which is something that we had never done before, and which is not a clearly defined, bright line test. Significance of nexus to a navigable water is not something that can be done readily determined from easily stated and well understood standards or data that has been routinely collected in the past or is readily available from open sources.

The result is that our guidance that we developed with EPA has sought to, to the maximum extent possible and in the absence of rulemaking, to indicate what the agency's views are with respect to those areas that can clearly be found to be significant, and then to suggest criteria that can be used in the field to make a significance determination beyond those areas; and that is, I think, the best we can do at the time.

Mr. OBERSTAR. Thank you.

Mr. Carnahan.

Mr. CARNAHAN. Thank you, Mr. Chairman. I appreciate you and Ranking Member Mica in holding this hearing today on the successes and future challenges of the Clean Water Act. I especially appreciated the historic film footage that we got to see earlier in the hearing. It reminded me—and I have to acknowledge before I ask a few questions—one of my mentors I think deserves a little bit of recognition here, but during that time period, in the early 1970s, we had a young first-term Senator named Tom Eagleton from Missouri, and he was very instrumental in crafting the Clean Water Act from his position on the then Senate Public Works Com-

mittee. He just passed away recently, but I know this was near and dear to him.

I wanted to, I guess, focus my short time in questions to the Secretary and Mr. Grumbles, really focusing on the Administration's commitment to the Clean Water Act and, in particular, local to St. Louis, where I am from and the people that I represent. We have had a long-term problem with combined sewer overflows, with, sadly, some of our crumbling infrastructure dating back to the Lincoln administration, if you can believe that. In fact, the EPA is currently suing the St. Louis Metropolitan Sewer District for violations of the Clean Water Act caused by CSOs.

But, simultaneously, the Administration has refused to spend substantial funding on combined sewer overflows or other environmental infrastructure projects. In fact, the Army Corps fact sheet states bluntly: "environmental infrastructure is not a budget priority." Well, I think the Clean Water Act really makes it clear that it is a Federal priority, and I wanted to ask you both to comment on why you think this has not gotten the greater priority in terms of addressing this issue with combined sewer overflows and how we can give them a better priority. I know St. Louis is not the only part of the Country that has this issue.

Mr. WOODLEY. Thank you very much for your question, Mr. Carnahan. This is an area that has been very troubling to me during my entire tenure, particularly because when I was serving as Secretary of Natural Resources in Virginia, two of our major cities had combined sewer overflow issues, had judicial orders and consent decrees that they were operating under—I am referring to the cities of Richmond and Lynchburg—and were very aggressively moving forward, and when I was at the State level, I supported State support for those efforts, although the localities were shouldering the vast majority of the burden, and I was very grateful for Federal support. At that time, the Federal support that came was through the EPA arena, it came as a grant through the EPA process.

The fact sheet that you mentioned I think should be regarded as specific to the Corps of Engineers program and should not be regarded as an overall Administration position on sewage treatment projects within the overall Federal budget. Our position has been—and this is not just this Administration, this goes back many years—that that type of project is not within the core—that is, C-O-R-E—mission of the Corps of Engineers—C-O-R-P-S. So it is not a question of opposing them, it is a question of suggesting that when we devote resources into the Corps of Engineers budget, they should be, generally speaking, if at all possible, focused on the Corps of Engineers' primary missions of navigation, flood control, ecosystem restoration, and other ancillary missions of hydroelectric power production, and aquatic-based outdoor recreation.

So when our fact sheet talks about that, that should be understood very narrowly within the context of the Corps of Engineers budget process.

Mr. CARNAHAN. Well, I might suggest—and I will use, again, the specific example of St. Louis, clearly, within the core mission of the Corps, as you mentioned, is ecosystem restoration, and when we have combined sewers that are emptying directly into the Mis-

sissippi River, that that, to me, certainly squarely fits in that definition. So certainly they are connected. I think that is really difficult to separate that out.

Mr. WOODLEY. Thank you, sir, but it is not within our definition of aquatic ecosystem restoration. Not meaning to quibble with you, but it is considered a separate category.

Mr. GRUMBLES. Congressman?

Mr. CARNAHAN. Yes.

Mr. GRUMBLES. From an EPA perspective, environmental infrastructure is a priority. It is a priority on several fronts. The State Revolving Fund has, over the years, provided approximately $8 billion in funding for CSOs and SSOs, at least by my count. Our position is three-fold. One is from a Clean Water Act enforcement standpoint, we owe it to communities downstream, to the Gulf of Mexico to ensure that national standards on nutrients and pathogens are met, so a commitment to continue to put an enforcement priority, when the Clean Water Act is being violated due to CSOs, combined sewer overflows.

The second step, though, is because we recognize communities across this Country, like St. Louis, face very large price tags to bring their systems up to grade and to meet the Clean Water act. So the question is how best to do that, and the overall position of the agency is State Revolving Fund monies, the seed money that the Federal Government has provided over the years has led to a very strong and successful program to help further leverage funds, but we need to ensure that rather than the Federal taxpayer, the local rate payers need to be the ones who primarily finance those important Clean Water projects. So working with the communities to instill a sense of full cost pricing so that the rates reflect the needs of those important projects is a priority for us.

The third is to look for innovative approaches to reduce the costs and increase the environmental benefits, and that is through the concept of green infrastructure. Greening the watershed and in an urban environment that can be a challenge, but it can significantly reduce the costs which are extensive for communities that have CSO long-term control plan needs and requirements.

Mr. CARNAHAN. I appreciate the fact that you are going to be visiting St. Louis later this week, and look forward to working with you.

Thank you, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman.

The gentleman from South Carolina, Mr. Brown.

Mr. BROWN. Thank you, Mr. Chairman, and thank you to the panel for coming and sharing some great information and being a part of trying to find a solution to where this Country will be going. I know that my friend from Georgia testified that they are in a tremendous drought down in his region, and we can testify to the same. We thought we had a great watershed that would sustain us for a long, long period of time, but we are noticing a lot of stumps now where water used to be, and we are competing, I guess, with Georgia and with North Carolina for the resources of good clean water, and I know this a major problem you will have to be dealing with pretty quick in the future.

One of the problems we have got is we have a hydro system that is on that lake, and because of the saltwater intrusion coming up that river, we have to dump some of that good water that we need for—we also have some water systems tied into this lake system and, of course, we are competing with those other entities for that same water. This is going to be a major problem, as we see, down the road. Are we going to be more concerned with the saltwater intrusion than we are from the pure water we have to use in order to keep that from happening? This is a major concern.

But I appreciate what you have done. I know the Harbor of Charleston now is a great place to be and once before, I guess 20 years ago, we were dumping raw sewer there, and this is a major undertaking. We got a $100 million project now replacing those 100 year old tunnels. It is 100 feet down below the city and we are grateful for EPA and your support there.

My question would be I know that as we passed the guidelines based on the Supreme Court ruling. Could you give us a clear definition of do we have a clear definition each time, as we try to define what an isolated wetland really is?

Mr. WOODLEY. Yes, sir. I believe that the work that we have been doing in the area of isolated wetlands has made the definition increasingly clear, and I think that we have rarely had an issue concerning that, although—well, we have very recently published—in fact, about the same time we published these guidelines—published a new manual that sought to codify the best practices; in other words, not to change the rules, but we did an entire survey of all of our districts and all of our divisions and asked them how they were applying, in various situations, whether or not a wetland or stream was isolated, and we found that there were a good bit of difference between the various districts, but that in every case there seemed to be a sort of a center of gravity where most of the districts were applying the same type of rule.

And we codified that as the best practice from the experts in the field and we have issued that as a manual, more of a training guide. It is not a policy, it is not legally enforceable and doesn't change any of the rules that we use, but it is a training guide that is available not only to the Corps of Engineers professionals, but also to landowners and professionals in the field and surveyors and private engineers to let them know what is the Corps people looking at when they ask the question of whether something is isolated.

That is also fairly new, so I really can't make any representations about how well it is working, but that was an initiative that I took in response to the finding that I made when I was out in the field, that they were all trying to wrestle with these issues and to do the best they could, but that sometimes in Charleston you have got one rule and in Wilmington you had the same people trying to do the same thing and coming up with a slightly different interpretation. So I hope we can continue to improve that, but it is certainly something we are focused on.

Mr. BROWN. Is part of that dialogue, do you think you will come up with some standard of what streams are navigable and which ones aren't? Do you all have any plan to categorize the different bodies of water that says, well, if you are attached to this it is isolated wetlands; if you are not attached to this it is not?

Mr. WOODLEY. So far, we have not moved in that direction, and we are dealing with the questions based on who is applying; and we make determinations specific to particular application. Then, of course, that will set precedent for any applications in the future. But I believe and I am hopeful that that is something that, working with EPA, we will be able to do in the future because I mentioned that some of these issues have come forward and been elevated under our guidelines.

One of them, in fact, involved a disagreement between the field offices as to whether a particular stream was in fact a navigable water, and that seemed to me something that we really need to nail down and that we can't be having that level of uncertainty within the program. But, generally speaking, the navigable waters are fairly well known, but there is that area of uncertainty the higher you go up in the watershed.

Mr. BROWN. And sometimes we would have some disputes between what the Corps identifies and what EPA identifies, and that makes it a conflict with those people that are trying to accomplish whatever goals they are trying to do out there.

Mr. GRUMBLES. Congressman, I just want to say that since we have been working together on this issue over the years, and certainly since the June guidance in light of the Supreme Court decisions, there is a commitment of the two agencies to work together in an integrated fashion and make decisions together. There are disagreements at times in the field, and we just need to work through those.

On the isolated intrastate non-navigable wetlands—and the Supreme Court spoke very clearly about limiting our ability to assert jurisdiction over those—we are spending a lot of time trying to provide greater clarity and consistency for jurisdictional determinations, as JP mentioned, particularly in those areas where the difference between isolated and adjacent, and then, as we have committed to do, is use the significant nexus test or standard that Justice Kennedy articulated; and that is where we agree we need more field experience and we need to work with the regulated community to get their views on how best to make those decisions and use the best science that is available.

Mr. BROWN. I really do appreciate this cooperation between the two of you; I think it really will help clarify some of the questions that are out there.

Mr. Chairman, I know my time has expired. Thanks for holding this hearing.

Mr. OBERSTAR. Thank you very much for those questions, which go to a very core issue here for both agencies.

Before I go to Ms. Richardson, Mr. Grumbles, you said that—or maybe it was Secretary Woodley who said that some 2 million 700 thousand plus acres of wetlands have been restored, protected, or improved in the last three years. Do you have a compendium of those? Can you make that available for the Committee, please?

Mr. WOODLEY. Absolutely. That has been made public and published by the White House on an annual basis, and it is a remarkable record working with, of course, our agencies. But to be perfectly fair, I think that our agencies played a role, but that the Agriculture Department under the authorities that the Congress has

given it and the farm bills over the years, and the Interior Department, working within its authorities, have made massive contributions as well.

Mr. GRUMBLES. And, Mr. Chairman, that important goal that the President laid out, it doesn't rely on Clean Water Act regulatory compensatory mitigation or the other regulatory tools. What it was is a goal under cooperative conservation and stewardship, using various programs that we all have, particularly Interior and USDA, to make significant progress and to measure it and to be accountable and identify precisely how we counted up the acres on that, and that is what we have.

Mr. OBERSTAR. Thank you. We will receive that for the Committee record and pertinent parts of it will be included in the Committee hearing at this point.

In your June 5 guidance document, a footnote says, "The Supreme Court held use of isolated non-navigable interstate waters by migratory birds is not in itself a sufficient basis for the exercise of Federal regulatory jurisdiction under the Clean Water Act. This guidance does not address the SWANCC case, nor does it affect the joint memorandum issued by the general counsels of EPA and the Department of the Army."

That raises questions about what rulings you would make on isolated water. If a previous mitigation project had taken place in an isolated water, and if we use the EPA core guidance, is this water now considered non-jurisdictional? Could mitigation land be redeveloped?

Mr. GRUMBLES. Well, there are two guidances that we are working under, the 2003 SWANCC guidance—and the basic point there is in the guidance we held open the possibility that there could be circumstances under (a)(3) paragraphs of our regulations where there could be an assertion of jurisdiction over isolated interstate non-navigable waters without relying on the migratory bird rule provisions. As a legal matter, that is still possible, but as a practical matter we had not asserted jurisdiction over those types of wetlands based on that guidance, which is still in place.

The subsequent guidance, the June 2007 guidance, the Rapanos guidance, we really wanted to focus in on not on the isolated interstate non-navigables, but on the precise types of wetlands that were at issue in the Rapanos and Carabell decisions; and there we took the opportunity to flush out the principal that we will use either the Scalia standard or the Kennedy standard and go through that analysis for wetlands and also for various types of streams and water bodies.

JP?

Mr. WOODLEY. Mr. Chairman, that is a very good point and a very good question, and the answer, I believe, straight answer would be that those mitigation lands might very well be found to be non-jurisdictional under the Supreme Court decision. However, there is a bit of a safety net in the program, and that is that, routinely, we require a permanent easement for conservation to be filed as a land record in favor of the United States against any lands that we accept as mitigation for loss of wetlands, and if that easement was recorded, it would be enforceable, regardless of the

jurisdictional status of the land that was later determined to be isolated.

Mr. OBERSTAR. Thank you.

You know, it is ironic that on this 35th anniversary of the Clean Water Act, that so many questions have been raised about it in light of the two Supreme Court decisions, and opening an opportunity for some people who disagree with the Clean Water Act, many aspects of it, to raise questions and to begin to undermine it. But the confusion created here, as summed up by questions that have been raised, that the guidance would include constructed open water ponds on golf courses and ornamental fountains or stormwater retention areas as additional wetlands. I don't think that is your intention, is it?

Mr. GRUMBLES. I will tell you one thing that we are all committed to doing is improving the methodology for the national wetlands inventory, which I know you are familiar with. And in the context of that national wetlands inventory, the methodology that has been used, the cordon methodology over the last decade or more, has included a category for water bodies, water features such as the one you described.

What we are committed to doing is working with the Fish and Wildlife Service and other agencies that, as they take the lead in preparing the next national wetlands inventory to help measure progress towards no net loss, that we have special consideration of those types of water features so that we can have as accurate and clear a message and picture of progress that we are making or challenges that remain ahead.

Mr. OBERSTAR. Thank you. We will be pursuing this matter with you.

Ms. Richardson, we are about to have a vote. There it goes. You will have the final word with this panel.

Ms. RICHARDSON. Actually, sir, I think the questions were well covered, and, in my preparation, not only did I read the background, but my chief of staff made sure that I watched Chinatown this weekend, the whole story about the efforts of water in California. So I enjoyed all the questions and look forward to serving. Thank you, sir.

Mr. OBERSTAR. Thank you.

Mr. Boozman, do you have anything further?

Mr. BOOZMAN. No.

Mr. OBERSTAR. I want to thank this panel for their very thoughtful comments, excellent preparation, complete statements that will all be included in the record. And anything you wish to supplement will be accepted for the record as well.

I will call our second panel, but then we will have to recess for the vote and resume as soon as we can thereafter. Our second panel is Ms. Derry MacBride, Chairman of the Garden Club of America. And I particularly welcome the Garden Club of America because you were the first ones. You were there in 1955 and 1956, well, let me say, long before you were born. But the Garden Club of America were there as the original supporters of the clean water legislation of my predecessor, John Blatnik.

Mr. Christopher Westhoff, Assistant City Attorney, Public Works, General Counsel for the City of Los Angeles, on behalf of

the National Association of Clean Water Agencies; Mr. Peter Lehner, Executive Director of Natural Resources Defense Council; from our State of Minnesota, Kevin Paap, my good friend, President of the Minnesota Farm Bureau, with whom we have had many discussions about the Clean Water Act and the legislation I have introduced to restore it; Mr. Mark Singleton, Executive Director, American Whitewater, on behalf of the Outdoor Alliance; and Mr. James King, Jr., President of Dekalb Pipeline, Conyers, Georgia, on behalf of the National Utility Contractors Association.

If all of you want to take a stretch and a deep breath, we will resume in roughly 20 or 25 minutes, depending on the time it takes to conclude this vote.

[Recess.]

Mr. OBERSTAR. All right, we will resume our sitting. I walked over from the votes with Mr. Boozman, who had to stop by his office for a moment, but he invited me to continue the hearing, and he will be along shortly.

So we will begin with Ms. MacBride. Again, I want to thank you and your predecessors of the Garden Club of America for being the first ones to step forward to support a comprehensive program of clean water for America. You were there at the beginning and you are here at the 35th anniversary. On behalf of my predecessor, John Blatnik, I welcome and thank you.

TESTIMONY OF DERRY MACBRIDE, CHAIRMAN, GARDEN CLUBS OF AMERICA, NATIONAL AFFAIRS AND LEGISLATION COMMITTEE; CHRISTOPHER WESTHOFF, ASSISTANT CITY ATTORNEY, PUBLIC WORKS, GENERAL COUNSEL, CITY OF LOS ANGELES, CALIFORNIA, ON BEHALF OF NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES; PETER LEHNER, EXECUTIVE DIRECTOR, NATURAL RESOURCES DEFENSE COUNCIL; KEVIN PAAP, PRESIDENT, MINNESOTA FARM BUREAU, ON BEHALF OF AMERICAN FARM BUREAU FEDERATION; MARK SINGLETON, EXECUTIVE DIRECTOR, AMERICAN WHITEWATER, ON BEHALF OF OUTDOOR ALLIANCE; JAMES KING, JR., PRESIDENT, DEKALB PIPELINE, ON BEHALF OF NATIONAL UTILITY CONTRACTORS ASSOCIATION

Ms. MACBRIDE. What a warm welcome. Thank you so much, Chairman Oberstar. I really appreciate that. Thank you. And to Members of the Committee, as well as the Chairman, I thank you very much for inviting me here to speak today on the historical relationship between the activities of the Garden Club of America here in Washington and the history of the Clean Water Act.

I also wanted to say, Chairman Oberstar, I know you have been a great supporter of GCA for a long time, and we hear it from a variety of sources, and we all very much appreciate that. So thank you.

I would like to briefly introduce myself, tie in a bit of that history together, and then I appreciate that you mentioned earlier that my testimony will be entered into the record.

So I am the Chairman of the National Affairs and Legislation Committee of the Garden Club of America. The Garden Club of America has 17,600 members in 197 clubs across the Nation and has long enjoyed an excellent working relationship with Members

of Congress on issues related to our environment. We greatly appreciate Congress's past consideration of our views and the opportunity to offer our thoughts on the 35th anniversary of the Clean Water Act.

Since its founding in 1913, the Garden Club of America has been a strong advocate of conservation and sustainable uses of our natural resources, as well as efforts to advance public awareness of the state of our environment. We have long been involved in legislative activities since the earliest days. In 1921, one of our founders testified before Congress on behalf of the national parks.

Many GCA members from across the Nation were active in the 1930s in a battle to save the California redwoods. Ladies actually traveling from across the Nation and way up into Northern California, into the depths of the redwoods, came in full regalia with steamer trunks in toe, no less, and went so far as to purchase a 7,000 acre redwood grove and donate it to the State of California.

I actually visited that redwood grove, the GCA redwood grove, two weeks ago in Northern California, and it is really a formidable sight to behold. I hope you all get a chance to visit if you haven't been there.

Much further down the road, during Federal hearings in 1967-68, GCA formally supported the preservation of estuarine and marine resources. It was at this time that GCA formed the National Affairs and Legislation Committee to represent its concerns in Washington. Our NAL Committee follows most environmental legislation and advocates for protection of our natural resources, and it works in tandem with the Conservation Committee, which provides background research and education on critical environmental issues. Our two Committees then send our information and policies back to the ground forces in all our local clubs.

We also surge into your offices every February, after our annual conference, to make sure that you haven't forgotten us and our views.

While well intentioned, earlier efforts such as the Water Pollution Control Act of 1948 did not come close to addressing the continued contamination of waters. By the end of the 1960s, it became clear that more was needed. A number of beaches across the Country had been closed to polluted waters and the public, as mentioned by the Chairman, had become increasingly aware of pollution as a national concern when it was documented in many of the Country's best known waterways, including the Great Lakes, the Potomac River, and Boston Harbor.

As the Committee knows, and as was also mentioned by the Chairman earlier, the exhibit A of our national water pollution crisis was the 1969 fire on the surface of the polluted Cuyahoga River in Cleveland, Ohio. The fire was triggered by the mix of industrial waste and marine engine oil, and it damaged two railroad bridges and convinced many doubters that addressing water pollution had to be placed in the top tier of the Nation's public policy agenda.

In 1972, as a result of a broadly based bipartisan effort, Congress passed a set of amendments to the then 24 year old Water Pollution Control Act. The new amendments were intended to reduce the pollution in the Nation's waters through the regulation of pollutant discharges by business and industry. These amendments

later became known as the Clean Water Act. One of my predecessors, as chair of our National Affairs and Legislation Committee, Ellie Kelly, testified before Congress in support of these efforts.

In 1987, Congress reauthorized the act and added new provisions strengthening facilities. Roughly the same time, another of my predecessors, Winston McIntosh, established something called the Hot Line. At that time, it was an answering machine with recorded updates of the status of environmental issues of interest to GCA so that our members across the Country could stay abreast of activities in the Capitol. As you might imagine, with the advent of computers and electronic communication, the Hot Line has been replaced by an extremely detailed, thorough, and electronically distributed legislative update and status chart.

Today, the Clean Water Act is generally regarded as one of the most successful pieces of environmental legislation in American history. The Great Lakes and numerous urban harbors, and even the Cuyahoga River, have been revitalized. Despite population growth, pollution levels in the Nation's waters were reduced 36 percent between 1972 and 1996, and on the 25th anniversary of the Act the EPA estimated that—and I am not going to detail them all due to time—that significant advances had been made, and they will just be mine in the record, but they basically had to do with U.S. rivers and lakes, industrial discharges, sewage treatment, wetland losses, crop land soil erosion. Indeed, many problems still exist, but these advances show the need for clearer strong regulations and strict enforcement.

After the 25th anniversary, GCA was invited by the Administration to participate in a White House conference on global warming, the American Heritage Rivers Initiative, and a small group developing recommendations on the right-to-know rules regarding safe drinking water. The group consisted of seven environmental organizations, led by Carol Browner, Administrator of the EPA.

Okay, I know I am running out of time, so I am just going to skip a little more along here and just say we also responded to the increasing volume of legislation by promulgating position papers that set forth the specific points we wish to see addressed in legislation. We are very much aware, for example, of the critical and delicate role our Nation's wetlands play in water quality, soil maintenance, and watershed vitality.

Accordingly, our current position paper on clean water encourages a vigorously enforced clean water and clearly states our support for "the preservation and protection of wetlands, including strict standards for any method of wetland alteration. Wetlands and their associated streams are an extremely productive part of the watershed. Even when they are in a temporarily altered, less visible, or tangible state, they are still very much functioning and in no less need of congressional protection."

The 35th anniversary of the Act marks an opportunity to honor that Act by sustaining and strengthening its original objectives. We are particularly pleased that with the leadership of Chairman Oberstar, many of you have co-sponsored the Clean Water Restoration Act of 2007, introduced as H.R. 2421. The provisions of this Act are critically needed to reaffirm the original intended scope of

the Clean Water Act, which guaranteed all Americans the right to clean water.

Congress's response to the water pollution crisis of the 1960s reminds us that the history of strong legislation to protect our environment is largely one of bipartisanship. The Clean Water Act of 1972, the Clean Air Act of 1970, and Endangered Species Act of 1973 were all passed 30 or 35 years ago under Republican administration in a Democratic Congress. Indeed, in my own home State of California, the California Environmental Quality Act of 1970 was enacted by a split legislature and signed into law by Governor Ronald Reagan.

By and large, these critical pieces of legislation have served the public well over all these years, and I hope that level of bipartisanship can continue today with respect to H.R. 2421. We ask that both sides of the aisle recognize that the pollutants and impurities from which Americans seek protection travel through aquifers, marshes, and wetlands with no apparent regard for the visibility of nearby navigable water. The reach of the Act therefore needs to be expressed as broadly as possible, lest Congress's intent to maintain protections of the Act fall victim to simple hydrology.

In conclusion—always a well received phrase—in the 35 years since the enactment of the Clean Water Act, our population has grown substantially and seriously overtaxed our limited resources. Those who worked so hard to pass the Act in 1972 may have expected that phenomena, but they probably did not predict the more recent climate change that is already having myriad adverse impacts on our resources and outlook for the future. What we have learned over the last few years surely demands that we redouble our commitment to this Country's natural resources announced in 1972.

As in 1972, we look to Congress to act for us as custodians of our vital, treasured resources. Today's hearing offers me great hope that the trust we have placed in Congress to protect these resources on which the very fabric of our future depends is well placed. You have an important opportunity through this Committee to leave a positive legacy for the future by restoring the integrity and intent of the original Clean Water Act. We certainly support that effort.

And I thank you on behalf of the Garden Club of America, the National Affairs and Legislation Committee, but more importantly, however, I thank you on behalf of our children and future generations who are surely entitled to the broad protection of the Clean Water Act as envisioned by its supporters 35 years ago. Thank you very much.

Mr. OBERSTAR. I thank you for that splendid statement and for that sweep of history of involvement of the Garden Club of America and for your presence here today.

Ms. MACBRIDE. Thank you.

Mr. OBERSTAR. Mr. Westhoff.

Mr. WESTHOFF. Thank you. Good afternoon, Chairman Oberstar and Members of the Committee. I am Assistant City Attorney and Public Works General Counsel for the City of Los Angeles. Today, I am testifying as President of the National Association of Clean Water Agencies, NACWA. NACWA is the only organization dedi-

cated solely to representing the interests of the Nation's public wastewater treatment agencies who treat and reclaim more than 18 billion gallons of wastewater each day.

I am pleased to be here today as we celebrate the 35th anniversary of the Clean Water Act, and I want to thank you for holding this important hearing as we face some serious challenges to the goal of clean water as we move into the 21st century. This testimony will focus on the water and wastewater infrastructure funding crisis and the need to transition to a more adaptive watershed based approach that can meet the complex resource-intensive challenges of the future. NACWA's short-and long-term recommendations to accomplish these goals are set forth in a key NACWA report being released today entitled Recommendations for a Viable and Vital 21st Century Clean Water Policy.

In the 35 years since the passage of the Clean Water Act, our Nation has made tremendous progress in addressing water pollution problems. The Federal-State-local partnership, exemplified by the Act's construction grants program, led to the construction of numerous state of the art facilities which now constitute the most advanced group of regional wastewater treatment systems in the world. Since that time, the Act's focus has been on addressing the point sources of pollution that, at that time, constituted the most immediate concern for the improvement of water quality.

Communities now enjoy the environmental and economic benefits of cleaner water, such as thriving waterfront communities in Cleveland and Chicago, restored fisheries in Lake Erie and the Potomac River, and increased revenues from real estate investment, recreation and tourism in many coastal communities, including Los Angeles.

Today, however, we find ourselves at a historic junction for the Nation's clean water future with our population expected to increase by 100 million people over the next 30 years, driving a massive industrial expansion needed to meet this demand.

The costs associated with this investment in clean and safe water have also risen, while the Federal contribution to these clean water improvements has dwindled. The Federal-State-local partnership that was so successful during the early days of the Clean Water Act has eroded to the point that municipalities now shoulder over 95 percent of the costs associated with providing clean water. Federal Assistance simply has not kept pace with the financial needs of clean water, declining more than 70 percent since the 1970s. The Nation now faces a funding gap of $300 billion to $500 billion over the next 20 years between the current levels of spending for wastewater infrastructure and the total funding needs, and this is according to the Environmental Protection Agency, the Congressional Budget Office, and the Water Infrastructure Network.

In the 1990s alone, Los Angeles spent over $1.6 billion to upgrade the Hyperion Treatment Plant to full secondary treatment. This was only one plant, and only a small portion of this expenditure was funded through the Federal Clean Water Grant Program. In this decade, Los Angeles will spend more than $4 billion to address the physical needs of its aging 6500 mile long wastewater collection system and other wastewater infrastructure, and there is no grants program. To meet this aggressive expenditure program,

rates have already been raised 7 percent per year for each of the past five years, and in 2008 our infrastructure team will ask our city council for a nearly 9 percent rate increase for each of the succeeding five years.

A new approach to doing business in the 21st century and a return to sustainable, Federal-State-local partnership to bridge the funding gap are desperately needed. NACWA appreciates the Chairman and the Committee's leadership in passing H.R. 720, the Water Quality Financing Act of 2007, through the House. This bill marks an important first step, but NACWA believes that without a long-term clean water trust fund, clean water agencies will be hard-pressed to carry out their important mandate to protect the environment and public health in a sustainable manner.

Also, to achieve water quality progress in a sustainable manner, NACWA believes that short-and long-term changes are needed to align current environmental laws into a comprehensive, holistic watershed approach. In March of 2007, NACWA formed the Strategic Watershed Task Force, made up of leaders of the Nation's clean water agencies to investigate how a watershed approach may still prove to be the solution to emerging water quality issues. Adopting a watershed approach allows communities to combine the issues of water quality, quantity, and habitat together when forming an integrated water resources management plan.

As a result, coordination between water related programs is dramatically improved, the division between traditional regulatory categories are dissolved, and communities have the needed flexibility to make management decisions based on achieving the maximum environmental benefit. This ensures the most effective use of taxpayer dollars, ratepayer dollars, and other public funding.

Many changes must occur within current water quality management practices before a true watershed approach can be implemented. NACWA's Strategic Watershed Task Force has developed a number of short-term and long-term recommendations to better facilitate a move toward a watershed approach as the basis of America's water policy in the 21st century. These are fully set forth in my written testimony and in NACWA's report.

It is critical to align current laws and regulations with the watershed approach. Currently, municipalities considering the watershed approach face regulatory and legislative roadblocks that hamper cooperation. Different pieces of legislation—including the Clean Water Act, the Safe Drinking Water Act, the Clean Air Act, and the Endangered Species Act—do not currently allow for the prioritization of watershed needs that can result in greater overall benefits to a watershed. Also, the separation of EPA's Office of Enforcement and Compliance Assurance from program offices such as the Office of Water, often results in the targeting of violations that have little or no economic impact, creating an adversarial relationship with those who EPA regulates.

Taken together, our recommendations represent a major programmatic shift that is necessary to make further progress in continuing to clean up America's waters. As we celebrate the 35th anniversary of the Clean Water Act, it is again time to expand our focus from an almost exclusively point source orientation to one that examines all sources of pollution, from relying largely on tech-

nologically based standards to a net environmental benefit approach, and from a focus on process to a focus on environmental outcomes.

We have made tremendous progress in cleaning up our Nation's waters over the past three and a half decades. These successes should strengthen our resolve to complete the hard work ahead and recommit to the Nation's water quality via a holistic watershed approach. Even a truly holistic watershed approach, however, cannot eliminate the massive clean water funding gap facing the Nation's clean water agencies and communities. Again, we must move forward to address this issue now through a sustainable, long-term Federal, State, and local financial partnership via a clean water trust fund. Absent such action, the funding gap will widen and many of the water quality gains we have achieved during the past 35 years will be lost.

NACWA looks forward to working with this Committee to ensure sustainable water quality progress for future generations of Americans. Thank you, and I look forward to your questions.

Mr. OBERSTAR. Thank you very much, Mr. Westhoff.

Mr. Lehner?

Mr. LEHNER. Thank you, Chairman Oberstar and honorable Members of the Committee. I am Peter Lehner, Executive Director of the Natural Resources Defense Council, formed in 1970 and quite involved in the passage of the original Clean Water Act in 1972.

As someone who has enforced and implemented the Clean Water Act for almost a decade on behalf of New York City and almost another decade on behalf of New York State, and now on behalf of our members in the public at NRDC, it is truly an honor to be here with you today on the 35th anniversary of the Clean Water Act and to honor the history of the Clean Water Act by discussing how we can improve it.

The Act had a terrific youth and early adulthood. We see successes around us. But while our waters did get cleaner over the first years of the Clean Water Act, progress has now stalled. EPA has not yet released a comprehensive water quality inventory status since 2000, but even back then the trend was towards increasing percentages of impaired waters. Other more recent studies also show increasing pollution.

But perhaps that is just middle age for the Clean Water Act, where the tools of 35 or 20 years ago are not exactly the right ones for the current problem. What is converting this, however, to a mid-life crisis for the Clean Water Act are persistent efforts to weaken the Clean Water Act's protections and by government failures to implement that Act rigorously and fund it adequately.

Looking forward, the Act is not spry enough to handle all of the Nation's water quality challenges alone. The Act needs both specific tuning up and more general re-examination to regain the momentum toward clean and safe water in the face of our growing and changing society and our changing climate.

Prior to 1972, we had a water pollution emergency in the U.S., much like a number of developing countries face today. Industrial pollution, untreated sewage, and agricultural waste degraded our waterways. Two-thirds of them weren't safe to use. Previous laws

relying on a case-by-case approach that, unfortunately, this Administration is urging with respect to wetland protection, had obviously failed to get the job done. The Clean Water Act reversed that notion that discharges were authorized unless they could be shown to cause a specific problem in a specific water body. That was one of the principal and most successful innovations of the Act, that changing of the burden of proof.

The Act also ushered in a substantial infusion of Federal money to build new sewage treatment plants and upgrade existing plants nationwide. The dredge and fill permitting program reduced wetland loss by three-fourths, and the law recognized that carefully overseeing self-monitoring and swift, sure enforcement is a key to ensuring high rates of compliance and a level playing field.

The wisdom of many of Congress's innovations remain apparent today. Industrial pollution sources generally have been addressed effectively by the law's permitting program with clear enforceable limits, self-reporting, and both citizen and governmental enforcement. Indeed, I think it is fair to say that the NPDS program is probably one of the most successful environmental programs in the Country, if not the entire world.

In addition, for municipal pollution programs such as sewage treatment and runoff, Federal financial assistance has been a key complement to effective permits. But the Act is starting to show its age a bit. The law today does not clearly protect all kinds of waters, thanks to misguided interpretations in recent years, and it never established a truly effective system to address runoff pollution. Funding for needed infrastructure maintenance and improvements is lagging and far from early Clean Water Act funding levels. At our current rate of investment, U.S. EPA has projected that sewage pollution in the U.S. will be as high in 2025 as it was four years before the passage of the Clean Water Act. And, unfortunately, EPA and the Corps have failed to enforce the law in many key respects.

Five or ten years ago, I might have stopped here, but now NRDC is increasingly evaluating water resource trends, not just water pollution trends, and there we are finding a disturbing picture. There is an upward trend for beach closings, red tides, dead zones, droughts, floods, coral reef damage, nutrient pollution, sewage pollution. In addition, global warming will have numerous adverse effects on available freshwater resources.

As NRDC reported recently, experts project that global warming will decrease snow pack in the west, reduce other water supplies, increase the magnitude and frequency of droughts and floods, and degrade aquatic habitat. For example, a recent USGS study found that, as a result of climate change, large storms that might have, in the past, come once every 100 years could now occur every 15 or 20 years. And this causes not just ecological damage, but will overwhelm waste water treatment systems.

While improving existing programs that limit pollution discharges into waterways can help reverse the disturbing trends, the Clean Water Act also needs some new tools. The Act needs to integrate our management of all water resources. The distinction between water quality and water quantity is artificial, and ultimately it is unworkable for many kinds of challenges such as runoff,

aquatic habitat, global warming, and increasing droughts. The Act must look further upstream into watersheds and prevent causes of degradation at their source.

We need to protect forests, wetlands, headwaters, soil, and habitat that naturally cool the surface of the earth, capture and filter pollution from waterways, recharge groundwater supplies, provide aquatic habitat, and control flooding. We need a paradigm shift. Water that falls as rain must not be viewed as a waste to be gotten rid of as quickly and cheaply as possible, but, rather, as a resource to green our cities, to be put to beneficial use by industry, or to be recycled into the earth.

The first step is to stop letting the natural resources that safeguard our waters be destroyed. We aren't even doing that yet.

Mr. Chairman, your Clean Water Restoration Act is critically important in this regard. However, that bill will only restore Clean Water Act protections that the Supreme Court and this Administration have put in jeopardy. As was made clear in the amicus brief before the U.S. Supreme Court, which I authored while working at the New York Attorney General's Office, restoring Federal jurisdiction is helpful to the States. Indeed, that is why 35 States and the wetland managers of all 50 States signed on to that amicus brief. But still more needs to be done.

The second step is to address development that continues to spread across the face of the U.S. at twice the rate of population growth, wiping out forests, meadows, wetlands, headwaters, flood planes, and soil. Unchecked sprawling development destroys our sense of community, the balance of natural systems, and our open spaces at the same time. To address this burgeoning problem, we need to move from talking about smart growth to implementing it and providing incentives for it. We need to incorporate green infrastructure into development so that it is essentially hydrologically invisible. The same quantity and quality of water will leave an area after development as before. We need to bring water quality protections into all transportation planning, one of the largest and most significant sources of water quality impairment, and we need to restore water quality resources that have been lost.

The third step is to start thinking of our water resources in an integrated way and stop using approaches that merely shift pollution from surface water to groundwater or from water bodies to land. A more holistic approach will require major changes in responsibilities among agencies and institutions at the Federal, State, and local levels. This effort would require us to integrate programs that are now largely disparate. We urge Congress to begin to think how to move to a more cross-cutting system, including how to provide funding and incentives for efforts to pioneer such approaches.

In sum, the passage of the Clean Water Act was a tremendous achievement in protecting the health and welfare of the public, and it achieved great success in addressing some of the most egregious water pollution problems of the day, but it is aging and its wrinkles are beginning to show rather clearly. It is suffering a mid-life crisis. The world is much different than it was when the Act was last amended significantly 20 years ago. A lot of work still needs to be

done to carry forth the mandate of the Act and to provide adequate funding for its programs.

But even that will not be enough. We need to look again at the protection of our water resources from first principles, including the water cycle that we studied in grade school and the nutrient cycle that is critical on the one hand to food production and the other to maintaining water quality. Together, we must begin to construct a system that will ensure that our children and grandchildren can enjoy the many benefits of safe and clean water as we have. We should honor the legacy of the Clean Water Act by moving forward.

Thank you.

Mr. OBERSTAR. Thank you very much for your splendid testimony.

To present our next witness, my colleague from Minnesota, Mr. Walz.

Mr. WALZ. Well, thank you, Mr. Chairman, and I truly thank you for holding this incredibly important hearing; it is humbling to be here with this important piece of legislation on this anniversary, and I think aptly named, Successes and Future Challenges.

I thank all of our witnesses and all of those who are here. I apologize for, I guess, the House calendar here or the House schedule that has left so many of my colleagues not here, because this is important, this testimony is important. The future of this piece of legislation is critically important, and I thank the Chairman. We will hear much more about it.

It is a real pleasure for me and an honor to introduce our next witness here, Kevin Paap. Kevin is a farmer out in the First District of Minnesota; he is a constituent of mine. He and his wife Julie own a fourth generation farm in Blue Earth County, Minnesota, some of the richest agricultural land in the world. They raise corn and soybeans, and have been active in many issues. Kevin is here today, and I worked with him in his capacity of Minnesota Farm Bureau President. He is going to testify on behalf of the American Farm Bureau. He has been a steady advocate for farm policy and rural policy across our district.

During that farm bill process, I found one of the strongest things in working with Kevin was the ability to educate people in rural Minnesota, not just Farm Bureau members, but all members, about the importance and the interconnectedness of economics, farm policy, and the environment, and has been a strong advocate for that, bringing those together and encouraging people, especially young farmers and ranchers, to get actively involved in this process like we are doing today. Kevin stays pretty busy with all he does there. He is also an EMT and he is a Fellow at the Humphrey Institute on Public Policy at the University of Minnesota.

So it is a real pleasure for me to introduce a constituent, an expert in farm policy out in rural America, and one of my constituents that I am very proud to have here today. Kevin?

Mr. OBERSTAR. Before you begin, I must say that, in our business, when you get such an introduction, the best thing is to sit down.

[Laughter.]

Mr. OBERSTAR. And declare victory and go home.

But I was thinking about your glowing statement about the rich farmland down there in Blue Earth County that all was washed down there from Northern Minnesota during the glacier. You know, when the glacier melted, it eroded the north land, and that left us with the rocks and you got all the good soil down there.

[Laughter.]

Mr. PAAP. Yes, Mr. Chairman. Thank you for helping the 1st District out with your district.

Mr. Chairman and Members of the Committee, as mentioned, my name is Kevin Paap. As my Congressman mentioned, my wife and I own and operate a fourth generation farm where we raise corn, soybeans, and boys, boys being the most important crop. I am President of the Minnesota Farm Bureau, but testifying today on behalf of the American Farm Bureau and farmers and ranchers nationwide. Again, I appreciate this opportunity to join in the celebration of the 35th anniversary of the Clean Water Act.

The Clean Water Act is one of our Nation's most successful environmental statutes, but is not alone in protecting America's waters. Specifically, we believe that the soil conservation and water quality provisions of the last four farm bills have contributed significantly to the goals of the Clean Water Act and the Nation's overall water quality protection efforts. Our Nation's 35 year commitment to clean water has been successful. In the mid-1970s, 30 percent to 40 percent of the surface waters monitored met water quality goals. Today, two-thirds of our Nation's waters meet their goals. Our glass is two-thirds full.

Wetlands have also benefitted. From the early 1990s to the 1970s, we saw a decline in the number of wetlands; whereas, in the most recent study period, 1998 to 2004, wetlands are increasing at a rate of 32,000 acres every year.

After more than three decades of focus on water quality, we have a better understanding of our most difficult water quality concerns. Command and control regulations are not the only solution, nor always the most cost-efficient. Local governments, individual citizens, community foundations, State and regional entities, environmental organizations, agricultural organizations, soil and water districts, these are the major players today, and they will continue to be the key players in the future.

Farmers and ranchers have a vital stake in protecting our Nation's water and streams, for ourselves and for our future generations. We are proud of our record. We have a strong history of working to see that our waters are protected, while American agriculture remains a leader in feeding the world. We take second place to no one in our commitment to the land and the water where we raise our crops, care for our livestock, and raise our families.

Let me remind the Committee that, collectively, farmers and ranchers own and manage two-thirds of the Nation's land. We are good stewards of the Nation's soil, air, and water resources, but the cost of this stewardship is not cheap. Moreover, it falls primarily on us as individuals, because unlike other businessmen, farmers are unable to pass along our additional costs to the consumer.

Over the last three decades, farmers and ranchers have made great strides in improving our environment. By nearly every meas-

ure, our environment and natural resources are in better condition now than any other time in more than a century.

We encourage the Members of the Committee to recognize the important roles that incentive-based programs—such as the Conservation Security Program, the Environmental Quality Incentives Program, the Conservation Reserve Program, the Wetlands Reserve Program—play in achieving the goals of the Clean Water Act. Conservation, cost share measures and incentives are essential in providing the producers to make environmental improvements.

Throughout the 35 year old history of the Clean Water Act, the regulatory reach of this Act has been a controversial aspect of the law. This debate is continuing with the proposed Clean Water Restoration Act of 2007, which many believe would expand the law well beyond its original scope. There is strong support within the ag community for the goals of the Clean Water Act, including the framework Congress established that respects existing Federal-State relationships.

I appreciate the opportunity to offer these perspectives on the Clean Water Act and will be pleased to respond to any questions. Thank you.

Mr. OBERSTAR. Thank you very much, Kevin, for your splendid testimony and for your thoughtful remarks, and for the many hours, I would say, that we have spent together on this subject, and for also your contribution that you personally and that of the Farm Bureau to the shaping of the farm bill that passed the House and now awaits Senate action. It is an excellent bill.

Mr. Singleton, thank you for being here.

Mr. SINGLETON. Thank you, Mr. Chairman and Members of the Committee on Transportation and Infrastructure. I am Mark Singleton. I live in Sylva, North Carolina, and I am Executive Director of American Whitewater. Founded in 1954, American Whitewater is the national membership organization that represents whitewater enthusiasts and river conservationists around the Country. Our organization is the primary advocate for the preservation and protection of whitewater rivers throughout the United States. Our mission is to conserve and restore America's whitewater resources and enhance opportunities to enjoy them safely.

Today, I am testifying as Chairman of the Outdoor Alliance, a coalition of six national member-based organizations devoted to conservation and stewardship of our Nation's lands and waters. The Outdoor Alliance includes the Access Fund, American Canoe Association, American Hiking Society, American Whitewater, and the International Mountain Bike Association, as well as the Winter Wildlands Alliance. Collectively, the Outdoor Alliance has membership in all 50 States and a network of almost 1400 local clubs and advocacy groups across the Nation.

I grew up paddling, and some of my earliest memories are family canoe trips on Northwood Lakes. As a paddler, I have had the opportunity to explore headwater streams and rivers around the Country and the world, and through these experiences I can speak firsthand about the benefits of clean water to recreational users and whose communities are dependent on experience-based economies where water quality shapes the destination for quality outdoor human powered recreation.

These days, my wife and I are passing along our love of rivers and the outdoors to our two daughters. Our kids enjoy their time on the water and anything that floats: inner tubes on Deep Creek Lake in the Great Smokey Mountain National Park to rafts and kayaks on the Nantahala and Tuckaseegee Rivers.

Most think of the Clean Water Act as a law that keeps our waters from becoming polluted. While this is certainly true, fortunately, the framers, including yourself, of this legislation not only realized that clean water in America's streams, rivers, lakes, and wetlands keeps natural ecosystems in check, but clean waters also nourish our bodies and our souls. Without the provisions of the Clean Water Act that protect water quality and water quantity, it is doubtful that my two girls would have the same river experiences that I have had.

When the Clean Water Act was enacted 35 years ago, many rivers were so polluted that they were generally undesirable for outdoor recreation. The Cheat River in West Virginia was effectively dead. As a river guide on the Cheat in the late 1970s, I remember days when the river would run orange from the runoff of mining operations on its headwaters. Paddlers have witnessed a tremendous recovery of wildlife in the river canyon with bears, deer, and even river otters now calling the river home.

And let me come off my page here for a second and say that many of our American Whitewater members now paddle the Cuyahoga River in Ohio as well.

Clean water is both a function of water quality and water quantity, and let me explain what this means from a paddler's perspective and relay a story that happened near my home in western North Carolina. The Cheoah River was dammed and diverted through a massive pipeline in 1928 for hydroelectric production. Generations came and went. Our resource extraction and manufacturing economy came and went, and by the dawn of a new millennium in Graham County, through which the Cheoah flows, it was the third poorest county in North Carolina.

About 10 years ago, the 50 year old Federal license on the Cheoah dam neared its expiration and was finally due for re-licensing. This time, in a world that had the Clean Water Act, as one of the re-licensing stakeholders, American Whitewater helped secure test releases of water into a barren riverbed, so that paddlers could explore and assess the quality of the river.

What we found surprised everyone involved. The Cheoah was not merely a good recreational resource, it was a fantastic and utterly unique resource, and I would have to say, probably the best in our region. With support of the Clean Water Act, we helped negotiate a new license for the dam that included variable year-round flows based on the natural hydrography. In September of 2005, the gates to the dam were opened and they will stay that way for the next 40 years.

The new flows have fostered an honest to goodness whitewater boating economy in Graham County, with each recreational release day contributing $15,000 to the local economy, which adds up, considering there are 18 new releases per year. The Clean Water Act allowed the State of North Carolina to give the Cheoah River back to Graham County.

While the Clean Water Act has been a tremendous success both in addressing water pollution and restoring flows, significant challenges still remain. In a recent survey of our membership, approximately 70 percent of respondents reported health effects from paddling on polluted rivers. Sinus and ear infections are the ongoing health issues that affect most paddlers.

In closing, I would like to make two points. First, while the Clean Water Act has been a great tool for restoring rivers and addressing pollution issues, we still need assistance from Congress to make sure the key provisions of the Act are not weakened. Of particular concern is the 2006 Supreme Court decision that left the fate of our Nation's headwater streams in legal limbo. Specifically, the Court narrowed protections of the Clean Water Act to navigable waterways, leaving headwater areas unprotected. Regardless of their navigability, headwater reaches are important for all forms of outdoor recreation. The Clean Water Restoration Act of 2007, H.R. 2421, would restore those full Federal protections for our rivers and streams.

Second, the Clean Water Act is landmark legislation that anchors our Country's natural resources and has created this ongoing legacy of stewardship for rivers and streams. From our perspective as outdoor enthusiasts, the Clean Water Act represents a triple bottom line. It has been good for the rivers and their ecosystems, it has been good for recreational users who spend their wet dollars in local communities. And it has been good for communities who are dependent on experience-based economies, where clean rivers are the destination.

Mr. Chairman, Members of the Committee, thank you very much for allowing me to make those remarks.

Mr. OBERSTAR. Thank you for that very inspiring, heartwarming account of the rebirth of the Cheoah River.

Mr. King?

Mr. KING. Chairman Oberstar, Ranking Member Mica and honorable Members of the Committee, my name is James King, and I am president of the DeKalb Pipeline Company, based in Conyers, Georgia. I am a water and sewer contractor doing residential site development work around Metro Atlanta.

I am grateful for the opportunity to participate and testify in this hearing as President of the National Utility Contractors Association, also known as NUCA. NUCA is a family of more than 1,700 companies made up of contractor members, suppliers, manufacturers, people that maintain, build, repair the Nation's underground water infrastructure, as well as gas, electric and telecommunications systems.

It is a privilege to participate in the celebration of the 35th anniversary of the 1972 Clean Water Act and to discuss the progress that has been made since its passage, as well as the continuing challenges facing America's underground environmental infrastructure. We have come a long way from the horrific images of burning rivers and waterways of the 1970s, but the gains are threatened by the lack of attention to our environmental infrastructure in recent years.

I want to reiterate NUCA's support for your ongoing efforts to keep the goals of the CWA on the priority list of the U.S. Congress.

NUCA serves as chair of the Clean Water Council, CWC, a coalition of 30 national trade organizations representing underground construction contractors, design professionals, manufacturers, suppliers, labor representatives and others committed to ensuring a higher quality of life through sound environmental infrastructure. For your reference, a list of the CWC members is attached to my written testimony.

I am here today to give you the perspective of a utility contractor, those who work in the water and wastewater systems every day and see what it looks like when they fail. Mr. Chairman, I know you agree that the decrepit condition of this infrastructure is quickly becoming an environmental crisis. Take this testimony from someone who sees it up close and personal every day, the view from the trenches isn't pretty.

For their everyday work, utility contractors build and repair America's un-glamorous but critical water and wastewater infrastructure. What is out of sight and out of mind to most people is clearly visible to NUCA and its members who are working in the ditches every day.

For example, just recently my company was called on to do an emergency repair of a sewer system that failed in a shopping center parking lot. This failure came to light because the apartment complex that was downstream starting notice an increased flow through the stream that runs through their apartment complex. As they started looking, trying to figure out where that flow was coming from, there was also a strong, pungent odor. The odor was raw sewage that was running from the broken sewer line upstream.

We started work on this repair early on a Friday afternoon and worked all through the weekend trying to solve the problem. The sewer line was 35 feet deep, and once we had excavated to 16 feet deep, the ground started acting like a sponge. It started losing raw sewage back out from the time that the line had been broken and just saturated the ground. By the time we got down to the bottom of the pipe where the break was, we were standing in four feet of raw sewage. And then as we started trying to fix the problem, the pipe really started crumbling like a cookie as we chased it back up into the parking lot. I have no doubt that that line will need repair again, as we only fixed a small part of it.

I realize that the Committee is well aware of the needs facing our wastewater infrastructure, recognizing that Federal funding to address this problem has been recently cut from already low levels. You can't come away with a sense that our clean water needs are being appropriately addressed.

I do want to focus a little bit on the economic benefits that come from funding projects under the Clean Water Act. Investing in this infrastructure increases public health and safety and helps protect the environment. But it also serves to maintain a strong economic foundation in a variety of ways.

First, there is job creation. According to several sources, including the American Public Works Association, more than 40,000 jobs are created with every $1 billion that is invested in projects to improve this infrastructure. Several positive impacts on local economies result from this funding, including direct impacts, jobs created in order to conduct the construction project. You need to remember,

it is very important to remember that these are quality, high-paying jobs that can't be outsourced overseas. They are provided right here in America for American workers.

There are also indirect impacts from the purchase of materials and supplies. Manufacturers, distributors and suppliers all benefit from economic impacts. Economic benefits don't stop with the construction industry. Induced impacts are supported by spending and re-spending of the workers that are working on these projects. Induced impacts are often referred to as the multiplier, or the ripple effect. Increased economic activity resulting from funding these projects ripples through local economies and benefits several sectors outside of construction.

I had the opportunity earlier this week to see this first-hand in Portland, Oregon, where the Kiewit Corporation is doing a major CSO tunnel. It is right along the east side, it is called the East Side Big Pipe CSO. Kiewit has relocated almost 200 workers to the Portland area that are now ratepayers on the system that they are working to repair.

Inevitably, these economic enhancements collectively help expand the local tax base, making communities all the more attractive. In March, this Committee passed legislation that would authorize $14 billion for Clean Water SRF over the next four years. I want to reiterate the support of NUCA and the Clean Water Council of your bill, which would provide immediate resources over the next few years while seeking long-term solutions.

The CWC is pushing hard for introduction and action on the Senate SRF bill. NUCA and the Clean Water Council applaud the progress the Committee has made in the 110th Congress to advance several pieces of legislation and support that goes with the Clean Water Act. Although the purpose of that extends far beyond financing projects to repair water and wastewater infrastructure, it is a significant function of the Act and one that has been in large part neglected by the Federal Government in recent years.

The Minneapolis Bridge collapse provided new attention to America's failing critical infrastructure. Our infrastructure is as interlocking as it is interdependent. Thank you for making sure that what is out of sight will not necessarily out of mind on Capitol hill.

Thank you for the opportunity to submit testimony for the record, and I am happy to answer any questions you might have about how these systems are built or about the economic advantages that come with Clean Water funding.

Mr. OBERSTAR. Thank you very much, Mr. King. I greatly appreciate the contribution of the Underground Utility Contractors Association, NUCA. As we moved the legislation through Committee and through the House to reauthorize the State Revolving Loan Fund Program, increase its funding up to $14 billion, we said to the earlier panel, we started out with $20 billion, but we had to scale that back because of concerns about the pay-go issue and offsetting funds against that amount. But if the Senate would just move a little faster, that bill could be on the President's desk and we have no indication of objection, of a veto threat by the Administration, although there were some grumblings about it. But be-

cause we have fully offset it, I think this Administration would sign it.

I want to thank you very much, and I also want to express at this juncture my continued sense of loss over Scott Hanson, the NUCA Director for Minnesota, Executive Director for Minnesota. He did extraordinary service for your association.

It is also ironic that on this day that we celebrate the enactment of the Clean Water Act, in the course of a veto override, that we had another vote today on a veto of the President. We did not succeed in overriding the vote on the Children's Health Insurance Program, although there was a good deal of bipartisan support to do so, we didn't reach the threshold required, a two-thirds vote. It just shows how difficult it is to overcome a Presidential veto.

But on this issue, children's health, such a very big, important question for all America, clean water is more important than any other issue on our agenda in the early 1970s. And it brought together not just a consensus, but an overwhelming support for this question of available water for all Americans.

A common theme throughout the testimony of this panel has been watershed, the watershed approach to managing the future. Ms. MacBride, to what extent have members of the Garden Club looked at this issue from this broader scope, not just stream by stream, river by river, lake by lake, but where the water originates? What are your thoughts about this?

Ms. MACBRIDE. Well, I appreciate the question, and although I am not an expert, we do have many vice-chairs that do copious amounts of research in this area. Just to put it briefly for you, I think that everything is connected in this regard, starting at the watershed, which ends up having a huge effect at the end on our drinking water and filtering pollutants.

I think from what we are talking about today, too, one of the big problems seems to be, which I briefly mentioned in the testimony, is the visibility of some of the streams and tributaries that have come down and that have seasonal water. What I can just say to that is that we feel also very strongly that from the watershed on down, even when you find those dry areas, and I have this on pretty good authority that there is oftentimes, most often in fact, subsurface water and not necessarily significant subsurface, just below the surface. And these all extend and flow in the same direction and attach to the major waterways. And you can see that when you see vegetation there, when it appears to be dry. You can even see it when there is nesting that goes on in seemingly dry areas.

So I think that it is very important from the watersheds throughout the whole system to think of it as one connected, very integral system.

Mr. OBERSTAR. Thank you.

Mr. Westhoff, you touched on a theme that is gaining a great deal of interest and support, and that is establishing a clean water trust fund. Now, we have the Aviation Trust Fund, which was established in 1970, the Highway Trust Fund, which was established in 1956. The Inland Waterways and Harbor Maintenance Trust Fund was established in 1978.

They all have a revenue source, they have one thing in common, there is a source, there is a fuel tax on the waterways, there is a

fuel tax or user fee for the Highway Trust Fund, there is a passenger fee for Aviation Trust Fund. Where do we get the revenues, what thinking have you done among your members of the clean water agencies, a common source for a dedicated revenue stream to fund this vital need of ours?

Mr. WESTHOFF. Well, Mr. Chairman, I think you have certainly hit on probably the most difficult hurdle to getting to a water infrastructure trust fund. Because you certainly cited to a number of examples where trust funds have been utilized to help maintain the Nation's vital infrastructure.

I know that NACWA has looked at a number of potential sources, and I know that we are certainly open to exploring them with this Committee, and certainly on the Senate side. I don't think we have reached a conclusion as to what is the most viable source of revenue to support it. I think what we certainly have done is, we have reached the conclusion that there is a need for it. The problem with our infrastructure for the most part is that it is out of sight, and therefore in many people's minds, out of mind.

In addition, we are dealing with a subject matter that isn't really the most popular conversation at cocktail parties or dinner parties. We are dealing with the waste stream of America. And yet every day, people literally want to flush it and forget it, and yet my agency and all of our neighbor agencies can't do that, because 365 days a year, 24 hours a day, we have to be there to receive that waste, and we have to convey it, we have to treat it.

So I think the need is obviously there for Federal support, for what we do with this infrastructure. But I don't think we are at the point where we are able to look you in the eye and tell you that we have an identified source of the revenue necessary to maintain that trust fund. I will promise you this, we will sit down with the Members of the House and the Members of the Senate and work with them to try and find one that is even-handed, one that does not burden one set of individuals over another but hopefully will provide us with a source of revenue to close that funding gap that has been articulated in so many past references and talked about in our latest rendition.

Mr. OBERSTAR. NACWA's "Recommendations for a Viable and Vital 21st Century Clean Water Policy" is a splendid document, and well written. I have had the opportunity to skim through it, and I will digest is more fully later.

You mentioned something, Mr. King, as well, your work is very underground. My predecessor, John Blatnik, once observed that we probably ought to require all water and sewer lines to be built three feet above ground so people will bump into them and see that they are there and see what you have done for them. You build a highway, people see it and drive over it. You build an airport, they fly on it. You improve the locks on the waterways, they know it is there.

But the water and the sewer lines are out of sight, and they are also deteriorating out of sight.

Mr. WESTHOFF. That is very true. I give tours, we give lots of tours of our treatment facilities. But even there, people want them screened off from public view. But we are trying to educate the youth in our community about the need for this infrastructure.

When we were constructing some of our big interceptor sewers, I actually went down inside the sewer, because from my perspective as legal counsel for the Department of Public Works, the more I know about our infrastructure, the easier it is for me to be their lawyer and to understand when my engineers talk about their needs, to be able to express that to the general public and other arenas where I get to talk.

So it is an important infrastructure and it is certainly something that is on my mind. We would like to see it be on the minds of the general public.

Mr. OBERSTAR. Now, I asked the question earlier, I want you and Mr. King to comment on this of Mr. Grumbles, about the proposal the Administration has for water enterprise bonds. And our experience in this Committee four years ago moving to lift the cap on private activity bonds so that municipalities could borrow the money they need without limitations, and go to the market. I heard Mr. Grumbles now say that oh, the Administration has really made a turnabout on this issue, the Treasury Department has come around to in fact observe that while there may be a short-term loss of $200 million, long-term there is a $2 billion to $5 billion annual gain in revenue from these, from lifting the cap and using private activity bonds, including their new proposal for water enterprise bonds.

What are your thoughts about that method of financing the construction needs in our sewage treatment program?

Mr. WESTHOFF. Let me preface my statement by telling you, I cut my teeth when I first got to public works on the Clean Water Grants Program. So when I started as a public works lawyer over 25 years ago, the Clean Water Grant Program was sort of the foundation upon which we were doing it. And certainly, the City of Los Angeles took advantage of the Clean Water Grant Program. I was disappointed when the President took the funding out of that program and we transitioned it to a loan program.

Mr. OBERSTAR. I can tell you, I am going to interrupt you just momentarily, I can tell you that moment in 1981 in June on the Reconciliation Act, on the Reagan budget, we met in conference in the Capitol, the exact center between the House and the Senate. Senate conferees were on one side, there was a Republican majority and the House conferees on the other side. While we had a unified position in the House, I asked Senator Stafford for the Senate position on scaling back to $2 billion from $6 billion.

Then in the following year of eliminating the grants and substituting a loan program therefore. He just looked at me, and he said, the Senate position is five to four against the House position. And I looked over at Senator Jennings Randolph, one of the grand names and leaders of the Senate, and I said, but you didn't even ask Senator Randolph. He said, I can, but the vote will still be five to four against the House position.

Mr. WESTHOFF. I can tell you, if I were to create a hierarchy in my mind, grants would be certainly at the top of that list, loans would come second, and the private activity bonds would be somewhere further down that list.

I live in an urban area and work for a municipality that has the ability to go into the financing market and float bonds. Because we have a tremendous track record, we have a dedicated source of rev-

enue. That is our ratepayer revenues that we collect from our ratepayers. So we actually have the benefit of low interest rates, because we have triple A rated bonding capacity. I am not sure that all of the communities across this Country have that same benefit. So maybe the private activity bonds may be a source, potentially, for them. But from my perspective, it is not the answer to the problem. It is not——

Mr. OBERSTAR. It is certainly not for the small communities, by small I mean under 10,000, of which we have a plethora in Minnesota and elsewhere around the Country. If they can band together in a regional cooperative association of municipalities, they might be able to do it. But one by one they can't.

Mr. WESTHOFF. I don't think private activity bonds are the answer to this problem. It seems to be the one that the agency is sort of latched onto. I think NACWA has been pretty clear, of our broad-based support for a trust fund and for working to achieve a revenue source to support that trust fund. But we do not believe that private activity bonds are the answer to the question.

Mr. OBERSTAR. Thank you.

Mr. King, your members are deeply engaged in this issue.

Mr. KING. I think the bottom line for us is, we are looking for funding wherever we can get it. However, I do agree, I think the private activity bonds are probably not the ultimate answer. I think they could be a source, that they could be a tool to be able to help some of these cities to be able to refurbish their infrastructure.

We are very much in favor of getting the funding back and utilizing the SRF. The SRF is a good program, it is a program that continually the money revolves, it comes back to the Government and it just builds. To us that is probably the best tool that is out there.

Mr. OBERSTAR. It is a dedicated stream and it is dependable. It is an available resource, financial resource out into the future that municipalities can count on.

Mr. KING. I agree. I think that is probably our number one. But I think that again, from the contractor's standpoint, and you made the comment that sewer lines and water lines are buried. I mentioned being in Portland earlier this week. One of the obstacles that they were encountering when they were laying right down a city street alongside a water line that was installed in 1911, what do you think that might have been made out of?

And their concern was that one line was going to blow out. You saw the steam line in Manhattan back in the summer. What is down in the ground is not seen by the American public. I can tell you from a contractor's point of view, it is in bad shape. And these cities, they need some real help in how they are going to solve their problems. I don't know that there is a one size fits all. I don't think that there is a one answer that accommodates all of it.

But I think that there has to be some hard looks at what the solutions are.

Mr. OBERSTAR. Thank you.

Mr. Lehner, I liked your comment about the Clean Water Act may be having a mid-life crisis. We need new tools. Is the water-

shed approach one of those new tools? And why is the watershed approach important?

Mr. LEHNER. It is one of the new tools, if it is done right. That is a very big if. This is really for three reasons. One is that you have to include all sources of water quality degradation, which is both water quality and water quantity. That of course relates to your bill, the Clean Water Restoration Act. You have to go all the way upstream to all the tributaries, to all the sources, all the sources of protection of that water, including obviously the wetlands that are in the watershed, and not draw artificial distinctions based on size or whether there is a permanent flow. In many areas, there is quite a connection, but it may only be half the year or a third of the year. But it is still very much of a water quality and water quantity connection. So the watershed approach in one part means you have to go all the way up and take every source in the whole area.

The second is that it means getting all the sources. Right now, a big challenge has been, frankly, that point sources have been pretty well covered, and non-point sources, runoff, have been pretty poorly covered. There are exceptions, obviously, but that is the general rule. I think what you are hearing from many, particularly the point sources, is we need a stronger program for the non-point sources.

So if the watershed approach means making a more level playing field and bringing all the sources in, not by weakening protections and weakening safeguards applied to point sources, but by strengthening the ones that apply to non-point sources, which is frankly what many would often argue for, then the watershed approach can be very important.

Then I note that of course the Clean Water Act in its wisdom does actually have a watershed approach. The Total Maximum Daily Load program is in fact a watershed approach. And it has been largely existing on paper and only very slightly implemented around the States. We clearly need additional funding and additional seriousness for the TMDL program.

But again, what is critical there, even that program embodies this dichotomy between point sources and non-point sources. We have to break that down so it is not, let's have a total, find out what the watershed can take and then force all the point sources to bear the burden or pay the non-point sources.

Lastly, I think it is a critical difference to recognize reality. Theory is what existed before 1972, which the theory beforehand was, let's see where there is a problem, analyze backwards, see what the sources of the problem are and correct them. That theory didn't work. What the clear, real wisdom, the brilliance of the Clean Water Act was having the shift and saying, no, you can't pollute unless you prove that it is okay. And that shift was critical.

Similarly, one likes to say that well, let's have a very detailed program where to deal with the watershed you can have all sorts of trading and all sorts of detailed analysis. The State agencies are overwhelmed, the local agencies are overwhelmed. They can't do that unless there are some administrative measures to make the process go faster, have some presumptions that are based in

science and based in reality and let the permitting process move forward quickly.

Mr. OBERSTAR. Thank you very much. You summed up what we spent 10 months debating in the conference in 1972, 1971 and 1972 on the Clean Water Act, and arrived at those conclusions.

Mr. Paap, Kevin, you seemed to suggest in your testimony as agriculture works to increase its productivity and requires more inputs of fertilizer and limestone, perhaps, and other activities depending on the soil, that there is runoff and water quality goes down. Is there necessarily an internal conflict here? Is this a zero sum game that improvement in agriculture productivity necessarily leads to a decline in water quality, or that protection of water quality must result in a decline in agricultural productivity?

Mr. PAAP. Mr. Chairman, as you talked about productivity, I think back to about a week ago, we are right in the middle of harvest now in Southern Minnesota, corn harvest. On our farm, I typically run the combine and my wife runs the tractor and grain cart. We dump on the go to harvest a little more efficiently, which means you both kind of go at the same speed. If you don't, you have the opportunity to feed the pheasants and the deer a little bit by missing the wagon.

About a week ago, she got out of the tractor and she walked over to the combine and looked at me, and said, you know what we need here is more cooperation and a whole lot less confusion. I think maybe that is kind of where we are in agriculture. We are committed to work together in a cooperative, constructive way. I think as you know, Mr. Chairman, agriculture has changed. Agriculture looks different than it did when I got out of ag school in 1981, where we have seen a reduction in the plowing and the tillage methods. We now have no-till, reduced till, minimum till. With the high energy prices, the first thing we have learned on the farm is manure is an asset. It is a very valuable nutrient. And as we look at nutrient management plans on the farm and implementing best management practices and soil tests, probably the GPS or the computer, as we see the GPS in our automobiles, remember, it is exactly the same in our combines, where we can go ahead and do site-specific and we know where we are in the field, and only apply those nutrients in areas where we need them.

And there is an expense to that. As I mentioned in my testimony, expenses are a lot in agriculture. I think agriculture has changed where we are looking at not only soil erosion but water quality, air quality, wildlife habitat. I think we do have a role. Agriculture, American Farm Bureau, we want to be part of the solution to this and not be perceived as part of the problem. We want to be committed to make sure that we sit down and have that open dialogue and find out, what is the science, what can we do, what can't we do. We need to have that scientific discussion.

Mr. OBERSTAR. In short, you would say there really is not an internal contradiction here, the two can be mutually beneficial, with application of modern scientific methods of mapping out the soils and the soil consistencies and giving a guy like Burt Peterson of Peterson's mill up in North Branch, who knew every acre of soil in the county and surrounding counties, that you can adapt to the needs of the land and not result in adverse effect on water quality.

Mr. PAAP. The great thing about agriculture is it is renewable. And it is one big circle, whether we tend to our livestock, we have those nutrients from our livestock as we put those back on our soil, that helps to grow us the next crop. We have mother nature and great solar power from mother nature, and it is a renewable resource, whether it be animal agriculture or the biofuels, we can make that process work. We can make that work good for the environment.

Mr. OBERSTAR. I mentioned earlier the common theme through the testimony here and in the first panel of watershed approach to maintaining, establishing and maintaining water quality. Agriculture depends on watersheds. Agriculture depends on having high quality of water. I met with the Kanabec County, Chisago, Isanti County, Pine County farm bureau representatives back in 1987, 1988. We were talking about non-point source legislation. And the Snake River runs through those areas. Each one of them said, well, if you are not maintaining your quality upstream, and your cattle are discharging it to the stream that I am using that water down below and it is not good for me or my livestock or my farm, they all came to the realization that we have to work together in this watershed to sustain high quality water that agriculture and our livestock need. Is that the current view?

Mr. PAAP. You are exactly correct, Mr. Chairman. Water does not recognize or honor jurisdictional lines, whether it is a county line, a State line. Water kind of goes where it wants to. And we all need to work together. What works best in Minnesota and I think work best for agriculture all over is the voluntary, incentive-based programs. But they need to be locally designed and implemented, because there are differences in different watersheds. We need the technical and financial resources.

But it is, just like agriculture is a big cycle, so is the water. We can't do anything in agriculture without water. We also can't do anything in agriculture with too much water. So it is a fine balance that we need to work together on.

Mr. OBERSTAR. And we need water in the forestland of Northern Minnesota, and we have had way too little of that this year, we are down 12 inches in the north land. It is just devastating. We are finally getting some moisture. You got all of it down there in Southeastern Minnesota, all in two days I think it was, or three days.

One of the issues that recurs in the issue post-SWANCC and post-Rapanos is management treatment of prior converted cropland. How do you define prior converted cropland within the context of the exceptions in the Clean Water Act?

Mr. PAAP. As we look at wetlands, and I guess I would go back to my wife, again, more cooperation, less confusion. It is hard to understand determinations of wetlands and to do that. It is a scientific basis. Those of us in agriculture, because there is a fine line, because we need moisture, but we also need to have adequate conservation drainage, adequate in our farms. Those prior converted farmlands are very important. That is how I make my living, that is how we pay the bills on our farm, how we pay the college tuition.

We want to make sure we have that balance and that if it is a prior converted, it has been determined prior converted, that that land, which is, I am fourth generation, my sons are fifth genera-

tion, we want to continue to farm that in the future. We want to make sure we have the rights to do it environmentally friendly, to do it the right way. But we want to be able to use our prior converted farmland to feed not only the U.S. but feed the world.

Mr. OBERSTAR. As long as it is in your hands and those of other farmers, it is going to be managed, it is going to be conserved and passed on to the next generation. But what happens when, as is so prevalent in Chisago County, Isanti County and others, where exurbia is pressing out into agricultural Minnesota, and farmers are selling their land and it is no longer going to be used for agriculture? At what point does that protection then disappear?

Mr. PAAP. I think we have to protect our resources, no matter what we use them for, whether it is to raise corn and soybeans, whether it is a pasture, whether it is a parking lot or a subdivision. We need to make sure we protect our resources.

That is a good thing about agriculture, as productivity is increasing, technology, we are raising more crops on less acres. The reason we are doing that is because we have to, because we are losing those acres to urban development, to that sprawl. We have to have smart growth, but we also have to have smart agriculture to use that technology, whether it be biotechnologies or the new sciences to make sure we can feed the U.S. and the world.

Mr. OBERSTAR. Thank you very much. California is a very good example of that. My son lives in Sacramento, and I go out cycling with him in the countryside, and garden parkway. Every time I am out there, there is a new housing development and fewer agricultural acres. You are losing watershed and losing the great open space. But that is what is happening with development. But along with it comes the loss of water retention in the land, having more runoff.

Mr. WESTHOFF. Absolutely, Mr. Chairman. That is the difficulty you have. People wouldn't be building houses if there weren't other people to buy those houses. So the demand for housing obviously drives the construction.

But it has to be done in a smart way. In Los Angeles, we have our stormwater permit which requires us to develop SUSMPs, which are standard urban stormwater mitigation programs, to require that new construction do more to maintain permeability on the soil, do more to keep at least the first flush of a storm on a development. That is absolutely sort of the bible for how we have to approve new development that goes on in the Los Angeles area. That can act as a model that needs to be taken care of in California. California seems to be on the cutting edge of a lot of these issues, but we are dealing with stormwater and attempting to do it in a holistic way.

What isn't happening is that stormwater, wastewater and water quantity, water supply aren't getting together. Both silos still exist at EPA and those silos still exist in the real world. But in Los Angeles and in California as a whole, we are dealing with stormwater in a better way. It doesn't mean that it is addressing the issue of lost farmland. But we are trying to at least do some smart development, permeable pavement, green streets, things that are starting to be part of the green infrastructure movement in this Country and across, in California and across the Country. Oregon, Chicago,

there are a lot of them popping up all over the United States, where they are implementing soft solutions for those problems.

Mr. OBERSTAR. I think those are very significant developments, especially in shopping centers, permeable pavement adaptations. A friend of mine was a long-time specialist with the U.S. Geological Survey, assigned to California, and given a challenge to measure rainfall that they had noticed in creeks and ditches, very high levels of water. But they were puzzled about it, because the rainfall measurements did not seem to be increasing.

So he, with his team, went out and measured creeks and ditches and small rivers in various places around the State and came back with, I will shortcut it all, with a report that he also looked at housing development and shopping center developments and other broad-scale paving over of the land and found that all that water was running off. Rainfall hadn't increased, runoff had increased. Less water was soaking into the ground. There was less groundwater recharge. That is a serious problem which you can attack with permeable pavement and retention facilities and others.

Ms. MacBride?

Ms. MACBRIDE. Thank you. I just wanted to make one brief comment, I have to say, is that my father-in-law was very instrumental in getting the bike trail in Sacramento along the American River many years ago.

Mr. OBERSTAR. I have bicycled on it. Very good.

Ms. MACBRIDE. He was a judge appointed by Kennedy. He loved biking as well.

But what I was really going to tell you is, the Garden Club of America's Conservation and NEL committees took a trip just a couple of weeks ago to Montana. And we learned many, many interesting things, but one of the things I just wanted to mention in regard to agriculture is that there was really many, many people testifying to us about the benefits of conservation easements and how they had gotten State and local groups and private landowners together to keep the land in the family as was being spoken about earlier, so that you can farm it and it won't end up being a strip mall, and yet still preserve it and there are tax benefits and all that kind of thing.

So I just wanted to throw that in, in reference to the strip malls.

Mr. OBERSTAR. Thank you very, very much. Thanks to all of you, Mr. Singleton, especially for your citing the economic benefits of reopening a dam and restarting whitewater activities. We hear so much about the costs. But you cited the benefits, financial, economic benefits of clean water, and we are very grateful to you, and grateful to all of the witnesses.

Mr. SINGLETON. Thank you very much. It has been a pleasure to be here. I might add that American Whitewater has been involved in projects like that across the Country, whether it be the Feather River in California, the Tallulah River in Georgia. So there are a number of those success stories out there.

Mr. OBERSTAR. Well, on a concluding note, let us hope that the next 35 years show continued progress and protection of this precious resource, that we pass it along to other generations. A friend of mine was camping in Alaska some years ago and had a campsite where they were settling down for the night and building a camp-

fire. There was a sign on the woodpile, it said, "Take all you need. But when you leave, make the pile a little higher than you found it." That is our charge with clean water.

Thank you all. The Committee is adjourned.

[Whereupon, at 3:55 p.m., the Committee was adjourned.]

Committee on Transportation & Infrastructure

Hearing on "The 35th Anniversary of the Clean Water Act: Successes and Future Challenges"
Thursday, October 18, 2007

Statement – Congressman Jason Altmire (PA-04)

Thank you, Mr. Chairman, for holding this hearing today to receive testimony on the successes and future challenges of the Clean Water Act. As you noted, today is the 35th anniversary of the Act and on this occasion it's important for us to recognize how far we've come in cleaning up our rivers, streams, lakes, and other bodies of water. But it's also important for us to look at how far we still need to go. Two-thirds of our nation's waters meet water quality goals, but one-third still remains impaired.

In western Pennsylvania, we're facing a huge need for investment to update the region's sewer and wastewater systems. For Allegheny County, the bill is estimated to be $120 million to perform EPA's mandated upgrades. Already this year, this committee has reported and the House has approved three significant wastewater infrastructure bills – the Healthy Communities Water Supply Act (H.R. 700), the Water Quality Investment Act (H.R. 569), and the Water Quality Financing Act (H.R. 720) – to address this issue. In total, the three bills authorized close to $16 billion over the next four years.

I look forward to hearing from today's witnesses on what can be done going forward. I appreciate their time here today.

I commend Chairman Oberstar for his continued leadership and life long commitment to clean water. I yield back the balance of my time.

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Good morning Mr. Chairman, I want to thank you for holding this hearing today to commemorate the 35th Anniversary of the Federal Water Pollution Control Act of 1972 – better known as the Clean Water Act. It is appropriate for us to take some time to reflect on the positive accomplishments of the Clean Water Act. In July we examined the present implementation as well as the legal issues presently swirling around the Clean Water Act and I learned much at that hearing. Today I look forward to the testimony as we reflect on the many accomplishments of the Clean Water Act and ponder its future.

Throughout the 1950s and 1960s it became apparent to most Americans that certain streams, rivers, lakes, and coastal areas were far too polluted and something needed to be done. It must be remembered that these waters were and continue to be used as drinking water supplies for millions of Americans. They are relied upon for the harvest of fish and shellfish. They provide needed places for recreation and ~~enjoyment~~ relaxation. In response, the Congress passed the Clean

Water Act with overwhelming bi-partisan support, ending decades of persistent and far reaching pollution. In the subsequent 35 years since its enactment, two thirds of the nation's waters have met stringent water quality standards; an accomplishment that must not be overlooked.

Within the past decade, a number of Supreme Court cases have re-examined the scope of the Clean Water Act in an effort to address a number of concerns. Unfortunately, the Court does not appear to be at consensus over the question of the scope of the Clean Water Act and this fact has led to tremendous confusion in the implementation of the Act. This has led to a state of near crisis within the regulated community and great angst among all stakeholders. Frankly Mr. Chairman, I am also concerned.

I am concerned that this confusion will unnecessarily place into jeopardy many critical American water bodies. This would adversely impact the economy of many smaller communities throughout the United States that rely on the

recreational dollars associated with fishing, boating, swimming and other forms of aquatic recreation not to mention the health ramifications for the millions of Americans that rely on these waters as sources of drinking water. But these aren't my only concerns.

Farming and mining interests also add a considerable amount to the American economy and to the economy in my district. They ensure a quality and standard of life unmatched throughout most of the world. Mr. Chairman, I want to ensure that these interests also are able to conduct their affairs in a manner as efficiently as possible. Striking the right balance is the key.

We can not overburden the many family farms that work ~~admirably~~ to provide the world's best quality and most affordable food supply. The family farm is under tremendous pressure on many fronts and we can not turn a blind eye to their valid concerns.

So, I will listen actively and earnestly to the witnesses you have assembled here today Mr. Chairman. Again, I thank you for holding this hearing on this very important topic.

OPENING STATEMENT OF REP. STEVE COHEN

Transportation and Infrastructure Full Committee Hearing

"The 35th Anniversary of the Clean Water Act: Successes and Future Challenges"

October 18, 2007

One of the most historic and momentous presidential veto overrides of the past century occurred approximately 35 years ago today, when the U.S. Congress overrode President Nixon's veto to enact the Federal Water Pollution Control Act Amendments of 1972, commonly referred to as the Clean Water Act. Congress enacted the Clean Water Act to "restore and maintain the chemical, physical and biological integrity of the Nation's waters."

In 1972, only one-third of the nation's waters meet water quality goals. Today two-thirds of our nation's waters now meet water quality goals. Nonetheless, there is still much to do at the federal and state level to protect the waters of our communities, which include lakes and rivers as well as groundwater and drinking water supplies from contaminants and organic waste. The Environmental Protection Agency, the Congressional Budget Office and specialists within the water resources industry all contend that significant increases in investments are needed to address wastewater needs over the next 20 years as well as ensure the protection of our potable water resources.

In the 110th Congress, this committee has been at the forefront on this issue, implementing legislation such as H.R. 1495, the Water Resources Development Act, which authorizes restoration and conservation projects along our nation's waterways. I was pleased that this legislation included several Memphis projects along the Mississippi River. I am also pleased to join 171 bipartisan members as a cosponsor of H.R. 2421, the Clean Water Restoration Act, which clarifies federal jurisdiction over our nation's waters.

I look forward to hearing from our witnesses from the Army for Civil Works, the Environmental Protection Agency and others today as we examine the successes of this monumental legislation as well as consider how we can further protection of the nation's water resources.

STATEMENT OF
THE HONORABLE JERRY F. COSTELLO
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
HEARING ON THE 35TH ANNIVERSARY OF THE CLEAN WATER ACT: SUCCESSES AND FUTURE CHALLENGES
THURSDAY, OCTOBER 18, 2007

Thank you, Mr. Chairman for holding this hearing on the 35th anniversary of the Clean Water Act: Successes and Future Challenges.

Our nation has nearly 23,000 miles of ocean shoreline, more than 5,500 miles of Great Lakes shoreline, and 3.6 million miles of rivers and streams. As a life-long resident of a Great Lakes state, I am well aware of the importance of these vital natural resources to the economic health and well being of our state and its residents.

I also know how important the Clean Water Act has been to preserving these waters, resulting in significant investment in wastewater infrastructure and emphasizing truly clean water. It is widely viewed as the Nation's most successful environmental law because of the critical partnerships that have developed and because of the willingness of the federal government to join with communities in financing critical wastewater treatment and conveyance systems. The common goals of

environmental protection and protecting public health have kept us working together.

While the CWA has been hugely successful, some challenges remain. Currently, small communities will need $13.6 billion within the next nine years to meet CWA requirements. In particular, 60 percent of the nation's total small community needs are located in 10 states, including my home state of Illinois. In my district, I see the effects of under-investing in wastewater infrastructure. Numerous communities, including Sparta, Sauget, and the Rend Lake Conservancy District in Illinois, are all experiencing wastewater infrastructure problems. Without a consistent and firm commitment from the federal government and the local communities, these needs will go unanswered.

Further, this Committee has held numerous hearings on recent court decisions that have created uncertainty over which waters are afforded Federal protection under the CWA. I am committed to the protection and restoration of our nation's wetlands and waterways and want to work with this Committee and interested stakeholders to accomplish that goal.

With that, I welcome the witnesses here today, and look forward to their testimony.

Harry E. Mitchell

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Statement of Rep. Harry Mitchell
House Transportation and Infrastructure Committee
10/18/07

--Thank you Mr. Chairman.

--To say water is important to Arizona is an understatement. With such a limited supply, our state's livelihood literally depends on our ability to reliably control it, as well as keep it clean.

--In that regard, the Clean Water Act has been an invaluable tool.

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--Nationwide, it has helped us make impressive and critical improvements in water quality.

--In 1972, when it was first enacted, only one-third of our nation's waters met water quality goals. Today, approximately two-thirds of our nation's waters meet these goals.

--While we should rightly celebrate the success this groundbreaking legislation, we must keep in mind that we still have a way to

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go until all of our nation's waters meet water quality goals.

--I look forward to hearing from today's witnesses about the lessons we've learned from the first 35 years of the Clean Water Act, and what steps they think we need to take going forward.

--I yield back.

Statement for the Record for Congressman Walz
"T & I Committee on "The 35th Anniversary of the Clean Water Act: Successes and Future Challenges"
October 18, 2007

I want to thank Chairman Oberstar and Ranking member Mica for calling today's hearing on "The 35th Anniversary of the Clean Water Act: Successes and Future Challenges."

The Clean Water Restoration Act would put all waters of the United States under the jurisdiction of the Federal Water Pollution Control Act. I am a strong supporter of laws that protect our land and water from pollution and degradation. I look forward to today's hearing as we have many good witnesses including a fellow Minnesotan. While many questions have been raised regarding this legislation, I look forward to working with all interested groups to address their respective concerns. I will continue to work with Chairman Oberstar and this Committee to ensure that any legislation the Transportation Committee considers will not have an undue impact on Minnesota's agricultural producers.

This hearing today, to look at the successes and future challenges of the Clean Water Act, is timely. Thank you again, Mr. Chairman, for holding this

hearing and I look forward to hearing from our witnesses and to working with Committee members as we address these issues.

Statement from Congressman Don Young

Full Committee Hearing on Clean Water Act 35th Anniversary: Successes and Challenges

October 22, 2007

With more than 3 million lakes, 12 thousand rivers, thousands of streams, creeks, and ponds, and more coastline than the other 49 states combined, the Clean Water Act has and will continue to have a monumental impact on the economy, transportation, and landscape of Alaska, as well as America.

Alaska encompasses an area of 403,247,700 acres, including offshore areas. Total acreage of wetlands is 174,683,900 acres. This is 43.3 percent of Alaska's surface area. In the lower 48 states, wetlands only occupy 5.2 percent of the surface area. Alaska contains 63 percent of the total wetland acreage in the United States (excluding Hawaii) according to the U.S. Fish and Wildlife Service.

In June 2007 the Environmental Protection Agency (EPA) and the Corps of Engineers issued new guidance on issuing dredge and fill permits, known as section 404 in the Clean Water Act, as a result of the recent Rapanos Supreme Court case. The guidance says that the Corps analysis would have to either find a permanent surface hydrologic connection or a "significant nexus" between the wetland in question and the water quality of the nearest traditional navigable water.

The Fairbanks North Star Borough is currently suing the U.S. Army Corps of Engineers over a dispute concerning whether property the Borough would like to turn into a park, is a wetland under Clean Water Act jurisdiction. The Corps is claiming the property is a wetland because of a hydrologic connection in the groundwater even though there is no surface water connection. In this case, it appears that the Corps is not adhering to the guidance that was issued in June. I'm interested to know if there other cases where the Rapanos guidance is not being complied with by the Corps.

Another issue that is vital to Alaska is mining. Currently the section 404 dredge and fill permits issued by the Corps to Rock Creek Mine in Nome and the Kensington Gold Mine near Juneau are being challenged in the Ninth District Court.

There is proposed legislation that seeks to expand the original intent of Congress from "navigable waters" to "waters of the United States." With the current challenges of economic development and mining being stifled because of the environmental community and a lack of clear direction from the Corps, expanding the scope of the Clean Water Act will do more damage and cause more confusion. I fear that this proposed legislation may increase the cost and time to issue dredge and fill permits and negate the ability for communities like Fairbanks to challenge the interpretation of what federal agencies constitute as a wetland.

ASIWPCA

Association of State and Interstate Water Pollution Control Administrators

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October 18, 2007

35 Years of the Clean Water Act: Progress and What the Future Holds

The Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) appreciates this opportunity to share State and Interstate water pollution control managers' perspectives on the success of the Clean Water Act and the challenges the future holds. I, Linda Eichmiller, as the Executive Director of ASIWPCA, am pleased to provide the membership's perspective on these important issues.

The 1972 Clean Water Act was built upon existing State programs and a vision on the partnership needed to achieve its goals related to the physical and biological integrity of the nation's waters.

State and Interstate water quality programs have become sophisticated, complex and broad reaching over the last 35 years. The Clean Water Act has provided a highly effective statutory framework for improving our nation's waters. However, this is a good time to consider adjustments which could facilitate further progress in improving and maintaining water quality in this country. In my testimony, I will address four issues: major accomplishments, the extent to which the Clean Water Act is up to the tasks we face, future challenges, and the kind of discussions we need to have to move forward with a strengthened water quality program.

Major Accomplishments:

Surface water quality restoration and improvement: Rivers, streams, lakes and estuaries throughout the nation have become fishable and swimmable as a direct result of the Clean Water Act to the extent that the latest generation of children has not observed the pollution known by previous generations. This has benefited not only the environment, but also the economy. Water quality impairments from point source pollution have been significantly reduced but there is still considerable work to do.

Infrastructure investment to improve water quality: Water quality improvements did not just happen. Major investments have been made by virtually every city, town and industry in water pollution control. For example, $460 - $560 Billion has been invested in municipal infrastructure. It is important to note that the original Federal investment was made through a construction grants program that provided 75-85% funding for municipal treatment plant construction. We could never have had the surge of water quality improvements that occurred in the 1970's and 1980's without this level of Federal investment. This was followed by the Clean Water State Revolving Loan Fund, which has provided $66 Billion in Federal funds for low interest loans. Federal funds have been leveraged with State funds to assist many communities that otherwise would be unable to affordably address water quality problems.

State Regulatory Program Development: Comprehensive water pollution control programs have been put into place at the National, State, regional and local levels as a direct result of the Clean Water Act. A strong State/Federal partnership has developed – with National consistency tempered by State flexibility. Section 106 grants to the States continue to be the best investment of Federal funds for direct implementation of the Clean Water Act. These funds provide valuable and cost effective resources for water quality monitoring, NPDES permitting, and technical support to publicly owned treatment works. The States have historically

had flexibility to set priorities with local stakeholders as to how to best use these funds - this has worked well. However, I must note that we have recently experienced increasing Federal strings on these funds that we believe are counterproductive.

Public Participation: The Clean Water Act included requirements to ensure public involvement in all facets of program implementation that have been key to the successes of the program. This has spawned a permanent public interest at the local level in clean water that is unique and is key to the future success of our Nation's clean water programs.

Informed decision making based on real water quality monitoring: The Act requires that States regularly assess the quality of our waters and report on findings. This has served to inform the Congress and the public on the state of the Nation's waters as well as to focus on the highest priority water quality problems at the local or watershed level. The flexibility built into the Act to adjust priorities at the State and local level has been a key to our successes over the last 35 years. However, there have recently been disturbing increases in Federal limitations that hamper State creativity to address state needs.

Can the Clean Water Act Achieve Its Stated Goals?

Yes. As I have just mentioned, we have made significant strides. However there is much to do and many issues have emerged that were not contemplated when the Act was first passed into law. The interim goal of fishable / swimmable waters needs to be maintained as a focus, even after 35 years. Improvements in wastewater treatment have caused this goal to be attained in many waters actually more quickly than would have been predicted by scientists at the onset of the Act. But there still is much work to do in many locations and there are numerous emerging issues that need to be addressed. These include the identified needs to:

- Better control nonpoint source pollution,
- Provide even higher levels of treatment for nutrient removal at wastewater treatment plants, and
- Research new issues such as the impacts of personal care products and pharmaceuticals on surface water environments.

Solutions to these issues are likely to be costly and complex. And, going forward, innovative treatment techniques and creative regulatory solutions beyond traditional command and control responses will be required. The flexibility contemplated in the original Clean Water Act for the States to develop creative solutions at the State level is key to our future success in making improvements. Frankly, we believe that this will ultimately require a substantial shift in Federal philosophy as evidence by the ever increasing strings tied to Federal grants such as the Section 106 monitoring set asides and the USEPA's permit fee rules.

Major Challenges That Lie Ahead

Investment is required to address aging infrastructure and to comply with substantially more stringent NPDES permits: This is critical. As noted above, many publicly owned treatment plants were constructed in the late 1970's and early 1980's to meet new permit requirements under the new Clean Water Act. These improvements were funded by 75% federal construction grants and then low interest SRF loans. NPDES permits are also becoming more stringent to address nutrient, metals, and other issues. Upgrades will be required at substantial cost to address these issues and the use of state-of-the-art technologies, which continue to be developed and improved with time. There is a major funding gap which makes these improvements potentially unaffordable for low to moderate income households.

Contamination of water bodies caused by air pollution: We now know that water pollution is also caused by air pollution. Acid rain and mercury contamination, which render fish unsafe to eat are caused by

emissions from smoke stacks that can be hundreds of miles away. Resolution of these issues requires an intersection of the Clean Air Act and Clean Water Act not remotely contemplated 35 years ago.

Climate change is a serious long term issue: This is projected to bring increased temperatures, rising sea levels, changing weather patterns. We must be prepared for these major impacts.

Integrated and Interstate watershed approaches are needed: Creative solutions are needed to resolve other complex issues that are watershed, not jurisdictional, based. These include: the integral relationship between water quality and quantity, instream flow needs, effluent discharges, nonpoint sources, and stormwater. Informed and science-based decisions require sufficient and reliable water quality data which takes financial resources.

Major Conversations That Should Be Considered To Address These Challenges

A huge gap exists between the financial resources needed by States and Interstate agencies to implement Clean Water Act mandated programs and the levels available – approaching a billion dollars annually. The gap for infrastructure funding exceeds $300 Billion. Those gaps will likely never be closed. A consensus is needed on the Federal, State and local roles on how to bridge these funding gaps. Programs and requirements that require significant resources without a return of commensurate value should be revisited. As well as the infrastructure funding gap, there is a very significant gap in program funding provided to the States. We would be happy to provide you with more details on both of these issues at a later date.

States need flexibility to focus the limited available resources on the highest priority water quality problems in each State. These problems vary across the States. States are increasingly constrained by Federal funding strings and bureaucracy. States can do better with greater flexibility and are fully prepared to be accountable for the results.

The traditional approaches contemplated in the Act may not be suitable for dealing with some pollutants, e.g. mercury, nutrients, household and personal care products and pharmaceuticals. We need creative approaches to solve these problems faster and more cost effectively.

Clean Water Act jurisdiction requires clarification: For example, how should the Act broadly cover surface waters including intermittent and ephemeral streams and not be handicapped by complicated and inconsistent court decisions. And, should the Act be changed to resolve recent, sometimes conflicting, court decisions? Congress has an important role in addressing that issue.

Summary:

In conclusion, the Clean Water Act is sound and has been an effective to improve the Nation's waters. Nonetheless, we encourage consideration of possible statutory and administrative improvements in light of the lessons learned, scientific advancements, and other issues that have emerged since the Clean Water Act passed into law 35 years ago.

TESTIMONY OF

BENJAMIN H. GRUMBLES

ASSISTANT ADMINISTRATOR FOR WATER

U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

UNITED STATES HOUSE OF REPRESENTATIVES

October 18, 2007

Mr. Chairman and members of the Committee, I am Benjamin H. Grumbles, Assistant Administrator for Water at the United States Environmental Protection Agency (EPA). Thank you for the opportunity to discuss the Clean Water Act (CWA) and EPA's programs to protect, restore, and enhance water quality. Today is a special day for America's waters, wetlands, and watersheds: The CWA turns 35. As we celebrate one of the world's most successful and enduring environmental laws, we also should reflect on what we have accomplished and where we should focus our efforts to increase the pace of environmental progress. Our Nation's waters are cleaner and safer than before, thanks largely to the landmark legislation contained in the CWA.

Significant progress

The Clean Water Act (CWA) has dramatically improved water quality through discharge permits, scientific standards, state and local funding, and watershed planning.

Wastewater Management

Thirty-five years ago some of the nation's rivers were open sewers posing health risks, and many water bodies were so polluted that swimming, fishing, and recreation were impossible. A year after Congress passed the CWA to limit raw sewage and other pollutants discharges into our water resources, EPA issued the first industrial discharge permits under the National Pollutant Discharge Elimination System (NPDES). Due to this permit program, 31 millions pounds of pollutants are no longer discharged into the waterways each year. More than 50 industrial sectors now comply with nationally consistent discharge regulations. In addition, sustained efforts to implement best management practices have helped reduce runoff of pollutants from diffuse, or "nonpoint," sources.

Today, of the 222.8 million people served by wastewater treatment facilities, more than 98.5 percent (219.5 million people) are served secondary treatment by systems that remove up to 90 percent of the pollutants in the water. Such advances in wastewater treatment constitute one of the major achievements in modern American public health.

EPA develops technology-based effluent limitation guidelines and standards that provide effluent limits based on current available technologies. These limits are then incorporated into technology-based NPDES permits. Unlike other Clean Water Act tools, effluent guidelines are national in scope and establish pollution control obligations for all facilities that discharge wastewater within a specific industrial category or subcategory. Since 1972, the Office of Water has promulgated 56 rulemakings for effluent guidelines which collectively have removed more than 602 billion pounds of pollutants from industrial wastewater discharges.

Recreational Waters

EPA has strengthened water quality standards throughout all the coastal recreation waters in the United States. All 35 States and Territories with coastal recreation waters now have pathogen water quality standards as protective of human health as EPA's recommended water quality criteria – an increase from 11 States and Territories in 2000. States have significantly improved their assessment and monitoring of beaches; the number of monitored beaches has increased from about 1,000 in 1997 to more than 3,500 in 2006.

EPA has improved public access to data on beach advisories and closings by improving the Agency's electronic beach data collection and delivery systems.

Today, BEACH Act States easily transmit data to EPA on their Beach Monitoring and Notification Programs through a system known as "eBeaches." The data is uploaded onto a nationally-accessible Internet site that is easily reached by the public.

In the area of research, EPA has conducted cutting-edge research on the use of molecular-based methods for more quickly detecting indicators of fecal contamination in coastal waters. The Agency's Office of Research and Development has also completed critically needed epidemiological studies correlating the results from these methods to the incidence of gastro-intestinal illness. These molecular methods show great promise for providing quicker test results and allowing beach managers to make faster and better decisions about the safety of beach waters, though significant technical issues still need to be resolved before these methods are recommended for widespread use. Faster and better decisions are good for public health and good for the economy in beach communities. We share the goals of the public and State beach managers for making the best decisions possible about keeping beaches open or placing them under advisory.

Funding

In 1973, EPA implemented regulations for management of the Construction Grants Program, under Title II of the Clean Water Act. Twelve years later, the

Clean Water State Revolving Fund replaced the Construction Grants program as the primary source of Federal funding for municipal wastewater treatment projects. Over the past 19 years, the CWSRF program has played a significant role in helping to finance water infrastructure. During this time period, EPA has provided approximately $25 billion to help capitalize the state-run programs. In combination with state monies, bond proceeds, and recycled loan repayments, the CWSRFs have been able to "leverage" the Federal investment into $61 billion to fund wastewater infrastructure and water quality projects.

Wetlands

Wetlands are a critical national resource providing water quality and habitat functions. Since enactment of the Clean Water Act and its amendments in 1977, the annual rate of wetland loss, has been significantly reduced from an estimated 290,000 acres per year in the 1970s to what the U.S. Fish and Wildlife Service currently reports as a net gain of wetlands of approximately 32,000 acres per year during the period between 1998 and 2004. In 1988, then President Bush adopted the National wetlands Policy Forum recommendation of no net loss of wetlands. More recently, the current Bush Administration has challenged the country to go beyond no net loss of wetlands to achieve an overall gain of this vital aquatic resource. On Earth Day 2004, President Bush established a new goal, to increase the quantity and quality of at least 3 million wetland acres by Earth Day 2009. The Federal agencies working to achieve this goal recently

announced that 2.8 million acres of wetlands have been restored, improved and protected nationwide in just the first three years of this ambitious initiative.

EPA continues to collaborate with the Corps and our other partners to improve our Clean Water Act regulatory tools in order to further protect these vital resources. For example, the agencies have proposed revisions to regulations governing compensatory mitigation under the CWA 404 permitting program designed to improve the effectiveness of compensatory mitigation at replacing lost aquatic resource functions and area, expand public participation in compensatory mitigation decision-making, and improve the performance and results of aquatic resource compensation projects. We are striving to publish the final rule later this year. EPA also supports state and tribal efforts to protect wetland resources through the Wetland Program Development grants which build capacity in areas such as monitoring, development of water quality standards for wetlands, identification of sites for restoration, establishment of state or tribal wetlands protection programs, and ensuring permitting and mitigation requirements are met.

Watersheds and Great Waters

For over a decade, EPA has advocated a watershed approach to achieving and monitoring water quality progress. Increases in funds for the section 319 Nonpoint Source (NPS) Program enabled EPA to provide states and local and

tribal governments with greater assistance in developing watershed plans, monitoring the effectiveness of NPS controls, demonstration projects including technology transfer, and training, all aimed to address the growing concern over nonpoint source pollution.

Regional collaborations have allowed EPA and our federal, state, and local partners to accelerate environmental progress in our great water bodies. The Great Lakes Interagency Task Force, which had its genesis in the Great Lakes Executive Order signed by President Bush in March 2004, brought Federal agencies together with state, local, tribal and Congressional participants, along with many other Great Lakes stakeholder groups, in an unprecedented partnership to improve coordination and protection efforts across all levels of government in the Great Lakes. The Chesapeake Bay Program was established in 1984. This effort has made a profound difference to the health and vitality of the Chesapeake Bay and has helped to limit damage to the ecosystem by preserving millions of acres of critical habitat. The Gulf of Mexico Program is working with the scientific community; policymakers at the federal, state, and local levels; and the public to help preserve and protect the Gulf. It has made significant progress in identifying the environmental issues in the Gulf ecosystem and in organizing a program to manage those issues. The Program provides a tool to leverage the resources of 18 different Federal agencies, a variety of environment-related agencies from the states and numerous public and private organizations.

Since 2004, EPA, through the National Estuary Program (NEPs), CWA Section 319 Nonpoint Source Grant Program, 5-Star Restoration Challenge Grant Program, and Superfund Program, has restored 25,820 acres, improved 57,270 acres, and protected 101,990 acres of wetlands. The 28 National Estuary Programs and their partners have protected or restored over 1 million acres of habitat since 2000.

Meeting Challenges and Priorities

In October of 2002, EPA released the Clean Water and Drinking Water Gap Analysis Report. The report estimated that if capital investment remained at current levels, the potential gap in funding between 2000 and 2019 would be approximately $122 billion (in 2001 dollars) for wastewater infrastructure. However, the gap is significantly reduced if municipalities increase clean water spending at a real rate of growth of three percent per year. This real rate of growth is consistent with the long-term growth estimates of the economy. Under this scenario, the gap estimate is approximately $21 billion between 2000 and 2019.

One of EPA's top priorities is to develop and implement innovative, sustainable, and market-based solutions to managing and financing water and wastewater

infrastructure. For the last four years, we have emphasized our "Four Pillars of Sustainability." They are: better management; full-cost pricing, efficient water use, and watershed approaches to protection.

The comprehensive strategy of our Sustainable Infrastructure Initiative includes developing with our utility partners better management practices and tools; ensuring customer rates for water use reflect the full cost of services that homes and businesses receive from our water systems; making sure that every dollar of investment in "hard infrastructure" is absolutely necessary by first establishing improved water efficiency practices and adopting "green infrastructure" and other solutions integrated into watersheds to minimize the flows that have to be transmitted and treated. This broad Initiative has been gaining significant traction and momentum across the country as wastewater utilities make the shift from managing for compliance to managing for sustainability. The integrity of our wastewater infrastructure over the long term is essential to retaining the gains that have been realized through the Clean Water Act.

We are spreading the ethic of water efficiency through our new WaterSense program by providing tools for citizens to make smart water choices. The WaterSense program encourages efficient use of the nation's water supply by featuring a label to easily find products and services that reduce water bills and maintain high environmental standards – all without compromising performance.

To date, this voluntary program has partnered with over 400 organizations and individuals committed to saving water for future needs.

In just a year and half, the WaterSense program has finalized specifications in two product areas - high-efficiency toilets and bathroom faucets. The WaterSense program already has 60 labeled toilets that use 20% less than standard models and could save the average homeowner $90 per year on water bills. If only 10 percent of American homes made the switch, we could save up to 89.7 billion gallons of water each year. Currently, most of the bathroom faucets in American homes flow at rates much higher than necessary. WaterSense labeled faucets use about 30% less water than standard faucets while maintaining water pressure. These faucets could save Americans 61 billion gallons of water annually not to mention the energy savings associated with the pumping, heating and treating of that water.

We will continue to build on this success through the three tools of collaboration, innovation, and technology.

New Partnerships and Tools

The water and wastewater infrastructure challenge isn't just an EPA challenge or a state and local challenge-- it's everyone's challenge. We are committed to working with our partners to help change the way America views and values

water and the infrastructure support systems. In May 2007, I signed a statement of support with six national associations to promote 10 key attributes which will help utilities manage for success and sustainability. The Bush Administration also proposed a new tool, Water Enterprise Bonds, to accelerate and increase investment in the nation's water infrastructure. These bonds will facilitate innovative public-private partnerships by communities seeking the financial and operational expertise of the private sector.

Watersheds

The heart and soul of the Clean Water Act, current and future, must be a holistic approach that looks at the entire watershed and all sources of pollution and that brings new partners and new tools to the problem-solving table. This is particularly true for the growing and complex field of wet weather flows (such as sewer overflows, stormwater, nonpoint runoff, and concentrated animal feeding operations). EPA just released new guidance on watershed permitting and water quality trading that will help permit writers, utilities, watershed organizations, and citizens accelerate restoration and protection. In Partnership with USDA, EPA is supporting development of a web-based tool that for the first time will allow farmers to themselves estimate the number of credits they can generate for sale as part of water quality trading. The testing ground for this new tool will be within the Chesapeake Bay watershed. EPA is also embracing and advancing, as never before, the "green infrastructure" movement to reduce problems with sewer

overflows and stormwater by mimicing natural processes and features such as vegetation, infiltration, evaporation, and water reuse. Wetlands contribute significantly to the greening of watersheds and improved ecosystem health.

The fear of Clean Water Act liability remains one of the main obstacles to Good Samaritans cleaning up abandoned hardrock mines that impair thousands of streams and watersheds in the West. While EPA believes that tough standards are appropriate for the mine operators that caused these problems, some flexibility is needed to protect Good Samaritans that come along later and want to clean them up, especially when the original polluter is long gone. EPA urges this Committee to pass targeted, bipartisan clean water legislation to protect Good Samaritans and set a shining example for cooperative conservation and environmental progress.

Monitoring

Under the Clean Water Act, most water quality monitoring responsibilities rest with the states. Using traditional monitoring approaches, in 2004 states assessed an estimated19% of the river and stream miles in the U.S., 37% of its lakes and reservoir acres, and 35% of its estuarine waters. The Monitoring Initiative, begun in FY05 has provided $18.5 million dollars annually through the CWA Section 106 grants for states and tribes, specifically to improve the comprehensiveness and consistency of water quality monitoring programs.

Under this Initiative, we have launched a series of statistically-based water quality surveys with our state and tribal partners. These surveys report on core indicators using standardized methods, and yield unbiased, sample-based estimates of water quality conditions for all the water resource types. To date, we have completed a survey of the nation's streams and three surveys of our estuarine and coastal waters. This summer we completed the sampling of the nation's lakes. We are committed to continuing and expanding these surveys to look at all water types – lakes, rivers, and wetlands – and repeating the surveys every five years. These surveys have begun to yield scientifically-defensible data that we and the states can use to better identify our most significant water quality problems, determine if water quality is improving, and gauge the impact of our national investment in protecting and restoring the nation's watersheds. These efforts are helping to fill our monitoring and data needs gaps.

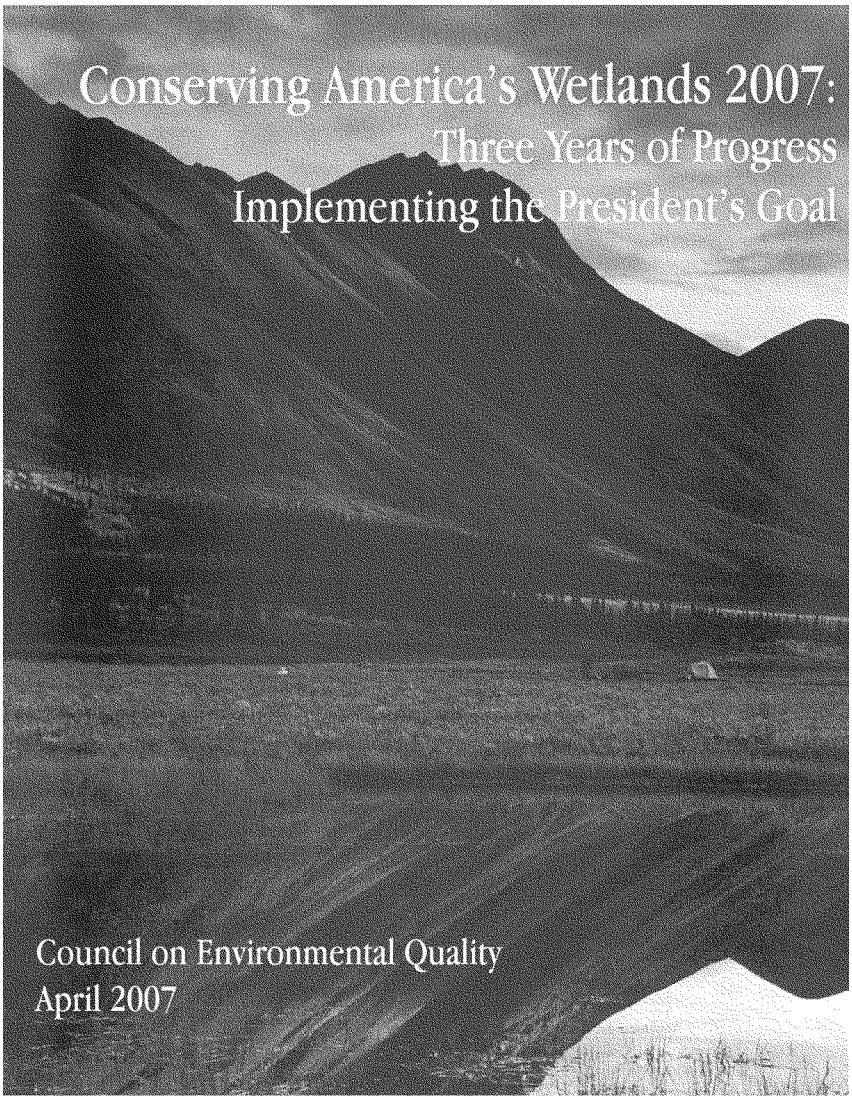
Climate Change

One of today's priorities is climate change. In March 2007, the National Water Program established a Workgroup to assess emerging climate change information, evaluate potential impacts of climate change on water programs, and identify needed responses. The National Water Program is committed to working cooperatively with national partners, State and local government, and public and private stakeholders to understand the science, develop tools, and implement actions to address the impacts of climate change on water resources. We are putting considerable effort behind this to help prepare and respond to

possible challenges to our water resources and systems. We know it will be important to adapt to climate changes and revise various programs and activities.

Conclusion

Mr. Chairman, I look forward to accomplishing more of EPA's goals on wetlands protection, energy and water efficiency, and coastal hypoxia in the coming months. Taken together, all of these initiatives, innovative tools, and resources will help EPA and its partners continue to build on the gains in water quality that we have worked so hard for and enjoyed over the last 35 years. We will continue to work with this committee, our federal colleagues, and the many partners, stakeholders and citizens, who want to accelerate the pace and efficiency of water quality protection and restoration. This concludes my prepared remarks; I am happy to respond to any questions you may have.


Conserving America's Wetlands 2007:
Three Years of Progress
Implementing the President's Goal
Council on Environmental Quality
April 2007

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This report to Congress shows how Federal agencies are implementing President George W. Bush's 2004 Earth Day goal to "work to restore and to improve and to protect at least three million acres of wetlands over the next five years." The report includes the accomplishments of the first three years and the requested budget and planned accomplishments for FY 2008, with descriptions of contributing Federal programs.

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Cover photo: Tetlin National Wildlife Refuge. (Hillebrand, FWS)

Conserving America's Wetlands 2007:
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Department of the Army

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Environmental Protection Agency

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April 2007

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

Members of Congress:

This third annual progress report on President George W. Bush's Wetlands Initiative brings you more good news. The goal President Bush set on Earth Day 2004 to create, improve, and protect at least three million wetland acres by Earth Day 2009 will likely be achieved one year early, by Earth Day 2008.

Since the President set the goal to move beyond "no net loss" of wetlands and attain an overall increase in the amount and quality of wetlands in America, we have restored, protected, or improved 2,769,000 acres of wetlands. We now have 888,000 acres of wetlands that did not exist in 2004, we have improved the quality of 1,029,000 existing wetland acres, and we have protected another 852,000 acres of existing wetlands. These accomplishments were achieved through our proactive conservation programs, such as the Wetlands Reserve Program, National Wildlife Refuge System, North American Wetlands Conservation Act, Aquatic Ecosystem Restoration Program, and the National Estuary Program. These are more substantial and distinct from our regulatory mitigation programs that replace wetlands developed for other uses.

Our successes also reflect the benefits of the Cooperative Conservation Executive Order 13352, which promotes conservation partnerships. The Departments of the Interior, Agriculture, Commerce, and Defense, and the Environmental Protection Agency continue to collaborate on better ways to meet conservation goals by working in partnership with state, local, and tribal governments; private institutions; and other nongovernmental entities and individuals.

Through Coastal America's Corporate Wetlands Restoration Partnership, more than 400 corporations and NGOs contributed to the President's wetlands goal by providing matching funds and in-kind services for wetlands restoration and protection projects. For example, corporations provided matching funds that helped leverage Federal dollars for the Bahia Grande, a 10,000-acre wetlands restoration project in Texas.

Last October, the President signed the *Partners for Fish and Wildlife Act*. The Partners program is a vanguard for voluntary, citizen and community-based stewardship efforts for fish and wildlife conservation. The program operates on the premise that fish and wildlife conservation is a responsibility shared by citizens and government. In 2008 the President requested a net increase of $5.6 million for the program to expand restoration activities on private lands.

As a result of the devastating hurricanes of 2005, the American public has an increased awareness of the importance of wetlands in sustaining a resilient coast. These massive storms resulted in 217 square miles of wetlands loss on the Louisiana coast and have left the region more vulnerable to future coastal storms. There is now a renewed sense of urgency for restoring, improving, and protecting coastal wetlands that all Americans can appreciate in light of the loss of life and property on the Gulf Coast.

Integrating wetlands restoration into the larger recovery plans for the Gulf region clearly makes good ecological sense, and it also makes good economic sense. But wetlands conservation and restoration is not only critical for recovery efforts on the Gulf Coast. With more than half of the Nation's population living in coastal counties, wetlands conservation and restoration must be included in our approach to community planning and development nationwide.

Congress has been an essential partner in the President's conservation agenda. To ensure that the strides made in the past three years not only continue but increase, we will start today to lay the foundation to ensure that all wetlands decision-makers, inside and outside the Federal Government, have real-time access to the information they need to make enlightened decisions. Our ecology and economy are interdependent; a healthy environment and strong economy must both flourish. I am looking forward to the day we celebrate reaching the President's goal for restoring, improving, and protecting America's wetlands.

Sincerely,

James L. Connaughton
Chairman

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Executive Summary

On Earth Day 2004, President Bush celebrated the opportunity to move beyond the Federal policy of "no net loss" of wetlands and called for a new commitment to attain an overall increase in the quality and quantity of wetlands in America.

As President Bush said in April 2004, *"The old policy of wetlands was to limit the loss of wetlands. Today I'm going to announce a new policy and a new goal for our country: Instead of just limiting our losses, we will expand the wetlands of America."*

President Bush described his goal for expanding wetlands acreage as both creating new wetlands and improving the quality of existing wetlands. The President also required that we protect existing, high-quality wetlands. His goal is to achieve at least one million acres in each of these separate categories between Earth Day 2004 and 2009. This goal reflects agency performance in restoring, improving, and protecting wetland acres. The goal does not reflect a net acreage total (*i.e.*, the goal does not reflect loss of wetlands).

After three years of progress toward the President's five-year goal, the team of six Federal departments working with multiple states, communities, tribes, and private landowners is on track to meet or exceed this goal.

Since this goal was set, 2,769,000 acres of wetlands have been restored or created, improved, or protected.

This report also highlights anticipated progress between Earth Day 2007 and 2008, during which time the Bush Administration expects an additional one million wetland acres to be restored or created, improved, or protected.

	2005-06 Reports*	This Report
Acres Restored or Created	588,000	300,000
Acres Improved	541,000	488,000
Acres Protected	601,000	251,000
Total Acres	**1,730,000**	**1,039,000**

**Agency accomplishments as adjusted by actual results; these totals do not reflect net totals, as they do not account for wetland acres lost or damaged.*

The President's focus on wetlands has prompted these accomplishments, as well as improvements in cooperation and understanding among the many Federal departments, states, communities, tribes, and landowners that care for and manage wetlands. The Federal Government team includes the Environmental Protection Agency and the Departments of the Interior, Agriculture, Commerce, Transportation, and the Army.

Many agencies of government contribute to the continuing goal of "no net loss" by ensuring mitigation for wetlands that are developed for other uses. Even though mitigation for wetlands replaces more wetland acres than are lost, these numbers are not included in the three categories reported here. The report describes these and other programs that contribute to maintaining the Nation's wetlands base.

This report chronicles the major contributions of Federal agencies, working together and in partnership with others, to achieve the President's wetlands goal of three million acres by 2009.

Landscape Change Processes on the Deltaic Gulf Coast

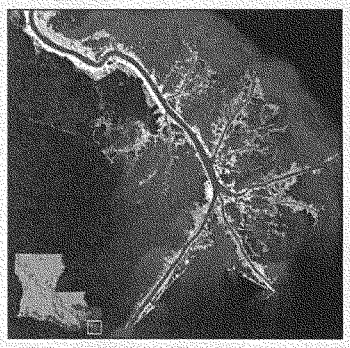
The hurricanes of 2005 have brought a sense of urgency to Gulf Coast restoration. The Mississippi River is a lifeline for transporting goods and services, and its coastal delta is the gateway. The Port of South Louisiana handles the most tonnage of any port in the Nation. This economic engine coexists with unique ecosystems that support important fisheries and habitats for migratory birds.

Although recent hurricanes have highlighted its vulnerability, the Gulf Coast was already experiencing the impacts of human modification to the Mississippi River system. Enormous challenges are posed by the need to restore the northern coast of the Gulf of Mexico to an ecologically functioning system, while also maintaining the navigation of the Mississippi and Atchafalaya Rivers, flood control structures, and hurricane levees and other storm protection devices. *Meeting these challenges will require new data and more cross-disciplinary methods in support of goals that transcend the interest of any single stakeholder group.*

Land-Building, Then and Now

The Mississippi River Deltaic Plain is a succession of river deltas formed over the past 10,000 years by the sediment eroded from the continent into the Mississippi River and its tributaries during rainfalls, storms, and floods. When the river reached shallow coastal waters, its velocity slowed and suspended sediments dropped out, creating deltaic land on the Continental Shelf. Following the most efficient route to the Gulf, the river changed its course every 1,000 to 1,500 years, creating new deltas. Plants took hold and stabilized the new land, and erosional forces of winds, waves, and surge periodically eroded the new landscapes, scoured adjacent waterbottoms, and transported sediments along the coast.

Today, this natural cycle of marsh-building in the Delta has been interrupted. Hundreds of locks and dams along the Mississippi River and its tributaries preclude sediments from reaching the Delta and surrounding wetlands. Soil conservation and dams reduce the sediment load to the river from storms. Levees and river bank stabilization reduce the natural erosion of the stream bank, and levees prevent natural flooding and land-building as the river passes through the Deltaic Plain.



Mississippi River Delta, January 25, 2007. (USGS)

While these land-building processes are being interrupted, both natural and human-caused destructive processes persist, such as erosion, saltwater intrusion, the invasive nutria that eats vegetation, subsidence (sinking), and increasing sea level rise. In 2005, Hurricanes Katrina and Rita transformed 217 square miles of Louisiana's coastal lands to open water, 119 miles of which lay in the Deltaic Plain. This amount of loss in one year represents almost half of the land loss scientists predicted would take place over a 50-year period.

The Scientific Challenge

Many proposals are being developed to achieve a sustainable coast, including retaining Mississippi River sediments in coastal wetlands to emulate the natural geologic and hydrologic processes. These processes, which once built the wetlands, are now critically needed to protect human communities. To provide sound science for decision making, the U.S. Geological Survey works with Federal, state, university, and other partners to monitor wetlands recovery; research impacts related to sedimentation, elevation change, plant community structure, and physical and chemical wetland attributes; create landscape predictive models; use radar to study impacts to and recovery of wildlife populations and habitats; and monitor restoration success and evaluate restoration alternatives.

Introduction

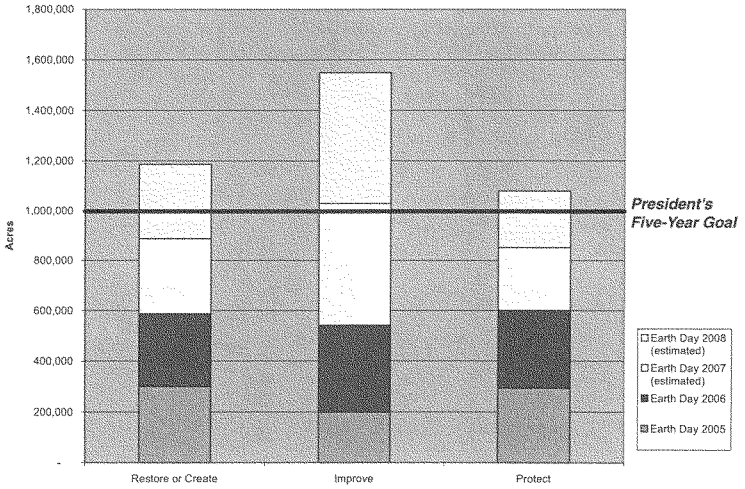
Wetlands have long been recognized as critical to a clean, properly functioning environment and to ecosystem health. They provide a protective buffer for our towns and cities against floods and storm surges, and they provide important ecological benefits, contributing to water quality, supplying life-sustaining habitat for hundreds of species, and connecting aquatic and terrestrial ecosystems. The Nation's wetlands provide an array of benefits to society, and their continued ability to function and thrive affects the economic, ecological, and cultural heritage of all Americans.

The importance of wetlands stewardship is reflected in the array of public–private partnerships that have formed, enhanced through efforts at the Federal level. Recognizing the need for more effective use and coordination of Federal wetlands activities, on April 22, 2004, President George W. Bush announced a new national policy on wetlands to achieve an overall increase of U.S. wetlands each year, with a goal to restore or create, improve, or protect at least three million wetland acres between Earth Day 2004 and 2009.

Three years after the President underscored the importance of wetlands, significant progress is being made toward achieving the Earth Day goal to increase overall wetlands acreage and its quality. Between Earth Day 2004 and 2007, approximately 888,000 acres have been restored or created, 1,029,000 acres have been improved, and 852,000 acres have been protected (Figure 1).

Since Earth Day 2004, the primary programs making contributions to restoration or creation are the Wetlands Reserve Program (USDA/NRCS), National Wildlife Refuge System (DOI/FWS), North American Wetlands Conservation Act (DOI/FWS), Conservation Reserve Program (USDA/FSA), and Partners for Fish and Wildlife Program (DOI/FWS). The primary contributors to the improvement goal are the National Wildlife Refuge System; Aquatic Ecosystem Restoration Program (DOA/USACE, Civil Works); North American Wetlands Conservation Act; Conservation Technical Assistance Program (USDA/NRCS); and the Coastal Wetland Planning, Protection and Restoration Act (USACE, EPA, FWS, and NOAA). Wetlands protection

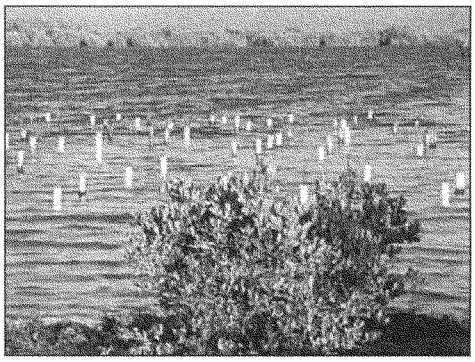
Figure 1. Estimated Progress Toward the President's Wetlands Goal



Note: Agencies' performance estimates have been adjusted for double-counted acres.

through acquisitions or long-term easements is being accomplished by the North American Wetlands Conservation Act; Wetlands Reserve Program; National Wildlife Refuge System, Federal Duck Stamp Program (DOI/FWS); National Estuary Program (EPA); and Coastal Program (DOI/FWS).

Because more than 85 percent of our Nation's wetlands are on non-Federal lands, the effectiveness of Federal efforts to improve the health, quality, and use of the Nation's wetlands will be greatly enhanced by expanding public–private partnerships. Through cooperative conservation, the Federal Government can facilitate these partnerships by providing matching grants, technical assistance, and opportunities for the reestablishment, rehabilitation, enhancement, and protection of wetlands.



Mangrove forest restoration project in Puerto Rico. (FWS)

Federal agencies must continue to encourage and partner with non-Federal parties (state and local governments, tribes, and nongovernmental organizations). Well-coordinated public–private partnerships focused on wetlands opportunities will yield significant ecological benefits.

About This Report

Conserving America's Wetlands 2007: Three Years of Progress Implementing the President's Goal presents a snapshot of Federal efforts to achieve the President's goal for wetlands acreage. In providing information, the participating agencies used terminology similar to that developed by the White House Wetlands Working Group and the same terminology used in previous editions of this report. Agencies reported all notable accomplishments toward the President's goal in the year the project was completed, or projected to be completed, rather than the year the project was funded. Adjustments were made to account for projects reported by multiple agencies ("double-counting"). Projected estimates in the 2006 report were adjusted in this year's report as actual results became available. Appendix A provides a thorough discussion of terminology and methodology, Appendix B describes efforts that maintain the wetlands base, and Appendices C through I present program-level information and descriptions.

Accomplishments

The President's goal for wetlands has led the responsible Federal agencies to focus their resources to achieve results. Agencies do this by managing programs more strategically, leveraging resources, and partnering with others whenever possible. The following sections summarize accomplishments planned for each of the three goal areas included in the President's FY 2008 budget. Major contributing programs are identified and highlighted. Wetland Reserve accomplishments reflect the anticipated increase in the wetland enrollment acreage cap and mandatory funding under the new Farm Bill, assuming that all authorized acres are enrolled.

Restore or Create Wetlands

First Three Years of Accomplishment: 888,000 acres
Estimated Accomplishment Earth Day 2008: 298,000 acres
(totals adjusted for double-counting)

Wetlands can be added by creating new wetlands or by restoring former wetlands lost to drainage. New wetlands are created in upland areas or deepwater sites. A gain in wetland acres may also be achieved by re-establishing former wetlands to restore functions and values approximating natural/historic conditions. Because of difficulties in establishing wetlands in upland areas, agencies have preferred to re-establish former wetlands when possible. In many cases the necessary soils and seed stock still exist, and wetlands flourish once more as soon as the hydrology is restored.

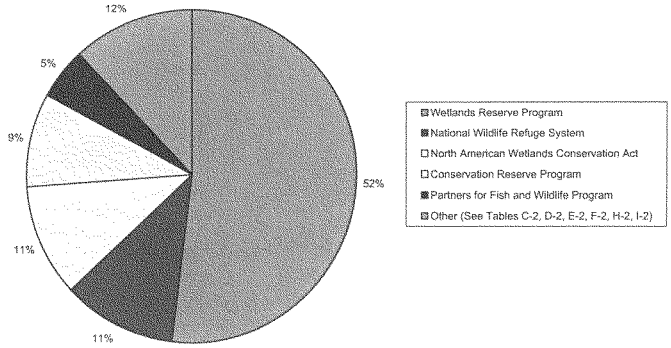
During the first three years (April 2004 through April 2007), Federal agencies reported restoring or creating 888,000 acres of new wetlands. By Earth Day 2008, Federal agencies plan to restore or create an additional 298,000 acres of wetlands. Ninety-three percent of the gains will result from re-establishing former wetlands, and only seven percent from establishing (*i.e.*, creating new) wetlands (primarily on upland sites).

The Federal Government will restore wetlands in FY 2008 primarily through the Wetlands Reserve Program, national Wildlife Refuge System, North American Wetlands Conservation Act, Conservation Reserve Program, and Partners for Fish and Wildlife (Figure 2).

Wetlands Reserve Program

The Wetlands Reserve Program (WRP) is administered by the USDA Natural Resources Conservation Service (NRCS). The types of wetlands restored by this program vary, from floodplain forest to prairie potholes to coastal marshes. Floodplain forest and associated sloughs and small emergent marsh wetlands account for approximately 65 percent of the program's restoration activity. A majority of the enrolled floodplain acres offered into the program occur in areas subject to frequent flooding that were originally drained or cleared for agricultural production.

Figure 2. Proportion of Wetland Acres Anticipated to be Restored or Created by Major Programs in FY 2008



Whooping cranes use a re-established wetland in north central Iowa. (Greg Hanson, Indiana Department of Natural Resources)

WRP expects to restore or create approximately 160,000 acres of wetlands in FY 2007 and 171,000 acres in FY 2008.

National Wildlife Refuge System

The National Wildlife Refuge System restores wetlands on its lands nationwide. For example, at the Laguna Atascosa National Wildlife Refuge, Ocean Trust, the Fish and Wildlife Service, and the Natural Resources Conservation Service (USDA) are working together and with more than 60 private and public partners in south Texas to restore 10,000 acres of tidal wetlands on the refuge known as the Bahia Grande (Grand Bay). Until the mid-1930s, these wetlands served as highly productive habitats for a wide variety of fish, shellfish, waterbirds, and waterfowl. Human-caused changes to tidal pathways brought dry, sun-baked basins and over 70 years of dust to surrounding communities. In 2006, human connections and tidal connections came together to once again flood the Bahia Grande. The response was immediate—thousands of shorebirds, egrets, herons, and brown pelicans flocked to the newly flooded area to take advantage of the abundant fish.

This program expects to restore or create approximately 35,000 acres of wetlands in FY 2007 and 37,000 acres in FY 2008.

North American Wetlands Conservation Act

This FWS program promotes long-term conservation of North American wetland ecosystems for the benefit of waterfowl and other migratory birds, fish, and wildlife. Funds are provided by appropriations and by nonappropriated sources such as the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA); interest earned on Pittman Robertson Funds; and fines collected under the Migratory Bird Treaty Act.

In FY 2007, the Lower Mississippi Valley Ecosystem IV project partners will use their $1 million grant to build on their previous achievements in the landscape-scale protection, restoration, and enhancement of the alluvial valley's wetland ecosystem. In this phase, 15,238 acres of wetland habitats will be affected in the project area, with multiple conservation activities occurring on 1,970 of those acres. Project partners will protect 1,400 acres of palustrine forested wetlands in perpetuity through conservation easements donated by three private landowners in Arkansas, Louisiana, and Mississippi. Partners also will restore 5,346 acres of wetlands and enhance 8,492 acres on a mix of private and public lands in the three states, including on Louisiana's Bouef and Bayou Macon Wildlife Management Areas. The conservation easement tract in Arkansas is located close enough to the Cache River National Wildlife Refuge and Dagmar Wildlife Management Area to be in range of the ivory-billed woodpecker, a species considered extinct for the past 60 years that was recently rediscovered in the area. Other protected tracts in the project area are within the known range of the Louisiana black bear. Restoration and enhancement activities on 10,698 acres of Federal land are complementing project partners' efforts in the Lower Mississippi Alluvial Valley, and advance the habitat conservation goals of the Lower Mississippi Valley Joint Venture. Project partners are contributing $2,302,615 in matching funds and $140,000 in nonmatching other Federal dollars.

NAWCA anticipates restoring or creating approximately 37,000 acres of wetlands in FY 2007 and FY 2008.

Conservation Reserve Program

Wetlands restored through this USDA program range from prairie potholes to floodplains to bottomland hardwood forest. Currently, 1 million acres of wetlands and 1.4 million

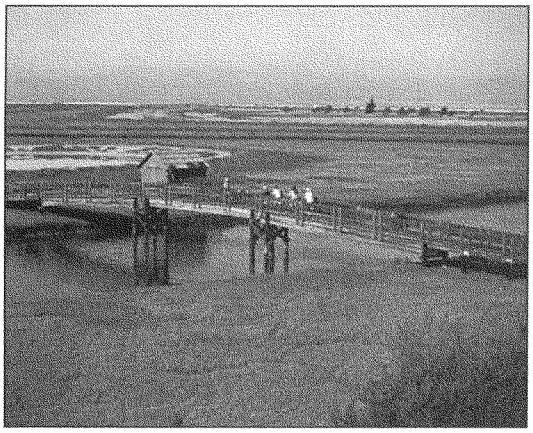
acres of associated buffers are under contract. Conservation Reserve Program wetlands successes include partnerships with states through the Conservation Reserve Enhancement Program (CREP), which has enrolled over 87,000 acres of wetlands and associated buffers. In addition, several initiatives designed to further increase wetland enrollment have been established: (1) the Non-Floodplain Wetland and Playa Lakes Restoration Initiative targets 250,000 acres for enrollment, (2) the Bottomland Timber Establishment on Wetlands Initiative has alloted 500,00 acres, and (3) the Duck Nesting Habitat Initiative is targeting 100,000 acres mostly in North and South Dakota. These wetlands provide important environmental benefits, including critical breeding habitat for ducks and grassland birds. Wildlife biologists at the Department of the Interior estimate that this program's efforts have resulted in a 30 percent increase in duck populations and significant increases in grassland bird populations on Conservation Reserve Program lands compared to cropland.

The Conservation Reserve Program anticipates restoring or creating 30,000 acres of wetlands in FY 2007 and another 30,000 acres in FY 2008.

Partners for Fish and Wildlife

The Partners for Fish and Wildlife Program is a popular and effective FWS program for voluntary and citizen-based wetlands restoration and enhancement activities. The Partners program serves as a bridge to owners and managers of private lands to develop partnerships for improvement of fish and wildlife populations and their habitats. Its approach is simple: engage willing partners, through nonregulatory incentives, to conserve and protect wildlife values on their property. In its 20 years, the Partners program has developed more than 41,000 private landowner agreements, re-establishing or enhancing over 800,000 acres of wetlands nationwide. As the delivery mechanism for strategic habitat conservation, the Partners program will continue to coordinate with public and private partners to reach national conservation goals. By working cooperatively with private landowners to restore and enhance habitat on private lands, the Partners program helps reduce the reliance on regulation to achieve the FWS mission of conserving Trust species and keeping common species common.

Partners for Fish and Wildlife anticipates restoring or creating approximately 15,000 acres of wetlands in FY 2007 and 17,000 acres in FY 2008.



More than 15,000 acres of former commercial salt ponds are being rehabilitated in San Francisco Bay, California. (FWS)

Improve Wetlands

First Three Years of Accomplishment: 1,029,000 acres
Estimated Accomplishment Earth Day 2008: 521,000 acres
(totals adjusted for double-counting)

Some degraded wetlands do not function properly because of past or present stressors. Agencies can improve wetlands by modifying the physical, chemical, or biological characteristics of a degraded wetland site with the goal of repairing its natural/historic functions and associated values (referred to as rehabilitation). They also can modify the physical, chemical, or biological site characteristics to heighten, intensify, or improve specific functions or to change the growth stage or composition of vegetation. These actions are taken with a specific goal in mind, such as improving water quality, floodwater retention, or wildlife habitat. This type of improvement,

called enhancement, results in a change in wetland functions and associated values, may lead to a decline in other wetland functions and values, and does not result in a gain in wetland acres.

Between Earth Day 2004 and 2007, Federal agencies estimated improving the quality of 1,029,000 acres of existing wetlands. By Earth Day 2008, Federal agencies plan to improve the quality and associated values of an additional 521,000 acres of existing wetlands. Of the third-year improvements, 14 percent of the gains in wetlands quality will result from rehabilitating the natural/historic functions and associated values of degraded wetlands, and the remaining 86 percent will come from enhancing specific functions and values.

The major programs that are planning FY 2008 wetland improvements include the National Wildlife Refuge System; Coastal Wetlands Planning, Protection and Restoration Act; North American Wetlands Conservation Act; and Conservation Technical Assistance Program (Figure 3).

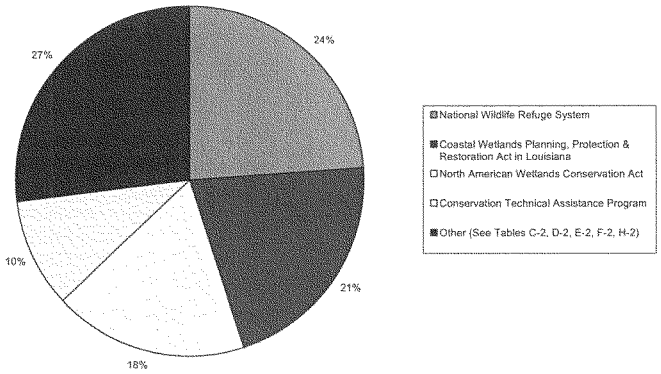
National Wildlife Refuge System

National Wildlife Refuges focus on management purposes and wildlife goals that depend on healthy wetland habitats. Over the past two centuries, more than 85 percent of San Francisco Bay's rich tidal marshes were destroyed by development, agricultural practices, and commercial salt production. This dramatic decline significantly reduced the populations of marsh-dependent fish and wildlife species, including the endangered California clapper rail and salt marsh harvest mouse.

In 2006, through a series of carefully formulated and executed levee breaches, the Fish and Wildlife Service reintroduced San Francisco Bay water to the Island Ponds near Alviso, California. The effort heralded a major step forward in the ambitious 15,100-acre South Bay Salt Pond Restoration Project, the largest tidal wetland restoration project ever undertaken on the West Coast. The South Bay Project will create a network of tidal marshes and ponds for wildlife, and provide public access for wildlife viewing and recreation. The project will restore the bay's tidal wetlands as habitat for endangered species, waterfowl, and migrating and wintering shorebirds, and filter pollution, inhibit nutrient runoff, and provide flood protection.

Since the initial restoration activities have begun and pond salinity has been reduced, Refuge staff have already observed a 100 percent increase in waterfowl and a 130 percent increase in shorebirds' use of these ponds. The three goals of the long-term restoration plan are to restore habitat, improve flood protection, and increase public access and

Figure 3. Proportion of Wetlands Acres Anticipated to be Improved by Major Programs in FY 2008



wildlife-dependent recreation in the South Bay. This wetland rehabilitation is critical to ensuring the vitality of this region and the Pacific Flyway (flyways are the routes followed by migratory birds). The Western Hemispheric Shorebird Reserve Network has designated the area as a Shorebird Reserve of Hemispheric Importance. It is the most important estuary along the West Coast for migrating shorebirds.

In FY 2007, the National Wildlife Refuge System expects to improve approximately 109,000 acres of wetlands, and an additional 114,000 acres in FY 2008.

Jonathan Davis Wetland Restoration, using a freshwater diversion in the north end of Barataria Bay, Louisiana. (NRCS)

Coastal Wetlands Planning, Protection and Restoration Act

The Coastal Wetlands, Planning, Protection and Restoration Act was passed to acquire, restore, and enhance wetlands of coastal states and the trust territories. The Jonathan Davis Wetland Restoration project started in 1998 and will be completed in 2008 by NRCS and the Louisiana Department of Natural Resources. This Coastal Wetlands Planning, Protection and Restoration Act project lies between the northern, freshwater portion of the Barataria Basin and the southern, brackish/saline portion. As land is lost to the south, salinity intrudes northward through bayous and canals. The Jonathan Davis area also lies at the northern end of Bayous Perot and Rigolettes, where wave action causes shoreline erosion. Several plugs and weirs were built to reduce tidal exchange and prevent salinity increase. Bank protection was constructed along the southern boundary to prevent marsh loss. Over the 20-year project life, 510 net acres of marsh will be conserved that otherwise would have been lost with no action. A total of 4,753 acres of marsh will be enhanced by increasing the growth of common plant species, such as bull tongue. Fish and wildlife habitat will be improved and there will be some increase in birds, mammals, and fish. The project will cost $29 million, including monitoring.

Coastal Wetlands Planning, Protection and Restoration Act projects are expected to improve approximately 72,000 acres of wetlands in FY 2007, and 101,000 acres in FY 2008.

North American Wetlands Conservation Act

NAWCA grants are awarded to improvement projects that modify a functioning wetland ecosystem to provide additional long-term wetland conservation benefits. The Northern San Joaquin Valley in California, with its internationally important wetlands, is a significant site for migratory shorebirds and waterfowl. It provides wintering or stopover habitat to an estimated 60 percent of the Pacific Flyway's waterfowl population, or 20 percent of the continental population overall. Some 90 percent of California's historic 5 million acres of wetlands are now gone, and those that remain are threatened by ever-encroaching urban development and agriculture.

North San Joaquin Valley Wetland Habitat Phase II Project partners will use their $1 million NAWCA grant to improve and protect 16,304 acres of wetlands and associated riparian and upland habitats on private and public lands in three of the Central Valley Joint Venture's focus areas. Private and public partners will restore 507 acres and enhance 14,916 acres more by employing various water control techniques in wetland areas, planting riparian trees, and seeding uplands. Conservation easements will be acquired on 761 acres of habitat, and

another 120 acres will be purchased. The California Waterfowl Association will secure 30-year management agreements with the 10 private landowners participating in the project. At least 13 Federally and state listed endangered or threatened species will benefit from partners' efforts. Project partners are contributing $2,829,225 in matching funds and $138,761 in nonmatching funds.

NAWCA expects to improve approximately 87,000 acres of wetlands in FY 2007 and FY 2008.

Conservation Technical Assistance

The broad purpose of NRCS's Conservation Technical Assistance (CTA) program is to help private landowners, conservation districts, tribes, and other organizations by providing technical assistance through a national network of locally respected, technically skilled, professional conservationists. These conservationists deliver consistent, science-based, site-specific solutions to help private landowners conserve, maintain, and improve the Nation's natural resource base. The CTA program provides the foundation for NRCS to assist farmers, ranchers, other landowners, local groups, tribes, and local governments to plan and implement natural resource conservation systems.

In FY 2006, CTA was the major source of technical assistance for planning and applying conservation practices and systems to protect and enhance natural resources on non-Federal land. These conservation actions deliver public benefits in the form of better soil quality, reduced delivery of sediment and nutrients to surface and ground waters, increased conservation of water supplies, healthier grazing and forest land ecosystems, diverse and healthier wildlife habitat, and improved wetlands condition and function.

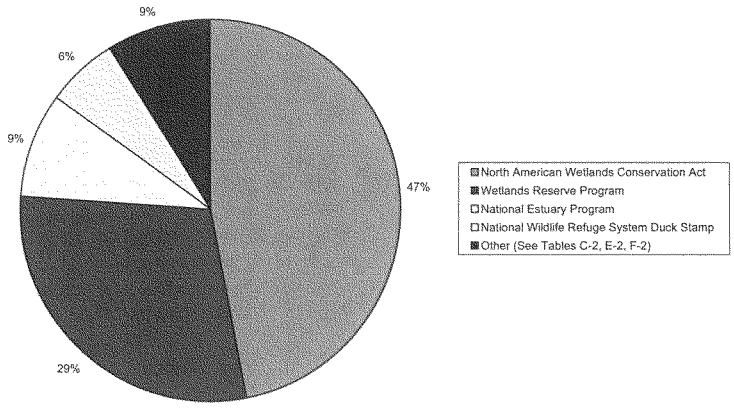
CTA expects to improve approximately 49,000 acres of wetlands in FY 2007 and FY 2008.

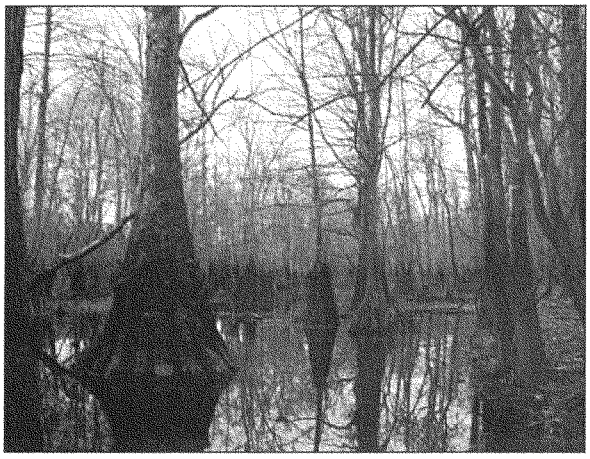
Protect Wetlands

First Three Years of Accomplishment: 852,000 acres
Estimated Accomplishment Earth Day 2008: 227,000 acres
(totals adjusted for double-counting)

Priority wetlands can be protected from activities that may imperil their existence or condition. In this report, protection refers to acquisition of land or easements of at least

Figure 4. Proportion of Wetland Acres Anticipated to be Protected by Programs in FY 2008





A NAWCA grant helped protect the floodplain of the Savannah River on the Hamilton Ridge Wetlands Management Area in South Carolina. (FWS)

30 years. Because protection maintains the base of existing wetlands, it does not result in a gain of wetland acres or function.

During the first two years of the President's Wetlands Initiative, Federal actions protected 601,000 acres of existing wetlands. In the third year, Federal agencies estimated they protected an additional 251,000 acres. By Earth Day 2008, Federal agencies plan to protect an additional 227,000 acres of wetlands. The major programs planning wetland protection in FY 2008 are the North American Wetlands Conservation Act, Wetlands Reserve Program, National Estuary Program, and National Wildlife Refuge System Federal Duck Stamp Program (Figure 4).

North American Wetlands Conservation Act

NAWCA projects often involve partnerships of state and local governments and nongovernmental and private organizations seeking to acquire wetland habitat. These acquisitions may be incorporated into the FWS National Wildlife Refuge System or into a state's protected area system, or they may be included in holdings protected by a nonprofit conservation organization (e.g., The Nature Conservancy).

One such project was the Hamilton Ridge Tract in Hampton County, South Carolina. In addition to their $1 million NAWCA grant, partners in the Savannah River Conservation Initiative/Hamilton Ridge Tract Project will use $2.1 million in matching funds and $20.1 million in nonmatching funds to acquire and protect the 13,281-acre Hamilton Ridge Tract. This tract contains 8.5 miles of frontage along the Savannah River and is located within the South Lowcountry Focus Area of the Atlantic Coast Joint Venture. The owner of the tract, International Paper Corporation, recently offered the property at a bargain price to project partners. As a result of timely collaboration and action, this land will be permanently protected as wildlife habitat instead of being sold to the highest bidder on the open market. The State of South Carolina will own the property, which is adjacent to a combined 12,600 acres of already protected habitat—the Webb and Palachucola Wildlife Management Areas. The project property contains 6,584 acres of wetlands and 6,697 acres of upland habitat, primarily loblolly pine, and will be incorporated into South Carolina's Wildlife Management Area Program for public recreational uses.

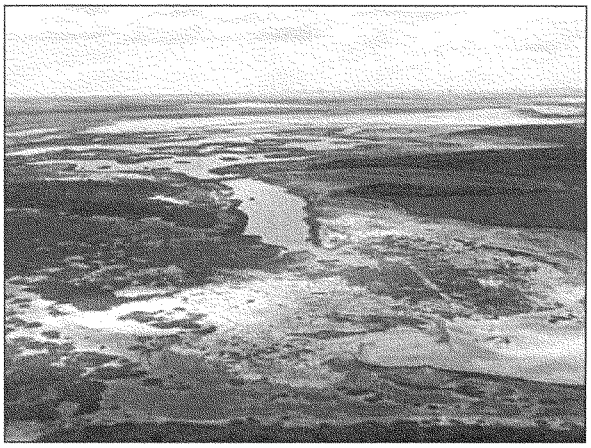
This program expects to protect approximately 145,000 acres of wetlands in FY 2007 and FY 2008.

Wetlands Reserve Program

This voluntary program provides technical and financial assistance to eligible landowners to address wetland, wildlife habitat, soil, water, and related natural resource concerns on private lands. The program provides financial incentives for landowners to restore, protect, and enhance wetlands in exchange for retiring marginal land from agriculture. Enrollment options include permanent easements, 30-year easements, and restoration cost-share agreements.

The Wetlands Reserve Program (WRP) was reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm

Bill). The program is administered by NRCS and funded by the Commodity Credit Corporation. In FY 2005, NRCS state offices secured 751 easements on approximately 134,200 acres. NRCS is especially proud of the partnership efforts that have been generated as a result of this program's activities. For example, some 95 acres of land used for cranberry production in Plymouth, Massachusetts, will remain open space thanks to the NRCS and a partnership of landowners, local and Federal agencies, and nonprofit organizations. Through WRP, NRCS contributed more than $300,000 toward conservation easements, construction for the restoration of the stream and surrounding wetlands, and other associated costs. Partners included two private landowners, the town of Plymouth, The Nature Conservancy, the Wildlands Trust of Southeastern Massachusetts, the Cape Cod Cranberry Growers Association, the Hornblower Foundation, the Sheehan Family Foundation, and local residents.



Wetlands purchased in the Nueces River Delta of the Coastal Bend area near Corpus Christi, Texas. (EPA)

NRCS is also proud of WRP's contributions toward restoring rare and unusual wetland communities that have been all but lost through past conversion to non-wetland uses. For example, in Sumter, South Carolina, the Booth family entered into a permanent easement to restore hydrology to a 100-acre area that was drained for row crops during the 1930s. The protected area is a Carolina Bay, a unique elliptical wetland depression found only along the coastal regions of North and South Carolina. The origin of these unique wetlands has long been the center of debate and remains a mystery. Today, only 10 percent of the original bays remain, having been drained by loggers and farmers, but programs like the Wetlands Reserve Program provide funding to landowners to restore and protect these areas.

In FY 2007, WRP expects to protect approximately 98,000 acres of wetlands, and an additional 90,000 acres in FY 2008.

National Estuary Program

At the 28 National Estuary Program (NEP) sites around the country, local stakeholders work together to identify and prioritize the problems in their estuaries. NEP community stakeholders include citizens; educators; government representatives at the state, local, and Federal levels; environmental advocates; business leaders; scientists; farmers; and people who fish. Each community develops and implements a Comprehensive Conservation and Management Plan with specific actions designed to protect the estuary and its resources. The plan addresses all aspects of environmental protection for the estuary, including water quality, habitat, living resources, and land use practices, which leads to restoration/creation, improvement, and protection activities including land protection and acquisition projects.

For example, the Nueces River Delta, Texas, contains a diverse array of coastal marsh and prairie habitats, including salt marshes, freshwater marshes and lakes, mudflats, fringe riparian corridors, and uplands. The delta provides habitat for several species of concern, including the brown pelican, least tern, and snowy and piping plover. Development throughout the Coastal Bend area near Corpus Christi, Texas, is resulting in the loss, degradation, and fragmentation of crucial habitat and a decline in the abundance and diversity of our living resources. The Coastal Bend Bays and Estuaries Program (CBBEP) helps ensure that these crucial habitats will exist for

decades to come through continued habitat acquisition in the delta. CBBEP first implemented this habitat acquisition initiative in 2002, and to date has acquired approximately 5,400 acres in the Nueces River Delta. In FY 2006 alone, CBBEP protected approximately 2,500 acres. CBBEP continues negotiations with landowners, and is nearing completion of preliminary activities (survey and appraisal) needed to begin negotiations for the acquisition of another 5,100 acres in the delta.

NEP expects to protect approximately 29,000 acres of wetlands in FY 2007 and FY 2008.

U.S. Fish and Wildlife Service biologist discusses wetland restoration with a Boy Scout in Puerto Rico. (FWS)

National Wildlife Refuge System (Federal Duck Stamp Program)

The U.S. Fish and Wildlife Service Federal Duck Stamp Program acquires wetlands and associated habitats from willing sellers to benefit waterfowl species and other migratory birds most in need of habitat protection. FWS focuses its efforts on migratory bird breeding areas, resting places, and wintering areas under the authority of the Migratory Bird Conservation Act and the Migratory Bird Hunting and Conservation Stamp Act ("Duck Stamp"). Many of the lands and interests acquired are small natural wetlands located in the Prairie Pothole region of the Upper Midwest portion of the Central Flyway. Wetlands and migratory bird habitats located within the Atlantic, Mississippi, and Pacific Flyways are also targeted. A recent acquisition in Linn County, Oregon, added 36 acres to the William L. Finley National Wildlife Refuge, thereby protecting these acres in perpetuity. The Refuge is located within the Willamette Valley floodplain and its primary focus is to provide wintering habitat for dusky Canada geese and other waterfowl.

Migratory Bird Conservation Funds will be used to protect approximately 18,000 acres of wetlands in FY 2007 and FY 2008.

Perspective

Federal agencies accomplished many tasks this year as they moved closer to the President's wetlands goal. Each of the agencies developed creative solutions, with particular emphasis on public–private partnerships and cooperative conservation.

Progress toward the President's Earth Day goal is supported by over $994 million in the FY 2008 President's Budget specifically for increasing the quality and quantity of wetlands in America (Figure 5).

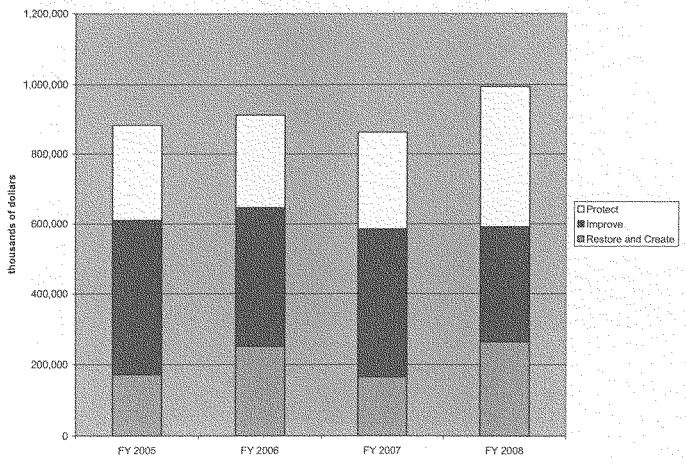
Cooperative conservation continues to be a successful means of accomplishing the President's Wetlands goal. Voluntary programs that work directly with individual landowners, including Partners for Fish and Wildlife (FWS), and the Wetlands Reserve and Conservation Reserve programs (USDA), continue to be key to restoring, improving, and protecting wetlands.

Large-scale ecosystem restorations in areas such as the USACE Civil Works projects in South Florida and coastal Louisiana continue to help address coastal wetlands issues. Holistic approaches are employed to restore these critical habitats. Integrating wetlands restoration into the larger recovery plans for the Gulf Coast in the aftermath of Katrina and other hurricanes makes good ecological sense, but it also makes good economic sense. Conserving and restoring wetlands is not only critical for recovery efforts along the Gulf Coast, but is also an important part of our national approach to community planning and development, as more than half of the population lives in coastal counties.

Increased Federal attention to wetlands efforts has heightened public awareness of the importance of wetlands and their role in sustaining a resilient coast. The devastating hurricanes of 2005 have served to increase the sense of urgency in the American public for conserving, restoring, and creating coastal wetlands. An informed public working in partnership with Federal, state, tribal, and local agencies provides an opportunity to ensure wetlands are conserved for future generations.

These collaborative conservation and stewardship efforts depend on accurate, timely, and reliable data that support a

Figure 5. Requested Budget for Wetlands Goal in FY 2005 through FY 2008 (thousands of dollars)



common operating picture of where restoration efforts have been realized, are in progress, or need to be initiated. Although the National Wetlands Inventory and National Resources Inventory provide a base of information for this purpose, an integrated national, regional, and local information system to capture, manage, and share the site information on restoration efforts would make this information more valuable for decision makers. This system could provide real-time access to information that can be viewed and validated by a community of partners in the context of map location and landscape. To satisfy these requirements the system must be geospatially enabled with geographic information systems (GIS) technology and it must take advantage of the power of the Internet for promoting collaboration. Such a system could significantly improve the tracking of accomplishments, management of data, dissemination of information, environmental analyses, and decision making. Such a system will allow state and Federal agencies and private sector partners to share GIS-based information concerning wetlands. Decision makers and managers at all levels inside and outside the government will be able to make better informed and quicker wetland decisions.

We estimate that the President's Earth Day 2004 goal to create, improve, and protect at least three million wetland acres will be achieved a year earlier than our target date of Earth Day 2009. To ensure that the strides made in achieving the wetlands goal not only continue but increase, one next step would be to lay the foundation to make sure that all decision makers, including individual citizens, have browser-based access to the information they need to track past accomplishments and make the coordinated strategic decisions that will ensure our Nation's wetland and economic bases continue to expand.

Early fall migrants on recently enhanced wetland on the Frasher Farms, North San Joaquin Valley, California. (FWS)

Appendix A. Methodology and Definitions

Data Call to the Agencies

The data call for wetlands performance and budget data went to the Departments of Agriculture, Army, Commerce, the Interior, and Transportation and to the Environmental Protection Agency. The Working Group improved interagency guidance based on lessons learned last year. The guidance increased the consistency and accuracy of the estimates developed, and projected estimates in the previous report were adjusted using actual results for FY 2006.

Reporting Period

Performance and funding data for programs covered the following time periods:

- FY 2006 enacted budget and performance results
- FY 2007 continuing resolution budget and estimated performance results
- FY 2008 President's requested budget and estimated performance results.

To assess progress for the third year since the President's April 2004 announcement, half of the reported achievements for FY 2006 were used and combined with half of the planned accomplishments for FY 2007.

Year Performance and Budget Data Reported

Performance data are reported in the year the project is completed, land acquired, or easement purchased. However, funding is reported in the year it is appropriated. For example, funding for a multi-year wetlands improvement project would be reported in FY 2006 and FY 2007 when funding is appropriated, but the number of acres improved could be reported in FY 2008 and FY 2009 as the accomplishments are realized.

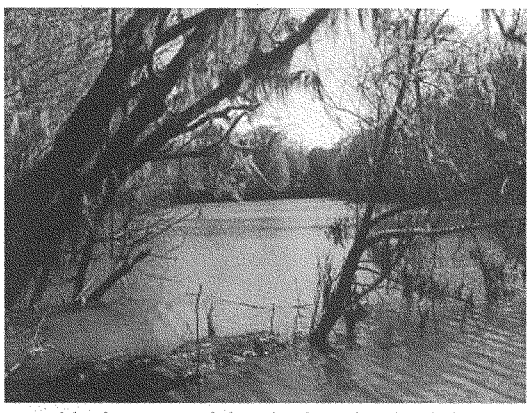
Scope of Funding Included in the Report

Wetlands activities funded by both discretionary and mandatory funds are included. Discretionary funds are controlled by appropriations acts, and mandatory funds are controlled by laws other than appropriations acts (e.g., Coastal Wetlands Planning, Protection, and Restoration Act funds, and funds collected from the sale of Migratory Bird Conservation Stamps ["Duck Stamps"]). All annually appropriated funds are considered to be discretionary funds. The funding amounts identified in this report are estimates that were available at the time the President's FY 2008 Budget Request was presented to Congress. Future reports will capture updated FY 2007 funding amounts that reflect passage of H.J. Resolution 20 (P.L. 110-5) making appropriations for FY 2007.

Wetlands only

Programs that perform both wetlands activities and non-wetlands activities reported funding and performance related only to the wetlands component, not their entire program. For example, when land is purchased for waterfowl management it may include both wetlands and associated upland nesting cover. These upland acres were deducted from the acres reported as contributing to the President's wetlands goal, and the cost of these acres was generally deducted from the funds expended for the project. The number of acres of wetlands contributed by a program to the President's wetlands goal will be smaller than the

Native Gulf cordgrass lines the banks of the new channels and will be used to stabilize and enrich the soil, within the Bahia Grande wetland complex, Texas. (Thor Lassen, Ocean Trust)



Wintering habitat for migratory waterfowl on Jordan Lake, Hamilton Ridge Wetlands Management Area, South Carolina. (FWS)

number of habitat acres reported in other budget documents because the habitat acres typically include upland buffer strips, associated upland cover, and nesting islands.

Eradication and abatement activities in wetlands

The first year an invasive plant or animal is eradicated or its population abated, the acreage will be reported as a gain under "improve." Additional eradication or abatement work on the same area is considered to be maintenance and is not counted in the improve category.

Winter flooding of agricultural lands

Whether this acreage is counted depends on (1) whether the land is wetland or upland before the flooding and (2) whether the land is being newly flooded or the land is within a footprint that has been flooded in past winters. If the field is upland before being artificially flooded during the winter and upland after the water is removed in the spring, the acres are not counted. If the field is a farmed wetland before the flooding and this is the first year the field has been flooded, the acres are counted. Subsequent years of winter flooding are considered management and are not counted. The acreage will be reported as an improvement in quality through enhancement, because adding winter water results in the heightening, intensification, or improvement of one or more selected functions and associated values. Enhancement is undertaken for a purpose such as water quality improvement, floodwater retention, or wildlife habitat. Farmed wetlands are defined as areas where the soil surface has been mechanically or physically altered for production of crops, but hydrophytes will become established if farming is discontinued.

Definitions of Accomplishments

In 2000, the White House Wetlands Working Group (WHWWG)—composed of representatives from all major Federal agencies involved in wetlands work—agreed to use wetlands terminology and definitions that had been developed during the mid-1990s. Information was provided by the participating agencies using terminology similar to that previously developed by the WHWWG and the same terminology used in previous Earth Day wetlands reports.

To "restore or create" wetlands results in a gain of wetland acres and includes:

- Creation of wetlands that did not previously exist on an upland or deepwater site. These actions are referred to as "establishment" by the WHWWG.
- Restoration of a former wetland to its natural/historic function and resulting value. Typically, such a former wetland had been drained for some purpose. These actions are known as "re-establishment" by the WHWWG.

To "improve" wetlands results in a gain of wetlands functions or quality, rather than additional acreage, and includes:

- Repair of the natural/historic functions and associated values of a degraded wetland. The WHWWG refers to these actions as "rehabilitation" of wetlands. Rehabilitation results in a gain in wetlands quality.
- Heightening, intensification, or improvement of one or more selected functions and associated values. The WHWWG called these types of actions "enhancement." Enhancement is undertaken for a purpose such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in the gain of

selected wetland functions and associated values but may also lead to a decline in other wetland functions and values.

To "protect" wetlands includes:

- Acquisition of land or easements of at least 30 years duration.

Activities Excluded from Acreage Counted toward the President's Goal

Accomplishments outside the United States

Due to the migratory nature of birds, some programs work to restore, improve, and protect wetlands in Canada, Mexico, and the Caribbean. International portions of programs were not included in the data reported.

Uplands work

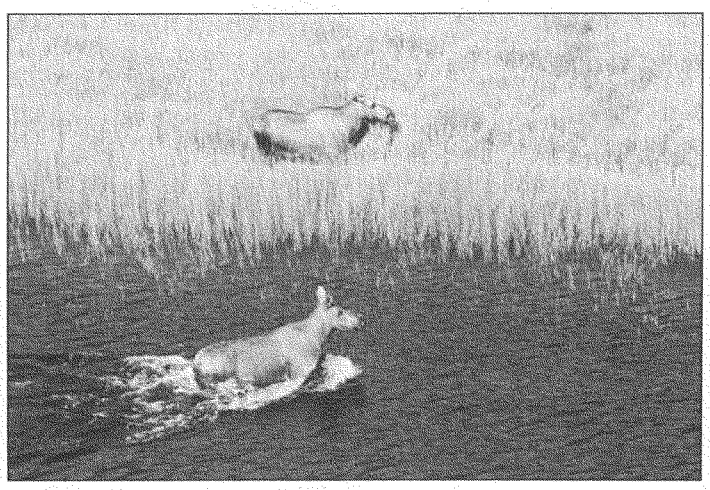
Many programs carry out activities in upland areas that are crucial to the health and sustainability of wetlands. These upland acres were not counted toward the President's wetlands goal.

Wetland activities that maintain the Nation's wetland base

Many important wetland activities are not counted toward meeting the President's goal because they are focused on maintaining or managing the Nation's wetlands base and do not add acres, increase wetland quality, or fall within the definition of "protect." Many agencies spend more funds maintaining and managing the existing wetlands base than they do making additions to the base. The base is critically important, because wetland gains can only be built on a stable foundation. The activities that help maintain the wetlands base are briefly described below and are included in Appendix B with further discussion.

Cyclical work: Work carried out to sustain wetlands (e.g., habitat maintenance on a National Wildlife Refuge to maximize wetland habitat values). Cyclic water-level management and other cyclic wetland activities are used to mimic naturally occurring flood regimes for the benefit of wildlife. Only new activities on a footprint of wetlands not previously manipulated for increased value were counted in the "improved" category as rehabilitation or an enhancement.

Management and maintenance activities: Effective management and maintenance activities are critical to sustain wildlife and plant populations. Management activities involve periodic manipulation of the physical, chemical, or biological character-



Moose on Selawik National Wildlife Refuge, Alaska. (Hillebrand, FWS)

Restoring Wetlands Injured by Oil Spills and Contaminant Releases

Because wetlands provide important habitats for many species of fish and wildlife, contaminants entering wetlands can injure fish and wildlife and decrease productivity. As a result of concerns over the influx of contaminants into the environment, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also known as CERCLA or "Superfund"); the Clean Water Act as amended in 1977 (CWA); and the Oil Pollution Act of 1990 (OPA). These three laws authorize natural resource trustees—such as the Department of the Interior (DOI) and the National Oceanic and Atmospheric Administration (NOAA)—to assess injuries to natural resources from contaminants and to seek restoration from those responsible for the injury.

Restoration projects may focus on either restoring the habitat (*e.g.*, improving hydrology and reducing runoff into wetlands) needed for the injured fish and wildlife, or on actions to increase their populations (*e.g.*, reducing predators and providing nesting substrate and habitat). Where injured habitat cannot be restored, replacement habitat can be restored or purchased. In addition, trustees may seek projects (or funds for projects) to compensate for lost services (*e.g.*, improved access to fishing sites) from the time of injury until recovery. Following are examples of restoration projects conducted in 2006 under CERCLA, OPA, and/or CWA.

- The U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources are working in partnership with Ducks Unlimited and Rush Lake Watershed Restoration Inc., to improve water clarity and quality, remove invasive species, and restore prairie pothole vegetation to Rush Lake in Wisconsin. These efforts will compensate for injuries to fish and wildlife from PCB releases into the Fox River/Green Bay ecosystem. The restoration of Rush Lake will benefit many of the injured wildlife and fish, including Forster's terns; black-crowned night herons; red-necked grebes; sandpipers; redhead, ruddy, and wood ducks; and northern pike and yellow perch. Increases in fish and wildlife will also enhance fishing, hunting, and trapping opportunities. Projects completed in 2006 include installation of a dam, and dredging and regrading of outlet channels to improve stream flow and facilitate lake drawdown. When complete, more than 3,000 acres will be restored.
- The Bridge Creek Restoration Project on Staten Island was completed by NOAA in partnership with the New York Department of Environmental Conservation, City Parks Foundation, and New York City Parks and Recreation Natural Resources Group, to compensate for damages caused when a pipeline released over 500,000 gallons of oil into the Arthur Kill waterway in 1990. The project has reconfigured and resized the Bridge Creek channel to alter the hydrologic regime. This has affected current flow, velocity, volume, tidal amplitude, and flow patterns in Bridge Creek to restore 18 acres of vegetation in a former smooth cord grass salt marsh. The project is expected to improve habitat for nearshore and inshore finfish, benthic invertebrates, marsh crabs, blue crabs, muskrat, shorebirds, wading birds, and waterfowl.
- NOAA and the U.S. Fish and Wildlife Service worked with Pierce County, Washington, and the city of Fife to restore 6.7 acres of tidal wetlands and 0.5 stream miles to create off-channel habitat for juvenile salmonids adjacent to Hylebos Creek. The restored wetland and emergent marsh, plus an additional 8.6 acres of riparian forest and freshwater wetlands, are now protected in perpetuity by a conservation easement and deed restriction. This is one of several restoration projects being implemented to restore resources injured by years of industrial contamination in Commencement Bay, Washington.

Fencing will prevent geese from grazing on the newly planted salt marsh at Bridge Creek, New York. (Bob Stronzik)

istics critical to maintaining habitat quality. These manipulations mimic natural regimes through periodic flooding, mowing, or prescribed burns. Maintenance activities include the repair of water control structures, fences, or structural protection. Cessation of management and maintenance activities triggers loss in wetland quality. Maintenance activities do not result in an increase in wetlands acreage or quality.

Heavy equipment operators remove excess material to create one of the channels connecting the three basins within the Babia Grande wetland complex, Texas. (Thor Lassen, Ocean Trust)

Mitigation: Wetlands created or improved as mitigation for the loss or degradation of other wetland values are not counted. The rehabilitation of wetlands at former hazardous waste sites are considered to be compensatory mitigation. Programs that mitigate for wetland losses are not counted as contributing to the new wetlands goal because they maintain the Nation's wetlands base. Examples of these types of programs are the Federal Highway Administration programs that mitigate the impacts of highways on wetlands, the Clean Water Act provisions that require the mitigation of permitted wetland losses, and the Natural Resources Damage Assessment and Restoration Program, which restores and improves wetlands at former hazardous waste sites.

Shoreline stabilization: The preservation of a marsh or channel using shoreline stabilization techniques (e.g., rock revetments, or steel or plastic sheet pile protection) is called armored or hard shoreline stabilization. Partial protection of shoreline erosion using vegetative plantings is called soft shoreline protection. Shoreline stabilization prevents loss of wetland acreage due to subsidence; erosion by tides, wind, and boat traffic; and similar factors. This acreage is not counted toward the President's goal.

Correcting for Over-Reporting of Acreage

More and more programs are participating in cooperative conservation partnerships. They have proven to be effective and efficient mechanisms to leverage resources and expertise. Many programs work cooperatively with both internal and external Federal partners as well as non-Federal partners. Correcting for over-reporting of acreage is a challenge to accurately reporting accomplishments. One partner may provide materials and equipment, another labor, another technical assistance, and yet another land. For example, a 100-acre project with four partners could be reported by each of the partners, and could appear to be 400 acres when combined. In some cases, one partner may not be aware that a landowner is working with multiple partners.

These partnerships may result in over-reporting of performance. To correct for this "double-counting," partnership worksheets were used. Programs were asked to identify partnership groups separately on the worksheets. More than 60 percent of the reported acreage was accounted for on the partnership worksheets. Some agencies do not collect partnership data, and of those that do, most do not collect this data to the level of detail necessary to make refined adjustments for double-counting. Although more of the performance data was accounted for on the partnership worksheets, the quantity and quality was not sufficient to make adjustments to individual program accomplishments. Therefore, an overarching correction was necessary to avoid over-reporting the acres created or restored, improved, and protected.

To calculate this double-counting adjustment, all the acreage reported as accomplished through Federal partnerships was summed by category. The calculation assumed two Federal partners were involved in situations where at least one additional Federal partner was reported by the reporting agency. Half of the total acreage accomplished through

CEAP-Wetlands: Quantifying Ecosystem Services and Modeling Wetland Quality

National protocols to measure wetlands acreage have advanced in the past two decades through the USDA National Resources Inventory and the DOI National Wetlands Inventory. To further quantify the environmental benefits of conservation practices and Farm Bill programs, USDA developed the Conservation Effects Assessment Project (CEAP). The wetlands component of this project (CEAP-Wetlands) is engaged in the following interrelated activities:

- Conduct regional investigations to quantify ecosystem services provided by wetlands and associated lands on agricultural landscapes.
- Develop predictive wetland condition indicator models.
- Produce a synthesis of the literature addressing the effects of conservation practices and programs on ecosystem services provided by wetlands and associated environments on agricultural landscapes.
- Build on existing collaborations or develop new ones to strengthen the science foundation of CEAP-Wetlands and enhance application of new technologies.
- Develop the scientific and institutional framework of a national wetlands adaptive management approach for USDA to routinely monitor anthropogenic effects—including those from conservation practices and programs—on wetland ecosystem services and wetland condition, and conduct risk-based assessments to more strategically allocate resources to conserve wetland ecosystems.

The CEAP-Wetlands Approach

A CEAP-Wetlands conceptual design model was developed to guide the regional investigations and predictive condition models. Of prime interest is the comparison of ecosystem service estimates before and after implementation of conservation practices, and interpretation of the results to better inform national agricultural wetland policy and programs.

Regional investigations involve sampling wetlands and associated lands across an alteration gradient, focusing on wetland classes that historically have been altered and where USDA conservation efforts are focused. Ecosystem services and measures for them are identified during a scoping meeting involving scientists, resource managers, USDA conservation practitioners, and other conservation stakeholders. Existing data that could be of use are identified, as well as any gaps in the data. Collaborations with USDA and non-USDA scientists are formed to conduct the regional investigations, including development of the predictive wetland condition indicator models.

The models, developed using multivariate tools, describe the relationship between variables used to calculate an ecosystem service estimate and multiple-scale factors that influence the condition of those variables. Relationships between field-collected data that are incorporated in the model and remote data are investigated to identify potential surrogates for the model while maintaining its integrity. The inclusion of model factors measured via remote data complement existing USDA National Resources Inventory protocols to produce national wetlands status and trends information.

Contribution to the President's Wetlands Goal

CEAP-Wetlands regional investigations will produce quantitative ecosystem service estimates for wetlands and associated lands on agricultural landscapes and produce associated models of wetland quality. Ongoing investigations to address temporal and spatial variability in ecosystem service estimates and in wetland condition will improve the accuracy of these estimates and models. A national wetlands adaptive management approach, using CEAP-Wetlands as the catalyst, will ensure that objective, quantitative information on wetland ecosystem services and condition on private land is available for national decision makers.

multiple Federal partnerships by category was subtracted from the raw total, by category.

Moving Toward a Performance Measurement and Tracking System

This document reflects the lessons learned in developing the 2006 report. The estimates reported last year were adjusted as actual results became available. Over-reporting due to partnerships remains a significant concern. The agencies will continue to work on the double-counting problem during the next year, particularly to determine whether the problem can be solved through the use of geographic information system (GIS) technology or other geoenabled technologies.

The use of GIS technology to track wetland programs and their contribution toward the national goal would simplify the problem of adjusting for double-counting. The digital project boundaries could be entered into a GIS and analyzed for multiple overlaps. This approach would have the additional advantage of allowing the information to be overlaid on a digital map of the United States. The map would facilitate the development of monitoring programs to ensure wetlands are restored, improved, and protected and that they provide the intended functions and values.

Tracking systems require agreement on common performance measures and definitions. They assess whether the restoration and enhancement projects quantitatively and qualitatively meet national goals. The President noted this need in his 2004 Earth Day announcement by committing the Federal Government to "gain further experience and develop useful protocols for measuring wetland outcomes." The Federal agencies continue to make progress in developing a procedure to track wetland accomplishments.

Exotic plant species were removed from the banks of a stream in the Appomattox Court House National Historic Park, Virginia. (NPS)

Appendix B. Maintaining the Wetlands Base

Federal agencies engage in various actions that help maintain the existing base of wetlands. The President's goal helps sharpen focus on these activities. A policy of having an "overall increase" of wetlands must be built on a strong foundation of "no net loss." Key programs that contribute to the base, but that are outside the President's initiative, fall into the following categories:

- Managing wetlands
- Cooperative conservation
- Regulation and mitigation
- Support activities.

Managing Wetlands

Approximately 13 percent of the Nation's current base of wetlands is managed by Federal agencies. Many units of the National Wildlife Refuge System were established for their wetland values, and FWS spends approximately $25 million annually to actively manage more than 1.1 million acres of wetlands. Wetlands management activities include creating desired conditions through the use of canals, levees, water control structures, and pumps. Cyclical water level and management activities—including mechanical disturbance, prescribed burning, or chemical treatment—also are used to produce native wildlife foods in wetlands. Other Federal agencies managing wetlands include the National Park Service, U.S. Forest Service, Bureau of Land Management, National Oceanic and Atmospheric Administration, Bureau of Reclamation, Bureau of Indian Affairs, and Department of Defense. All of these wetlands are being conserved for sustainable benefits.

Cooperative Conservation

Seventy-four percent of the land in the United States is privately owned. To better conserve privately owned wetlands, the Federal government relies on voluntary, incentive-based conservation programs. For example, technical and financial assistance provided by the Natural Resources Conservation Service and the U.S. Fish and Wildlife Service help private landowners apply needed conservation techniques on their land. When private landowners use these programs to restore, protect, and improve wetlands on their property, they serve as stewards of our environment. Other cooperative conservation efforts include:

Public–private partnerships

The success of Federal actions to encourage and partner with non-Federal parties—state and local governments, Indian tribes, and nongovernmental entities—increases opportunities to make progress through cooperative endeavors. Recent trends are encouraging. For example, through the Corporate Wetlands Restoration Partnership, over 225 corporate partners and 100 non-Federal partners—including environmental organizations, foundations, and state and local governments—are working with Federal agencies to implement wetlands projects (see *http://www.coastalamerica.gov/text/cwrp.html*). The number of partnerships is projected to increase in the future. The coordinated use of public–private efforts focusing on priority wetlands opportunities should yield major ecological benefits. Another example of successful public–private partnerships are the FWS Joint Ventures (JVs). Formed to implement the North American Waterfowl Management Plan, they are self-directed partnerships involving Federal, state, and local governments; corporations; and a wide range of nongovernmental conservation organizations. JVs have proven to be successful tools for developing cooperative conservation efforts to protect waterfowl and other bird habitat. JVs address multiple local, regional, and continental goals for sustaining migratory bird populations by developing scientifically based habitat projects that benefit waterfowl and other migratory bird populations.

Technical assistance

Most Federal agencies involved with wetlands activities provide Federal, state, and local partners with technical (biological, engineering, hydrological, etc.) expertise to support various development, conservation, and restoration projects across the country. These programs offer technical assistance to help conserve, restore, and protect a variety of fish and wildlife and their habitats. Among the laws providing a foundation for technical assistance and conservation partnerships are the Fish and Wildlife Coordination Act, National Environmental Policy Act, Clean Water Act, Federal Power Act, Estuary Restoration Act, and Environmental Restoration Act.

Regulation and Mitigation

Water quality

An important aspect of the President's Wetlands Initiative is its continued emphasis on the goal of "no net loss" of wetlands by existing programs that regulate certain activities in wetlands and other waters. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands, and is jointly administered by the USACE and EPA. The USACE has primary responsibility for day-to-day permitting of activities in jurisdictional "waters of the United States," a broad category of aquatic resources that includes wetlands. A comprehensive permit review requires applicants to first avoid and then minimize impacts, and finally use compensatory mitigation to replace wetland functions lost. Regulated activities under this program include fills for development, water resource projects (such as dams and levees), and infrastructure development (such as highways and airports). During the past three years, more than 270,000 permit applications were processed requiring applicants to avoid impacts to more than 22,000 acres of wetlands, and maintaining a ratio of more than two acres of mitigation for every acre of permitted impacts to wetlands. In addition, the USACE has developed new performance standards that increase the emphasis on field evaluations of mitigation sites. The USACE also is providing field guidance to improve mitigation success through interagency efforts associated with the national Wetlands Mitigation Action Plan, and promulgating a joint rule with EPA that proposes integrating the watershed approach in mitigation planning.

Farmland

The Wetland Conservation ("Swampbuster") provision established in the 1985 Farm Bill, and amended in the 1990 Farm Bill, requires all agricultural producers to protect the wetlands on the farms they own or operate if they wish to be eligible for certain USDA farm program benefits. Producers are not eligible if they have planted an agricultural commodity on a wetland that was converted by drainage, leveling, or any other means after December 23, 1985, or if they have converted a wetland for the purpose of agricultural commodity production, or for making such production possible, after November 28, 1990. NRCS Conservation Technical Assistance staff make wetland determinations, develop wetlands mitigation and restoration plans, and administer other Swampbuster-related provisions.

Transportation

Under Federal Aid Highway legislation, state transportation agencies may use national Highway System and Surface Transportation Program funds to finance wetland and natural habitat conservation planning and implementation, as well as compensatory mitigation and restoration projects that offset unavoidable losses from transportation projects. The Department of Transportation (DOT) has a goal of 1½-to-1 wetland acre mitigation; under the Federal Aid Highway Program it has achieved over 49,000 acres of wetland mitigation since 1996, with mitigation exceeding acres impacted by over 31,000 acres. The 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users requires that metropolitan and statewide plans reflect environmental mitigation and coordination with resource agencies. The Federal Highway Administration also funds research on wetlands mitigation in connection with highways, and wetlands mitigation is an eligible project cost for Federal transit and airport assistance.

Support Activities

Wetland inventories

The FWS strategically maps the Nation's wetlands and deepwater habitats to gather information on their characteristics, extent, and status and trends through the National Wetlands Inventory (NWI). As part of the President's Wetlands Initiative, the FWS completed an updated national wetlands status and trends report in 2005. The study found that there are about 107.7 million acres of wetlands in the conterminous United States. Between 1998 and 2004, there was an estimated gain in wetlands acreage of 191,750 acres, or about 32,000 acres per year. The net gain in wetlands acreage was attributed to an increase in freshwater ponds, conversion of agricultural lands or former agricultural lands that had been idled, in combination with wetland restorations. Freshwater wetland losses to silviculture and to urban and rural development offset some acreage gains. The report did not document or address changes in wetlands quality. There is additional work to be done to ensure that the Nation's wetlands base is sustained and provides the necessary functions, diversity, and structure to improve the quality of our wetland resources as outlined in the President's 2004 message.

The NRCS conducts the National Resources Inventory (NRI), also a scientifically based statistical survey of the Nation's natural resources that provides updated information on the status, condition, and trends of land, soil, water, and

related resources on the Nation's non-Federal land. The NRI is unique in that it is a nationally consistent database constructed specifically to estimate five-, 10-, and 15-year trends for natural resources. The NRI process has reported that between 1997 and 2003 there was an estimated net gain of 263,000 acres of wetlands due to agricultural activities, an average annual increase of 44,000 acres.
http://www.nrcs.usda.gov/technical/NRI/

The NWI Status and Trends study was designed specifically to sample wetlands and wetland change, whereas the NRI is a landscape characterization of all natural resources, of which wetlands make up one component. The FWS designed its study to develop wetlands trend information for all lands in the conterminous United States, whereas the NRI collects data on non-Federal rural lands.
http://www.fws.gov/nwi/statusandtrends.htm

Monitoring and evaluation

When actions are taken to restore or enhance natural resources or ecosystems, a considerable amount of time may pass before the full effects are evident. For this reason, the responsible Federal agencies monitor the targeted wetlands to measure and track progress. Results from monitoring are useful for evaluating the effectiveness of the actions taken; in some cases, management goals or actions to meet them may be modified. In addition, the Federal Government provides both financial and technical assistance to states and tribes to help them monitor their wetlands conservation work.

Research and education

Federal agencies also are engaged in research to better understand wetlands, wetland plants, and their responses to targeted actions. Among the most prominent programs are the national Wetlands Research Center (USGS), Engineer Research and Development Center (USACE), Plant Materials Centers (NRCS), the Center for Forested Wetlands Research (USFS), and the Office of Research and Development (EPA).

Appendix C. Department of Agriculture (USDA)

Table C-1. USDA Programs Supporting the President's Wetlands Goal in FY 2006. Funding (millions of dollars)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands Funding for Goal FY 2008	Difference from FY 2007
FSA	Conservation Reserve Program	13.660	5.970	0.000	19.630	3.060
NRCS	Conservation Technical Assistance Program	2.000	24.950	0.000	26.950	0.000
NRCS	Environmental Quality Incentives Program	0.010	0.001	0.000	0.011	0.000
NRCS	Farm and Ranchlands Protection Program	0.000	0.000	3.000	3.000	0.000
NRCS	Grasslands Reserve Program	0.000	0.000	3.700	3.700	0.000
NRCS	Wetlands Reserve Program	124.800	12.100	318.100	455.000	191.410
NRCS	Wildlife Habitat Incentives Program	1.025	0.310	0.000	1.335	0.000
	Total	**141.495**	**43.331**	**324.800**	**509.626**	**194.470**

USDA Programs Supporting the President's Wetlands Goal

Farm Service Agency (FSA)

Conservation Reserve Program: This program was originally authorized in 1985 and then re-authorized through 2007. It establishes permanent vegetative cover on eligible acreage of environmentally sensitive farmlands (including cropped and prior converted wetlands) through long-term rental agreements. Currently, 2.4 million wetland acres, including upland buffers, have been restored and are being maintained under 10- to 15-year contracts with annual rental payments of $126 million. The 2002 Farm Bill authorized that, at any one time, up to 39.2 million acres may be enrolled in this program during 2002 through 2007, an increase from 36.4 million acres authorized to be enrolled through 2002. *http://www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=crp*

Natural Resources Conservation Service (NRCS)

Conservation Technical Assistance (CTA) Program: In

Table C-2. USDA Programs Supporting the President's Wetlands Goal in FY 2008. Planned Accomplishments (in acres)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands FY 2008	Difference from FY 2007
FSA	Conservation Reserve Program	30,400	4,300	0	34,700	-7,700
NRCS	Conservation Technical Assistance Program	2,000	49,300	0	51,300	0
NRCS	Environmental Quality Incentives Program	4,000	300	0	4,300	0
NRCS	Farm and Ranchlands Protection Program	0	0	2,400	2,400	0
NRCS	Grasslands Reserve Program	0	0	7,800	7,800	0
NRCS	Wetlands Reserve Program	171,500	13,900	89,600	275,000	7,450
NRCS	Wildlife Habitat Incentives Program	6,972	739	0	7,711	0
Total		**214,872**	**68,539**	**99,800**	**383,211**	**-250**

FY 2006, CTA helped landowners protect water quality on 13,634,478 acres; improve fish and wildlife habitat quality on 4,138,481 acres; and create, restore, or enhance 65,300 acres of wetlands.
http://www.nrcs.usda.gov/programs/cta

Environmental Quality Incentives Program (EQIP): As a voluntary conservation program, EQIP promotes agricultural production and environmental quality as compatible national goals. Through EQIP, farmers and ranchers may receive financial and technical help to install and maintain conservation practices that enhance soil, water, and related natural resources, including wetlands. The program has restored 33,347 acres of wetlands, and an additional 147,056 acres have been enhanced or improved since the program was established in 1996. The 2002 Farm Bill authorized $400 million for FY 2002, $700 million for FY 2003, $1 billion for FY 2004, $1.2 billion for both FY 2005 and FY 2006, and $1.3 billion for FY 2007.
http://www.nrcs.usda.gov/programs/eqip

Farm and Ranchlands Protection Program: This program provides matching funds to help purchase development rights to keep productive farm and ranchland in agricultural uses for protecting topsoil by limiting conversion to nonagricultural uses of land.
http://www.nrcs.usda.gov/programs/frpp

Grasslands Reserve Program: This voluntary program offers landowners the opportunity to protect, restore, and enhance grasslands on their property. The program will conserve vulnerable grasslands from conversion to cropland or

other uses and conserve valuable grasslands by helping maintain viable ranching operations. The program is jointly administered by NRCS and FSA (NRCS has lead responsibility on technical issues and easement administration, and FSA has lead responsibility for rental agreement administration and financial activities). In FY 2006, program staff processed 812 new applications totaling 970,628 acres valued at approximately $581,070,482. Of these totals, farmers and ranchers protected 1,500 acres of wetlands using common management practices to maintain the viability of the conserved grassland.
http://www.nrcs.usda.gov/programs/grp

Wetlands Reserve Program (WRP): WRP is a voluntary program that assists landowners with restoring and protecting wetlands through conservation easements and cost-share agreements. Since 1992, 1,893,672 wetland and associated upland acres have been enrolled in the program. The 2002 Farm Bill requires, to the maximum extent practicable, an additional 250,000 acres to be enrolled in the program each year, for a total program enrollment of 2,275,000 acres by the end of 2007. Total program enrollment at the end of FY 2006 neared 1.9 million wetland acres and associated upland acres.
http://www.nrcs.usda.gov/programs/wrp

Wildlife Habitat Incentives Program (WHIP): WHIP is a voluntary program that provides technical and financial assistance to enable eligible participants to develop upland wildlife, wetland wildlife, threatened, and endangered species, fish, and other types of wildlife habitat in an environmentally beneficial and cost-effective manner. The purpose of the program is to create high-quality wildlife habitats that support wildlife populations of local, state, and national significance. In FY 2005 through 2007, approximately 11,000 acres of wetlands will have been protected, restored, developed, or enhanced under WHIP.
http://www.nrcs.usda.gov/programs/whip/

USDA Programs that Maintain the Wetlands Base

NRCS programs help private landowners apply needed conservation techniques on their land. When private landowners use these programs to restore, protect, and improve wetlands on their property, they serve as stewards of our environment. Other cooperative conservation efforts include:

Plant Materials Program: Focuses on development of plants and technology to help conserve natural resources including wetland plants. There are currently 27 Plant Materials Centers (PMC) located across the country. Each Center develops vegetative solutions to natural resource problems and issues. In the wetlands arena, PMCs have selected plants for restoration work as well as for nutrient filtering in constructed wetlands. The PMCs also develop the technology to successfully propagate, establish, and manage plant materials in wetland settings. In FY 2006, PMCs were working on over 250 studies to further the scientific understanding of wetland vegetation. This included updating technology to protect and restore coastal marshes (especially along the gulf areas), restore or enhance wetlands, protect shorelines of wetlands, and enhance wetlands for wildlife uses. Several PMCs are finishing a large cost-reimbursable contract with the USACE to grow plants for a coastal wetland on Long Island, New York.
http://plant-materials.nrcs.usda.gov

National Resources Inventory (NRI): NRCS conducts the National Resources Inventory (NRI) in cooperation with Iowa State University's Center for Survey Statistics and Methodology. The NRI is a scientifically based longitudinal (statistical) survey of the Nation's natural resources that provides information on status and trends of land use and soil, water, and related resources for the Nation's non-Federal land. The NRI is unique in that it provides nationally consistent statistical data that are explicitly linked to the NRCS Soil Interpretations database and that support analysis of resource trends on rural and developed land over all regions of the United States since 1982. The NRI shows that between 1997 and 2003 there was an estimated net gain of 263,000 acres of wetlands due to agricultural activities—an average annual increase of 44,000 acres.
http://www.nrcs.usda.gov/technical/NRI

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Appendix D.
Department of Commerce
National Oceanic and Atmospheric Administration (NOAA)

Table D-1. NOAA Programs Supporting the President's Wetlands Goal in FY 2008. Funding (millions of dollars)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands Funding for Goal FY 2008	Difference from FY 2007
NOAA	Fisheries Habitat Restoration	0.842	13.430	0.000	14.272	-3.542
NOAA	Great Lakes Restoration Program	0.000	1.500	0.000	1.500	0.000
	Total	**0.842**	**14.930**	**0.000**	**15.772**	**-3.542**

Table D-2. NOAA Programs Supporting the President's Wetlands Goal in FY 2008. Planned Accomplishments (in acres)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands FY 2008	Difference from FY 2007
NOAA	Fisheries Habitat Restoration	2,000	3,000	0	5,000	500
NOAA	Great Lakes Restoration Program	0	75	0	75	0
	Total	**2,000**	**3,075**	**0**	**5,075**	**500**

NOAA Programs Supporting the President's Wetlands Goal

Community-based Restoration Program (CRP): The CRP applies a grassroots approach to restoration by actively engaging community members in on-the-ground restoration of coastal fishery habitats around the Nation. The CRP embraces cooperative conservation by establishing partnerships that collaboratively restore NOAA trust resources, improving environmental quality and strengthening stewardship within local communities. FY 2008 funding request is $12.8 million. *http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/*

Great Lakes Habitat Restoration Program: In FY 2008, NOAA will establish a cross-NOAA program to coordinate habitat restoration and protection efforts. Taking into account the priority needs identified by the Great Lakes Interagency Task Force, NOAA will focus its restoration and protection to support ongoing efforts at watersheds within Great Lakes Areas of Concern. FY 2008 funding request is $1.5 million.

NOAA Programs that Maintain the Wetlands Base

National Estuarine Research Reserve System: This network of protected areas was established for long-term research, education, and stewardship. The partnership program between NOAA and the coastal states protects more than one million acres of estuarine land and water, which provides essential habitat for wildlife; offers educational opportunities for students, teachers, and the public; and serves as living laboratories for scientists. FY 2008 funding request is $16.8 million.
http://nerrs.noaa.gov

Coastal Zone Management Program (CZM): CZM is a voluntary Federal–state partnership dedicated to comprehensive management of the Nation's coastal resources. State CZM programs contain provisions for the protection of estuaries, coastal wetlands, and other natural resources. Funding supports implementation of state CZM programs, including numerous state and local coastal habitat protection and restoration projects. FY 2008 funding request is $66.1 million.
http://coastalmanagement.noaa.gov/

Coastal and Estuarine Land Conservation Program (CELCP): The CELCP was established to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical, or aesthetic values, giving priority to lands with significant ecological values that can be effectively managed and protected. The program provides funding to state and local governments to acquire such lands to ensure they are permanently conserved for the benefit of future generations. FY 2008 funding request is $15 million.
http://coastalmanagement.noaa.gov/

Pacific Coastal Salmon Recovery Fund (PCSRF): Congress established the PCSRF to contribute to the restoration and conservation of Pacific salmon and steelhead populations and their habitats. The states of Washington, Oregon, California, Idaho, and Alaska, and the Pacific Coastal and Columbia River tribes receive Congressional PCSRF appropriations from NOAA's National Marine Fisheries Service each year. The fund supplements existing state, tribal, and local programs to foster development of Federal-state-tribal-local partnerships in salmon and steelhead recovery and conservation. The President's FY 2008 request for the fund is $66.8 million.
http://nwr.nmfs.noaa.gov/Salmon-Recovery-Planning/PCSRF/

National Estuaries Restoration Inventory: This program was created to track estuary habitat restoration projects across the Nation. The purpose of the inventory is to provide information on restoration projects in order to improve restoration methods, as well as to track acreage restored toward the million-acre goal of the Estuary Restoration Act.
http://neri.noaa.gov

Damage Assessment, Remediation, and Restoration Program (DARRP): As a natural resource trustee, NOAA acts on behalf of the public to restore resources injured by oil spills, releases of other hazardous substances, and vessel groundings. DARRP collaborates with other Federal, state, and tribal natural resource trustees in assessing and quantifying injuries to natural resources, seeking damages for those injuries, implementing restoration actions, and monitoring progress to ensure restoration goals are met. FY 2008 funding request is $8.9 million.
http://response.restoration.noaa.gov
http://www.darrp.noaa.gov/

Appendix E.
Department of the Army
U.S. Army Corps of Engineers, Civil Works

Table E-1. USACE Programs Supporting the President's Wetlands Goal in FY 2008. Funding (millions of dollars)*

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands Funding for Goal FY 2008	Difference from FY 2007
USACE Civil Works	Aquatic Ecosystem Restoration Program	51.873	170.000	0.525	222.398	-60.602

**Excludes regulatory program, mitigation, and Coastal Wetlands Planning, Protection and Restoration Act. Includes funding for projects that will result in acres to be counted in future fiscal years.*

Table E-2. USACE Programs Supporting the President's Wetlands Goal in FY 2008. Planned Accomplishments (in acres)

Program	Program	Restore or Create	Improve	Protect	Total Wetlands FY 2008	Difference from FY 2007
USACE Civil Works	Aquatic Ecosystem Restoration Program	3,795	14,827	185	18,807	-242,547

USACE Projects Supporting the President's Wetlands Goal

Aquatic Ecosystem Restoration: The USACE has numerous study, project-specific, and programmatic authorities for implementing aquatic ecosystem restoration projects. In addition, activities contributing to the President's goal may occur on the 12 million acres of water and land managed by the USACE for other purposes, such as flood damage reduction, navigation, and recreation. Another contribution is the use of dredged material to create, restore, or improve wetland habitat as part of routine maintenance dredging of Federal channels.

The data in the tables above represent a subset of the total USACE commitment to achieving the President's goal. Because most USACE restoration projects take several years to complete, the funds appropriated in any one fiscal year have a minimal correlation to the number of acres that count toward the President's goal in that fiscal year. Projects are included in the budget based on their effectiveness in addressing significant regional or national aquatic ecological problems. The aquatic ecosystem studies and projects proposed by the USACE for funding in FY 2008 include the following examples (the large number of projects precludes a comprehensive list within this document):

Comprehensive Everglades Restoration Plan (CERP): The primary and overarching purpose of CERP is to restore the South Florida ecosystem, which includes the Everglades. The plan provides the framework and guidance to restore, protect, and preserve the water resources of the greater Everglades ecosystem. CERP has been described as the world's largest ecosystem restoration effort, and includes providing more natural flows of water, improved water quality, and more natural hydro-periods within the remaining natural areas. The plan is intended to help restore the ecosystem while ensuring clean and reliable water supplies, and providing flood protection in urban areas. *http://www.evergladesplan.org*

Louisiana Coastal Area Ecosystem Restoration: More than one million acres of Louisiana's coastal wetlands have been lost since the 1930s; another one-third of a million acres could be lost over the next 50 years unless large-scale corrective actions are taken. The ecosystem restoration program will construct significant restoration features; undertake demonstration projects; study potentially promising large-scale, long-term concepts; and take other needed actions to restore the ecosystem. A 10-year plan of studies and projects was developed through a public involvement process, and working closely with other Federal agencies and the State of Louisiana.
http://www.mvn.usace.army.mil/prj/lca/

Upper Mississippi River Restoration: Originally authorized in 1986 but significantly modified in 1999, this program provides for planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation. Multiple habitat projects are helping to revitalize the side channels and to restore island, aquatic, and riparian habitat in the Upper Mississippi River. The program also includes funds for the collection of project and systemic baseline data and monitoring.
http://www.mvr.usace.army.mil/EMP/default.htm

USACE Programs that Maintain the Wetland Base

Together with their partners, the USACE provides environmental stewardship of nearly 12 million acres of public land and water and oversees the natural resources management of 456 operating civil works water resources projects nationwide. The USACE strives to provide sound environmental stewardship of lands and waters entrusted to its care, while accomplishing multiple authorized project purposes. Its Natural Resources Management Mission is to manage and conserve those natural resources (including fish and wildlife, woodlands and grasslands, wetlands, soils, and water) consistent with ecosystem sustainability principles, to serve the needs of present and future generations.

The stewardship of wetland resources is an integral part of the USACE responsibility. Although the classification and quantity of wetlands acreage under USACE stewardship has not yet been determined, an inventory of natural resources (including wetlands) is required for each project. This effort is under way and is being accomplished as fiscal resources allow. Information from the inventories is incorporated into master plans and operational management plans and used to help manage, conserve, and protect wetland resources. Where feasible, wetland resources management is integrated to capture mutual benefits (*e.g.*, for efforts to manage wetland-dependent plants and animals, including endangered species). In addition, the effects of existing and proposed land use activities are monitored or evaluated to guard against wetland degradation or loss. Opportunities to enhance wetland quality and quantity are implemented where feasible, employing partnerships and volunteer assistance where possible.
http://corpslakes.usace.army.mil/employees/envsteward/envsteward.html

Engineer Research and Development Center: Within the Environmental Laboratory, the Wetlands and Coastal Ecology group conducts field and laboratory investigations on biotic and abiotic resources in wetlands and coastal systems and develops products/systems supporting assessment, restoration, and management of wetlands and coastal ecosystems. Examples of wetlands research include the development of improved standards, techniques, and guidelines for the planning, design, and construction of USACE wetlands restoration and creation projects; completion of a GIS-based decision support system for prioritizing candidate wetlands restoration sites with the greatest potential for success; and exploration of innovative plant harvesting/installation methods for the large-scale restoration of submerged aquatic vegetation (SAV) ecosystems in the Chesapeake Bay. In addition, state-of-the-art tools and methods for wetlands restoration will be integrated to forecast physical, chemical, and biological responses to water resource management activities and to manage these resources within a watershed-scale perspective. Approximately $1.8 million is included in the FY 2008 budget for wetlands research.
http://el.erdc.usace.army.mil/org.cfm?Code=EE-W

Regulatory Clean Water Act 404 Program: The USACE manages the Nation's wetlands through a regulatory program requiring permits for the discharge of dredged and fill material into jurisdictional waters of the United States. In a typical year the USACE receives permit requests to fill about 25,000 acres of jurisdictional waters. Of these, about 5,000 acres are not permitted, and for the 20,000 permitted acres the USACE requires mitigation on average of more than two acres for each permitted acre lost. FY 2008 funding request is $180 million.
http://www.usace.army.mil/inet/functions/cw/cecwo/reg

Appendix F. Department of the Interior (DOI)

DOI Programs Supporting the President's Wetlands Goal

Bureau of Land Management (BLM)

Land Acquisition Program: The program is focused on consolidating land ownership and conserving resource values within 2,300 units, which compose the Bureau's Special Management Areas. Acquisition through exchange, purchase, and donation is an important component of BLM's land management strategy. BLM acquires land and easements in land when in the public interest and consistent with publicly approved land-use plans. Wetlands, in concert with other important resource values in these Special Recreation Management Areas, are an important factor in developing purchase, donation, and exchange initiatives.
http://www.blm.gov/nhp/what/lands/realty/tenure/

Management of Lands and Resources/Oregon and California Grant Lands: The BLM uses these appropriations to address a wide variety of natural resource management needs. These activities frequently include on-the-ground projects that conserve, protect, and restore wetlands. Funding to protect, manage, and reforest the revested Oregon and California Railroad grant lands is also used for projects that directly restore and protect wetlands. Funding made available for wetlands-related conservation activities depend on annual funding levels and competing resource priorities within BLM.
http://www.blm.gov/nhp/what/

National Park Service (NPS)

Exotic Plant Management Teams: The invasion of exotic, invasive plants can dramatically alter wetland ecosystems by changing plant community composition, waterflow patterns, water temperatures, and habitat for invertebrates, fish, and other wildlife species. Sixteen Exotic Plant Management Teams deployed in parks across the country, in concert with park programs, are targeting the control of invasive plants and restoration of wetland ecosystems. Treatments are focused on areas where invasive plant infestations are just taking hold, at the source of infestations, and in areas were management is coordinated across jurisdictions. More information on the teams and invasive plant programs is available at *http://www.nature.nps.gov/biology/invasivespecies*

DOI tables are on pages 38-41.

U.S. Fish and Wildlife Service (FWS)

Coastal Program: The Coastal Program works in 22 specific coastal communities to improve the health of watersheds for fish, wildlife, and people by building partnerships; identifying, evaluating, and mapping important habitats; restoring habitats; and providing technical assistance and financial support to help protect important coastal habitats. Since 1994, the program has restored 115,000 acres of coastal wetlands, 28,000 acres of coastal uplands, and more than 1,150 miles of coastal streamside habitat. It has also helped protect 1.35 million acres of coastal habitat. FWS also provides technical assistance to other Federal, state, and local agencies under this program.
http://www.fws.gov/coastal

Fish and Wildlife Management Assistance (FWMA): This program delivers scientific information and projects that support cooperative efforts to conserve America's fisheries and wildlife resources. FWMA includes on-the-ground conservation activities, such as assessing the condition of habitats, restoring stream and wetland habitats, restoring fish passage, and controlling aquatic nuisance species through physical, chemical, and biological means.
http://www.fws.gov/fisheries/fwma/

Landowner Incentive Program: This program provides grants to state and tribal conservation agencies to help landowners restore habitats of listed, proposed, candidate, or other species determined to be at risk on private and tribal lands. Many of these species occur in wetland environments, and states and tribes focus some of their efforts on wetland habitats as appropriate. These efforts may range from providing technical assistance and developing wildlife management plans for these species and their habitats, to performing actual habitat manipulation as appropriate, to acquiring conservation easements or other forms of protection on wetlands.
http://Federalaid.fws.gov/lip/lip.html

National Coastal Wetlands Conservation Grant Program (CWPPRA Funds): Since 1990, the program has made available $183 million to 25 coastal states and one U.S. territory to acquire, conserve, or restore over 250,000 acres of coastal wetland ecosystems. Typically, $13 to $17 million is awarded

Table F-1. DOI Programs Supporting the President's Wetlands Goal in FY 2008. Funding (millions of dollars)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands Funding for Goal FY 2008	Difference from FY2007
BLM	Land Acquisition	0.000	0.000	1.500	1.500	-1.950
BLM	Oregon and California Grant Lands	0.000	3.095	0.000	3.095	0.179
BLM	National Fish and Wildlife Foundation	0.000	1.000	0.000	1.000	0.350
BLM	Yuma East Wetlands Restoration Project	0.000	0.035	0.000	0.035	0.000
NPS	NPS Exotic Plant Management Teams	0.000	1.600	0.000	1.600	0.000
FWS	Coastal Program	3.384	0.310	3.724	7.418	0.000
FWS	Fish and Wildlife Management Assistance	0.000	0.700	0.000	0.700	0.200
FWS	Landowner Incentive Program	0.000	0.000	0.000	0.000	-0.100
FWS	National Coastal Wetlands Grant Program (mandatory CWPPRA funds)	3.260	0.000	13.040	16.300	-2.456
FWS	National Wildlife Refuge System	4.495	4.975	5.000	14.470	0.352

Table F-1. DOI Programs Supporting the President's Wetlands Goal in FY 2008. Funding (millions of dollars) *(continued)*

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands Funding for Goal FY 2008	Difference from FY2007
FWS	National Wildlife Refuge System (mandatory Migatory Bird Fund)	0.000	0.000	13.297	13.297	0.000
FWS	North American Wetlands Conservation Act (appropriated)	2.620	1.003	16.847	20.470	0.479
FWS	North American Wetlands Conservation Act (mandatory CWPPRA funds)	2.912	1.115	18.725	22.752	0.000
FWS	North American Waterfowl Management Plan - Joint Ventures	0.000	0.350	0.350	0.700	-0.005
FWS	Partners for Fish and Wildlife Program	18.499	4.001	0.000	22.500	2.500
	Total	**35.170**	**18.184**	**72.483**	**125.837**	**-0.451**

Table F-2. DOI Programs Supporting the President's Wetlands Goal in FY 2008. Planned Accomplishments (in acres)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands FY 2008	Difference from FY 2007
BLM	Land Acquisition	0	0	530	530	-478
BLM	Oregon and California Grant Lands	0	25,446	0	25,446	1,000
BLM	National Fish and Wildlife Foundation	0	55	0	55	38
BLM	Yuma East Wetlands Restoration Project	0	1,400	0	1,400	0
NPS	NPS Exotic Plant Management Teams	0	4,000	0	4,000	0
FWS	Coastal Program	4,000	5,500	10,000	19,500	0
FWS	Fish and Wildlife Management Assistance	0	22,000	0	22,000	7,000
FWS	Landowner Incentive Program	0	0	469	469	0
FWS	National Coastal Wetlands Grant Program (mandatory CWPPRA funds)	993	0	4,670	5,663	0
FWS	National Wildlife Refuge System	36,906	114,135	1,876	152,917	5,937

Table F-2. DOI Programs Supporting the President's Wetlands Goal in FY 2008. Planned Accomplishments (in acres) *(continued)*

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands FY 2008	Difference from FY 2007
FWS	National Wildlife Refuge System (mandatory Migatory Bird Fund)	0	0	17,865	17,865	0
FWS	North American Wetlands Conservation Act appropriated	14,056	32,984	52,066	99,106	0
FWS	North American Wetlands Conservation Act (mandatory CWPPRA funds)	23,030	54,046	93,249	170,325	0
FWS	North American Waterfowl Management Plan - Joint Ventures	2,599	16,995	1,132	20,726	-6,426
FWS	Partners for Fish and Wildlife Program	17,546	4,000	0	21,546	2,546
Total		**99,130**	**280,561**	**181,857**	**561,548**	**9,617**

annually through a national competitive process. Grants for an individual project are limited to $1 million. Funding for this program comes from excise taxes on fishing equipment and motorboat and small engine fuels. States are required to provide either 50 or 75 percent of the total cost of the project, depending on whether the state has established and maintains a special fund for acquiring coastal wetlands, other natural areas, and open space. The program does not provide grants to support planning, research, monitoring activities, or construction or repair of structures for recreational purposes.
http://www.fws.gov/coastal/CoastalGrants

National Wildlife Refuge System: The mission of the National Wildlife Refuge System, managed by FWS, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans. Approximately one-quarter of the 96-million-acre National Wildlife Refuge System consists of wetlands. The Refuge System protects, restores, rehabilitates, enhances, and conducts research on these wetlands. The Refuge System manages wetlands to enhance their value for migratory waterfowl and shorebirds, threatened and endangered species, and a myriad of native fish, wildlife, and plants. The wetland restoration and conservation programs of the Refuge System protect the biodiversity and environmental health of these habitats across diverse landscapes, and provide wildlife-dependent recreational opportunities for the American public.
http://www.fws.gov/refuges/

North American Wetlands Conservation Act (NAWCA) Program: This program supports voluntary public–private partnerships to conserve North American wetland ecosystems. It provides matching grants to public and private groups and agencies for wetlands restoration and protection in the United States, Canada, and Mexico. More than 14.6 million acres of wetlands and associated uplands have been affected by protection, restoration, or enhancement activities since 1991.
http://birdhabitat.fws.gov/NAWCA/grants.htm

North American Waterfowl Management Plan–Joint Ventures: This tri-national strategic plan fosters the creation of partnerships between the Federal government, states, tribes, corporations, private organizations, and individuals to cooperate in the planning, funding, and implementation of projects to conserve and enhance wetland habitat in high-priority "joint venture" regions. The plan calls for 16.1 million acres of wetlands and associated uplands to be protected and 12.1 million acres to be restored or enhanced.
http://www.fws.gov/birdhabitat/NAWMP/index.shtm

Partners for Fish and Wildlife Program: Authorized by the Partners for Fish and Wildlife Act, this voluntary program, begun in 1987, works with landowners to restore wetlands on private lands using cooperative agreements. The FWS has entered into more than 41,000 agreements with partners. The program has restored 800,000 acres of wetlands, more than 1.6 million acres of uplands, and more than 6,000 miles of riparian and in-stream habitat. FWS also provides technical assistance to other Federal, state, and local agencies under this program.
http://www.fws.gov/partners

DOI Programs that Maintain the Wetlands Base

U.S. Bureau of Reclamation (USBR)

Wildlife Habitat Augmentation Program: The program's purpose is to implement projects that protect, enhance, and restore riparian, wetland, and associated habitats within the watersheds of USBR's California Central Valley Project. This project consists of a system of 18 dams and reservoirs, canals, power plants, and other facilities located mainly in the Sacramento and San Joaquin valleys. The project manages about nine million acre-feet of water for urban, industrial, agricultural, and environmental uses; produces electrical power; and provides benefits for flood protection, navigation, fish and wildlife, recreation, and water quality.
http://www.usbr.gov/mp/cvp.html

U.S. Fish and Wildlife Service

National Wildlife Refuge System: In FY 2006, the National Wildlife Refuge System managed 145,461 acres for moist soils and 945,771 acres received other water-level manipulation. In FY 2007, those management activity accomplishments are expected to be 115,030 moist soil acres managed, with water-level manipulation being achieved on 888,436 acres of water impoundments. FY 2008 funding request is $8.152 million.
http://www.fws.gov/refuges/

National Wetlands Inventory (NWI): The goal of the NWI is to produce information on the characteristics, extent, and status of the Nation's wetlands and deepwater and riparian habitats in order to promote the understanding and conservation of these resources. Federal, state, and local government agencies; tribes; academic institutions; Congress; and the

private sector use this information and digital maps to guide natural resource planning, management, and project development. Wetlands data are used in planning for emerging conservation issues such as energy development, avian influenza, and global climate change, where they are used to model sea-level rise. The wetlands data are available over the Internet. Wetlands status and trend data and reports provide contemporary information for decisionmaking and for wetlands policy formulation and assessment. The FY 2008 funding request is $4.8 million.
http://www.fws.gov/nwi

Natural Resource Damage Assessment and Restoration Program: The Division of Environmental Quality provides approximately $1.5 million in toxicology, ecology, and habitat restoration expertise to EPA and other Federal and state partners to minimize impacts to wetlands during the cleanup of contaminated areas. The division makes substantial contributions to maintaining the base of wetland acres as well as restoring and improving wetlands at former hazardous waste sites and areas impacted by oil and chemical spills.
http://contaminants.fws.gov/Issues/Restoration.cfm

U.S. Geological Survey (USGS)

USGS provides scientific expertise to address wetlands management issues identified by Federal resource managers. This expertise helps decision makers build and implement adaptive management strategies to support wetlands restoration and creation and to effectively improve and protect coastal, forested, and freshwater wetlands. USGS wetlands science addresses priorities in understanding the wetland structure, dynamics, functions, and interactions with the surrounding landscape; responses to natural and anthropogenic stressors; role of wetland functions (ecosystem services) from a socioeconomic perspective; and the support tools to help managers identify and achieve sustainable wetland conditions in restoration, creation, and rehabilitation activities. USGS wetlands research is primarily focused in the following regions:

Prairie Pothole Region/Great Plains: Research in this region expands the ecological understanding of processes that influence wetland functions and values in agriculture landscapes. Research on global climate change, sediment and nutrient dynamics, the effectiveness of wetland restoration and enhancement for flood storage and wildlife habitat, and the potential of prairie pothole wetlands to sequester carbon are also being addressed. FY 2008 funding request is $0.375 million.
http://www.npwrc.usgs.gov/about/factsheet/wetlands.htm

Great Lakes: In this region, the effects of Great Lakes water-level fluctuations on wetlands are being researched, in addition to global climate change studies of wetlands that focus on interactions between climate change, lake levels, groundwater hydrology, and wetland response. This research provides scientific information to support the restoration, conservation, and management of wetlands. FY 2008 funding request is $0.790 million.
http://www.glsc.usgs.gov

Gulf Coast: Hurricanes Katrina and Rita placed a high priority on research, spatial analyses, predictive modeling, technology development, and information synthesis and outreach related to the impacts to the Nation's critical Gulf Coast coastal and freshwater wetlands and habitats. USGS wetlands science in this region provides the scientific information needed by resource managers and planners to stabilize, restore, rehabilitate, and manage wetlands, including seagrass beds, inland grass beds, coastal saltwater and freshwater marshes, and forested wetlands. In addition, global climate change studies in the Lower Mississippi River Valley focus on riverine and coastal wetland response to CO_2 levels and sea-level rise. FY 2008 funding request is $6.63 million.
http://www.nwrc.usgs.gov

Atlantic Coast: Wetlands research in the Atlantic region provides scientific information on restoration, enhancement, and creation of coastal and estuarine wetlands. Studies on global climate change focus on wetland response to sea-level rise and wetlands management options. In addition, the effects of varying fire regimes on wetland habitats and response to sea-level rise are being investigated. FY 2008 funding request is $2.376 million.
http://www.pwrc.usgs.gov/wetlands/

Appendix G. Department of Transportation (DOT)

Federal Highway Administration (FHWA) Programs Supporting the President's Wetlands Base

Under the Federal-aid highway legislation (Title 23, United States Code, Highways), state transportation agencies may use national Highway System and Surface Transportation Program funds to finance wetland and natural habitat conservation planning and implementation, as well as compensatory mitigation and restoration projects that offset unavoidable losses from transportation projects. The Department of Transportation/Federal Highway Administration has a goal of 1.5-to-1 wetland acre mitigation. Under the Federal-Aid Highway Program, FHWA has achieved over 49,000 acres of wetland mitigation since 1996, with the mitigation amount exceeding the amount impacted by over 31,000 acres. Through FHWA, the Department of Transportation also funds research on wetlands mitigation in connection with highways.

Fiscal Years 1996-2006 Total	Acres of Compensatory Wetland Mitigation	Acres of Wetland Impacts	Mitigation Ratio/Percent Increase	Acreage Gain
Total	49,882	18,327	2.7:1 170 percent	31,555*

**Gains from mitigation programs are not counted as acres toward the President's wetlands goal.*

Eligibility

In 1980, FHWA issued 23 CFR Part 777, Mitigation of Impacts to Privately Owned Wetlands, which gave sponsors of Federally assisted highway projects the flexibility to use Federal-aid funds to mitigate impacts to wetlands. The regulation was updated in 2000 to include more recent legislative, regulatory, and policy developments. The regulation specifies that funds eligible for mitigation and enhancement apply to all projects carried out under the Federal-Aid Highway Program.

Funding

Because Federal-aid highway programs operate under contract authority implemented through the states, total annual expenditures of Federal assistance are at the discretion of the states within obligation limits established by Congress for each program. The total of all expenditures each year for a given program must be at or below the congressional obligation limit. But the Federal Government does not direct program expenditures under the annual limit; instead, the states determine how and where the funds are spent based on levels allocated to them by formula each year. Therefore, the states determine what portion of their total allocated funding authority will go to finance wetland mitigation and enhancement. The Federal Government provides projections that estimate and provide recommendations only on the total annual program obligation limits, not on specific authorizations for wetland mitigation and enhancement.

Performance

As a measure of performance under FHWA's net gain policy and commitments made under the Clean Water Action Plan, the agency monitors annual wetlands loss and gain under the Federal-aid highway programs nationwide. Monitoring began in FY 1996. Program-wide, the FY 2006 figures from 17 states indicate that Federal-aid highway projects provided 2.4 acres of compensatory wetland mitigation for each acre of impact, excluding data from Florida. Florida reported 2,167 acres of mitigation against 91 acres of impacts (these data were included in the 11-year totals but not in averages and mitigation ratios for 2006). Data collected by FHWA over the past 11 years indicate that, nationwide, Federal-aid highway programs have achieved a 170 percent gain in wetlands acreage (2.7:1 gain/loss ratio). In terms of acres, Federal-aid highway programs reported a net gain of 31,555 acres of wetlands nationwide between 1996 and 2006.

Costs of wetlands mitigation have increased several-fold during the past 25 years. Costs of mitigation were estimated in 1995 as approximately $16,000 per acre of mitigation nationwide, based on available data obtained from 1992 to 1994. This results in an estimated total cost from 1996 to 1999 for all Federally assisted highway programs of approximately $50 to $80 million per year for replacement of wetlands (in pre-1995 dollars). A Government Accountability Office (GAO) report to the Transportation Subcommittee on Highway Planning (August 1994) quotes data from 1992 for wetlands costs from 37 states. Annual costs reported for 1988 to 1992 averaged $79 million.

Research and Other Cooperative Efforts to Support the Wetlands Goal

The FHWA coordinates wetlands programs and research initiatives with other Federal agencies, including EPA and DOI. FHWA wetlands research is not identified separately. FHWA, EPA, and USACE implemented guidance on how the TEA-21 preference on the use of mitigation banks can be exercised under the Section 404, Clean Water Act permitting process, one of the first actions completed under the National Wetlands Mitigation Action Plan.

Planning

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), enacted in 2005, requires metropolitan and statewide transportation plans (highway and transit) to include a discussion of potential environmental mitigation activities and potential areas to carry out these activities, developed in consultation with Federal, state, and tribal wildlife, land management, and regulatory agencies.

Federal Aviation and Transit Programs

The programs of the Federal Transit Administration provide Federal funding for wetlands mitigation related to assisted transit projects as part of project costs. As noted above, under SAFETEA-LU, transportation plans must address environmental mitigation.

Wetlands mitigation related to airport projects receiving Federal assistance under Federal Aviation Administration (FAA) programs is an eligible project expense. In 1996, FAA issued a Wetlands Banking Mitigation Strategy to provide guidance to ensure that Federally assisted airport projects and FAA projects effectively and efficiently meet Section 404 permit requirements and environmental responsibilities. This document provides a framework for the FAA to mitigate unavoidable impacts before they occur by purchasing credits from a wetlands bank. The use of wetlands mitigation banking is voluntary, and is considered on a project-by-project basis. If chosen as an option for an airport project, the airport sponsor may recover the cost of purchasing wetlands bank credits from Federal Airport Improvement Program funding. In July 2003, FAA signed an interagency memorandum of agreement that addresses wetlands mitigation and restoration projects near airports and ways to reduce aircraft–wildlife strikes and maintain aviation safety.

Appendix H. Environmental Protection Agency (EPA)

Table H-1. EPA Programs Supporting the President's Wetlands Goal in FY 2008. Funding (millions of dollars)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands Funding for Goal FY 2008	Difference from FY 2007
EPA	Five Star Program	0.004	0.247	0.000	0.251	0.000
EPA	National Estuary Program	0.671	1.469	4.660	6.800	-1.600
EPA	Nonpoint Source Management Program	32.631	2.029	0.000	34.660	0.000
Total		**33.306**	**3.745**	**4.660**	**41.711**	**-1.600**

Table H-2. EPA Programs Supporting the President's Wetlands Goal in FY 2008. Planned Accomplishments (in acres)

Agency	Program	Restore or Create	Improve	Protect	Total Wetlands FY 2008	Difference from FY 2007
EPA	Fire Star Program	89	6,846	0	6,935	0
EPA	National Estuary Program	4,145	9,079	28,799	42,023	0
EPA	Nonpoint Source Management Program	3,136	195	0	3,331	0
Total		**7,370**	**16,120**	**28,799**	**52,289**	0

EPA Programs Supporting the President's Wetlands Goal

Five Star Challenge Grants Program: EPA and its partners—National Fish and Wildlife Federation, National Association of Counties, Southern Company, and Wildlife Habitat Council—have helped catalyze over 400 projects in all 50 states, the District of Columbia, and the U.S. Virgin Islands. Each year, 50 to 60 grants of $5,000 to $20,000 are awarded. The purpose of the Five Star Restoration Program is to support community-based efforts to restore wetlands, river streams/corridors, and coastal habitat; build diverse partnerships within the community; and foster local stewardship of resources through outreach.
http://www.epa.gov/owow/wetlands/restore/5star

National Estuary Program (NEP): This program works to restore and protect these sensitive and vital ecosystems. The NEP provides funding and technical assistance to citizens, governments, businesses, researchers, and organizations in local communities to create and implement plans they develop collectively. These plans address problems facing their estuaries, such as excess nutrients, pathogens, toxic chemicals, introduced species, overfishing, and habitat loss and degradation. With its partners, the NEP works to safeguard the health of some of our Nation's most productive natural resources and transfers the lessons learned to other watersheds.
http://www.epa.gov/owow/estuaries

Nonpoint Source Management Plan: Under Section 319 of the Clean Water Act, states, territories, and Indian tribes receive grant money that supports a wide variety of activities, including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint-source implementation projects, some of which include wetlands restoration projects.
http://www.epa.gov/owow/nps/cwact.html

EPA Programs that Maintain the Wetlands Base

Wetlands Grants Program: The EPA annually has provided $16 million to states, local governments, tribes, and nongovernmental organizations to strengthen and build comprehensive non-Federal regulatory and nonregulatory wetlands programs. FY 2008 funding request is $16.8 million.
http://www.epa.gov/owow/wetlands

Clean Water Act Section 404 Program: EPA and USACE share regulatory responsibility pursuant to CWA Section 404. EPA and USACE establish the regulations and policies for implementation of the program, including development and implementation of the Section 404(b)(1) guidelines. The guidelines establish the substantive environmental criteria used to evaluate applications for permits to discharge under Section 404. FY 2008 funding request is $21.5 million.
http://www.epa.gov/owow/wetlands/

Ecological Research Program: One of several components of this Office of Research and Development program, the Environmental Monitoring and Assessment Program (EMAP) conducts research on the design, methods, and analysis used in the assessment of the ecological quality of the Nation's waters, including wetlands. EMAP partners with states and tribes to demonstrate how assessments of wetland condition can be conducted and how the results can be used to report on the effectiveness of protection and restoration actions. EMAP currently has $1.1 million in pending awards for assessments of wetland condition in the Mid-Atlantic and Southeast, and has set aside $1 million of FY 2007–2008 dollars to fund wetland projects in states in the Midwest and West. In addition, technical assistance is being provided in support of the 2011 National Wetland Survey, including the funding of a pilot assessment of coastal wetlands in the Gulf of Mexico region. Other technical assistance, including transfer of research and training, is being provided to states and tribes to aid in the development of wetland monitoring and assessment programs. The overall research program will also increasingly focus on the ecosystem services provided by wetlands at multiple scales within the context of their condition.
http://www.epa.gov/ord

Appendix I. Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)

Table I-1. CWPPRA Funding Supporting the President's Wetlands Goal in FY 2008. Funding (millions of dollars)

Program	Restore or Create	Improve	Total Wetlands Funding for Goal FY 2008	Difference from FY 2007
CWPPRA	1.988	76.386	78.374	2.416

Table I-2. CWPPRA Acres by Agency Supporting the President's Wetlands Goal for FY 2008. Planned Accomplishments (in acres)

Agency	Restore or Create	Improve	Total Wetlands FY 2008	Difference from FY 2007
EPA	77	0	77	70
FWS	785	2,478	3,263	-15,360
NMFS	1,466	67	1,533	-474
NRCS	48	98,781	98,829	46,827
USACE	261	0	261	74
Total	2,637	101,326	103,963	31,137

The Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) is funded by the Aquatic Resources Trust Fund (Wallop-Breaux fund), which was passed in 1990 and is authorized until 2019. The fund is created from excise taxes on fishing equipment and on motorboat and small engine fuels. Funds are distributed to the Louisiana Coastal Wetlands Conservation and Restoration Task Force, North American Wetlands Conservation Act Program, and the National Wetlands Conservation Grant Program at rates of 70 percent, 15 percent, and 15 percent, respectively.

The CWPPRA funding distributed to the Louisiana Coastal Wetlands Conservation and Restoration Task Force is used to design and construct projects to preserve and restore Louisiana's coastal landscape. The Louisiana portion of CWPPRA is provided an average of $50 million per year. The USACE administers the funding and tracks project status of all CWPPRA projects. With the USACE as chair, a task force consisting of NOAA's National Marine Fisheries Service, FWS, NRCS, EPA, and the State of Louisiana (the non-Federal sponsor) manages the program. Currently, the program has 163 approved projects, of which 68 are complete and 19 are under construction.
http://www.mvn.usace.army.mil/pd/cwppra_mission.htm

The Louisiana CWPPRA accomplishments are presented in this appendix. The other CWPPRA accomplishments are presented in Appendix F under the appropriate FWS Program areas. In addition to the 103,963 acres of coastal wetlands restored, created, and improved reported above in Table I-2, the Louisiana CWPPRA will conserve 424 acres in FY 2008 that would otherwise be lost by protecting shorelines, diverting freshwater and nutrients, and restoring hydrology.

A map of Louisiana restoration sites is available at *http://lacoast.gov/maps/coastal_la_2005_restoration_ projects.pdf*

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Shoreline Protection

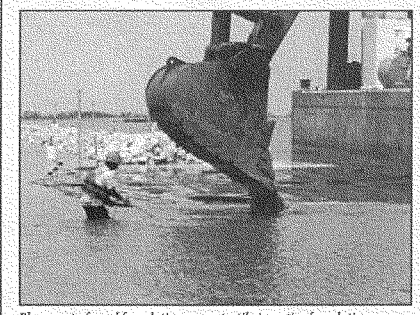
Wetlands loss in coastal Louisiana is an environmental crisis of national importance. Traditional engineering and construction methods for conserving Louisiana's coastal wetlands from shoreline erosion and interior losses are often not cost effective or feasible due to many factors, including poor soils, wave action, and water depths. USACE is leading efforts to develop new technologies and methods for constructing projects that protect wetland habitats. As part of the larger CWPPRA South White Lake Shoreline Protection Project, USACE constructed a demonstration of alternate foundation improvement techniques under 5,400 linear feet of the South White Lake rock dike. The objective of this demonstration project is to test foundation improvement measures intended to increase the cost effectiveness of shoreline protection projects in coastal Louisiana. In spring and summer 2006, two treatments applying sand beneath the rock dike were installed. The two improvement measures included:

- Installing sand foundations that displaced soft near-surface material *(photos at left)*.
- Installing sand foundations with soft near-surface material removed via dredging.

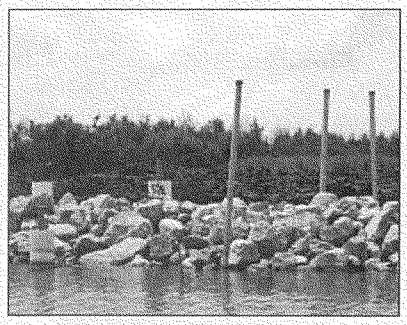
Each sample section, along with control sections, were instrumented with four sets each of crown, front and rear settlement plates, inclinometers, extensometers, and peizometers *(below)*.

The geotechnical instruments will be monitored and recorded over the next five years. The recorded monitoring data will be analyzed to determine the effectiveness of the two foundation improvement treatments compared to traditional construction methods.

Placement of the bottom layer of geotextile fabric over existing foundation in native foundation displacement reach. (USACE)



Placement of sand foundation on geotextile in native foundation displacement reach. (USACE)



Typical view of geotechnical instruments (USACE).

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Acronyms

BLM	Bureau of Land Management, DOI
CBBEP	Coastal Bend Bays and Estuaries Program
CEAP	Conservation Effects Assessment Project, USDA
CELCP	Coastal and Estuarine Land Conservation Program, NOAA
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CEQ	Council on Environmental Quality
CERP	Comprehensive Everglades Restoration Plan
CREP	Conservation Reserve Enhancement Program
CRP	Community-based Restoration Program, DOC/NOAA
CTA	Conservation Technical Program, USDA/NRCS
CWA	Clean Water Act
CWPPRA	Coastal Wetlands Planning, Protection and Restoration Act
CZM	Coastal Zone Management Program, NOAA
DARRP	Damage Assessment, Remediation, and Restoration Program, DOC/NOAA
DOA	Department of the Army
DOC	Department of Commerce
DOI	Department of the Interior
DOT	Department of Transportation
EMAP	Environmental Monitoring and Assessment Program, EPA
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentives Program, USDA/NRCS
FAA	Federal Aviation Administration, DOT
FHWA	Federal Highway Administration, DOT
FSA	Farm Service Agency, USDA
FWMA	Fish and Wildlife Management Assistance
FWS	Fish and Wildlife Service, DOI
GAO	Government Accountability Office, Congress
GIS	Geographic Information System
JVs	Joint Venture Partnerships, DOI/FWS
NAWCA	North American Wetlands Conservation Act, DOI/FWS
NEP	National Estuary Program, EPA
NOAA	National Oceanic and Atmospheric Administration, DOC
NPS	National Park Service, DOI
NRCS	Natural Resources Conservation Service, USDA
NRI	National Resources Inventory, USDA/NRCS
NWI	National Wetlands Inventory, DOI/FWS
NWRS	National Wildlife Refuge System, DOI/FWS
OMB	Office of Management and Budget
OPA	Oil Pollution Act of 1990
PCSRF	Pacific Coastal Salmon Recovery Fund, DOC/NOAA
PMC	Plant Materials Center, USDA/NRCS
SAFETEA	Safe, Accountable, Flexible, Efficient Transportation Equity Act
USACE	U.S. Army Corps of Engineers, DOA
USBR	U.S. Bureau of Reclamation, DOI
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service, USDA
USGS	U.S. Geological Survey, DOI
WHIP	Wildlife Habitat Incentives Program, USDA/NRCS
WHWWG	White House Wetlands Working Group
WRP	Wetlands Reserve Program, USDA/NRCS

Written Testimony by

James King
President
DeKalb Pipeline Company
&
President
National Utility Contractors Association

before the

House Committee on Transportation and Infrastructure

Addressing

"The 35th Anniversary of the Clean Water Act:
Successes and Future Challenges"

October 18, 2007

Chairman Oberstar, Ranking Member Mica, and Honorable Members of the Committee, my name is James King. I am the President of DeKalb Pipeline Company in Conyers, Georgia, a company of 90 employees that provides sewer construction and maintenance and subdivision site development services in metropolitan Atlanta. I am also President of the National Utility Contractors Association (NUCA), a family of more than 1,700 companies from across the nation that build, repair, and maintain underground water, wastewater, gas, electric, and telecommunications systems. I am grateful for the opportunity to participate in this hearing on their behalf.

Since we are gathered here to celebrate the 35th Anniversary of the 1972 Clean Water Act (CWA), I would like to note the progress that has been made since its passage, as well as review the continuing challenges facing America's underground environmental infrastructure. We have come a very long way from the horrific images of burning rivers and waterways only a few decades ago, but the significant gains we have seen since passage of the CWA are threatened by the lack of attention to our environmental infrastructure in recent years. In brief, we have made significant progress, but there is much yet to be done.

In that regard, I have three goals in my testimony this morning. First of all, I want to offer you the perspective of those who work on water and wastewater systems every day and see firsthand what it looks like when they fail. Mr. Chairman, I know you agree that the decrepit condition of this infrastructure is fast becoming an environmental crisis. Take this testimony from someone who sees the problem up close and personal: The view from the trenches isn't pretty.

Secondly, I want to point out that while the primary goal of projects funded under the CWA is to enhance public health and environmental protection, there are also tremendous economic benefits that come with it. The mass job creation and general enrichment of local economies are often overlooked when we think about the importance of clean water funding, but these are significant factors to consider.

Finally, I want to reiterate NUCA's support for your ongoing efforts to keep the goals of the CWA in the priorities of the U.S. Congress. NUCA serves as chair of the Clean Water Council (CWC), a coalition of 30 national organizations representing underground construction contractors, design professionals, manufacturers and suppliers, labor representatives and others committed to ensuring a high quality of life through sound environmental infrastructure. These industries work collectively to improve critical underground systems that unquestionably enhance America's quality of life. For your reference, a list of CWC members is attached to this testimony.

The View from the Trenches

So, let's begin literally at the bottom. Every day, utility contractors are at work building and repairing America's unglamorous but critical water and wastewater infrastructure. What is out of sight and out of mind to most people is clearly visible to NUCA members working in the trenches. We routinely uncover rotting pipes with gaping holes that spill raw sewage into the surrounding ground and nearby waterways. This leakage can go undetected for months, even years in some cases. To make matters worse, these conditions are often within yards of playgrounds where our children play, waterways where we fish and beaches where we swim.

Working in the "trenches" of national advocacy, NUCA and the CWC have taken the lead for years in advancing a host of legislative efforts that would begin to address the skyrocketing

water and wastewater infrastructure needs facing our nation. The CWC's most recent focus has been increased annual appropriations for the Environmental Protection Agency's (EPA) Clean Water State Revolving Fund (SRF) program and the reauthorization of the SRF at significantly higher funding levels. We are pleased that the 110th Congress is again attempting to pass SRF reauthorization legislation and we are doing, and will continue to do, our part to make that happen. Additionally, NUCA is currently working with several organizations and members of Congress to develop a dedicated source of revenue to fund these infrastructure projects in the long term.

Infrastructure Needs Increasing, Federal Investment Declining
Why has NUCA and the CWC made increased federal funding for water and wastewater infrastructure a priority? The answer is simple: The needs are overwhelming. The EPA's *Clean Watersheds Needs Survey 2000 Report to Congress* documented America's existing wastewater infrastructure needs at more than $181 billion. That was not a projection. That number reflected documented wastewater needs that actually existed in 2000. Therefore, it is not unreasonable to believe that America's existing wastewater needs now exceed $200 billion. Additionally, the EPA's 2002 *Clean Water and Drinking Water Infrastructure Gap Analysis* found that there will be a $534 billion gap between current spending and projected needs for water and wastewater infrastructure in 2019 if federal investment is not stepped up.

The American Society of Civil Engineers (ASCE), an active member of the Clean Water Council, evaluates the nation's infrastructure and reports on the status of it every few years. Only four years after receiving a "D" grade in 2001, America's wastewater infrastructure fell to a "D minus" in ASCE's *2005 Report Card for America's Infrastructure.*

Clearly, there is a consensus among both government and industry professionals that the state of our infrastructure is quickly going from bad to worse. Meanwhile, federal resources to address this quandary are plummeting every year. The Clean Water SRF, for example, has not been authorized since 1994, and the lack of reauthorization has led to significant cuts in federal funding, especially since 2004. Last year's White House budget proposal included a grossly inadequate level of $688 million for the Clean Water SRF in 2007. That funding level would reflect virtually a 50 percent cut from the $1.35 billion provided for clean water for more than 10 years. Recognizing the tremendous needs described above, the federal government should be increasing the funding for our environmental infrastructure, not cutting it.

Broad Range of Economic Benefits
Investing in water and wastewater infrastructure not only ensures public health and safety and protects the environment, but also helps create jobs and expand local tax bases. In short, clean water goes hand-in-hand with a healthy economy. According to the American Public Works Association, more than 40,000 jobs are created with every $1 billion invested in funding for this infrastructure. And, the job creation and increased economic activity that comes with it create opportunities for communities to revitalize and empower themselves.

Let's summarize the three economic impacts that result from funding water and wastewater infrastructure projects. There are:

- direct impacts through job creation and the purchase of materials and supplies related to the operation of the project;

- indirect impacts through jobs and the purchase of materials and supplies by vendors indirectly related to the operation of the project; and

- induced impacts, which are supported by spending and re-spending of the income earned by workers. (Induced economic impact is often referred to as the "multiplier effect.")

Another essential point is that the jobs offered in this industry are jobs that are provided right here in America. These are not jobs that can be shipped overseas. Nor are these jobs confined to construction contractors, subcontractors, laborers, engineers, suppliers and manufacturers. Clean water enhances individual productivity in virtually all sectors of our society through reduced sickness and increased work opportunities, as well as increased community productivity when new residents and businesses are attracted to revitalized neighborhoods. Inevitably, these economic enhancements collectively expand the local tax base.

Short- and Long-Term Solutions
As previously noted, NUCA and the Clean Water Council have taken a lead role in advocating legislation that would reauthorize the SRF, and we once again stand ready to assist in seeing current SRF legislation become law. The time for action is now. Reauthorization of the SRF will help provide immediate resources over the next few years to begin to close the ever-increasing spending gap.

There are many opinions about what constitutes the most effective funding mechanism to address these problems in the future. For its part, NUCA not only continues to work with Congress and other stakeholder groups to develop a water infrastructure trust fund, but also with government and industry to explore and evaluate other long-term alternatives for funding America's water and wastewater infrastructure.

"Americans for Pure Water"
In addition to ongoing legislative advocacy, NUCA and various members of the Clean Water Council are conducting a public relations/media awareness effort to engage the American public in the clean water debate. To that end, last year the CWC kicked off the "Americans for Pure Water" media awareness campaign. The goal of the campaign is to generate local media attention in politically targeted areas to spotlight the direct connection between failing underground infrastructure and current problems with public health, environmental quality and America's overall quality of life. In a nutshell, the idea is to motivate "everyday people" to encourage Congress to act, and act now.

The CWC hopes that the Americans for Pure Water Campaign will support its efforts to provide funding for projects that help meet the goals of the Clean Water Act, and we encourage you to visit the APW Resource Center at www.americansforpurewater.com. The website contains background information on the issue, EPA wastewater needs estimates for every state, legislation and correspondence addressing water issues, and extensive media coverage at the federal, state, and local levels.

Conclusion
The 110th Congress has made remarkable progress in advancing several pieces of legislation that support the goals of the Clean Water Act. While the purpose of the Act extends far beyond the financing of projects to build and repair wastewater infrastructure, it is a significant function of the Act, and one that has been in large part neglected by the federal government in recent years.

The math is simple. The past several years have shown a decline in federal investment in water and wastewater infrastructure while that infrastructure continues to age and in some cases fail at an alarming rate. This has created a major financial gap that will only get worse until a firm commitment is made and increased federal resources are provided to every state on a predictable basis.

Thank you for the opportunity to submit testimony for the record.

Clean Water Council Members

- American Concrete Pavement Association
- American Concrete Pipe Association
- American Concrete Pressure Pipe Association
- American Council of Engineering Companies
- American Rental Association
- American Road and Transportation Builders Association
- American Society of Civil Engineers
- American Subcontractors Association
- American Supply Association
- Associated Equipment Distributors
- Associated General Contractors of America
- Association of Equipment Manufacturers
- Construction Management Association of America
- Interlocking Concrete Pavement Institute
- Laborers-Employers Cooperation and Education Trust
- Mason Contractors Association of America
- National Association of Industrial Office Properties
- National Association of Sewer Service Companies
- National Association of Women in Construction
- National Precast Concrete Association
- National Ready Mixed Concrete Association
- National Society of Professional Engineers
- National Stone, Sand and Gravel Association
- National Utility Contractors Association
- Portland Cement Association
- Plumbing-Heating-Cooling Contractors Association
- The Vinyl Institute
- Uni-Bell PVC Pipe Association
- Water and Sewer Distributors of America
- Water and Wastewater Equipment Manufacturers Association

THE 35TH ANNIVERSARY OF THE CLEAN WATER ACT: SUCCESSES AND FUTURE CHALLENGES
THURSDAY, OCTOBER 18, 2007
U.S. HOUSE OF REPRESENTATIVES
TRANSPORTATION AND INFRASTRUCTURE COMMITTEE

TESTIMONY OF PETER LEHNER, EXECUTIVE DIRECTOR,
NATURAL RESOURCES DEFENSE COUNCIL
40 West 20th Street
New York, NY 10011
202-727-2700

Chairman Oberstar, Ranking Member Mica, and Honorable Members of the Committee:

Thank you for the invitation and opportunity to appear before you today to commemorate 35 years of progress under the Clean Water Act and to look forward to future opportunities to improve the quality of the nation's aquatic resources. I am Peter Lehner, and I am Executive Director of the Natural Resources Defense Council. I first worked for NRDC from 1994 to 1999, as the senior attorney in charge of NRDC's Clean Water Project. From then until last year, I led the New York Attorney General's Environmental Protection Bureau. I have had the opportunity to implement, defend, and enforce the Clean Water Act for many years, and I am pleased to say that Congress's vision and foresight in enacting the law in 1972 has been apparent to me in the environmental progress that I have personally witnessed over the years. It is, therefore, a great honor to be here today to testify today for the 35th anniversary of the Clean Water Act and to be able to talk with you about the history and past successes of the Act and how to build on them to ensure that we have enough clean, safe water resources in the U.S. for generations to come.

The first topic I'd like to discuss is the value of clean water. Like so many things in life, we appreciate it most when we lose it – when there is a drought, a sewage spill, a boil water alert, a closed beach. But we are blessed in the U.S. with abundant, natural water supplies that support healthy ecosystems as well as a variety of human uses – swimming, fishing, boating, drinking water, irrigation, industrial uses, and spiritual uses. Clean water also supports the U.S economy – it increases property values, generates tourism, supports commercial and recreational fish and shellfish industries, is used by high tech industries, and serves as a shipping channel for goods and services. It is important to keep in mind that water resources belong to us all. All lives are enriched by having access to clean, safe waterways. As the late Senator John Chafee said, "[S]afe, clean, abundant water – in our homes, rivers, lakes, and streams – is one of our planet's greatest treasures."[1] Yet today we often treat water as worthless – for example, we throw it away in the form of stormwater rather than beneficially capturing and re-using rainfall.

While the U.S. and other developed countries have essentially eradicated diseases such as cholera, typhoid and malaria, in developing nations, these and other waterborne illnesses kill 5

[1] Statement of Senator John H. Chafee, introducing the Estuary Habitat Restoration Partnership Act, as cited in U.S. EPA, *Liquid Assets 2000* (May 2000).

million people each year –an estimated 5,000 children every day.[2] To a degree, these problems recall an earlier period in U.S. history. In the years leading up to the passage of the CWA in 1972, we had a water pollution crisis in the U.S. similar to those that a number of other countries face today. The Cuyahoga River was on fire, Lake Erie was declared dead, and the Hudson River was practically an open sewer. Industrial pollution, untreated sewage, and agricultural waste degraded our waterways. Two thirds of them were not safe to use.[3] Previous statutes based on assessing responsibility for pollution on a site-by-site basis were too slow and inefficient to get the job done. The Clean Water Act reversed the notion that discharges were authorized unless they could be shown to cause a specific problem in a specific water body. Instead, discharges were prohibited unless authorized by a permit and permits required the use of best technologies to prevent pollution. That was one of the principal and most successful innovations of the CWA.[4] The CWA also ushered in a substantial infusion of federal money to build new sewage treatment plants and upgrade existing plants nationwide to address a handful of conventional pollutants; this was not a new technology at the time, but it was still not in widespread application. The dredge-and-fill permitting program reduced wetlands loss by three-fourths. The CWA also recognized that swift, sure enforcement is the key to ensuring high rates of compliance. It required dischargers to monitor their own discharges and to report permit exceedances to the environmental authorities. It also gave citizens the right to bring actions to enforce the law.

The wisdom of many of the CWA innovations remains apparent today. The construction grants program for sewage treatment plants and the treatment improvements that it helped to fund have made dramatic reductions in the amount of sewage pollution in lakes and streams.[5] While still significant in certain watersheds, chemical and industrial pollution is no longer as large a contributor to water pollution problems nationwide as a result of implementing best available technologies nationwide. The relative ease of enforcing the CWA has turned concerned citizens into effective compliance watchdogs empowered to protect the waterways they use even when the government fails to do so. In particular, the Act was revolutionary because it gave citizens a strong role to play in protecting water resources and tools to help them do so. The law provides for self-reporting of discharge information, made publicly available, and it gives citizens the chance to participate in the permitting of pollution sources. In today's information economy, more information can be made more available to citizens using the Internet. EPA's Enforcement and Compliance History Online database is a good start, but it should include all types of dischargers (not just major sources) and more information (e.g., direct links to permit documents, pollution management plans, inspection reports, etc.).

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[2] World Health Organization and UNICEF Joint Monitoring Programme for Water Supply and Sanitation, *Water for Life: Making It Happen* (2005).

[3] For the history of the Clean Water Act, *see generally* NRDC, *Clean Water Act 20 Years Later (Oct. 1993)*

[4] This has been recognized by many environmental commenters, e.g., Testimony of Lisa Heinzerling, Professor of Law, Georgetown University Law Center, Before the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs, Committee on Government Reform, U.S. House of Representatives (Mar. 12, 2002) ("a fundamental premise of the Clean Water Act was that water pollution control ought not await quantification of the costs and benefits of such control."), available online at https://141.161.16.100/faculty/Heinzerling/Testimony/Testimony_%20March-12-2002.pdf; Garrison Summary: A Generational History of Environmental Law and its Grand Themes: A Near Decade of Garrison Lectures, 19 Pace Envrtl. Law Rev. 510 (2001-02)

[5] U.S. EPA, *Progress in Water Quality: An Evaluation of the National Investment in Municipal Wastewater Treatment* (June 2000), http://www.epa.gov/owmitnet/wquality/benefits.htm.

Following passage of the CWA, Americans had high hopes for restoring the health and beauty of U.S. waterways. The statute contained an ambitious goal, the elimination of discharges of pollution into waterways by 1985.[6] The idea was to reach that goal through technology innovation as well as implementing off-the-shelf technologies. We would find ways to re-use wastewaters and design closed-loop systems that would keep nature in balance. Unfortunately, we have never even come close to achieving that goal, now 22 years after 1985. Instead, water quality improvement reached a plateau about a decade ago.[7] The U.S. continues to rely upon technologies developed decades ago, or, in the case of wastewater treatment, almost 100 years ago.[8] We have allowed our sewer systems to fall into disrepair, allowing raw and partially treated sewage to flow into waterways because it never reaches the plant for treatment. The American Society of Civil Engineers gave grades of D- to waterways, wastewater, and drinking water in their last report card on the state of the nation's infrastructure. That was the lowest grade given to any type of infrastructure in the U.S.[9]

Even worse than the current state of our nation's water resources and the infrastructure that protects it are the trends. There is an upward trend for beach closings, red tides, dead zones, droughts, flooding, coral reef damage, nutrient pollution, and sewage pollution.[10] For example, at our current rate of investment, U.S. EPA has projected that sewage pollution will be as high in 2025 as it was in 1968, that is, before the passage of the Clean Water Act. [11]

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[6] 33 U.S.C. § 101(a)(1).

[7] www.epa.gov/owow/305b.

[8] Testimony of Nancy K. Stoner, Director, Clean Water Project, NRDC, before the House Transportation and Infrastructure's Water Resources and Environment Subcommittee (April 13, 2005), http://www.nrdc.org/water/pollution/tns0405.asp.

[9] http://www.asce.org/reportcard/2005/index.cfm.

[10] NRDC, *Testing the Waters*, pp. 1-2 (reporting annual percentage increase in beach closing and advisory days); Woods Hole Oceanographic Institute, *Harmful Algal Research and Response: A National Environmental Science Strategy* 2005-2015, available at www.esa.org/HARRNESS/harrnessReport10032005.pdf ("Whereas 30 years ago the [U.S. harmful algal bloom] problem was scattered and sporadic, today virtually every state is threatened by harmful or toxic algal species."); Raloff, Dead Waters, Science News Online June 5, 2004 ("the number of major dead zones has been roughly doubling every decade since the 1960s"); NRDC, *In Hot Water: Water Management Strategies to Weather the Effects of Global Warming* pp. 4-16, (July 2007), available at www.nrdc.org/globalWarming/hotwater/hotwater.pdf (experts predict that the frequency of damaging events such as droughts and flooding will increase in many areas due to climate change); *An Ocean Blueprint for the 21st Century,* Final Report of the U.S. Commission on Ocean Policy, p.22 (Sept. 2004) available at http://www.oceancommission.gov/documents ("[T]he world's coral reefs are increasingly showing signs of serious decline, with pristine reefs becoming rare and up to one-third of the world's reefs severely damaged according to some estimates"); NOAA, *National Estuarine Eutrophication Assessment: Effects of Nutrient Enrichment in the Nation's Estuaries,* pp. vi-vii (Sept. 1999), available at http://ian.umces.edu/neea/pdfs/eutro_report.pdf (The severity and extent of nutrient pollution are expected to worsen in more than half of the nation's estuaries and coastal waters by 2020).

[11] U.S. EPA, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, EPA-816-R-02-020 (Sept. 2002).

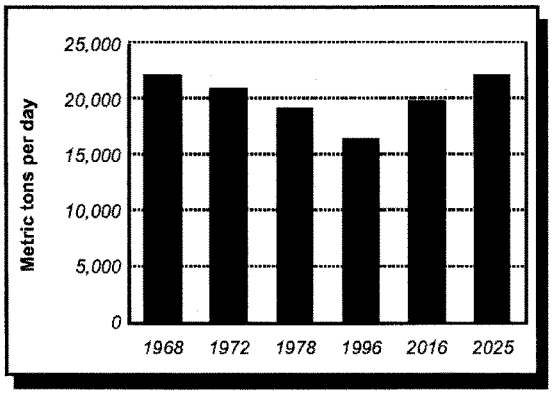


Figure 1–2: Projection of Increase in Biological Chemical Oxygen Demand (BOD)[8]

In addition, global warming is anticipated to have adverse effects on available freshwater resources. For example, as NRDC recently reported, experts project that global warming will decrease snowpack in the West, reduce water supplies, increase the magnitude and frequency of floods and droughts, and degrade aquatic habitat by reducing stream flows and increasing the temperature of waterways.[12]

In my estimation, the problems today fall in two general categories. There are a host of water quality problems that result from a lack of effective implementation and enforcement of the law. But there are also a number of issues that the Clean Water Act does not address at all or does not address effectively. I would like to talk about both kinds of problems. But I want also to focus on solutions to the concerns I've identified. Where the failure is one of implementation of the existing law, the solution is relatively apparent, if not always easy – we must step up our enforcement of the law. For emerging problems not fully addressed by the CWA, however, we must be more creative; below I discuss how the law can be extended to cover some of these newer areas. Still other concerns will need a broader perspective, one that focuses on integrating our management of all water resources and recognizes that the law's essential distinction between water quality and water quantity is artificial and ultimately unworkable for certain kinds of challenges.

[12] *In Hot Water,* pp. 4-16; *see also id.* at 12 ("The USGS modeled the effects of climate change on increased storm intensity and found that the risk of a 100-year flood event will grow larger in the 21st century. Instead of a 1 percent chance that in any year there will be a 100-year flood event, the likelihood in a single year could become as high as one in seventeen.").

A. SEVERAL PROBLEMS INITIALLY ADDRESSED BY THE CLEAN WATER ACT NEED RENEWED ATTENTION TODAY.

1. The geographic scope of the law is in doubt.

As this Committee well knows, there is significant uncertainty today about exactly which water bodies are actually protected by the various pollution control programs in the Clean Water Act. Two recent Supreme Court decisions have upset the historic understanding of the law that all types of water resources are protected. Together, these decisions have raised questions about the degree to which certain kinds of non-navigable water bodies are included in the law. EPA and the Corps have exacerbated this problem by issuing policy documents that further complicate decisions about what is protected and that create doubt about the status of water bodies that were not implicated by the Court's decisions.

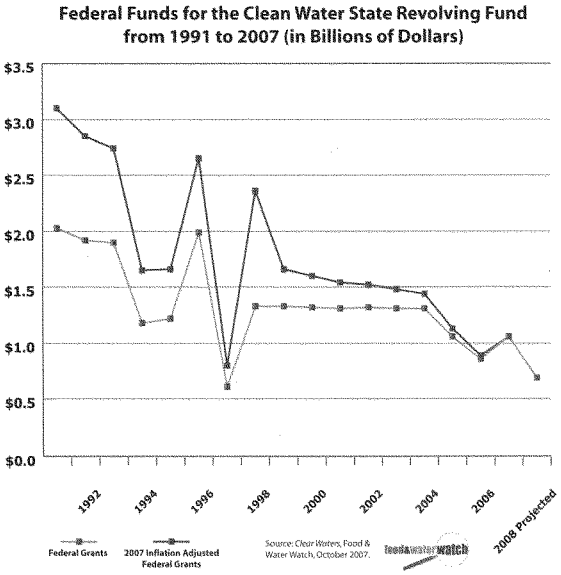
This problem is as fundamental as they come. We cannot effectively protect lakes, rivers, and coastal waters if we do not protect the waters that flow into them. Even where wetlands, seasonal streams and other waters are not continuously connected to other surface waters, they typically have important connections to groundwater, as well as biological and chemical connections that sustain healthy conditions in other wetlands, lakes, streams and rivers. Many of these systems also contribute to maintaining and protecting drinking water supplies. The Supreme Court's decisions threaten these values because they affect what kinds of aquatic resources can be considered "waters of the United States," a term that defines the scope of several protections in the law, ranging from the prohibition on unauthorized point source discharges to the oil spill prevention program and the obligation for states to identify impaired waters and develop total maximum daily loads needed for the cleanup of such waters. So, if they are not protected, they may be able to be destroyed completely or polluted with industrial waste without a Clean Water permit and potentially without any other type of regulatory oversight. This would be a disaster for those who depend on or who are trying to restore downstream waterways and who would bear the cost of cleaning up waters degraded by activities that are no longer prohibited by the Act.

Mr. Chairman, thank you and the numerous members of this Committee who are leading the effort in the House to restore clear protections for all of America's water resources. The Clean Water Restoration Act (H.R. 2421) honors the intent of the members of Congress in 1972 to broadly protect water bodies as part of a program "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[13]

2. Federal funding for infrastructure enhancements lags far behind the need.

Even while the problems are growing, the federal contribution to the Clean Water State Revolving Fund (SRF), the principal source of federal funding for clean water needs, is shrinking.

[13] *33 U.S.C. § 1251(a).*



The funding gap is almost $20 billion annually, and both public and private investment in wastewater technology research and development that could save money in the long run is less than half of what it was in the 1970s.[14] As a proportion of overall wastewater infrastructure funding, federal support accounted for 78% of funding in 1978, but makes up just three percent today.[15] Projects funded by the Clean Water SRF provide water quality and community benefits, such as reduced discharges of raw sewage into rivers and lakes, less waterborne illness, enhanced wildlife habitat biodiversity, and more plentiful and safer drinking water sources.[16] It also protects businesses that are dependent upon clean water. SRF funded "projects create more than 400,000 jobs each year throughout the nation while providing other economic benefits for local communities."[17] Because it is matched at the state and local levels, the Clean Water SRF leverages non-federal investment at a rate of 2.23 times the federal dollar.[18] The Clean Water SRF has always been and continues to be a good investment.

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[14] www.epa.gov/owm.gapreport.pdf; U.S. EPA, A Retrospective Assessment of the Costs of the Clean Water Act, 1972 to 1997 (Oct. 2000) as cited by Julian Sandino, CH2MHill, "A Case for Changing the Water Infrastructure Paradigm," (Nov. 10, 2005).

[15] Food & Water Watch, *Clear Waters: Why America Needs a Clean Water Trust Fund* at v (Oct. 2007).

[16] U.S. EPA, *Financing America's Clean Water Since 1987: A Report of Progress and Innovation,* EPA-832-R-00-011, pp. 9-10 (May 2001), available at http://www.epa.gov/owmitnet/cwfinance/cwsrf/progress.pdf.

[17] AFSCME, et al., *All Dried Up: How Clean Water is Threatened by Budget Cuts*, p. 1 (2004). Available at http://www.nrdc.org/media/docs/040915.pdf.

[18] U.S. EPA, *Clean Water State Revolving Fund Programs- 2006 Annual Report*, p.18, available at www.epa.gov/owm/cwfinance/cwsrf/2006-annual-report.pdf.

One flaw in the way the program is presently implemented is that very little current Clean Water SRF funding goes to green infrastructure, which applies natural systems or designed or engineered systems that use soil and vegetation to mimic natural processes to protect and enhance environmental quality and provide utility services. However, where it is being employed, green infrastructure creates jobs for architects, designers, engineers, construction workers, maintenance workers, and a variety of small businesses engaged in designing and building green roofs, rain gardens, tree boxes, and other types of green infrastructure.[19] And both the clean waterways themselves and the green infrastructure that keeps them clean increase property values, revitalize blighted neighborhoods, enhance street life and community aesthetics, and provide free recreation.[20]

Again, we thank you, Mr. Chairman for your leadership in passing H.R. 720, the Water Quality Financing Act of 2007, earlier this year to increase the authorization for federal clean water funding and encourage it to be spent on existing needs and on projects, such as green infrastructure, that provide greater environmental benefit per federal dollar expended.

3. Sewage treatment is inadequate.

Progress in providing effective treatment of sewage is also at a standstill as a result of water pollution resulting from discharges of inadequately treated sewage from deteriorating collection systems and wastewater treatment facilities. The sewer systems are getting older, more antiquated, and are more likely to fail,[21] and they have more work to do, due to increasing population, land development that occurs at a rate more than twice the rate of population growth, and, as I mentioned, the projected impacts of global warming on water resources. There are many elements to the solutions – more federal, state, and local funding; priority for projects that provide the greatest environmental benefits; greater use of decentralized stormwater and wastewater treatment approaches that cost less and, when properly designed and maintained, can provide better treatment than centralized solutions; use of pollution prevention to reduce toxic contamination of sludge; consistent, effective use of disinfection technologies, and use of advanced treatment technologies that not only remove conventional pollutants from sewage, but also excessive nutrients.

One particular way in which the nation's sewage infrastructure under-serves us is that publicly owned treatment works (POTWs) do not effectively or consistently address one of the most serious water quality issues to which they contribute – nutrient pollution. Under the Act, POTWs must implement controls to achieve "effluent limitations based upon secondary treatment as defined by the Administrator,[22] but the agency has failed to update its rules defining what "secondary treatment" means for over two decades, and in particular has rejected citizen

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[19] http://www.treepeople.org/trees/default.htm (projects creation of 50,000 new jobs from green infrastructure initiative);); http://www.greenroofs.org/index.php?option=com_content&task=view&id=26&Itemid=40 (jobs for roofing industry projected to increase from 12,000 to 100,000 in Germany if all flat roofs were to be greened).
[20] NRDC, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (June 2006).
[21] U.S. EPA, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, EPA-816-R-02-020 (Sept. 2002) (projects that 45% of sewer pipes will be in poor, very poor, or life elapsed condition by 2020, up from 10% in 1980 and 23% in 2000).
[22] 33 U.S.C. § 1311(b)(1)(B).

pleas to include nutrient pollution in the definition. This is a significant failure, as there are numerous methods to control nitrogen and phosphorus discharges at wastewater treatment plants, many of which can be accomplished by making minor retrofits to existing facilities.[23]

Another problem is our failure to effectively control raw sewage discharges from combined sewer systems. Combined sewer overflows discharge 850 billion gallons per year according to the most recent information available from U.S. EPA.[24] These overflows pose significant threats to human health, ecosystems, and the economy,[25] particularly in the Great Lakes, yet the pace at which those overflows are being reduced or eliminated is very slow. Part of the reason for the slow pace of progress may be that the CWA does not contain a deadline for remediating combined sewer overflows or even for having a long term plan in place to do so.[26] Congress may want to consider steps that it could take to speed up this process and ensure that the most environmentally beneficial approaches are used.

Lastly, we are presently missing an opportunity to reduce sewage pollution by ensuring that the public is informed when sewer systems overflow, when sewage backs up into homes or businesses, or when it is discharged without adequate treatment. The Raw Sewage Overflow Right to Know Act, HR 1720, would require sewer operators to monitor for spills and to provide prompt notification to the public and local public health authorities of sewer overflows that have the potential to protect public health. This would enable members of the public to protect themselves and their families, from exposure to raw sewage, which can make them sick, and it would help to build public support for sewer systems upgrades that are needed to ensure that all sewage receives effective treatment before it is discharged. In 1972, before the advent of the information age, such a requirement may have been onerous, but today, information of potential health hazards like raw sewage overflows can be shared in real time with everyone who has the potential to be harmed or who can take immediate action to protect others. We appreciate the leadership that this Committee has shown on this issue by holding a Subcommittee hearing on it earlier this week.

4. Beachwater contamination is insufficiently understood and its root causes are not being addressed.

Our beaches are one of our nation's national treasures, with more than half of all Americans visiting coastal areas each year. In 2000, economic activities related to the oceans contributed more than $117 billion annually to the U.S. gross domestic product. Ocean-related tourism and

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[23] *See generally* U.S. EPA, Biological Nutrient Removal Processes and Costs (June 2007) (summarizing multiple processes and nutrient removal capacities), available online at http://www.epa.gov/waterscience/criteria/nutrient/files/bio-removal.pdf.

[24] U.S.EPA news release (8/26/04), http://yosemite.epa.gov/opa/admpress.nsf/ec5b6cb1c087a230852573590040444 5/a0ee499a502cf63285256efc005a9847!OpenDocument

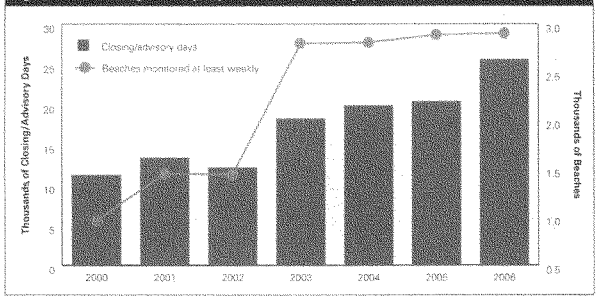
[25] Id.

[26] Copeland, C., "Water Quality: Implementing the Clean Water Act," Congressional Research Service,pp. 10-11 (Jan. 19, 2006).

recreation contributed roughly $59 billion and 1.6 million jobs to the U.S. economy in 2000.[27] Yet beachwater contamination threatens coastal economies. Waterborne pathogens contaminate water and sand and pose a threat to the health of beachgoers. Recognizing the need for consistent protection at recreational beaches, in 2000, Congress amended the CWA with the Beaches Environmental Assessment and Coastal Health (BEACH) Act, directing the EPA to develop public health based criteria for use in assessing beach water quality and to provide grants to states and local governments to develop water quality monitoring and public notification programs. As a result, every coastal state now has a beach water monitoring and public notification program.[28]

Despite this progress, pollutants continue to foul our waters, threatening human and ecological health. The more monitoring that is done, the more unhealthy beaches we find. As of 2006, there were more than 25,000 beach closing or advisory days in the U.S.[29]

Figure 1 Total Closing/Advisory Days, 2000–2006 (excluding extended and permanent)



Note: Because of inconsistencies in monitoring and closing/advisory practices among states and the different levels of data submission over time, it is difficult to make comparisons between states or to assess trends based on the closing/advisory data

For more than half of the advisories and closings issued in 2006, the source of pollution was unknown and underlying causes remain unaddressed. The Beach Protection Act, HR 2537, would reauthorize federal funding for beachwater monitoring and public notification programs, by requiring EPA to approve and states to use rapid test methods to provide timely notification to the public about contaminated beachwaters, and allow beachwater grants to be used to find and remove the sources of beachwater pollution, not just test the water and notify the public that the water is polluted.

Again, we thank the Chairman and other members of the Committee for holding a hearing on this legislation earlier this year and urge you to move forward promptly to pass it so that Americans can begin to enjoy the benefits of enhanced beachwater quality and protection as soon as possible.

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[27] U.S. Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century Final Report of the U.S. Commission on Ocean Policy,* Washington, D.C., September 20, 2004, p. 31, available at: http://www.oceancommission.gov.

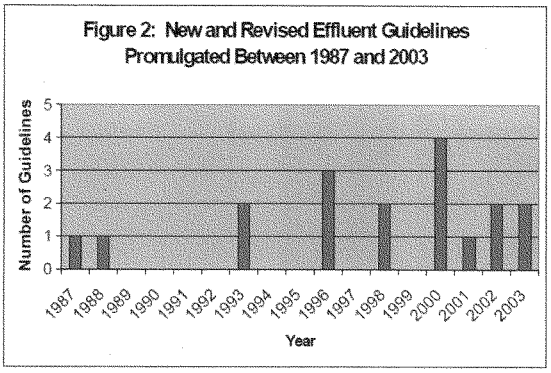
[28] NRDC, *Testing the Waters,* pp. 10-13 (August 2006).

[29] *Testing the Waters*, iv.

5. Technology standards for industrial dischargers are updated too slowly.

One of the main tools in the Clean Water Act to control point source pollution is the effluent guidelines program, under which EPA is to "identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants the degree of effluent reduction attainable through the application of the best practicable control technology currently available for classes and categories of point sources (other than publicly owned treatment works). . . ."[30] Permits must reflect these technology-based controls. The law obliges EPA to revise these guidelines annually as appropriate.

Unfortunately, EPA's implementation of this program has been characterized primarily by delay. The figure below, reprinted from an EPA Inspector General report,[31] demonstrates that even though the agency has revised existing guidelines or issued new ones at an increased rate in recent years, EPA typically revises or issues fewer than two guidelines per year.[32]



At such a pace, we will be celebrating the 60th anniversary of the Clean Water Act before all of the 56 categories subject to existing effluent guidelines have been updated. Obviously, this kind of delay prevents the program from reflecting state-of-the-art pollution controls.

6. Permitting is too lax for both industrial and dredge-and-fill pollution.

The principal method by which the Clean Water Act limits the environmental consequences of activities that discharge into protected waters is by requiring such dischargers to obtain permits that minimize pollution. Both the industrial permitting program (the National Pollution

[30] 33 U.S.C. § 1314(b)(1)(A).

[31] U.S. EPA, Office of Inspector General, Effectiveness of Effluent Guidelines Program for Reducing Pollutant Discharges Uncertain, at 6 (Aug. 24, 2004).

[32] Our review of more recent information indicates that EPA did not pick up the pace after the chart above was compiled. *See* U.S. EPA, Technical Support Document for the 2006 Effluent Guidelines Program Plan, at p. 5-3,Table 5-1 (Dec. 2006) ("Point Source Categories That Have Undergone a Recent Rulemaking or Review"; identifying two categories for 2004, and none for 2005 or 2006), available online at http://www.epa.gov/waterscience/guide/304m/2006-TSD-part02.pdf.

Discharge Elimination System, or NPDES, program) and the dredge-and-fill permit program suffer from inadequate implementation.

One significant concern with the NPDES program is that state- and EPA-issued permits often are extended beyond their statutory life of five years.[33] "As of June 2003 . . ., the backlog was reported as consisting of 1,120 major, 9,386 individual minor, and 6,512 general minor nonstormwater facilities."[34] And these are not merely minor delays, especially since EPA in 2002 re-defined the trigger for what is considered a backlogged permit from 45 days overdue to 180 days.[35] When such delays occur, there is an obvious potential to miss out on opportunities to prevent pollution; for example, recently-revised or promulgated effluent guidelines will not yet be applied to the source, and there will be a lag in incorporating water quality-based effluent limitations or wasteload allocations that become applicable during the term of the existing permit.

Another problem with NPDES permitting is that the permits either fail to include water quality based effluent limits altogether or those limits are not designed so as to ensure that water quality standards are met. Several years ago, EPA reviewed federal and state NPDES permitting practices and found that many permits were issued to dischargers based on the assumption that the water body could assimilate the effluent even though the assimilative capacity had already been assigned to other dischargers or the water was already impaired for the pollutants being discharged.[36] In such circumstances, the NPDES permit is actually adding to the pollution borne by a receiving water instead of helping to clean in up.

The primary flaw with the Corps' permits for the discharge of dredge or fill material is that they commonly fail to protect aquatic resources. The Corps rarely disapproves wetlands destruction permit applications even for activities that are not water dependent and can be moved to more suitable upland locations. In addition, although the Corps does the vast majority of its permitting business by issuing general permits for various activities on nationwide or regional basis, and although the Act only allows general permits for activities that "will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment,"[37] the Corps routinely authorizes activities that have vastly more than minimal impacts on the environment. For instance, the Corps' recently-issued suite of nationwide permits includes Nationwide Permit 21, which allows the disposal of surface coal mining waste in water bodies, and has been used to authorize the creation of enormous "valley fills" associated with mountaintop removal mine sites.[38] According to government estimates of the impact of mountaintop removal (a portion of which was permitted under NWP 21) in Appalachia, "[a]pproximately 1200 miles of headwater streams (or 2% of the streams in the study area) were directly impacted by MTM/VF features including coal removal areas, valley

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[33] 33 U.S.C. § 1342(b)(1)(B).
[34] U.S. EPA, Office of Inspector General, Efforts to Manage Backlog of Water Discharge Permits Need to Be Accompanied by Greater Program Integration, at 5 (June 13, 2005), available online at http://www.epa.gov/oig/reports/2005/20050613-2005-P-00018.pdf.
[35] *Id.* at 30.
[36] 65 Fed. Reg. 43586, 43641-42 (July 13, 2000).
[37] 33 U.S.C. §1344(e)(1).
[38] 72 Fed. Reg. 11,092, 11,113-17 (Mar. 12, 2007).

fills, roads, and ponds between 1992 and 2002. An estimated 724 stream miles (1.2 % of streams) were covered by valley fills from 1985 to 2001."[39]

With NWP 21 and many other general permits, the Corps has argued that this approach complies with the CWA because district engineers can require a permittee to mitigate a project's negative impacts (for instance, by creating a water body to "replace" the one impacted or destroyed). This notion is fundamentally wrong for multiple reasons, most notably because the Corps has little reason to believe that required mitigation projects will consistently restore lost functions. In fact, the Corps has conceded that mitigation has not fully achieved its goal:

> We acknowledge that the ecological success of compensatory mitigation projects varies widely. Some compensatory mitigation projects fail to meet their objectives, while others do result in successful replacement of aquatic resource functions that are lost as a result of activities authorized by NWPs. We are committed to improving compliance for compensatory mitigation required for Department of the Army permits, including NWPs.[40]

In similar fashion, a West Virginia district court recently ruled that the Corps' failed to evaluate the ecological and hydrological functions performed by the resources that had been authorized under a mining permit, and ruled that the Corps therefore "could not reasonably conclude that mitigation will offset the loss because it does not know what to replace."[41]

7. Enforcement resources are too few and the present administration's commitment to effective enforcement is questionable.

In an extensive article published a few weeks ago, the Washington Post concluded that criminal and civil enforcement by EPA took an extreme downturn in recent years. While not specific to water pollution cases, the analysis revealed that "the number of prosecutions, new investigations and total convictions [are] all down by more than a third" and that "[t]he number of civil lawsuits filed against defendants who refuse to settle environmental cases was down nearly 70 percent between fiscal years 2002 and 2006, compared with a four-year period in the late 1990s. . . . ."[42] Although EPA argued that the agency is focusing on major pollution-reducing cases, the evidence suggests that most of EPA's water cases do not fit this description. According to the EPA Inspector General, "[l]ess than 1 percent of the CWA cases accounted for 52 percent of the projected pollutant reductions from concluded CWA enforcement actions." The chart reproduced below indicates that most enforcement actions are not projected to have major pollution-reducing impacts.[43]

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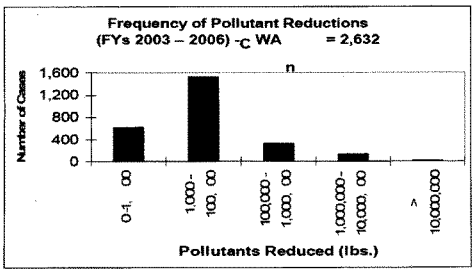
[39] U.S. EPA et al., Mountaintop Mining/Valley Fills in Appalachia: Final Programmatic Environmental Impact Statement, at 4 (Oct. 2005).
[40] 72 Fed. Reg. at 11100.
[41] *Ohio Valley Envtl. Coalition v. U.S. Army Corps of Eng'rs*, 479 F.Supp.2d 607,(S.D.W.Va. 2007); *see also id.* at 649 n. 69 ("At trial, Dr. Sudol [of the Corps] testified that he had no personal knowledge of any successful stream creation projects involving headwater streams, only anecdotal knowledge of a stream in southern California.").
[42] John Solomon & Juliet Eilperin, *Bush's EPA Is Pursuing Fewer Polluters: Probes and Prosecutions Have Declined Sharply*, at A1 (Sept. 30, 2007).
[43] U.S. EPA Office of Inspector General, Assessment of EPA's Projected Pollutant Reductions Resulting from Enforcement Actions and Settlements, "At a Glance" & at 17 (July 24, 2007).

Most Projected Pollutant Reductions from CWA Enforcement Actions are Modest (1,000 – 100,000 pounds)



More to the point, it is clear that there are fewer resources available for environmental enforcement. According to a July report by the Government Accountability Office, EPA's total budget for enforcement fell five percent in real terms from 1997 to 2006, with funding to regional enforcement (where most of the enforcement activity occurs) declining 8 percent in real terms.[44] EPA grants to states for environmental program implementation dropped nine percent in real terms over the same period.[45] Consistent with these declines, "EPA reduced the size of the regional enforcement workforce by about 5 percent over the 10 years," a problem exacerbated by the fact that "[t]hese reductions in funding occurred during a period when statutory and regulatory changes increased enforcement and other environmental program responsibilities."[46]

In light of the enforcement downturn, it is perhaps not surprising that the compliance rates of sources discharging pollution to our waterways are disappointing. The U.S. PIRG Education Fund's recent analysis of EPA data reveals that pollution limits in Clean Water Act permits are often exceeded. The report finds:

- "Nationally, more than 3600 major facilities (57%) exceeded their Clean Water Act permit limits at least once between January 1, 2005 and December 31, 2005."[47]
- "The 3600 major facilities exceeding their permits in the time period studied reported more than 24,400 exceedances of their Clean Water Act permit limits. This means that many facilities exceeded their permits more than once and for more than one pollutant."[48]

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[44] U.S. Government Accountability Office, Environmental Protection: EPA-State Enforcement Partnership Has Improved, but EPA's Oversight Needs Further Enhancement, at 12 (July 2007).
[45] *Id.* at 15.
[46] *Id.* at 13 & 7.
[47] U.S. PIRG Education Fund, Troubled Waters: An analysis of 2005 Clean Water Act compliance, at 7 (Oct. 2007).
[48] *Id.*

- "Nationally, 628 major facilities exceeded their Clean Water Act permit limits for at least half of the monthly reporting periods between January 1, 2005 and December 31, 2005."[49]
- "Major facilities exceeding their Clean Water Act permits, on average, exceeded their permit limits by 263% . . . ."[50]

This situation must be remedied. An adequate enforcement budget is the beginning of a solution, but agency follow-through is at least as important; if we are to see real deterrence, polluters must understand that if they violate the Clean Water Act, the government will not ignore their noncompliance.

8. Development pressures lead to increased stormwater pollution and sewage overflows, and techniques to minimize these impacts are infrequently employed.

Stormwater runoff from development is one of the largest and fastest growing sources of water pollution in the U.S. As of the most recently-published national water quality inventory, it is the largest source of pollution in ocean shoreline waters and the second largest source of pollution in estuaries and the Great Lakes.[51] As previously undeveloped land is paved over and built upon, the amount of stormwater running off roofs, streets and other impervious surfaces increases. The increased volume of stormwater runoff and the pollutants carried within it degrade the quality of local and regional water bodies. The problem of polluted stormwater runoff has two main components: the increased volume and rate of runoff from impervious surfaces and the concentration of pollutants in the runoff. Both components are highly related to development in urban and urbanizing areas. Sediments, toxic metal particles, pesticides and fertilizers, oil and grease, pathogens, excess nutrients, and trash are common stormwater pollutants. Many of these constituents end up on roads and parking lots during dry weather only to be washed into waterbodies when it rains or when snow melts. Together, these pollutants and the increased velocity and volume of runoff cause dramatic changes in hydrology and water quality that result in a variety of problems. These include increased flooding, stream channel degradation, habitat loss, changes in water temperature, contamination of water resources, and increased erosion and sedimentation. These changes affect ecosystem functions, biological diversity, public health, recreation, economic activity, and general community well-being.[52]

Thus, as development continues, nature's own ability to maintain a natural water balance is lost to a changing landscape and new impervious surfaces. Trees, vegetation and open space typical of undeveloped land capture rain and snowmelt allowing it to largely infiltrate where it falls. Under natural conditions, the amount of rain that is converted to runoff is often 1% of the rainfall volume. Replacing natural vegetation and landscape with impervious surfaces has significant environmental and public health impacts, including contaminated and depleted drinking water sources, flooding, loss of riparian habitat, and recreational waters that are no longer safe for swimming.

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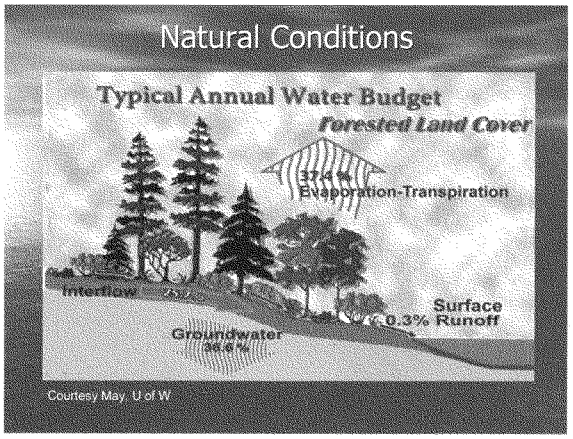
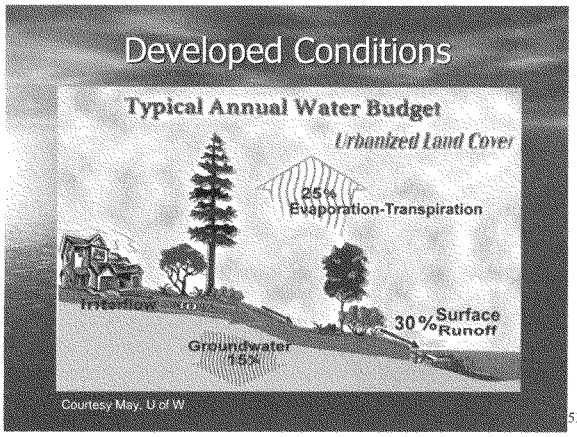
[49] *Id.*
[50] *Id.* at 8.
[51] www.epa.gov/owow/305b/200report/chp4.pdf.
[52] NRDC, *Stormwater Strategies: Community Responses to Runoff Pollution* (1999), available online at http://www.nrdc.org/water/pollution/storm/chap3.asp.





[53]

The challenge of reducing stormwater pollution is finding an effective method of reducing the amount of stormwater created in urban environments. Methods currently used to manage stormwater largely fail to address the underlying problem of imperviousness. Stormwater collected in separate systems typically is not treated before being discharged, and even when it is treated, the treatment fails to address the scouring, erosion and other physical impacts of stormwater discharges.

[53] Slides courtesy of Christopher W. May, PhD, University of Washington.

Fortunately, there are a suite of solutions currently in use in a number of forward thinking communities that capture, retain, filter, and sometimes also harvest stormwater for re-use on site.[54] These approaches minimize the amount of stormwater generated on-site through strategies to reduce imperviousness and maximize infiltration and filtration, such as use of green roofs, rain gardens, permeable pavement, and grassy drainage swales. These approaches are often less expensive and more effective than current stormwater controls, and they not only reduce pollutant loads, but also prevent flooding, recharge groundwater supplies, cut water use, and restore natural stream flows. In areas with combined sewer systems, these on-site strategies are particularly attractive because the alternatives are underground or centralized storage systems that are often quite expensive and provide fewer benefits. One way to look at it is that for hundreds of millions (even billions) of dollars, a community can reduce sewage overflows to rivers and lakes by using hard infrastructure storage and treatment methods or it can reduce sewer overflow to rivers and lakes, create green space, restore degraded urban lands, increase real estate values, mitigate global climate change, reduce heat deaths, conserve water and energy, control floods, increase wildlife habitat, improve aesthetics, etc. all for the same dollar spent by investing in green infrastructure.[55]

There several opportunities on the horizon for shifting wastewater infrastructure investment toward green technologies to reduce stormwater pollution and combined sewer overflows. One is the effluent limitation guideline for construction and development that EPA is currently preparing under court order. That presents a promising opportunity to set new source performance standards for new development and redevelopment, which are the industry categories to which the new rules would apply. As with many things, it is much easier and cheaper to do it right the first time by designing development to prevent stormwater pollution in the first place rather than to retrofit existing development later. By adopting a standard that would require maintenance of pre-development hydrology on site, a standard that is already in use in several states and progressive communities, EPA could ensure that development does not continue to add to the pollution burden borne by communities across the U.S.

A second opportunity is presented by the partnership agreement that NRDC signed with U.S. EPA, the Low Impact Development Center, the National Association of Clean Water Agencies, and the Association of State and Interstate Water Pollution Control Administrators last spring.[56] Those groups, and many others that have endorsed the underlying principles, have committed to working together to promote the use of green infrastructure to address sewer overflows and stormwater pollution. That effort could really take off if there were a substantial infusion of federal funds to match state and local resources for research to support implementation of these approaches through existing regulatory programs. The greatest needs are for the development of models to project the environmental benefits of intensive, systematic application of these approaches and monitoring of results, both environmental and economic, such as job creation and property value enhancement.

Another opportunity for strengthening the stormwater program involves using the periodic renewal of municipal, industrial, and construction stormwater permits to strengthen discharge

[54] NRDC, *Rooftops to Rivers* (June 2006).
[55] Adapted from a presentation by Steve Wise, Center for Neighborhood Technology (Sept. 2007).
[56] http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm.

limitations. Most of these permits are ineffective because they fail to contain clear, enforceable provisions. Instead, they frequently contain generic guidelines that are neither tailored to the needs of the receiving water nor do they require use of the best technologies available to reduce stormwater pollution. Worse still, the permit terms are often so vague that the permittee is asked to develop its own effluent limitations. Not surprisingly, these permits are rarely effective in controlling stormwater runoff.[57]

9. Pollution from animal factories continues to impact water bodies.

According to EPA and U.S. Department of Agriculture figures, facilities that confine animals generate roughly three times the raw waste that humans in the United States produce.[58] The waste generated at such sites is hardly benign: "The primary pollutants associated with animal wastes are nutrients (particularly nitrogen and phosphorus), organic matter, solids, pathogens, and odorous/volatile compounds. Animal waste also contains salts and trace elements, and to a lesser extent, antibiotics, pesticides, and hormones."[59] As a consequence, animal factories have the capacity to contribute significantly to water pollution.

Even though the Clean Water Act specifically identifies concentrated animal feeding operations (CAFOs) as point sources, EPA's recent history of regulating animal factories' water pollution discharges has been decidedly checkered. A 2003 regulation did a little good – after finding that "only a small number of Large animal factories have actually sought permits," EPA required animal factories to obtain permits unless they have no potential to discharge.[60] But that rule also was far too weak: EPA created a loophole for runoff from manure application areas by classifying much of that discharge as exempt "agricultural stormwater"; the agency relied heavily on nutrient management plans (essentially just animal factories' approach to manure application), but did not require the details of such plans to be part of the publicly-enforceable permit; and EPA did not require significant limits on pathogen discharges.

NRDC and others challenged the rules in court. The industry also sued. In a 2005 decision, the court agreed with us in large part, finding that nutrient management plans should be incorporated into facilities' permits and ordering EPA to reassess the feasibility of pathogen controls. The industry convinced the court that EPA cannot require permits purely based on facilities' potential to discharge, but indicated that there was a strong reason to require permits from this category of sources and left open the possibility that EPA could establish a presumption that large animal factories will actually discharge.[61]

Unfortunately, EPA has used the court's decision to propose a rule that is even weaker than the 2003 rule. The agency is now poised to unreasonably allow facilities to self-determine whether they are likely to discharge and therefore need to get permits, a step that EPA estimates will reduce the number of permitted facilities by a quarter as compared to the 2003 rule.[62] In

[57] See., e.g., http://www.chesapeakebay.net/pubs/calendar/USWG_06-28-07_Presentation_2_8815.pdf.
[58] 68 Fed. Reg. 7176, 7180 (Feb. 12, 2003).
[59] Congressional Research Service, Animal Waste and Water Quality: EPA Regulation of Concentrated Animal Feeding Operations (CAFOs), at 5 (Sept. 21, 2006).
[60] 68 Fed. Reg. at 7201.
[61] *Waterkeeper Alliance, Inc. v. U.S. EPA*, 399 F.3d 486 (2d Cir. 2005).
[62] 71 Fed. Reg. 37,744, 37,774 (June 30, 2006).

addition, EPA has proposed to require nutrient management plans to be in permits, but also to continue to allow facilities to shield portions of their plans from being included in its citizen-enforceable permit.[63] Finally, the agency has failed to adequately address the fact that available technologies could improve the way that facilities can control pathogen discharges.[64]

There is only one real solution to the animal factory mess the agency is in the midst of creating – EPA must revoke its proposed rule and start again. It must demand that animal factories play by the same rules as any other polluting industry. What that means is that animal factories must obtain permits when it is reasonable to anticipate they will discharge, their pollution control strategy – their nutrient management plans – must be fully enforceable, and they must implement technology-based controls for the pollutants they discharge, such as pathogens. If EPA fails to act responsibly, it is incumbent on Congress to step in to ensure effective regulation of this industrial sector.

10. Invasive species are not yet adequately controlled under the Clean Water Act, and there are efforts afoot to exempt vessel discharges containing invasive species from the Act.

A critical threat to water quality and the health of our environment is the continued introduction of aquatic invasive species into our ports, rivers, lakes and wetlands.

In the Great Lakes alone, more than 160 invasive fish, plant, and parasitic species have invaded and established themselves, and researchers discover, on average, a new invasive species every eight months. While some are non-threatening, others are aggressive and highly adaptable. These invaders can reproduce quickly and be very difficult to eradicate. They have already contributed to the extinction of many plants and animals native to the Great Lakes region, which constitute 20% of the world's fresh water. As a result, the Lakes' natural biodiversity and water quality pay a heavy price as does the region's economy.

The Clean Water Act can be applied properly to the problem of aquatic invasive species and can significantly help meet the threat and protect against the continuing introduction of "living pollution" into our waters.

Last year, a federal court held that the Clean Water Act, by its plain terms, applies to pollution from vessels, including discharges of invasive species.[65] The court ordered that EPA's regulatory exclusion from Clean Water Act permitting for "discharge incidental to the normal operation of a vessel" will be vacated on September 30, 2008. Accordingly, ballast water, the major vector for aquatic invasive species, will soon finally be subject to the CWA. The case is now on appeal before the Ninth Circuit Court of Appeals.

Applying the CWA to ballast water discharges (invasive species, sediment, chemicals) will bring 35 years of program experience, regulatory expertise and case law to the problem of invasive species. For instance, having the law apply means that citizens will be able to challenge vessels'

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[63] *Id.* at 37,753-55
[64] *Id.* at 37,763-73
[65] *Northwest Environmental Advocates v. U.S. EPA*, No. 03-05760, 2006 WL 2669042 (N.D. Cal., Sept. 18, 2006).

failure to get pollution-limiting permits or their violation of such permits. Absent the CWA, an aquatic invasive species program will otherwise have to be reinvented.

Unfortunately, shipping interests are aggressively seeking to escape from effective regulation through legislation that would preempt application of the CWA to ballast water releases. We are dismayed that this Committee's ballast water legislation, contained in Title V of H.R. 2830, undercuts the CWA by eliminating pre-existing statutory savings clauses for the CWA and by suggesting that EPA's regulatory exemption may be proper. We look forward to working with members of the Committee and others in the House to address these concerns. It would be a mistake to turn our backs on the CWA now that aquatic invasive species are about to be included in its comprehensive, well-tested pollution control regime, with its long track record of reducing numerous types of water pollution from a wide variety of sources.

On the 35th anniversary of the CWA, it would be fitting and appropriate for Congress to reject the efforts to blunt the CWA, and speed the application of the Act to the serious problem of aquatic invasive species.

B. THE WATER IMPACTS OF LESS TRADITIONALLY-REGULATED WATER POLLUTION SOURCES CAN SIGNIFICANTLY AFFECT WATER QUALITY BUT TO DATE HAVE BEEN MOSTLY IGNORED IN NATIONAL WATER POLLUTION CONTROL POLICY.

1. Agricultural runoff

Raising crops and livestock can have enormous impacts on water quality. In particular:

> EPA's 2000 Inventory data indicate that the agricultural sector including crop production, pasture and range grazing, concentrated and confined animal feeding operations, and aquaculture is the leading contributor of pollutants to identified water quality impairments in the Nation's rivers and streams. This sector is also the leading contributor in the nation's lakes, ponds, and reservoirs. Agriculture is also identified as the fifth leading contributor to identified water quality impairments in the nation's estuaries.[66]

Agriculture contributes to water quality problems in several ways, but one of the most significant is that it is a leading source of nutrient pollution in waterways. One of the primary adverse effects of excess nutrients in aquatic systems is the creation of anoxic conditions, including so-called "dead" zones. This year, according to a report by Dr. Nancy Rabalais, the Gulf of Mexico "Dead Zone" ranks as one of the three largest areas of Gulf hypoxia measured to date, with an area of 20,500 square kilometers.[67] Nutrients are a key part of that problem. "Scientific investigations over the last several decades indicate overwhelmingly that oxygen stress in the northern Gulf of Mexico is caused primarily by excess nutrients delivered to Gulf waters from the Mississippi–Atchafalaya River drainage basin, in combination with the stratification of Gulf

[66] 68 Fed. Reg. at 7181.
[67] Louisiana Universities Marine Consortium, Press Release: Dead Zone Size Near Top End (July 28, 2007), available at http://gulfhypoxia.net/shelfwide07/PressRelease07.pdf.

waters."[68] Analyzing data over a 50-year period from the southwest coast of Florida, researchers at the University of Miami determined that *K. brevis* red tides are occurring with greater frequency, closer to shore, and during more months of the year. They attribute this phenomenon to greater inputs of nutrients into coastal waters due to increased agricultural runoff and sewage discharges in the watershed over that time period.[69]

Notwithstanding these impacts, however, the Clean Water Act largely takes a hands-off approach to most pollution from agriculture, as "non-point" source pollution is exempt from the Act's permitting requirements.[70] The Act expects states, among other things, to assess waters to identify where achieving water quality standards would not be possible without non-point controls.[71] States also must develop management programs subject to EPA approval, which identify best management practices (BMPs) to reduce loadings from relevant sources, specify the mechanisms to implement these BMPs, include a schedule to ensure that BMPs are utilized "at the earliest practicable date" and demonstrate the authority to implement the program.[72] These provisions hardly ensure that states will implement robust non-point controls. To the contrary, EPA may approve state management programs that do not fully address problems caused by non-point pollution; plans must only have sufficient measures to "reduce" non-point pollution and "improve" water quality.[73]

To address these concerns, we recommend improvements to the current approach to agricultural pollution:

- The CWA should require States to revisit the initial assessment of waters affected by non-point pollution and update their management plans accordingly; better track States' implementation of their plans and the actual water quality impacts of using the specified BMPs; and link availability of grant funding under section 319(h) to effective implementation of management plan.
- Congress should provide additional authority to require plans to have sufficient mechanisms to fully address the contribution to water quality impairments made by non-point pollution. In particular, if the law specifically required plans to implement and achieve total maximum daily loads developed for impaired water bodies, there would be a regulatory incentive to focus on those sources of pollution – including agricultural sources – that make the greatest contribution to the impairment.
- Congress should create an enforceable program to ensure widespread adoption of BMPs through conditions on Farm Bill payments or alternative means (for instance, requiring conventional water pollution control permits unless BMPs are implemented).

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[68] National Science and Technology Council, Committee on Environment and Natural Resources, Integrated Assessment of Hypoxia in the Northern Gulf of Mexico, at 13-14 (May 2000).
[69] Brand, L.E., Compton, A., "Long-term increase in *Karenia brevis* abundance along the Southwest Florida Coast," Harmful Algae, Vol. 6, No. 2, Feb. 2007, pp. 232-252, as cited in NRDC, Testing the Waters, p. 24 (Aug. 2007).
[70] An exception to this general principle is the animal sector. Concentrated animal feeding operations, as noted above, are specifically required by the law to be considered "point sources." *See* 33 U.S.C.A. § 1362 (14).
[71] 33 U.S.C. § 1329(a).
[72] *Id.* § 1329(b)(2).
[73] *Id.* § 1329(d)(2)(D).

Stepping beyond the Clean Water Act, a number of critical issues – energy policy, global warming, agriculture, and environmental sustainability – are coming to a head in the context of our national policy towards biofuels. A recent report issued by the National Academies of Science leads us to conclude that unless Congress acts decisively through the Farm Bill and comprehensive energy bill, increased biofuels production will increase water pollution from agriculture and intensify many regional and local water shortages.[74] Although the report details many agricultural practices, technologies, and alternative crops such as prairie grass that could help reduce total water use and water-pollution associated with the production of biofuels, policies must change for those strategies to become the norm. To deliver on the promise of biofuels, Congress must dramatically increase funding for Farm Bill conservation programs and reform them to get more conservation per dollar. We also need to shift our biofuels policies to improve environmental and energy security performance rather than simply increasing the volume of production.

2. Aerial deposition

Historically, neither the Clean Water Act itself nor the authorities charged with implementing it have focused much on water pollution that travels through the air before it reaches water bodies. It is impossible to deny, however, that such sources can be significant. For example, in 2000, aerial deposition of nitrogen represented about 32 percent of the total nitrogen entering the Chesapeake Bay.[75] More dramatically, mercury contamination of water bodies is widespread, largely as a result of airborne mercury deposition. According to EPA: "A total of 14,035,676 lake acres and 882,428 river miles were under [a fish consumption] advisory for mercury in 2005. In 2006, these numbers increased to 14,177,175 lake acres and 882,963 river miles. This represents an increase of 993,427 lake acres (+8%) and 117,564 river miles (+15%) under advisory between 2004 and 2006."[76]

EPA has essentially acted as though solving these problems is not appropriate under the Clean Water Act, and appears to have concluded that if it falls from the sky, it's the Clean Air Act's problem. For instance, the agency issued a guidance memorandum in March that sends a clear message to states that if their water bodies are impaired by mercury deposition, they may indefinitely delay developing a total maximum daily load for such waters by implementing, to some undefined degree, a program of identifying, reducing, and reporting on mercury pollution in the state.[77] But, as the agency candidly acknowledges, "EPA does not expect that States would necessarily demonstrate that their mercury reduction program will achieve water quality standards in order to" qualify for the delay the memo offers.[78]

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[74] National Research Council, Water Science & Technology Board, Water Implications of Biofuels Production in the United States (Oct. 2007).
[75] U.S. EPA Office of Inspector General, EPA Relying on Existing Clean Air Act Regulations to Reduce Atmospheric Deposition to the Chesapeake Bay and its Watershed, at 4 (Feb. 28, 2007).
[76] U.S. EPA Office of Water, Fact Sheet: 2005/2006 National Listing of Fish Advisories, at 5 (July 2007), available online at http://epa.gov/waterscience/fish/advisories/2006/tech.pdf.
[77] Memorandum from Craig Hooks, U.S. EPA Office of Water, Office of Wetlands, Oceans, and Watersheds, to EPA Regions 1-10 Water Division Directors (Mar. 8, 2007).
[78] *Id.* at 7.

It does not appear that EPA is addressing other airborne pollutants under the Clean Water Act either. In testimony to the Water Resources Subcommittee in April, Assistant Administrator Grumbles focused on the programs available under the Clean Air Act when discussing several different kinds of atmospheric deposition.[79] Likewise, the Center for Biological Diversity has petitioned a number of states to use the Clean Water Act to consider acidification from carbon dioxide emissions by including coastal ocean waters on their lists of impaired water bodies.[80] To our knowledge, no state has yet done such a thing, and EPA does not appear to have encouraged states to do so.

Air pollution control programs are not well-designed to protect water bodies. Water quality-based tools should be used to address the water quality problems that aerial deposition of pollution causes. One solution in this regard would be to require (and make enforceable) implementation plans for TMDLs so that aerial sources of water pollution can be made to control their emissions where it is needed to meet water quality standards.

3. Global Warming

We can hardly have expected Congress to consider climate change when the CWA was passed in 1972, but there is no excuse for not factoring it into decision-making about our water resources today. The world's climate is warming – by an average of 1.4 degrees Fahrenheit in the past century alone. Unless current trends are reversed, global warming pollution is projected to keep increasing rapidly, raising temperatures by as much as 10 degrees Fahrenheit by the end of this century, compromising our water supply, flood management systems, and aquatic ecosystems. Experts predict that rising temperatures will lead to less alpine snowpack, earlier and larger peak streamflows, greater evaporative losses, declining ecosystem health, sea level rise, more extreme weather events – including both floods and droughts – and hotter, drier summers. We're already seeing evidence of these trends around the West. For example, snowpack, acting as temporary storage, provides up to 75 percent of the region's annual water supply. However, additional increases in global temperatures will significantly decrease snowpack in the West by as much as 40 percent by 2060.[81] As stewards of one of the most valuable and scarce resources, water, Congress can lead the response to ongoing climate changes and help stave off further damage.

The most important step that Congress can take, of course, is to address Congress directly by enacting HR 1590, the Safe Climate Act of 2007, however, there are also a number of steps that Congress can take to mitigate the adverse effects of climate change on water resources, including the following:

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[79] Testimony of Benjamin H. Grumbles, Assistant Administrator For Water, U.S. EPA, Before the Subcommittee on Water Resources and Environment, Committee on Transportation and Infrastructure, United States House Of Representatives (Apr. 17, 2007). Absurdly, Mr. Grumbles presented the new EPA guidance allowing delays in mercury TMDLs as an example where "EPA is reducing the water quality impacts of air deposition of mercury under the CWA." *Id.* at 5.

[80] Center for Biological Diversity, Seven Coastal States Petitioned to Address Ocean Acidification: Clean Water Act Requires Regulation of Carbon Dioxide That Could Drive Ocean Species Extinct (Aug. 15, 2007), available online at www.biologicaldiversity.org/swcbd/PRESS/ocean-acidification-08-15-2007.html.

[81] NRDC, *In Hot Water* (July 2007).

- Require federal agencies to perform vulnerability analyses addressing the impacts of climate change on existing Corps flood management and water storage facilities and systems. This analysis should include changes in surface runoff, riverine hydrology, changes in watershed characteristics, sea level rise, etc.
- Require the Corps and EPA to integrate climate issues into ongoing planning (e.g. flood management, levee construction, flood conveyance and surface storage projects), operations, funding and regulatory work (e.g. sewer overflows, stormwater controls, total maximum daily loads, wetlands protection).
- Require Corps and FEMA analyses of 100yr floodplains for FEMA flood maps to address and provide for increases in the size, frequency, and timing of peak flows related to future climate change.
- Require DOE and other federal agencies evaluate the energy-related impacts of water management decisions, which can save both water and energy.[82]
- Require EPA to analyze the water quality impacts of climate change. Three of the primary mechanisms are increases in runoff and infiltration from higher peak rain events, lower summer surface and groundwater flows (thus concentrating pollutants and depleting available water supplies) and higher temperatures (reducing species diversity and increasing the need for trees, stream buffers, and other means of cooling waterways and the discharges into them).
- Require the Corps to evaluate surface storage re-operation opportunities – combined with explorations of potential increases in downstream floodways.
- Provide funding or other incentives to encourage integrated water resource management – analysis of long-term trends in needs and uses of water resources for the next 50 to 100 years in light of global warming and how to ensure that we maximize the availability of those resources for human and ecological needs.
- Address the residual risk in deep floodplains behind levees.
- Increase flood protection standards for urban areas to higher than the current 100-year level of protection taking into account changes in hydrology related to climate change.
- Strengthen protections for wetlands, headwaters, and forests because of the climate change protection they provide along with their other benefits.

4. Integrated Water Resource Management

As a number of the other topics that I have discussed have foretold, the big shift in water resource protection that is needed is a change from separate and disparate protections for surface waters as opposed to groundwaters, coastal waters as opposed to freshwaters, and tap water as opposed to source waters to an integrated approach. All of these waters are interrelated in terms of their functioning in both a natural and developed world. We need to start thinking of them much more in an integrated way and devise policy solutions that take advantage of synergies as opposed to narrow thinking that merely shifts a pollution problem from surface to groundwater or from waterbodies to lands.

[82] For a report exploring the very significant linkage between water and energy, see http://www.nrdc.org/water/conservation/edrain/contents.asp.

The next generation of protections for aquatic resources has to be much more holistic, but that will require major shifts in responsibility among agencies and institutions at the federal, state, and local levels. This effort will require us to integrate programs that promote or require water conservation, low impact development, smart growth, reforestation, wetland and stream restoration, stormwater harvesting, xeriscaping, floodplain protection, wetlands and headwaters protection, riparian buffers, source water protection, groundwater recharge, gray water recycling, coastal dune protection, water budgeting, and a whole host of other practices designed to maintain and restore U.S. water resources. We urge Congress to begin now to think about how to move to such a system, including through providing funding and incentives for research, pilot projects, and demonstrations of all kinds by those innovators interested in pioneering these approaches.

CONCLUSION

In short, while passage of the CWA was a tremendous achievement in the history of the environmental movement and achieved tremendous success in addressing some of the most egregious sources of water pollution, it is aging, and the bald spots and gray hairs are beginning to show rather clearly at this point. There is still a lot of work that needs to be done to carry forth the mandates of the Act and to provide adequate funding for its programs, but even that will not be enough to address the water resource challenges ahead of us. We need to look again at protection of our water resources from first principles, including the water cycle that we studied in grade school, and begin to construct the system that will ensure that our children and grandchildren can enjoy the many benefits of clean and safe water as we have. Let's honor the legacy of the Clean Water Act by moving forward.

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TESTIMONY
OF

DERRY MACBRIDE, GARDEN CLUB OF AMERICA

BEFORE THE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE HEARING ON

"THE 35TH ANNIVERSARY OF THE CLEAN WATER ACT: SUCCESSES AND FUTURE CHALLENGES"

October 18, 2007

Thank you Chairman Oberstar and Members of the Transportation and Infrastructure Committee for inviting me to testify today. I would like to briefly introduce myself, make three points and then request that my testimony be entered into the record.

I am Chairman of the National Affairs and Legislation Committee of the Garden Club of America. The Garden Club of America has 17,600 members in 197 clubs across the nation and has long enjoyed our excellent working relationship with members of Congress on issues related to our environment. We greatly appreciate Congress' past consideration of our views and appreciate the opportunity to offer our thoughts on the 35th Anniversary of the Clean Water Act. We are particularly pleased that, with the leadership of Chairman Oberstar, many of you have co-sponsored the Clean Water Restoration Act of 2007, introduced as HR 2421. The provisions of this Act are critically needed to reaffirm the original, intended scope of the Clean Water Act which guaranteed all Americans the right to clean water. We strongly believe that the physical, chemical and biological integrity of the Nation's waters must be protected.

Since its founding in 1913, the Garden Club of America has stood as a strong advocate of conservation and sustainable uses of our natural resources as well as efforts

to advance public awareness of the state of our environment. We have long been aware of the critical and delicate role our nation's wetlands play in water quality, soil maintenance and watershed vitality. Our Position Paper on Clean Water encourages a vigorously enforced Clean Water Act and clearly states our support for the "preservation and protection of wetlands, including strict standards for any method of wetland alteration". Wetlands and their associated streams are an extremely productive part of the watershed; even when they are in a temporarily altered, less visible or tangible state, they are still very much functioning and no less in need of Congressional protection.

The history of legislation to protect our environment is largely one of bi-partnership. The Clean Water Act of 1972, The Clean Air Act of 1970, and the Endangered Species Act of 1973 were all passed, 30 to 35 years ago, under a Republican Administration and a Democratic Congress. Indeed, in my own home state of California, the California Environmental Quality Act of 1970 was enacted by a split legislature and signed into law by Governor Ronald Reagan. By and large, these critical pieces of legislation have served the public well over all these years, and I hope that level of bipartisanship can continue today with respect to HR 2421.

We are now, however, as the Committee is aware, confronted with a judicial disagreement not on policy or constitutional jurisprudence but on the intent of Congress-specifically how far Congress, through its definition of "navigable waters", intends the protections of the Act to reach. The Garden Club of America shares the views of others urging Congress to provide the needed clarification.

In so doing, we ask that Congress recognize that the pollutants and impurities, from which Americans seek protection, travel through aquifers, marshes, and wetlands with no apparent regard for the visibility of nearby navigable water. The reach of the Act, therefore, needs to be expressed as broadly as possible lest Congress' intent to maintain the protections of the Act fall victim to simple hydrology.

In the 35 years since the enactment of the Clean Water Act, our population has grown substantially and seriously overtaxed our limited resources. Those who worked so

hard to pass the Act in 1972 may have expected that phenomena, but they probably did not predict the more recent climate change that is already having myriad adverse impacts on our resources and outlook for the future. What we have learned over the last few years surely demands that we redouble the commitment to this country's natural resources announced in 1972. As in 1972, we look to Congress to act for us as custodians of our vital, treasured resources. Today's hearing, and that held last summer, offers me great hope that the trust we have placed in Congress to protect these resources, on which the very fabric of our future depends, is well placed. The proposal before the Committee offers Congress an opportunity to leave a positive legacy for the future by restoring the integrity and intent of the original Clean Water Act.

I thank you on behalf of the Garden Club of America and its National Affairs and Legislation Committee. More importantly, however, I thank you on behalf of our children and future generations who are surely entitled to the broad protection of the Clean Water Act envisioned by its supporters 35 years ago.

National League of Cities

STATEMENT OF

THE HONORABLE KATHLEEN NOVAK
MAYOR, NORTHGLENN, COLORADO

BEFORE THE
HOUSE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

OCTOBER 18, 2007
WASHINGTON, DC

Statement of

Mayor Kathleen Novak

On behalf of the National League of Cities

Before the House Transportation and Infrastructure Committee

"The 35th Anniversary of the Clean Water Act:

Successes and Future Challenges"

October 18, 2007

Good morning, Mr. Chairman and Members of the Committee. I am Kathie Novak, Mayor of Northglenn, Colorado. I am here today on behalf of the National League of Cities, the oldest and largest organization representing over 19,000 local elected officials in America's cities and towns. I appreciate the opportunity to present the views of local elected officials on the impact the Clean Water Act has had on the quality of our nation's waters and the quality of life of the public.

We appreciate the leadership and dedication of this committee in protecting our nations' water resources. I am honored to be a part of this hearing that celebrates the 35th anniversary of the Clean Water Act.

The Federal Water Pollution Control Act, passed by Congress in 1948, funded state and local water treatment systems and required the establishment of state water quality standards. With states controlling pollution discharge at the local level and the Federal government having control over interstate and coastal waters, little consistency of laws and regulations existed nationwide. Amendments to the law, passed in 1972 and commonly referred to as the Clean Water Act, established a national system for controlling pollution and protecting our nation's waters.

This national system has served local governments well. Only about a third of the states have any state-level water standards and protections in place, and of those many are substantially weaker than the Clean Water Act requirements. For the most part, state water protection programs have evolved to work along with the federal Clean Water Act, not in place of it. Because rivers and streams frequently cross state lines, protections in one state can be undermined by a lack of protections in a neighboring state. Local governments have benefited from a national system for controlling pollution because water everywhere must meet the same water quality standards; communities downstream from waterways face less pollution caused by communities upstream.

The original law passed in 1972 set rigorous goals for all waters of the U.S. to be "fishable and swimmable" by 1983 and called for there to be "zero discharge" of pollutants into the nation's waters by 1985. To help states and local governments meet

those requirements, the legislation established a generous federal grant program that provided funding for up to 75 percent of the cost to build wastewater treatment facilities. Indeed, most of this nation's water infrastructure was built in the 1970s. Local governments would not have been able to meet the requirements of the Clean Water Act without this grant program.

Today, the program is known as the Clean Water State Revolving Fund and provides essential money for local governments to assist in modernizing our water infrastructure. As the population has increased by close to 50 percent, and continues to grow, governments at all levels must substantially increase wastewater and drinking water infrastructure funding in order to maintain and improve the quality of our water. Failure to make these necessary investments in our aging water infrastructure will lead to a serious decline in water quality. Unfortunately, the Environmental Protection Agency has estimated that we are falling short on water infrastructure spending by a whopping $22 billion per year.

Clean water is the backbone of livable communities and modern society. Effective sanitation systems and easy access to clean water support our nation's health and economy. But like other invisible systems, we tend to take them for granted. We turn on our faucet and assume that the water is safe for drinking and bathing. We assume that our lakes, rivers and coastal waters are safe for swimming and fishing. While we live in a country where this is typically the case, it has not always been so. The Clean Water Act is the main reason the nation's waters have shown dramatic improvement in water quality. The law has been instrumental in improving the health of our lakes, rivers and coastal waters by preventing billions of pounds of pollution from entering our waterways. The public knows that safeguards are in place and, for the most part, the waterways in this country are cleaner than they have ever been.

We are now at a crossroad where we must determine the fate of our nation's waters. Will we continue to move forward and make progress cleaning up our waters, or will we let the progress we have achieved over the past 35 years slip away? As beach closings caused by sewage overflows are occurring at the highest rates ever and economically crucial lakes, rivers and coastal areas across the country are being crippled by pollution, it is clear that there is still much work to be done to ensure that all our waters meet the laudable goals of the Clean Water Act.

It is NLC's position that we must not let the progress made under the Clean Water Act be turned back or negated. We must continue to move forward in protecting our nation's waters, a precious resource that is fundamental for life. Our country has been blessed with an abundance of waterways. We owe it to future generations to ensure that they, too, are able to fully enjoy and appreciate clean water.

While the Clean Water Act has resulted in successes in cleaning up point source pollution in waterways, future challenges remain for nonpoint source pollution. Previous Congresses have refused to consider attempts to authorize control over nonpoint source pollution. Unregulated nonpoint source pollution into local communities' watersheds not

only pollutes the water, but passes the costs of remediation on to local governments with responsibility for providing adequate clean water for their communities. In setting the future direction for the Clean Water Act for the next generation, Congress must address this issue and ensure that all pollution sources are considered.

Finally, in order for local governments to maintain the quality of our waterways, critical investments and improvements to our water infrastructure must be made. Local governments cannot and should not bear the costs of these improvements alone, and rate hikes by themselves are insufficient to close the gap between necessary costs and available funds. Over recent years, funding under the Clean Water State Revolving Fund has declined, which means the cost to the entities that do not receive loans are increased dramatically either by having to wait for the next cycle or settling for more expensive funding options.

In 2007, demand for loan funding in Colorado was $323 million, while loan capacity was $41 million. Of greater concern is the total statewide wastewater spending need of $1.4 billion. This lack of funding falls hardest on smaller municipalities, which depend on low interest rates to meet their needs. For cities across the country, the shortfall in affordable funding comes as federal and state regulations and standards continue to grow more stringent.

NLC urges Congress and the Administration to fully fund the Clean Water State Revolving Fund as it provides essential funds for local governments to assist in improving and maintaining the nation's water infrastructure. We thank the Chairman and Members of this Committee in your leadership in passing H.R. 720, the Water Quality Financing Act of 2007, which would authorize $20 billion in Federal grants over five years for the Clean Water State Revolving Fund.

Thank you for the opportunity to speak on behalf of America's cities and towns. I look forward to your questions.

Statement of the American Farm Bureau Federation

TO THE HOUSE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE REGARDING THE CLEAN WATER ACT

October 18, 2007

Presented by:
Kevin Paap
President, Minnesota Farm Bureau

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AFBF is the unified national voice of agriculture working through our grassroots organizations to enhance and strengthen the lives of rural Americans and to build strong, prosperous agricultural communities.

Farm Bureau represents more than 6,000,000 member families across the nation and Puerto Rico with organizations in approximately 2,500 counties.

Farm Bureau is an independent, non-governmental, voluntary organization of families united for the purpose of analyzing their problems and formulating action to achieve educational improvement, economic opportunity and social advancement and, thereby, to promote the national well-being.

Farm Bureau is local, county, state, national and international in its scope and influence and works with both major political parties to achieve the policy objectives outlined by its members.

Farm Bureau is people in action. Its activities are based on policies decided by voting delegates at the county, state and national levels. The American Farm Bureau Federation policies are decided each year by voting delegates at an annual meeting in January.

The American Farm Bureau Federation appreciates the opportunity to testify at this hearing commemorating the 35th anniversary of the Federal Water Pollution Control Act of 1972. We are here today because the Federal Water Pollution Control Act of 1972, better known as the Clean Water Act (CWA), has been one of our nation's most successful environmental statutes. It is responsible for astounding success in improving the health of surface water everywhere in the United States. It is also our nation's good fortune that CWA does not stand alone in protecting America's waters. Other important programs at the federal, state and local level have complemented the CWA to provide an effective foundation for water quality protections. Specifically, we believe that the soil conservation and water quality provisions of the last four farm bills have contributed significantly to the goals of the CWA and the nation's overall water quality protection efforts.

The CWA's record is one of accomplishment; our 35-year commitment to clean water has proved to be successful. By almost any measure, the glass is three-quarters full. For example – in the mid-1970's, 30-40 percent of surface waters monitored met water quality goals. Today, two-thirds of our nation's waters met their goals. Wetlands also have benefited. From the 1950s to the 1970s, an estimated 458,000 acres of wetlands were being lost each year. By the 1986-1997 time period, the loss rate had declined to 58,600 acres per year. In the most recent study period, 1998-2004, wetlands were increasing at a rate of 32,000 acres per year.

After more than three decades of focus on water quality, we now better understand our most difficult water quality problems. So the solutions of old -- massive federal regulatory controls -- simply are not sufficient or cost efficient. Local governments, individual citizens, community foundations, state and regional entities, environmental organizations, agricultural organizations, soil and water districts—these are the major players today and will continue to be the key players in the future.

By the very nature of agriculture, farmers and ranchers have a vital stake in respecting and protecting our nation's waters and streams, both for ourselves and for future generations. We are proud of our record. We have a strong history of working to see that our waters are protected while American agriculture remains a leader in feeding the world. We take second place to no one in our commitment to the land and the water where we raise our crops, tend our livestock and rear our children.

Agricultural Stewardship

Farmers and ranchers have an overriding interest in clean water and high quality environmental resources because they own and manage two-thirds of the nation's land. They are good stewards of the nation's soil, air and water resources, but the cost of this stewardship is not cheap and falls primarily on them as individuals because, unlike most other businesses, farmers are unable to pass along such costs in the price of their products. Meeting the demand for food, feed and fuel as well as society's demands for

improved environment quality requires farmers and ranchers to balance and often individually bear the cost of achieving many competing goals and objectives. Nonpoint pollution and agriculture's impacts on the environment are closely intertwined with countless human activities that are yielding a higher quality of life for all Americans. The ability to increase agricultural productivity, with the use of modern crop production tools like fertilizers, has enabled our nation's farmers and ranchers to increase the production of food, feed and fuel without increasing the acreage of cropland. Agriculture's productive capacity allows farmers and ranchers to meet the demands of our nation's growing population as well as growing world populations and markets abroad.

Over the last three decades, farmers and ranchers have made great strides in improving our environment. By nearly every measure, our environment and natural resources are in better condition now than at any other time in over a century. Farmers and ranchers have led the way by adopting conservation practices that are good for their bottom line and the environment. Through improved crop genetics and new and improved management practices, farmers and ranchers have increased outputs while limiting their environmental footprint by using less crop production inputs. Maintaining crop yields while using reduced inputs generally means there is greater potential for less nonpoint pollution and higher returns. But at some point, farmers and ranchers run the risk of reducing the fertility of the soil or of allowing one of their resources to become significantly imbalanced, a result that can have a negative impact on the soil, air or water quality. Farmers and ranchers must, on a site-specific basis, manage inputs and outputs in a manner that protects soil organic matter, soil carbon and soil sustainability. They must balance the effects of their management practices against not only economics and water quality, but also against long-term productivity to ensure a profitable and environmentally sustainable agricultural production system.

Farm Bill Conservation

Conservation programs are increasingly important to farms and ranches. The growth of conservation programs since the 1985 Farm Bill reflects the need and desire of the agriculture community to improve environmental protection, particularly on 'working lands,' in a manner that fits the conditions and needs of farming and ranching. Farm Bureau believes the farm bill's conservation title will lead the way by providing farmers and ranchers incentives to continue and even strengthen existing conservation practices.

The recent growth in the adoption of conservation programs is directly related to the 2002 Farm Bill. The 2002 Farm Bill is the greenest ever enacted by Congress and reflects the desire of Congress and the agriculture community to improve environmental protection in a manner that benefits the environment and the needs of farming and ranching, particularly on working lands.

We encourage the members of this committee to recognize the important role that incentive-based programs such as the Conservation Security Program (CSP), Environmental Quality Incentives Program (EQIP), Conservation Reserve Program

(CRP) and Wetlands Reserve Program (WRP) play in achieving the goals of the CWA. Conservation cost-share and incentives are essential in assisting producers to make environmental improvements.

It is noteworthy to highlight that there has been a substantial increase in the WRP, CRP, the continuous CRP, Conservation Reserve Enhancement Program and the Farmable Wetlands Program. Farmers and ranchers have planted long-term, resource-conserving cover crops that will improve the quality of water, control soil erosion and enhance wildlife habitat. The underlying agreements will mean millions of acres of American topsoil will be protected from erosion, and many of the Nation's most sensitive natural resources will be safeguarded. These programs are yielding important benefits, for example, reducing soil erosion, reducing sedimentation in streams and lakes, improving water quality, establishing wildlife habitat and enhancing forest and wetland resources. These programs are encouraging farmers and ranchers to voluntarily convert additional highly erodible cropland or other environmentally sensitive acreage to vegetative cover, native grasses, wildlife plantings, trees, filter strips and riparian buffers. All of these things are good for the environment, and the public's investment is helping farmers and ranches on the land by offsetting the cost.

Funding for Agricultural Research

Agriculture also needs significant funding for agricultural and environmental research. Farmers and ranchers must have the answers to critical scientific questions to improve water quality, soil fertility and assure future productivity and soil quality. They need trusted advice and help developing new technologies on nutrient utilization for new and existing crops and to help evaluate the management needs of perennial and annual crops. More resources are needed to engage the land-grant universities across the nation in achieving our water quality goals and objectives.

CWA Jurisdiction

Throughout the 35-year history of the CWA, the regulatory reach of the act has been a controversial aspect of the law, resulting in many hours of debate before Congress, within the regulatory agencies and in federal courtrooms. While hope has been expressed that the proposed "Clean Water Restoration Act of 2007" will end this debate, the proposal does risk of exacerbating this long-standing controversy rather than resolving it. There is strong support within the agricultural community for the goals of the CWA but, there is also concern about proposals that would fundamentally alter the reach of the law and the existing federal-state relationship.

I appreciate the opportunity to offer these perspectives on the CWA and will be pleased to respond to questions from the committee.

TESTIMONY OF MARK SINGLETON, OUTDOOR ALLIANCE
UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
HEARING ON "THE 35TH ANNIVERSARY OF THE CLEAN WATER ACT:
SUCCESSES AND FUTURE CHALLENGES"
JAMES OBERSTAR, CHAIRMAN
OCTOBER 18, 2007

TESTIMONY SUBMITTED BY MARK SINGLETON
CHAIRMAN, OUTDOOR ALLIANCE
PO BOX 1540, CULLOWHEE, NC 28723
(828) 586-1930

Mr. Chairman and members of the Committee on Transportation and Infrastructure:

I am Mark Singleton, I live in Sylva, North Carolina and serve as the Executive Director of American Whitewater. Founded in 1954, American Whitewater is a national membership organization that represents all whitewater enthusiasts, including kayakers, canoeists and river conservationists. The organization is the primary advocate for the preservation and protection of whitewater resources throughout the United States, and connects the interests of human-powered recreational river users with ecological and science-based data to achieve the goals within its mission, which is "to conserve and restore America's whitewater resources and to enhance opportunities to enjoy them safely."

Today I am testifying as Chairman of the Outdoor Alliance, a coalition of six national, member-based organizations devoted to conservation and stewardship of our nation's public lands and waters through responsible human-powered outdoor recreation. The Outdoor Alliance includes: Access Fund, American Canoe Association, American Hiking Society American Whitewater, International Mountain Bicycling Association, and Winter Wildlands Alliance. Collectively, the Outdoor Alliance has members in all fifty states and a network of almost 1,400 local clubs and advocacy groups across the nation. Our coalition represents the millions of Americans who hike, paddle, climb, mountain bike, ski and snowshoe on our nation's public lands and waters.

Prior to becoming the Executive Director for American Whitewater, I served for over ten years as Marketing Vice President for Nantahala Outdoor Center (one of the country's largest whitewater river outfitters). I grew up paddling and some of my earliest memories are of family canoe trips on north woods lakes. My childhood time on the water profoundly influenced my life and served as the basis for my lifelong passion of whitewater paddling. As a whitewater paddler, I have the opportunity to explore headwater streams and rivers around the country and the world. Through these experiences, I can speak first-hand about the benefits of clean water to recreational users and communities whose experience-based economies are dependant on quality destinations for human-powered active recreation.

These days my wife and I are passing a love of rivers and the outdoors on to our two daughters, Skyler 8 and Mckayla 7. Our kids enjoy their time on the water in anything that floats; inner tubes on Deep Creek in The Great Smoky Mountain National Park to rafts and kayaks on local rivers like the Nantahala and Tuckaseegee.

Most think of the Clean Water Act as the law that keeps our waters from being polluted. While this is certainly true, fortunately the framers of this landmark legislation realized not only that clean water in America's streams, rivers, lakes and wetlands keeps natural ecosystems in check, but these clean waters also nourish our bodies and souls. Without the provisions of the Clean Water Act that protect on-water recreation, and the State Water Boards that enforce these protections, it is doubtful that my two girls would have the same river experiences that I have had in my life.

Cleaning Up Our Nation's Rivers

Aside from a source of drinking water and food, paddlers have used the nation's waterways for exploration, travel and commerce for thousands of years, long before and after European settlement. However, during our industrial development rivers also became conduits for waste disposal, culminating in conditions that were a threat to public safety and precluding opportunities to enjoy rivers.

Rivers like the Potomac here in our nation's capitol, the Cheat in West Virginia, the Menominee in Wisconsin, and the Black River in New York were so polluted that they were generally undesirable for outdoor recreation. Today, thanks in large part to the Clean Water Act, these rivers, and many others also too polluted for safe recreation, are now enjoyed by millions of Americans.

When the Clean Water Act was enacted 35 years ago, the Cheat River in West Virginia was effectively dead. Since then, the river has been cleaned up and paddlers have witnessed a tremendous recovery of wildlife in the river canyon, with bears, deer, and even river otters now calling the river home. Rivers like the Black were so polluted that our members who paddled the river in the early 1970's can remember finishing their runs and finding their skin to be stained a shade of grey. Now many paddlers enjoy this river as one of the most popular runs in upstate New York, and one that has made significant advances in improving water quality.

The Importance of Water *Quantity* as an Element of Water Quality

Water flowing swiftly downstream means power, and until the passage of the Clean Water Act that power was generally free for the taking. Hydropower dams and diversions were built throughout the 20th century to provided electricity, yet left many rivers and the communities that depended on them high and dry. Thanks to the Clean Water Act, and other related legislation that followed, our nation has spent the past three decades breathing new life into these rivers. The Clean Water Act has helped assure that Hydropower operations balance our society's need for power with what flowing rivers can also do for fish, wildlife, and our communities.

I would like to share with you a story of one such river near my home in Western North Carolina. The Cheoah River was dammed and diverted through a massive nine-mile long pipe in 1928. The river went completely dry and, except for a few small side streams, died. People, over time, forgot about the once thundering river. Generations came and went, a resource extraction and manufacturing economy came and went, and by the dawn of the new millennium Graham County, through which the Cheoah flows, was the third poorest county in North Carolina.

About ten years ago, the 50-year old federal license for the Cheoah dam neared its expiration, and the power company was required to apply for another license that would for the first time fully comply with the Clean Water Act. Relicensing a hydropower facility takes years, requiring significant scientific studies and stakeholder involvement.

As one of the stakeholders, American Whitewater helped secure a test release of water into the barren riverbed so that paddlers could explore and assess the river. What we found surprised everyone involved. The Cheoah River was not merely a good recreational resource – it was fantastic and utterly unique – perhaps the best river in the region.

As the studies and negotiations played out, American Whitewater, along with federal and state agencies created a shared vision of a restored Cheoah River. Our vision included protection of riparian land, creation of new river access areas, protection and reintroduction of endangered species, a reinvigorated local economy, and most importantly the return of water to the long dewatered river. With the support of the Clean Water Act, we successfully negotiated a new license for the dam that included a robust and variable flow based on the natural hydrograph. In September of 2005, the gates of the dam were opened – and they will stay open for at least the 40 years.

On the first day that the river roared back to life over 500 people showed up to paddle the Cheoah River, which that day became an instant classic. No other river of its size in the region flows so steeply, continuously, and wildly. Kayakers, canoeists and commercial rafting customers alike love this remarkable and beautiful river. The river has enough flow to support paddling on about 18 days each year. Those days have fostered a new commercial rafting economy in Graham County, and continue to draw several hundred kayakers and canoeists that stimulate the local economy. These flows have also begun to restore natural processes to the Cheoah River. The fish – and fishing – are getting better, the river is cleaner, and it is functioning once again like a healthy river. The Cheoah exemplifies one of the core tenets of our river restoration program: "just add water."

The Clean Water Act allowed the state of North Carolina to give the Cheoah River back to Graham County and to the fish, wildlife, and people that treasure wild rivers and the wildness inherent in all rivers. While much of the river's water still flows through a pipe to generate power – profitably – the river is now shared among multiple interests. The ancient concept that water belongs to everyone – and belongs in rivers – is once again a reality thanks to the Clean Water Act. The Cheoah is just one of dozens or perhaps hundreds of similar flow restoration success stories from around the nation. Citizens

everywhere are asking for their rivers back, balance is being restored, and healthier rivers are supporting healthier communities.

Challenges that remain

While the Clean Water Act has been a tremendous success both in addressing water pollution and restoring flows to dewatered rivers, significant challenges still remain. In a recent survey of our membership, approximately 70% of respondents reported health effects from paddling polluted rivers. Sinus and ear infections continue to be ongoing health issues for paddlers in many parts of the country where water quality still needs to be improved. While many rivers are now regularly enjoyed that were at one time too polluted to paddle, some of our members still avoid runs like the Pigeon River in Tennessee, Difficult Run in Northern Virginia, Deckers Creek in West Virginia, and others across the country that face ongoing pollution issues.

While the Clean Water Act has been a great tool for restoring rivers and addressing pollution issues, we still need assistance from Congress to make sure that key provisions of the Act are not weakened. Of particular concern, a confusing 2006 Supreme Court decision regarding the Clean Water Act has left the fate of our nation's headwater streams in legal limbo. Specifically the court narrowed the protections the Clean Water Act provides to "navigable waterways," leaving headwater streams unprotected. Regardless of their navigability, headwater streams are important for all forms of outdoor recreation. In addition, pollution of headwater areas has a direct impact on water quality of downstream areas. The Clean Water Restoration Act of 2007 (H.R. 2421) would restore full federal protection for all our rivers and streams.

Another avenue to restoring and protecting rivers would be to update the General Mining Law of 1872, something that is presently being considered by the House of Representatives in H.R. 2262. Considering that the Environmental Protection Agency estimates that up to 40% of western headwaters are contaminated by hardrock mining activities, from the paddler's perspective, reform is long overdue.

Conclusion

The Clean Water Act is landmark legislation that anchors our country's natural resources and has created a legacy of stewardship for rivers and streams. As outdoor enthusiasts, we need public lands and waters to do what we do – paddlers need rivers, climbers need escarpments and hikers and mountain bikers need trails; but what truly unifies our broader community is an unshakeable conservation and stewardship ethic. This ethic is reflected in the thousands of volunteer hours devoted to river clean ups, hydro relicensing processes and access issues. The Clean Water Act protects water quality in all that in encompasses. We recognize that protecting the quality of our water is essential to protecting the quality of our lives. We recognize that our pursuits depend on healthy lands and waters and that quality recreational experience are dependent on the health of the natural resource.

The Clean Water Act represents a triple bottom line. It's been good for rivers and their ecosystems, it's been good for recreational users who spend their wet dollars in local communities and it's been good for communities who are dependant on experience-based economies where clean rivers are the destinations.

Thank you for the opportunity to appear before his committee.

EXHIBIT # 1: CHEOAH ARTICLE FROM NEW YORK TIMES – OCTOBER 20, 2006

The New York Times
October 20, 2006
What Time Do They Turn the River On?
By CHRISTOPHER PERCY COLLIER

ON the cloud-speckled morning of Oct. 1, dozens of rafters stood near the end of a muddy road on the wooded outskirts of Robbinsville, a town in western North Carolina, waiting to run a river that, after decades of being dry, now comes back to life as a hard-charging flow of white water — set to a strict schedule.

A few hundred yards upstream, just out of sight, a gate had opened a couple of hours earlier, and a great white sheet of water spilled from the top of the 1,150-foot-wide Santeetlah Dam. Thundering down the 200-foot-high concrete face of the dam, the water blew back tree branches, sent clouds of mist onto kudzu-covered banks and filled what had been the nearly empty Cheoah River channel, which the rafters now faced.

Leaning against paddles like construction workers bent against shovels, fiddling with the cinch straps of their life vests and clunky white helmets, the rafters listen to the obligatory pretrip rant, doled out with comedic effect by a barrel-chested raft guide with a handlebar mustache: "This is a raft, and we'll be going down the river in these things." And "This is a bag full of rope, and we'll be throwing it at your head should you fall out — not because we don't like you."

Then they launched into the Cheoah (pronounced chee-OH-ah) to experience what, almost out of nowhere, has become one of the most challenging commercially rafted white-water rivers in the South.

Paddle when you're told. Stay in the boat. Know what to do if you fall out. You don't need much in the way of specialized skill to enter the world of white-water rafting in the hands of a competent guide; three million people go white-water rafting with a guide each year, according to America Outdoors, an outfitter and guide association.

But you do need the right kind of river. Commercial raft companies operate on about 200 white-water rivers in the United States. About 140 are spring runs — white-water only during the season of spring rains and snowmelt. Of the remaining 60, an even smaller group receive the most use. "About 80 percent of all rafters go down about 20 percent of the rivers," said Mark Singleton, director of the white-water paddling group American Whitewater.

These are the so-called "milk runs," dependable enough to plan vacations around and, with safety kept in mind, not too powerful for novices: the Ocoee River in Tennessee, the New River in West Virginia, the Arkansas River in Colorado. And after a few forays on them, some new rafters inevitably ask, "What's the biggest commercially rafted river around?"

In the East, there are the Gauley in West Virginia and the Upper Youghiogheny in Maryland. Out West are rivers like the Upper Kern in California. "These are some of the great classics of white water," Mr. Singleton said. In the South, Section IV of Georgia's Chattooga River, where the 1972 movie "Deliverance" was filmed, was long the most challenging spot. But now it's the Cheoah, which few rafters knew existed six years ago.

THERE was a time when the Cheoah flowed freely, rich with aquatic life, but even people who have spent long lives in Robbinsville haven't seen the river in its natural state. The Cheoah they have known, a deep, dry, brush-covered trench running parallel to Highway 129, was more eyesore than epic flow.

When Santeetlah Dam was built in 1928, it literally stopped the Cheoah in its tracks. The water gushing down from the nearby mountains was collected in the 2,973-acre Santeetlah Reservoir and then sucked out through two huge pipes 11 feet in diameter, to travel five miles to a pair of turbines before entering the Cheoah Reservoir. Even after that, water didn't go back into the river. It spilled into more reservoirs, held up by more dams, to pass through more turbines, until it finally reached the wide, sluggish main flow of the Tennessee River.

Then, in the late 1990's, the owner of Santeetlah Dam, Alcoa, had to go through a public approval process for renewal of its contract with the federal government to use the river to generate power. That's when boaters, conservationists and outdoor-sports businesses fought for periodic releases of water into the Cheoah — at that point little more than a deep, scruffy scar in the earth.

In the end, the new contract mandated 19 to 20 releases annually, plus a minimum continuous flow of water downstream that while not high enough to support white-water rafting or kayaking, made this empty bed a constantly flowing river once again.

The first release was Sept. 1, 2005; the last this year will be Nov. 1. The first permits for commercial rafters were issued in March, and the group that launched in Robbinsville this Oct. 1 were still among the first few hundred people to raft the Cheoah.

"Don't worry," the guide, Ryan Henkel of Wildwater Rafting, told his charges as he perched at the bow of a raft floating downstream in the first few minutes of the run, through swift but mirror-calm water, short of the thrills they had come for. "The first part of the river is nothing like the last."

His rafters — including Julie Schneid, Candie Holder and her brother Brett Holder, all in their 20's or 30's and from the Atlanta area — seemed unconcerned. After navigating through a dense thicket left behind from when the riverbed was dry, Mr. Holder said with a grin, "They don't have rivers like this back in Mississippi."

Soon after, the river went from sedative to stimulant — and stayed that way.

Many white-water rivers, like the Chattooga River in Georgia or the mighty Penobscot in Maine, are described by paddlers who know them well as "drop-pool": riding on them, you run a bevy of rapids and then float for a spell in a state of meditative bliss.

Not the Cheoah. It blathers on like an over-caffeinated intellectual. Pushy. Continuous. With the exception of a few placid stretches near the put-in, it remains a frothy white much of the way down. "It's big water," said Kevin Colburn, one of the lead advocates who fought for releases on this river. Heraclitus, the philosopher who proclaimed that you cannot step into the same river twice, would have loved the Cheoah.

The Cheoah offers more than a wild ride. Vegetation on the bottom of the river is not necessarily aquatic; much of it is what's left over from the terrestrial days, riverside scrub like willows. Lichen covers submerged rocks. Logs remain stuck between boulders. Passageways through bushy sections are narrow, just big enough for a raft. And there are dead ends.

"Last time, I took a wrong turn and got stuck in a beaver pond," said Annie Nesbitt, a raft guide training on the Cheoah who was also in Mr. Henkel's raft.

Bits of bark often cover the bows of the rafts. Broken branches and leaves collect on the floor. Paddlers take to flicking ants and small spiders from one another's backs. Sometimes rafts dislodge part of the blockage and set it flowing downstream and out of the way, helping to return the river to its former glory even as the rafters ride it. "I feel like we're performing a public service," Ms. Schneid said as the raft plowed over a refrigerator-size bush.

Read and run. That's the operative phrase for guides on the Cheoah. "The water hasn't had a chance to carve out certain channels yet," Mr. Henkel said. "You go off a ledge and expect the boat to go one way and it goes the other. You have to react to it as you're running it. You may see a line you want to take down the river and, while getting there, something puts you off course. I've guided rafts down the nearby Ocoee River over 500 times, but I'm still a beginner on the Cheoah."

No one knew what to expect when the first recreational release took place last year. Eight-foot wide channels had been cleared to allow rafts through. Test runs had been performed by expert boaters. When hundreds of kayakers, canoeists and independent rafters showed up, local fire and rescue squads set up a command post, and National Forest Service employees allowed the boaters down the river in stages. Now, the releases are more routine. There's a parking lot for kayakers, and crowds appear along the roadsides to watch rafts plunge through some of the biggest rapids.

Raft outfits on the Cheoah may require that rafters have experience and be in good physical shape. And the guides are some of the best in the Southeast.

When Mr. Henkel's paddle snapped halfway down the river, he reached for a backup without missing a stroke. When the floor of the boat tore loose, he hopped out and put it

back together while standing chest deep in the water. "Lean in!" he shouted while deftly steering the raft down a chute to intentionally pinball off a boulder at the bottom and spin sideways in the thundering wash of a 12-foot waterfall.

After the last set of rapids, near the hulking base of yet another dam, talk turned to dry clothes and warm drinks, but Mr. Holder was already pondering what would be next. "I guess I'll have to head to West Virginia to hit something bigger," he said.

Ms. Schneid planned to savor the moment just a little longer. "When I show up at work tomorrow more with scrapes on my arms and bruised shins," she said, "I'm going to ask my co-workers, 'What did you do this weekend?' "

VISITOR INFORMATION

RAFTING the Cheoah River after a release of water from Santeetlah Dam takes about three to four hours from the put-in site at Robbinsville, N.C. Rafting companies usually require that customers have some white-water experience.

These outfitters make the trip:

Wildwater Rafting, (800) 451-9972; www.wildwaterrafting.com; $134.
Nantahala Outdoor Center; (888) 905-7238; www.noc.com; $125.
Endless River Adventures; (800) 224-7238; www.endlessriveradventures.com; $125.
Outland Expeditions; (800) 827-1442: www.outlandexpeditions.com; $125.

Some hotels in the area, and their nightly rates, are:
Tapoco Lodge, 14981 Tapoco Road, Robbinsville, N.C.; (828) 498-2435; www.tapocolodge.com; $59 to $89.
Fontana Village Resort, Highway 28, North Fontana Dam, N.C.; (800) 849-2258; www.fontanavillage.com; $99 to $149.
Snowbird Mountain Lodge, 4633 Santeetlah Road, Robbinsville; (800) 941-9290; www.snowbirdlodge.com; $225 for rooms in the main lodge.

Testimony of

Christopher M. Westhoff
President
National Association of Clean Water Agencies (NACWA)

Assistant City Attorney
Public Works General Counsel
For the City of Los Angeles

On behalf of the
National Association of Clean Water Agencies (NACWA)

October 18, 2007

House Committee on Transportation and Infrastructure

Introduction

Good morning, Chairman Oberstar and Members of the Committee. My name is Christopher Westhoff and I am an Assistant City Attorney – and public works general counsel for the City of Los Angeles. I am testifying today as President of the National Association of Clean Water Agencies (NACWA). NACWA is the only organization dedicated solely to representing the interests of the Nation's public wastewater treatment agencies. Our members are dedicated environmental stewards who work to carry out the goals of the Clean Water Act and who treat and reclaim more than 18 billion gallons of wastewater each day.

I am pleased to be here today as we celebrate the 35th anniversary of the Clean Water Act and want to thank you for holding this important hearing as we face some serious challenges moving into the 21st century. This testimony will focus on the water/wastewater infrastructure funding crisis and the need to transition to a more adaptive watershed approach that can meet the complex resource intensive challenges of the future. The recommendations discussed in this testimony are drawn from a key NACWA report being released today titled, *Recommendations for a Viable and Vital 21st Century Clean Water Policy.*

Success of the Clean Water Act

In the 35 years since the passage of the Clean Water Act, our nation has made tremendous progress in addressing water pollution problems. The federal-state-local partnership, exemplified by the Act's construction grants program, led to the most advanced system of regional wastewater treatment systems in the world. Since that time, the Act's focus has been on addressing the point sources of pollution that, at the time, constituted the most immediate concern for the improvement of water quality. Communities now enjoy the environmental and economic benefits of cleaner water, such as thriving waterfront communities in Cleveland and Chicago, restored fisheries in Lake Erie and the Potomac River, and increased revenues from real estate investment, recreation and tourism in many coastal communities, including Los Angeles.

Today, however, we find ourselves at an historic juncture for the nation's clean water future with 100 million more people expected to live in the country over the next 30 years and the massive industrial expansion expected to meet these needs. There is additional need to monitor and assess the contributions of millions of diffuse sources of pollution, including sediments, agricultural sources, construction sites, urban and suburban nutrient runoff , and air emissions. These increasingly complex and diverse sources of pollution have slowed the incremental rate of improvement to water quality significantly even in the face of considerable reductions from point source discharges. In other words, as resources continue to be used to curtail end-of-pipe discharges, there is no longer a significant decrease in pollutants going into impaired waterways.

The costs associated with this investment in clean and safe water have also risen while the federal contribution to these clean water imporvements has dwindled. The federal-state-local partnership that was so successful during the early days of the Clean Water Act has eroded to the point that municipalities now shoulder over 95 percent of the costs associated with providing clean water. Federal assistance simply has not kept pace with the financial needs of clean water, declining more than 70 percent since 1980. The nation now faces a funding gap of $300 - $500 billion over the next 20 years between the current levels of spending for wastewater infrastructure and the total funding needs, according to the U.S. Environmental Protection Agency (EPA),[1] the Congressional Budget Office,[2] and the Water Infrastructure Network (WIN)[3].

In the 1990's alone, Los Angeles spent over $1.6 billion on the upgrade of the Hyperion Wastewater Treatment Plant to full secondary treatment. This was only ONE plant, and only a small portion of this expenditure was funded through the Federal Clean Water Grant

[1] U.S. Environmental Protection Agency, *The Clean Water and Drinking Water Infrastructure Gap Analysis (2002)* *http://www.epa.gov/safewater/gapreport.pdf.*
[2] Congressional Budget Office, *Future Investment in Drinking Water and Wastewater Infrastructure (November 2002); http://www.cbo.gov/ftpdoc.cfm?index=3983&type=0&sequence=0*
[3] Water Infrastructure Network, *Clean and Safe Water for the 21st Century (2000); http://www.win-water.org/reports/winreport2000.pdf.*

Program. In this decade, Los Angeles will spend more than $4 billion dollars to address the physical needs of its aging 6,500 mile long wastewater collection system and other wastewater infrastructure. To meet this aggressive expenditure program, rates have already been raised 7% per year for each of the past five years, and in 2008, our infrastructure team will ask our City Council for a nearly 9% rate increase for each of the succeeding five years.

It has become increasingly apparent to NACWA's clean water agency members that there is a growing disconnect between current Clean Water Act programs and what is needed to achieve the original goals of the Act. A new approach to doing business in the 21st century and a return to a sustainable federal-state-local partnership to bridge the funding gap is desperately needed. NACWA appreciates the Chairman and the Committee's leadership in passing H.R. 720, the *Water Quality Financing Act of 2007*, through the House. Increased funding for the State Revolving Fund is an important first step, but NACWA believes that without a long-term clean water trust fund, clean water agencies will be hard pressed to carry out their important mandate to protect the environment and public health in a sustainable manner. As they continue to improve treatment processes and upgrade infrastructure to do the work necessary to protect and restore the nation's waters, short and long-term changes are needed to align current environmental laws into a comprehensive, holistic watershed approach.

The Watershed Approach

As the nation has largely addressed water quality impairment through point source control, there is now a growing need to turn our attention to non-point source threats that are much more diverse and demand a more complex solution. These challenges include nutrient over-enrichment, urban runoff, and groundwater/surface water interactions in a more holistic way. This approach to water resource quality management should again bring together federal, state, and local efforts in a meaningful partnership to address the highest priority problems, looking at all sources of pollution within hydrologically defined geographic areas.

This type of watershed approach is not an entirely new idea. It was originally envisioned in Section 208 of the Clean Water Act. This section of the bill called for regional water quality management planning that would become the watershed approach. Each state was required to identify areas, regardless of political boundaries, where there were significant water quality control problems. They were then asked to designate a single organization to formulate a management plan for the area even when located in more than one state. The bill also provided for cooperation with the U.S. Department of Agriculture (USDA) to address sources of non-point-source pollution, but funding dried up in 1982. States completed these watershed management plans; unfortunately, many were not used and are now outdated.

The watershed approach has again gained traction in light of the clean water funding shortfall as a way to prioritize needs and ensure the greatest return on available investment. As early as 1992, NACWA (then known as the Association of Metropolitan Sewerage Agencies) took the lead in developing a comprehensive watershed management act that recognized the need for flexible, creative approaches to controlling pollution. Although the Comprehensive Watershed Management Act of 1993 was never introduced in Congress, it did work to spur interest in the concept. There have been several attempts made by EPA and others since then to move toward a watershed-based approach grounded in sound science, characterized by robust stakeholder involvement, and focused on environmental results.

In March 2007, NACWA formed a Strategic Watershed Task Force, made up of leaders of the Nation's clean water agencies, to investigate how a watershed approach may still prove to be the solution to emerging water quality issues. Task Force members are clean water professionals with years of experience to draw upon both in the regulatory and legal arenas governing watershed management. They have used their experience to define the opportunities provided through a watershed approach, examine existing and potential obstacles for achieving a watershed approach, and have outlined the changes needed to make it succeed.

Water Is Water

Adopting a watershed approach would allow the nation's clean water agencies and their partners to broaden water quality improvements while streamlining the use of public resources in the arenas with the greatest need. It allows communities to combine the issues of water quality, quantity and habitat together when forming an integrated water resources management plan. As a result, coordination between water related programs is dramatically improved. The divisions between traditional regulatory categories are dissolved, and communities have the needed flexibility to make management decisions based on achieving the maximum environmental benefit. This would facilitate market-based incentives such as water quality trading programs to help stakeholders find optimal solutions to emerging water quality issues.

Water quality trading, which allows sources to find the least cost alternative to achieving clean water, can be an important tool for restoring impaired watersheds efficiently and cost effectively. The programs operate by allowing point sources in one area of the defined watershed to meet their regulatory requirements through the reduction of pollution from a separate point or nonpoint source elsewhere in the watershed. This market-based approach to improving the quality of the environment is a proven approach. Air emissions trading programs date back to the Acid Rain program and the lead-in-gasoline phase-down programs implemented under the Clean Air Act. These and other programs have clearly demonstrated that market-based approaches can dramatically and quickly reduce emissions at substantially lower costs. This is critically important for communities nationwide that are struggling to meet the rising costs of clean water.

There is already evidence that water quality trading programs work. For example, in the Tualatin River watershed in Oregon, a trading program conducted in conjunction with a TMDL by Clean Water Services in Hillsboro has reduced thermal loads to the Tualatin watershed by planting over 34 miles of shaded buffers along the river. These nonpoint

source projects that were implemented to create the thermal credits have provided ancillary environmental benefits, such as flood control and wildlife habitat in recreational areas. It has also helped by allowing another wastewater treatment facility to discharge ammonia at a slightly higher rate. Significant cost-effective environmental benefits were achieved within the watershed through a science-based prioritization of needs.

Watershed-based programs like this allow communities around the country to focus on solutions that provide the largest environmental impact at the lowest cost while keeping the overarching goals of protecting human health and restoring the integrity of the nation's waters in mind. This ensures the most effective use of taxpayer dollars, ratepayer dollars, and other public funding.

Achieving Sustainability

The world around us has changed significantly since 1972, from swelling and shifting populations to the emergence of new pollutants that have the power to change the course of nature. The watershed approach will help foster new and innovative solutions to these emerging water quality problems. NACWA encourages the Committee to seek these innovative approaches, with the appropriate funding, to reduce nutrient and nonpoint sources of pollution, improve methods for water reuse, monitoring and data analysis, reduce sanitary sewer and combined sewer overflows, address new water resource management issues presented by climate change, and develop more effective methods for treating wastewater. These include "green technology," conservation easements, stream buffers and wetlands.

Integrated strategies to managing drinking water, wastewater and stormwater issues such as water reuse, water conservation, and energy efficiency through a meaningful watershed management approach are critical to achieving sustainability. Green technologies too are becoming increasingly accessible and commonplace. They can provide multiple environmental benefits while again streamlining the use of limited funding in a cost-effective

sustainable way. EPA has also recognized these benefits and is encouraging the use of green infrastructure[4] as a way to maintain the physical, chemical, and biological integrity of waterways. Additional flexibility in the implementation of water quality requirements is needed however to allow for and acknowledge these types of situations.

Policy Recommendations

Many changes must occur within current water quality management practices before a true watershed approach can be implemented. NACWA's Strategic Watershed Task Force has developed several short-term and long-term recommendations to better facilitate a move toward a watershed approach as the basis of America's water policy in the 21st century. In the short term, NACWA recommends these actions:

1. Reinvigorate the watershed-based planning process as outlined in Section 208 of the Clean Water Act;
2. Pursue new, more aggressive measures and funding to address needed controls on agricultural nonpoint sources;
3. Promote adaptive implementation of water quality improvement measures based on valid science;
4. Better utilize market-based approaches;
5. Break down regulatory silos within EPA's organizational structure;
6. Use a more appropriate and science-based sequence for establishing TMDLs;
7. Prioritize current actions and planning according to watershed needs.

In the long-term, the need to align current laws and regulations with a watershed approach will require visionary leadership and cooperation at all levels of government. Currently, municipalities considering the move to a watershed approach face regulatory and legislative "silos" that hamper cooperation. Different pieces of legislation that include the Clean Water Act, Safe Drinking Water Act and Endangered Species Act do not currently allow for the

[4] Linda Boornazian and Mark Pollins, *Memorandum on Use of Green Infrastructure in NPDES Permits and Enforcement*, EPA Water Permits Division and Water Enforcement Division, August 15, 2007

prioritization of watershed needs that can result in the greatest overall benefits. Also, the separation of EPA's Office of Enforcement and Compliance Assurance (OECA) from program offices such as the Office of Water often results in the targeting of violations that have little or no environmental impact – creating an adversarial relationship with those EPA regulates. The very nature of watersheds creates political issues as they often extend beyond traditional jurisdictional boundaries. Any long-term changes will require all stakeholders to cooperate and give up some amount of control to achieve a watershed approach. NACWA recommends the following actions to be taken in the long-term:

1. Establish a new water quality framework with a 21st century Watershed Act;
2. Reorganize EPA to reflect this new watershed framework; and
3. Conduct monitoring and research to show progress made via a watershed approach.

Conclusions

All of the tools I have been discussing represent a major programmatic shift that is necessary to make further progress in cleaning up America's waters. As we celebrate the 35th anniversary of the Clean Water Act, it is again time to expand our focus: from an almost exclusively point source orientation to one that examines all sources of pollution; from relying largely on technology-based standards to a net environmental benefit approach; and, from a focus on process to a focus on environmental outcomes. We have made tremendous progress in cleaning up our waters over the past three and a half decades – an achievement that is even more remarkable in view of substantial increases in our population. As a Nation, we can be proud of how far we have come. These successes should strengthen our resolve to complete the hard work ahead and recommit to the nation's water quality via a holistic watershed approach.

NACWA believes that the time has come for such a recommitment in the form of a watershed-based approach. Even a truly holistic watershed approach, however, does not detract from the massive clean water funding gap facing the Nation's clean water agencies

and communities. Again, we must move forward to address this issue today through a sustainable, long-term federal, state and local financial partnership via a clean water trust fund. Absent such action, the funding gap will widen and many of the water quality gains achieved during the past 35 years will be lost. NACWA looks forward to working with this committee to ensure sustainable water quality progress for future generations of Americans. Thank you and I look forward to your questions.

NACWA Strategic Watershed Task Force

RECOMMENDATIONS FOR A VIABLE AND VITAL 21ST CENTURY CLEAN WATER POLICY

October 18, 2007

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EXECUTIVE SUMMARY

In the 35 years since the Clean Water Act was passed, clean water agencies have contributed significantly to improvements in the quality of the nation's waters. Despite these and other improvements from point-source discharges and the significant reductions in the concentrations of pollutants that have been achieved in our lakes, rivers and streams, the incremental rate of water quality improvement has slowed significantly. Increasing amounts of resources are now being spent to curtail end-of-pipe discharges, but a proportionate return on investment is not being seen in improved water quality. NACWA's clean water agency members remain on the frontlines of protecting and restoring our nation's waters. They continue to upgrade their treatment processes and have increased their overall environmental protection capabilities, but they are also increasingly aware of the disconnect between current management, monitoring and implementation practices and what is needed to achieve the goals of the Clean Water Act.

Responding to the overwhelming evidence that water quality problems were often caused by multiple and often diffuse sources of pollution within a watershed, clean water agencies and the U.S. Environmental Protection Agency (EPA) began in the early 1990s to explore the concept of a watershed-based approach to improving water quality as a possible solution to achieving the Clean Water Act's goal of restoring the integrity of the nation's waters. Since that time there have been many attempts by EPA and others to spur interest in the concept. But a meaningful, functional watershed approach remains elusive.

In March 2007, NACWA formed a Strategic Watershed Task Force to investigate if the concept of a "watershed approach" may still prove to be the path forward to improve the quality of the nation's waters further. The Task Force was charged with identifying the obstacles to achieving a true watershed approach and the changes that need to be made for it to succeed.

Framed by a discussion of the opportunities provided by a meaningful and effective watershed approach, as well as the current obstacles to implementing such an approach, the Task Force developed several key short and long-term recommendations.

In the short-term, the Task Force used the Clean Water Act as a starting point and recommended the following actions:

1. Reinvigorate the watershed-based planning process as outlined in Section 208 of the Clean Water Act;
2. Pursue new, more aggressive measures and funding to address needed controls on agricultural nonpoint sources;
3. Promote adaptive implementation of water quality improvement measures based on valid science;
4. Better utilize market-based approaches;
5. Break down programmatic regulatory and enforcement silos within EPA's organizational structure;
6. Use a more appropriate sequence for establishing total maximum daily loads (TMDLs); and,
7. Prioritize actions and planning that are currently underway according to watershed needs.

As we contemplate water quality issues over the next several decades, long-term changes are also necessary to fully align current environmental laws and regulations with a comprehensive, holistic watershed approach. These will require tremendous leadership from Congress, EPA, the Departments of Agriculture and Interior,

and participation from all stakeholders in order to succeed. The Task Force recommends the following actions to achieve a long-term solution:

1. Establish a new water quality framework via a 21st century Watershed Act;
2. Reorganize EPA to reflect this new watershed framework; and
3. Conduct monitoring and research to show that progress is being made via a watershed approach.

NACWA's Strategic Watershed Task Force recommendations do not detract from one of the greatest challenges facing the nation's Clean Water Act programs – the water infrastructure funding gap, estimated by EPA and other federal agencies to be between $300 – 500 billion over the next 20 years. Clearly, a massive investment in the nation's existing wastewater infrastructure will be needed simply to sustain current water quality levels. NACWA believes that, while a watershed approach will not eliminate existing needs, it is the appropriate approach to prioritize investments and resource allocations, and will result in the greatest benefit to the environment.

A meaningful and effective watershed approach offers regional and local authorities the tools they need to ensure the next generation of water quality improvements. NACWA is excited about the recommendations contained in this report and the vital role its members will continue to play over the next 35 years in advancing clean and safe waters and a healthy, sustainable environment.

I. BACKGROUND AND INTRODUCTION

The amendments to the Federal Water Pollution Control Act of 1972 (or Clean Water Act) set an ambitious objective to "restore and maintain the physical, chemical, and biological integrity of the nation's waters," by, among other things, eliminating the discharge of pollutants into navigable waters. In 35 years of implementing the Clean Water Act, vast improvements have been made to the health of the nation's lakes, streams, rivers, and coastal waters. As the only organization dedicated solely to the interests of the Nation's public wastewater treatment agencies, the National Association of Clean Water Agencies (NACWA) is proud of its members' key role in this environmental progress. Although progress under the Clean Water Act has been significant, more improvements are needed, especially for the 40 percent of the nation's waters that are still classified as impaired. NACWA believes that a comprehensive, integrated watershed approach that considers all uses and sources of pollution within hydrologically-defined areas is needed to meet the goals of the Clean Water Act in the future.

Before implementation of the Clean Water Act, many of the nation's waters were used as open receptacles for untreated sewage and industrial waste. The following passage from Upton Sinclair's *The Jungle* describes Chicago's Bubbly Creek in 1906: "all the drainage of the square mile of packing-houses empties into it, so that it is really a great open sewer a hundred or two feet wide... Here and there the grease and filth have caked solid, and the creek looks like a bed of lava..." The Cuyahoga River caught fire multiple times between 1936 and 1969, when it was described as "chocolate-brown, oily, bubbling with subsurface gases, it oozes rather than flows."[1] Fortunately, these notorious examples of polluted waters, which helped draw the nation's attention to the extent of the problem, no longer exist. Bubbly Creek is now the site of residential development with million-dollar homes and the home of an occasional four-pound coho salmon.[2] While work on improving the water quality of the Cuyahoga River continues, river fires are a distant memory. Many other rivers and lakes that were previously considered "dead" now have recovering or healthy aquatic life populations.

These stories of water quality improvement illustrate the success brought about by the Clean Water Act in the past 35 years, mostly through the "end of pipe" regulations of the National Pollutant Discharge Elimination System (NPDES) permit program and a successful municipal grants program. All point source discharges to waters of the U.S., such as those from municipal, industrial, and other commercial facilities, require NPDES permits, and the pollutants entering waters through these point sources are, therefore, strictly controlled. Through NPDES permits, the U.S. Environmental Protection Agency (EPA) initially imposed technology-based effluent guidelines on discharges, requiring that most sewage undergo secondary (biological) treatment and ensuring that other wastewater received the best treatment available and economically achievable before discharge. More recently, as improvements in water quality were made, EPA and the states have used water quality-based permit requirements, which limit discharges based on the water quality standards for the receiving water, where technology-based standards are not enough.

Despite these significant point-source discharge reductions, the incremental rate of improvement to water quality has slowed significantly. Increasing amounts of resources are spent to continue curtailing end-of-pipe

[1] *Time*, "The Cities: The Price of Optimism," August 1, 1969, *http://www.time.com/time/magazine/article/0,9171,901182,00.html.*
[2] *Chicago Business*, "Flushing Out Bubbly Creek," July 25, 2004, *http://chicagobusiness.com/cgi-bin/news.pl?id=13288&seenIt=1.*

discharges, but a proportionate return on investment is not being seen in the quality of the nation's waters. In the 35 years since the Clean Water Act was passed, clean water agencies have significantly upgraded sewage treatment processes and increased their environmental protection capabilities. Publicly owned treatment works (POTWs) will continue to play a major role in water quality improvement as aging infrastructure is repaired or replaced and new practices achieve better treatment performance. However, NACWA members are increasingly aware of the disconnect between current water quality management and implementation practices and what is needed to achieve the original goals of the Clean Water Act.

As early as 1992, when reauthorization of the Clean Water Act was being actively pursued, NACWA (then known as the Association of Metropolitan Sewerage Agencies) spearheaded a massive effort to develop a comprehensive watershed management act that recognized the need for more creative and flexible approaches to controlling increasingly complex and diverse sources of pollution. The Comprehensive Watershed Management Act of 1993, though never introduced in Congress, set out a bold framework for increased stakeholder involvement, active participation by local governments and clean water agencies, the formation of Watershed Commissions to guide implementation, and provisions to ensure sustained progress. Since that time there have been many attempts by EPA and others to spur interest in the concept, but an effective watershed-based approach to water quality has remained elusive at the national level.

To preserve the progress already made and to continue improving the quality of our nation's waters, investments in water quality between point sources and nonpoint sources, such as urban and agricultural runoff, must be allocated more equitably. The Clean Water Act envisioned that both point and nonpoint sources of pollutants would be controlled, with a goal "that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act to be met through the control of both point and nonpoint sources of pollution." While the Clean Water Act clearly outlined the regulatory framework for point sources, a similar regulatory framework was not provided for nonpoint sources. Because of this historic regulatory focus on point sources, nonpoint sources are now responsible for more impaired water bodies than point sources.

With these facts in mind, we must find ways to reinvigorate our nation's commitment to the Clean Water Act's objective to "restore and maintain the chemical, physical, and biological integrity of the nation's waters," and we must develop new strategies and approaches to deal with the most significant pollution problems that we face today. It is time to move beyond the point source by point source approach and consider the overall contributions of diffuse and individual sources of pollution that impair the health of aquatic ecosystems, or watersheds. Water that is free of chemical or bacteriological pollutants provides little benefit if erosion, lack of habitat, or other negative impacts prevent the water from meeting the goals of the Clean Water Act.

Approaches to the future of water quality need to be guided by stewardship of the environment and responsible management of public resources. A comprehensive and integrated watershed approach to water quality will fully incorporate the chemical, physical, and biological needs of the watershed into planning and management decisions. The comprehensive consideration of all water needs recognizes the multiple uses of water resources and provides for participation of all stakeholders in making watershed decisions. When prioritization of watershed needs occurs, the best use of public and private funds can be made by addressing the top causes of water quality impairment first.

II. NACWA'S STRATEGIC WATERSHED TASK FORCE

To mark the 35th anniversary of the Clean Water Act on October 18, 2007, NACWA believes it is time to re-examine the direction of the nation's water program. EPA has described the watershed approach as the way to move forward with water quality improvement since 1991, but NACWA's utility members have found it difficult to put the watershed approach into practice in the current legislative and regulatory context. EPA has studied this problem itself, convening a forum, *A Watershed Approach to Utility Management*, in December 2006 to examine the successes that a few utilities have had with watershed approaches. The forum resulted in several broad recommendations for better implementation of the watershed approach, including the need to "explore legal, regulatory, and policy changes with the purpose of legitimizing integrated watershed and source water protection programs." EPA asked the National Advisory Council for Environmental Policy and Technology (NACEPT) to identify ways the Agency could improve its "sustainable approaches to water resource management and infrastructure to meet watershed goals." In addition, the National Academy of Public Administration (NAPA) completed a report at the request of the White House Office of Management and Budget, examining the Chesapeake Bay program as an example of the performance of the nation's environmental programs.

These previous initiatives all suggest important paths to improvement, and NACWA agrees with many of the recommendations. However, NACWA saw a need to add the experiences of its members, the clean water agencies that have been responsible for much of the improvements to water quality in the last 35 years. The NACWA Strategic Watershed Task Force was formed to investigate how a watershed approach could work to improve the nation's waters, the obstacles to achieving these improvements, and the changes that need to be made for a watershed approach to succeed. The members of the Task Force are clean water professionals with years of experience in the public policy, regulatory and legal issues that govern watershed management, and their experiences provide a valuable basis for the recommendations contained in this report. The recommendations offer specific changes that could be made immediately or in the near future to facilitate a watershed approach, and broader, long-term changes that are needed to make a watershed approach the basis of the nation's water policy and programs.

III. THE WATERSHED APPROACH

A. *Section 208 of the Clean Water Act*

The idea of a watershed approach to water resource quality management is not new. Section 208 of the Clean Water Act, Areawide Waste Treatment Management, envisioned regional water quality management planning that would today be referred to as a "watershed approach." Under this part of the Clean Water Act, each state must identify the boundaries of areas with substantial water quality control problems and designate a single representative organization to formulate a management plan for the area. Section 208 states that the plan should include, but is not limited to, the following elements: identification of treatment works needed for municipal and industrial waste; identification and control of agricultural, mine-related, and construction activity-related sources of pollution; identification and control of salt water intrusion into rivers, lakes, and estuaries; and control of the disposal of wastes on land or in excavations. Watersheds that span political boundaries are recognized, with states instructed to form one designated agency to plan for an area located in more than one state.

Section 208 also provides for cooperation with the U.S. Department of Agriculture (USDA) agencies to establish programs for "installing and maintaining best management practices to control nonpoint source pollution for improved water quality." Funding was authorized for appropriation by the Secretary of Agriculture for contracts with owners and operators of rural land to implement soil conservation and other best management practices, but only for fiscal years 1979 through 1982.

States were required to complete regional watershed management plans under Section 208 and submit the plans to EPA after the Clean Water Act was passed. In most cases, though, funding was never provided to implement these plans, and they have not been used and have become irrelevant. While Section 208 planning has not been fully utilized or implemented, it does lay the initial framework for implementation of a watershed approach. Before discussing how such an approach could be successfully used to improve water quality, it is important to define what constitutes a watershed approach.

B. *EPA Definitions of a Watershed Approach*

EPA began consideration of watershed approaches as part of its water quality policy in the early 1990s. EPA's Office of Water endorsed a *Watershed Protection Approach Framework* in 1991, then updated it in 1996. This *Framework* provided a general definition of a watershed approach as "a coordinating framework for environmental management that focuses public and private sector efforts to address the highest priority problems within hydrologically-defined geographic areas, taking into consideration both ground and surface water flow."

The watershed approach is currently one of EPA's "Four Pillars" for sustaining water infrastructure. As part of the Four Pillars, the watershed approach definition is expanded, "to encourage the adoption of watershed management principles and tools into utility planning and management practices, so that key decision-makers consider watershed-based, cost effective alternatives along with traditional treatment technology investment choices. Watershed management approaches include, but are not limited to, source water protection, water

quality trading, centralized management of decentralized systems, and smart growth approaches to stormwater and wastewater management." [3]

EPA's Office of Wetlands, Oceans, and Watersheds provides another definition of watershed approach, stating that a watershed approach:

- Is hydrologically defined
  - geographically focused
  - includes all stressors (air and water)
- Involves all stakeholders
  - includes public (federal, state, local) and private sector
  - is community based
  - includes a coordinating framework
- Strategically addresses priority water resource goals (e.g. water quality, habitat)
  - integrates multiple programs (regulatory and voluntary)
  - based on sound science
  - aided by strategic watershed plans
  - uses adaptive management[4]

C. *NACWA Definition of a Watershed Approach*

For the recommendations contained in this report, a definition of a watershed approach that builds on the EPA definitions will be used. NACWA's definition is as follows:

> A watershed approach is a holistic, collaborative framework that focuses water quality protection and restoration efforts within a hydrologically-defined area (i.e., a watershed). A watershed approach:
> - Considers the physical, chemical, and biological aspects of water quality;
> - Allows prioritization of watershed needs based on scientific data and available resources;
> - Involves all stakeholders in prioritization and planning;
> - Provides for coordinated implementation of all water quality restoration and maintenance activities; and
> - Ensures any activities affecting water quality address established watershed priorities.

NACWA believes that the existing Section 208 program of the Clean Water Act, though not a ready-made solution, can provide the initial framework for a watershed approach as defined above. Other regulatory changes will be necessary to realize the opportunities for water quality improvement that a watershed approach can provide and remove the obstacles to implementation.

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[3] EPA Office of Water, *Sustaining our Nation's Water Infrastructure*, August 2006, *http://www.epa.gov/waterinfrastructure/pdfs/brochure_si_sustainingournationswaters.pdf.*
[4] *http://www.epa.gov/owow/watershed/approach.html*

IV. OPPORTUNITIES PROVIDED BY A WATERSHED APPROACH

A watershed approach provides multiple opportunities for improving stewardship of both the environment and public resources. Some municipalities have already been able to incorporate aspects of a watershed approach into their water resource management plans, and several key examples help to illustrate the potential opportunities under a watershed approach.

A. *Integrated Water Resources Management*

Integrated water resources management under a watershed approach considers water quantity, water quality, and habitat together, rather than as separate issues. Combining these issues recognizes the physical, chemical, and biological considerations that are called for in the Clean Water Act. Consider the following examples of two communities that have attempted to link multiple regulatory frameworks into a comprehensive watershed approach.

> Philadelphia, Pa. - The Philadelphia Water Department's Office of Watersheds uses a watershed approach to deal with combined sewer overflows. Their approach targets dry weather water quality and aesthetics, healthy living resources, and wet weather water quality and quantity. The approach focuses on improving the accessibility and aesthetics of streams and restoring them to a more natural state, which in turn helps to improve dry weather water quality. Dry weather water quality is also improved with a focus on infrastructure, including sewer line rehabilitation, elimination of defective laterals, and proper treatment of wastewater. Streams become healthier living resources through a focus on improved habitat and healthy aquatic life populations, restoration of natural stream conditions, and addition of fish ladders and modification of dams to allow for fish passage. Wet weather quality and quantity is managed with a combination of traditional "gray infrastructure," which uses tanks and tunnels to store excess stormwater and wastewater, and "green infrastructure," which increases pervious surfaces and allows more infiltration and natural storage of stormwater. In addition, stormwater management is improved through innovative stormwater regulations, with financial incentives given for reducing impervious areas and increasing the infiltration of stormwater. All of these efforts are managed in a coordinated fashion, enabling the Office of Watersheds to assess the impact of the entire program on the health of the watershed.

> Chicago, Ill. - The Metropolitan Water Reclamation District of Greater Chicago (Chicago) recently was given statutory authority for stormwater management for Cook County's 1,000 square miles. The county is composed of seven watersheds, some being wholly within the county and others having area both upstream and downstream in three other Illinois counties and two other states. Planning coordination with the extraterritorial areas is a critical component. Four watersheds have areas served by both combined and separate sewer systems. Although a long-term control plan (LTCP) for combined sewer overflows (CSOs) is nearing completion of construction, enhanced stormwater management for surface water is expected, at least partially, to reduce the load on the CSO facilities and reduce future CSOs. The use of green technologies and infrastructure for stormwater management will be emphasized through outreach to, and education of, the 130 municipalities in the county. Widespread use of these low-tech best management practices will retain more water at or near

> the point of origin for enhanced water resource management. Stormwater management planning and a companion regulatory ordinance will address flooding, erosion, water quality and protection/restoration of riparian/wetland habitat.

These are just two examples where wastewater authorities have dramatically improved the coordination among water related programs. Future integrated water resources management efforts could expand on these programs to include even more of the relevant community planning and management authorities.

B. *"Water is Water"*

A watershed approach is holistic, acknowledging that "water is water" – an expression used to indicate that the traditional regulatory categories (e.g., wastewater, stormwater, drinking water) are artificial divisions of overall water quality issues. For a holistic watershed approach that implements the idea that "water is water" to succeed, all stakeholders must be willing to work cooperatively in making water resource management decisions. Many communities are already recognizing the value of looking at all water as a single resource. The City of Los Angeles, for example, has recently completed a 20-year plan for wastewater, drinking water, and water reuse, recognizing that these areas are closely integrated, especially in the City's arid climate. Involvement of a wide-range of stakeholders from the outset was vital to constructing a plan that all divisions of the City's government and the community could embrace.

The recognition that "water is water" also facilitates water quality credit trading programs and market-based incentives that may help stakeholders find optimal solutions to water quality issues. Water quality credit trading programs operate by allowing point sources to meet regulatory requirements by reducing pollution from another point or nonpoint source in the same watershed. The trade occurs so that overall water quality objectives can be met for the watershed more effectively and/or at a lower cost, often times resulting in ancillary benefits that were not the focus of the trade. Water quality credit trading is endorsed and supported by EPA as a way of achieving significant environmental and economic benefits.[5]

> Hillsboro, Ore. – Clean Water Services has used a water quality credit trading program to meet objectives for water quality, water quantity and habitat in the Tualatin River watershed. This river has a TMDL requirement to reduce the thermal loads discharged to it, and the wastewater treatment facilities were having difficulty meeting this requirement. Rather than refrigerating the wastewater effluent, the temperature requirement has been met by planting over 34 miles of shaded buffers along the river, augmenting in-stream flows and by reusing effluent for irrigation instead of withdrawing river water for irrigation. Water quality credit trading has also occurred in the watershed between point sources, allowing one wastewater treatment facility to discharge ammonia at a slightly higher rate due to the significant reductions made at another treatment facility.

By taking a holistic, systems-view of the watershed, significant cost-effective environmental benefits can be derived.

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[5] January 13, 2003, *Final Water Quality Trading Policy, http://www.epa.gov/owow/watershed/trading/finalpolicy2003.html*, and August 2007, *Water Quality Trading Toolkit for Permit Writers, http://www.epa.gov/owow/watershed/trading/WQTToolkit.html*

C. *Prioritization*

An important opportunity provided by a watershed approach is the science-based prioritization of water quality, water quantity and aquatic habitat issues in a watershed. When setting priorities, the overall goals of protecting human health and restoring the integrity of the environment should be emphasized. Priorities and solutions that provide the largest overall environmental impact can then be developed based on current scientific data and research. This type of prioritization recognizes the need to consider both environmental progress and the wise use of public resources, allowing available funding to address the most significant water quality problems first. Effective use of taxpayer, ratepayer, and other public funds is maximized, and money is spent on projects in the order that will improve the environment most expeditiously.

Good monitoring and modeling data is needed to evaluate priorities appropriately. The Milwaukee Metropolitan Sewerage District (MMSD) in Milwaukee, Wis. has partnered with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) under a memorandum of understanding to conduct parallel planning efforts under the *Water Quality Initiative.* The District's Section 201 facilities plan and SEWRPC's Section 208 regional plan shares resources, data, water quality models and analyses under the umbrella of a watershed-based, water quality planning approach to identify and address the dominant sources of pollution in the watersheds of southeastern Wisconsin. This science-based study found that 90 percent of the water pollution in area watersheds resulted from nonpoint sources. The monitoring data and modeling from the study enable discussions about priorities and how water quality can be improved most effectively. In Milwaukee's case, it is clear that nonpoint sources must be the focus of water quality improvement efforts.

Milwaukee is not an isolated case. Other communities have collected similar data indicating that additional controls on pollutant sources that have historically been targeted may no longer be the most cost-effective means of improving water quality.

D. *Comprehensive, Innovative Solutions*

The concepts and opportunities embodied in a watershed approach should lead to greater use and acceptance of innovative, natural system solutions that can improve water quality and have other environmental benefits. A primary example of this type of innovation is green infrastructure, which imitates natural processes to facilitate the infiltration, evapotranspiration, and/or reuse of stormwater and wastewater. Green infrastructure can provide multiple environmental benefits, such as stormwater control, air quality improvements, reduced energy demands, and improved habitat. EPA recognizes these benefits and has begun to encourage the increased use of green infrastructure.[6] Green infrastructure often offers a cost-effective, sustainable method for improving and maintaining the physical, chemical, and biological integrity of water. Many communities are already putting these concepts into practice.

> Portland, Ore. - To reduce combined sewer overflows, the City of Portland, Oregon is using a comprehensive approach that includes green infrastructure management of stormwater runoff. Stormwater runoff is slowed, filtered, cleansed, and infiltrated through soil and plant systems.

[6] *Green Infrastructure Statement of Intent* Boornazian, Linda, and Mark Pollins, *Memorandum on Use of Green Infrastructure in NPDES Permits and Enforcement*, EPA Water Permits Division and Water Enforcement Division, August 15, 2007

Infiltration gardens, vegetated swales, stormwater curb extensions, stormwater planters, and green roofs are all used to manage the stormwater runoff, with the added benefit of aesthetically enhancing the community. The green infrastructure is supplemented by traditional gray infrastructure improvement, using increased storage capacity to contain stormwater runoff until it can be treated.

Chicago, Ill. - The Chicago area sits upon a sub-continental divide that was breached at the start of the 20th Century to reverse the flow of the Calumet and Chicago Rivers, saving Lake Michigan source water from being polluted by the city's sewage and runoff. With all treated effluent now discharged to the Mississippi River Basin, Chicago is the largest point source of municipal wastewater nutrients draining to the Gulf of Mexico. Recognizing the high cost and energy demand of conventional nutrient removal technologies, the Metropolitan Water Reclamation District of Greater Chicago (Chicago) is looking to wetlands to solve its large nutrient load. Vast areas of bottom land along the Illinois River can be reverted to the wetlands they once were to reduce the nutrients of not only Chicago's municipal wastewater, but also of the even greater nutrient load draining from the corn-belt farm lands in central Illinois, as well as the wastewater of other municipalities in the watershed. Created and restored wetlands along the Illinois River and its tributaries provide benefits beyond nutrient removal, including biodiversity, flood storage, recreation and wildlife habitat. Chicago is working on a pilot project to demonstrate these benefits and the workability of water quality trading. The reduced energy demand using wetlands together with their ability to sequester carbon offers significant climate change advantages as well.

Innovative "gray infrastructure" solutions can also be critical components of a watershed approach. These solutions may provide the most cost-effective method for addressing a specific watershed priority, and regulatory flexibility may be needed for these infrastructure projects.

Cincinnati, Ohio - The City of Cincinnati is using a peak excess flow treatment facility (PEFTF) as a demonstration project for managing excess stormwater flow. The PEFTF operates only during wet weather events, providing primary treatment and disinfection to the stormwater. Although the PEFTF results in significant water quality improvement, there is currently no regulation allowing its use as a permanent facility. Cincinnati was allowed to construct and use the PEFTF for a specified time period and perform an evaluation to show the effectiveness of the facility. Ideally, regulations will be developed to allow the facility to remain permanently – if proven to be the best, most reasonable solution to the overflow problem.

A watershed approach, with its comprehensive evaluation and prioritization of water quality needs, can provide a regulatory framework and support for these types of innovative solutions. Current regulatory implementation and enforcement practices often do not allow for natural system approaches, such as pollutant reductions in wetlands downstream of a discharge which might offset the necessity of installing higher levels of treatment at the utility, and are proving to be significant obstacles to this type of innovation. For example, a watershed approach would allow for examination of the value of the discharge itself to low-flow streams, which may not be able to support aquatic ecosystems without these additional flows. A watershed approach could also allow for consideration of the additional energy demands of requiring more advanced treatment.

V. OBSTACLES TO IMPLEMENTING A WATERSHED APPROACH

Municipalities considering implementation of a watershed approach have encountered many obstacles resulting from current regulatory and political structures. These obstacles will need to be resolved before the opportunities available through a watershed approach can be fully realized.

A. *Regulatory Silos – Roadblocks to Implementation*

A watershed approach is inherently hampered by regulatory "silos" that discourage the holistic planning and management required for watershed improvements. These silos include the different legislation that affects watershed management, such as the Clean Water Act, the Safe Drinking Water Act, and the Endangered Species Act. The separate provisions of each Act do not recognize that "water is water" or that integrated watershed management and prioritization of watershed needs can result in the greatest overall environmental benefits.

> Los Angeles, Calif. - For the Los Angeles County Sanitation Districts, this disconnect between the regulations that currently govern wastewater, drinking water, stormwater, and water reuse is resulting in very real consequences. Confronted with a stringent TMDL for chloride, the Districts are faced with the option of building a pipeline to the ocean to discharge secondary effluent or the more expensive alternative of installing the microfiltration and reverse osmosis needed to meet the requirements of the chloride TMDL for discharging into a nearby stream. Neither option is ideal as the cheaper pipeline would result in the loss of flow in the stream, hurting downstream farmers by greatly diminishing the supply of irrigation water.
>
> In this case, focusing on water quality issues on a pollutant-by-pollutant, segment-by-segment basis, as is mandated by current Clean Water Act regulations, rather than considering all pollutants on a watershed basis, could lead to an ineffective use of public money. Implementation of either the microfiltration and reverse osmosis treatment process or the secondary treatment pipeline would require an investment in the range of $350 million to $400 million, all to address a chloride impairment which occurs only within a very limited section of the river with no prior, existing, or planned agricultural uses that would be sensitive to salt levels. These costly, non-ideal solutions would result in high energy consumption, water wastage, and/or the adverse hydrologic impacts noted above. A comprehensive watershed-level analysis would much better assure that the public's investment was directed toward the project that would result in the greatest improvement of the ecology of the river and protection of the various uses of the river.

Regulatory silos also exist in EPA's organizational structure, with these silos particularly evident in the separation of the Office of Enforcement and Compliance Assurance (OECA) from the various program offices (e.g., the Office of Water). With its sole focus of enforcement, combined with the government's propensity to measure effectiveness based on quantity rather than quality, EPA's enforcement office will often target compliance violations that result in little or no environmental impact. This creates an adversarial relationship between EPA and the entities it regulates, rather than the cooperative relationship necessary for a watershed approach. The separation of enforcement actions from Office of Water management and implementation

decisions greatly decreases the flexibility needed for the prioritization and innovative solutions that could lead to success under a watershed approach.

Silos also exist in the issuance of discharge permits. Although EPA allows and encourages NPDES permitting on a watershed-basis,[7] it is very difficult to synchronize the timing of permits, and permits are still issued on an individual basis to utilities and other entities. True watershed permitting would comprehensively account for all sources (not just point sources), consider the needs of all stakeholders in terms of watershed priorities, and prioritize improvement and restoration activities to achieve the greatest environmental benefit, regardless of the specific regulatory framework.

B. *Regulations Established Ahead of Science*

Many regulations and permit requirements are established without proper scientific research and data, due to legislative or court-imposed schedules or some other external driver. These regulations and requirements often do not address the most significant sources of pollution, or do not adapt with time to reflect current conditions. For example, numeric limits that are currently imposed on point source dischargers can be poor management tools for protection of uses and ecosystems for some pollutants. National numeric limits for nutrients are a prime example. Each watershed will respond differently to a particular load of nutrients, and setting permit limits based on a national, one-size-fits-all approach would not account for the different assimilative capacities of watersheds. For many pollutants, better performance measures that promote optimization of environmental benefits and available resources are needed.

The Clean Water Act, in spite of its broad goals, has primarily focused on end of pipe discharges, reflecting the most significant sources that existed 35 years ago. Because of the Act's successes, the major sources of pollutants have shifted. In the 1970s, a majority of the bacteria loadings to urban waters were attributable to CSOs. Now, for those combined sewer communities who have made significant progress in implementing their long-term control plans, the contribution of bacteria from urban runoff has far surpassed that of CSOs. Yet the regulatory focus is still on the point sources. The current understanding of pollution sources is not reflected in the regulations and more pollution studies are needed to accurately determine the sources of water pollution so they can be effectively addressed. Prioritization of watershed needs could then occur, rather than spending more money on reducing sources that are already comparatively small.

Total maximum daily load (TMDL) schedules can require water resources management decisions ahead of the development of the science to support those decisions. TMDLs are developed on a contaminant-by-contaminant basis, resulting in individual contaminant TMDLs that often conflict with each other. Comprehensive approaches to reducing or controlling contaminants should be used in developing TMDLs and other regulatory tools along with adaptive management with clearly definable milestones/performance standards.

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[7] July 20, 2007, *Watershed-Based National Pollutant Discharge Elimination System (NPDES) Permitting Technical Guidance, http://cfpub.epa.gov/npdes/wqbasedpermitting/wspermitting.cfm*

C. *Insufficient Flexibility for Finding Solutions*

Long-term goals and sustainable solutions need to be developed for water quality problems. For water resources management, the current 5-year NPDES permits are too restrictive and promote only short-term water quality goals. Most water quality problems require a long-term commitment and significant capital investment, and longer term plans and permits would be more appropriate. Even for long-term wet weather plans, 20 years may not be enough time to address all of the problems affordably.

Holistic solutions to water quality on a watershed scale will require more adaptability than traditional, end-of-pipe focused techniques. Flexibility is needed with permitting and compliance to allow adaptation in response to the field performance of new and innovative integrated approaches. Green infrastructure will require adaptive management because of the natural processes employed, which may in turn be affected by other natural processes such as severe weather, and because the vegetation involved may take many years to mature and achieve optimum performance. The experiences of the municipal separate storm sewer system (MS4) program provide a foundation for such an approach.

Finally, the overall environmental benefit of green infrastructure needs to be recognized and quantified to encourage its use and acceptance. Balance of overall environmental benefit also needs to be used in the evaluation of green infrastructure's effectiveness. For example, restoration of urban riparian corridors designed to reduce nutrient runoff, reduce erosion, and provide shade may also attract more wildlife and actually increase bacteria loadings to the stream. Flexibility in the implementation of water quality requirements is required to allow for and acknowledge these types of situations.

D. *Uneven Enforcement*

Enforcement of environmental regulations often does not reflect the most important sources of water quality problems. As discussed previously, the majority of impaired waters now results from nonpoint sources instead of point sources, but the Clean Water Act remains squarely focused on point sources. Point sources become government enforcement priorities, while nonpoint source improvement programs generally rely on voluntary participation. Water quality will not see significant improvement until this disparity is resolved or improvements are appropriately incentivized.

Prioritization of watershed needs and the most cost-effective solutions are often hampered by, or even prohibited under, current regulations. This is illustrated by the current situation with sewer overflows and the enforcement actions taken against municipalities that have overflows. Although reduction and elimination of sewer overflows are goals that environmentalists and clean water agencies share, aging and inadequate infrastructure usually requires tremendous capital expenditures to meet these goals. In cases where only a small amount of bacteria comes from overflows, addressing the problem of bacteria in urban runoff before reducing overflows might be more cost-effective and result in greater environmental benefits. Zero tolerance and aggressive enforcement, especially related to wet weather overflows, have resulted in court-ordered spending with no real linkages to water quality. Taxpayer and rate-payer funds may be better spent, and more water quality improvements made, if projects are prioritized and sequenced so that those with the best cost/benefit ratio are conducted first.

E. *Political Issues*

Watersheds often extend beyond traditional jurisdictional boundaries, requiring different legal entities to work together. This cooperation requires that all entities involved provide funding and give up some amount of control to achieve holistic watershed improvement. Without a political and enforcement framework to guide these interactions, there is little incentive for different jurisdictional authorities to work together to prioritize and implement water quality projects. Partnerships are needed between regulators, dischargers, and environmental groups, and these partnerships must be able to survive changes in political leadership.

VI. RECOMMENDATIONS FOR SHORT-TERM IMPROVEMENTS

Many changes must occur before all of the obstacles to watershed-level implementation can be overcome. NACWA offers the following set of recommended actions, based on the real-world experience of its members, that it believes would set the nation's water program on the right course for the future. Many of these actions can be accomplished in the short-term, while others will require a larger, longer-term commitment from legislators and regulators.

Our recommendations for short-term improvements use the Clean Water Act as a starting point. The Clean Water Act contains many provisions that can be used in a watershed approach, including the initial, overall objective that the Act restore and maintain the physical, chemical and biological integrity of the nation's waters. Better utilization of the watershed planning approach outlined in Section 208, better TMDL implementation, and better program integration can at least partially realize some of the benefits of a watershed approach. In addition, existing EPA and other federal government programs can be modified or improved to recognize the value and necessity of a watershed approach. NACWA's short-term recommendations are as follows:

1. **Reinvigorate the planning process of Section 208 of the Clean Water Act.** As discussed previously, Section 208 envisioned regional water quality management planning within areas of substantial water quality control problems. The management plans, formulated by a single representative organization, would consider all sources of pollution and control measures for them. While all states were required to complete the Section 208 process after the Clean Water Act was passed, the management plans have generally been ignored since that time.

   In some of the few places where the plans were followed or have been revived, successes have been seen on the watershed level. In Milwaukee, a Section 208 planning effort was completed in 2007 and has shown that in order to realize the greatest water quality benefit, the investments must include more emphasis on nonpoint pollution. The Section 208 planning effort has opened the door for a more detailed TMDL analysis, which will "shine a light" on the remaining pollutant sources and help to break down the barriers between plan development and implementation.

   To facilitate Section 208 planning and implementation, federal funding from the Farm Bill could be directed to watershed planning, in addition to conservation. Watershed planning would help the conservation funds to be used to the greatest advantage in protecting and improving water quality. Section 208 is not ready-made for this new role, but it provides a clear framework in which to better coordinate planning and clean-up efforts on a more holistic level.

2. **Pursue new, more aggressive measures and funding to address needed controls on agricultural nonpoint sources.** The Farm Bill has been used to promote and fund conservation efforts in the agriculture sector leading to demonstrated water quality improvements. However, as EPA's Science Advisory Board noted in its recommendations on the Gulf of Mexico hypoxia problem, the voluntary programs in the Farm Bill are not likely to obtain significant reductions in key pollutants as long as

there are limited economic incentives (positive or negative) to encourage participation.[8] In addition, the significant sums of money already dedicated to the Farm Bill's various conservation programs must be spent more effectively. To maximize pollutant reductions, targeted and competitive bidding mechanisms could help to ensure that lands enrolled achieve maximum environmental benefits at the lowest cost. Conservation compliance requirements, with targeted reductions in key pollutants, could also be included to ensure that funding is linked with environmental improvement. Additional efficiency could be achieved through the consideration of ancillary benefits - a project that will restore a wetland may be selected over a less costly cropland management plan due to the additional benefits (e.g., habitat, flood control) that the wetland would bring. Providing additional federal funding for nonpoint source controls with the addition of new measures like these should be a priority, but there must also be an oversight regimen to ensure that the funds are in fact being spent as intended.

3. **Promote adaptive implementation of water quality improvement measures based on science.** NACWA and the wastewater industry recognize that nobody fully understands yet how to effectively implement a meaningful watershed approach on a national basis. Adaptive implementation will therefore be required, and decisions will need to be made about watershed priorities and what approaches work well for a specific watershed based on scientific monitoring and data assessment that should occur in a coordinated, watershed-wide manner.

   Addressing nonpoint sources of pollution before further addressing most point sources is likely the most logical adaptive implementation strategy for many watersheds. The answers to how well nonpoint sources can be controlled and what techniques will work best are not yet fully known. We do know, however, that with point source controls maintained at current levels, any gains in nonpoint source control will improve water quality. As data is collected on the effectiveness of nonpoint source controls, decisions can be made about how to devote regulatory energy and financial resources to continue improving both point and nonpoint source controls in the future.

   Adaptive management is also necessary for the innovative solutions enabled under a watershed approach. By their nature, the performance of innovative solutions is not completely predictable, and monitoring will be necessary to prove their effectiveness or to show that other approaches would be better. Adaptive implementation is especially important for green infrastructure, because it uses and depends on natural materials and processes.

4. **Better utilize market-based approaches.** Water quality credit trading efforts are already being implemented, but most credit trading occurs between point sources. A viable method of credit trading between point sources and nonpoint sources is needed, such as the Clean Water Services, Oregon example of planting trees to shade river waters instead of refrigerating the effluent from wastewater treatment facilities. With this type of credit trading, point sources can invest in nonpoint source controls to achieve better environmental results in a more cost-effective manner. In addition, further efforts to control point sources, approaching the limits of technology, will decrease the opportunities for meaningful water quality credit trading. Additional use of watershed-based permits, including

[8] July 24, 2007, *Draft Advisory Report of the Science Advisory Board (SAB) Hypoxia Panel, http://www.epa.gov/sab/pdf/hap_draft_advisory_report_7-24-07.pdf*

integrated municipal permits, should be a priority and will provide more opportunities to use market-based solutions.

5. **Break down programmatic regulatory and enforcement silos within EPA's organizational structure.** EPA's Office of Water should evaluate the watershed management aspects of all its offices and divisions. Reorganization should occur as necessary to provide a structure that will allow watershed planning and implementation to proceed with a minimum amount of conflict between the responsibilities of each office and division. EPA's Office of Enforcement and Compliance Assurance must also be involved in these discussions, so that watershed goals can be pursued without threat of enforcement actions.

   EPA has already shown promising steps of increasing cooperation between divisions in regards to green infrastructure. In one recent example, a joint memo issued from the Water Permits Division and the Water Enforcement Division to the EPA Regions and state NPDES directors clarified how green infrastructure can be considered in enforcement activities and incorporated into permits, stormwater plans, and CSO long-term control plans.[9] EPA should continue and increase these efforts to coordinate the actions of its offices and divisions that deal with water quality issues.

   EPA should also look for ways to work with other federal agencies on watershed issues, as with its May 2007 agreement with the USDA to coordinate and cooperate in the prioritization and implementation of nutrient reduction activities for the Chesapeake Bay watershed. With 25 percent of the watershed used for agricultural purposes, conservation programs with the USDA are vital to improving the Bay's water quality.

6. **Use the proper sequence for establishing total maximum daily loads (TMDLs).** The National Research Council's 2001 report on the TMDL program cautioned that the Clean Water Act's goals of fishable and swimmable waters are too broad to be statements of designated uses. Instead, the report recommended additional stratification in designated uses at the state level to recognize that there is no one size fits all solution to water quality. The timing of this evaluation of uses is critical. The Council's report recommended that prior to development of a TMDL, the designated use should be evaluated to determine if it is appropriate. In other words, we must evaluate our goals (the designated use) before developing our plan to achieve that use (the TMDL). Conducted in this order and under the umbrella of a larger watershed effort, these use evaluations and subsequent TMDLs will be less likely to conflict with other water quality-related activities.

7. **Prioritize actions and planning that are currently underway according to watershed needs.** EPA is already focusing time and energy on several major watershed problems with its Chesapeake Bay program and study of the hypoxic zone in the Gulf of Mexico. For these projects, the actions need to be prioritized to result in the most water quality benefits for the money spent.

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[9] Boornazian, Linda, and Mark Pollins, *Memorandum on Use of Green Infrastructure in NPDES Permits and Enforcement*, EPA Water Permits Division and Water Enforcement Division, August 15, 2007

For example, EPA's Science Advisory Board released a draft report earlier this year that recommended improving nutrient removal at wastewater treatment facilities within the Mississippi-Atchafalaya River Basin (MARB) to near the limit of technology despite the fact that nonpoint sources contribute the majority of the nutrient loading.[10] A 2004 report of the Chesapeake Bay Commission showed that the costs for point source upgrades were approximately two to five times more expensive (in dollars per pound of nutrient removed) than agricultural nonpoint source controls, such as nutrient management and conservation tillage.[11] With the relatively small contribution of nutrients from wastewater treatment facilities and the high cost of adding additional treatment technology, reducing nutrients from agricultural runoff first would be a more logical and cost-effective prioritization of watershed improvement actions for the MARB.

These recommended short-term changes work within the existing environmental laws and regulations that govern water quality issues. Work on these changes can begin immediately with strong commitments from Congress, EPA, the Departments of Agriculture and Interior, and watershed stakeholders. The changes will help to implement watershed management and planning that can result in significant water quality improvements, and will also help to change the regulatory culture to make the watershed approach the accepted manner of considering water quality issues.

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[10] July 24, 2007, *Draft Advisory Report of the Science Advisory Board (SAB) Hypoxia Panel, http://www.epa.gov/sab/pdf/hap_draft_advisory_report_7-24-07.pdf*
[11] December 2004, *Cost-Effective Strategies for the Bay, Chesapeake Bay Commission, http://www.chesbay.state.va.us/Cost_Reports.htm*

VII. RECOMMENDATIONS FOR LONG-TERM IMPROVEMENTS

Although the recommended short-term changes will help move the nation's water policy toward more watershed-based implementation, long-term changes are necessary to fully align environmental laws and regulations with a comprehensive, holistic watershed approach. Legislation is needed to establish a framework that will hold all watershed stakeholders accountable for water quality, and the organization of EPA will need to reflect this new framework. To ensure water quality accountability, ongoing monitoring and research will be required on a watershed basis. The details of these recommendations are provided below.

1. **Establish a new water quality framework via a 21st Century Watershed Act.** To achieve significant gains in water quality, a legal framework that considers all impacts on a watershed is necessary. The separate environmental legislation that initiated environmental responsibility and accountability in the U.S. (National Environmental Policy Act, the Clean Water Act, the Safe Drinking Water Act, the Endangered Species Act, and the Clean Air Act) all have similar goals for environmental improvement. However, the fragmented approach from these different laws is now preventing further progress from being made. A Watershed Act would recognize that "water is water" and would consider all water issues together, rather than through independent and sometimes conflicting statutory authority.

   All sources of water quality problems must be considered equitably in a new Watershed Act. The contributions of both point and nonpoint sources must be recognized, with mandatory programs for controlling both types of sources. The costs of water quality improvements must be borne by all watershed stakeholders, with each source – whether point or nonpoint – contributing to costs according to their impact on water quality.

   In addition to the fair sharing of costs, stable funding sources must be specified in a Watershed Act. Although the Clean Water Act initially resulted in large funding sources for water infrastructure, funding has lagged over time and municipalities are currently searching for ways to fund improvements to their infrastructure. A comprehensive funding program needs to be established for the necessary improvements to be made to water infrastructure and to implement new nonpoint source control practices.

   The authority to oversee the provisions of a Watershed Act will need to be considered carefully. Watersheds frequently cross jurisdictional boundaries, even across state and national borders. Watersheds can also be considered on different scales, from local to regional. For example, the Mississippi River basin consists of many other river basins, including the Ohio River basin and the Missouri River basin, which are in turn fed by multiple smaller rivers and creeks. It may be necessary to establish local watershed authorities that then cooperate on a larger, regional-scale.

2. **Reorganize EPA to reflect new watershed framework.** EPA's Office of Water recognizes the importance of the watershed approach for achieving water quality improvements, and includes it as one of its "Four Pillars" for sustainable water infrastructure. Unfortunately, EPA is prevented from fully implementing a watershed approach due to the current regulatory silos established by the separate environmental acts and reflected in the internal organization of EPA. A new Watershed Act

could give EPA the ability to bring its activities together for comprehensive implementation of watershed improvement activities.

After a new Watershed Act is passed, EPA and other resource agencies would need to reorganize to reflect the new watershed framework. This reorganization would be more comprehensive than the short-term changes suggested for breaking down silos within EPA. The new EPA structure must continue to the EPA Regions, which are responsible for much of the management and enforcement of environmental regulations. Enforcement practices would need to be changed to reflect the comprehensive watershed approach, with incentives given for EPA staff to pursue those enforcement actions that will result in the most benefit to the environment, not those that are simply the "low hanging fruit."

3. **Conduct monitoring and research to show that progress is being made via a watershed approach.** The comprehensive watershed approach and the innovative solutions to water quality problems that are included in the approach have not been used in a widespread manner, and water quality results from use of the approach need further long-term evaluation. All watershed stakeholders must be responsible for monitoring their impacts on water quality. Analysis of the monitoring data must reflect the long-term commitment made to water quality with the watershed approach, such as green infrastructure taking years or even decades to become fully effective. Any regression in water quality would still need to be addressed immediately through identification of the sources of the problem and appropriate, practical and adapted solutions to the problem.

VIII. CONCLUSION

NACWA believes it is time to move beyond the chemical and pollutant-specific approaches that have been the basis for implementation of the regulatory programs and enforcement of the Clean Water Act for the past 35 years and instead consider the overall health of aquatic ecosystems, or watersheds, as the main driver for future water quality improvement efforts and investments. A comprehensive and integrated watershed approach to water quality can fully incorporate the chemical, physical, and biological needs of the watershed into planning and management decisions. Watershed-based management can recognize the multiple uses of water resources and provide for participation of all stakeholders in making critical decisions. When prioritization of watershed needs occurs, the best use of all investment dollars can be made by addressing the top causes of water quality impairment first.

NACWA hopes that the recommendations of its Strategic Watershed Task Force will add to the ongoing dialogue on the need for reform in the nation's Clean Water Act, Safe Drinking Water Act, and Endangered Species Act programs. There are clearly changes that could be made now to facilitate more widespread adoption of watershed-based management concepts. But to fully recognize the potential of a true watershed approach, longer-term improvements, as well as visionary leadership from Congress, EPA, and the Departments of Agriculture and Interior will be needed.

NACWA is excited about the promise of further water quality improvements within a holistic, watershed framework, and about the vital role its members will continue to play over the next 35 years of water quality improvements.

DEPARTMENT OF THE ARMY

COMPLETE STATEMENT

OF

THE HONORABLE JOHN PAUL WOODLEY, JR.
ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

BEFORE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
UNITED STATES HOUSE OF REPRESENTATIVES

ON

The 35th Anniversary of the Clean Water Act: Successes and Future Challenges

October 18, 2007

Good morning Mr. Chairman and Members of the Committee. I am very pleased to be here this morning to speak to you about the 35th Anniversary of the Clean Water Act: Successes and Future Challenges. My testimony briefly summarizes the Army's responsibilities under the Clean Water Act and describes the significant progress that we have made improving program performance over the years, making sure that section 404 is implemented consistent with the goals of the Clean Water Act. My testimony also touches upon challenges and opportunities.

Overview of the Clean Water Act

A primary goal of the Clean Water Act is "to restore and maintain the physical, chemical, and biological integrity of the Nation's waters," including wetlands. Wetlands are among the Nation's most valuable and productive natural resources, providing a wide variety of functions and services. They help protect water quality, store flood waters, support commercially valuable fisheries and migratory waterfowl, and provide primary habitat for myriad wildlife and fish species.

In the 35 years since its enactment, the Clean Water Act, together with Swampbuster, ongoing public and private wetlands restoration programs, and active Tribal, State, local, and private protection efforts has helped to prevent the destruction and degradation of hundreds of thousands of acres of wetlands and similar impacts to thousands of miles of rivers and streams. The average annual net rate of wetland loss, from development and natural causes, such as subsidence, has been reduced from about 460,000 acres per year between the

mid 1950s to the mid 1970s to 60,000 acres, of annual net loss, between 1986 and 1997.

The Corps of Engineers Clean Water Act section 404 program has played an important role in maintaining the Nation's aquatic resources by encouraging people to avoid them if possible, minimizing their involvement if necessary, and by compensating for unavoidable impacts to aquatic resources, including wetlands.

Expressing his appreciation that wetlands are at the core of this country's rich natural heritage and are central to its healthy, prosperous future, the President established a goal to restore, improve, and protect three million acres of wetlands by 2009. In response to this, since Earth Day 2004, the Administration has restored, protected, or improved 2,769,000 acres of wetlands. These acres are part of a national goal announced by the President to move beyond "no net loss" of wetlands and to attain an overall increase in the quantity and quality of wetlands in America. Some of the activities that have helped improve, restore, or protect acres of wetlands include the Farm Bill conservation programs, work on National Wildlife Refuges, and acquisitions of land for migratory birds through the North American Wetlands Conservation Act. The Army Corps of Engineers also contributes to the President's initiative through its aquatic ecosystem restoration program.

Implementation of Section 404 of the Clean Water Act

The Corps and EPA work together to administer the Clean Water Act. The Corps has the primary, day-to-day implementation responsibility for Section

404, which covers discharges of dredged and fill material into waters of the United States, including wetlands. Through the Corps' efforts, wetlands and the aquatic environments, of which they are an integral part, are protected and the environmental and economic benefits provided by these valuable natural resources are realized while allowing important development projects to go forward.

Any person planning to discharge dredged or fill material into certain waters of the United States first must obtain authorization from the Corps (or a Tribe or State approved to administer the section 404 program) in the form of an individual permit or a general permit before undertaking the activity. In practice, the vast majority of projects (92+% in 2006) are authorized under general permits, which require less paperwork by the project proponent and the agencies than an individual permit application, because the activities authorized by these permits have no more than minimal effects on the aquatic environment. Individual permit applications receive a more comprehensive review, because, for the most part, these projects are larger, more complex, or involve a greater potential effect to significant aquatic resources. The Corps reviews permit applications and decides whether to issue or deny authorizations for proposed activities. The Corps also initiates compliance and enforcement actions.

EPA's role under the Clean Water Act's Section 404 includes coordinating with States or Tribes that choose to administer the Section 404 program, determining the geographic scope of jurisdiction, interpreting statutory exemptions from the permitting requirement, and sharing enforcement

responsibilities with the Corps. EPA also developed, in consultation with the Corps, the Section 404(b)(1) Guidelines (*Guidelines*), which are the environmental criteria that the Corps applies when deciding whether to issue Section 404 permits, and provides comments to the Corps (or State) in the review of permit applications pursuant to the Guidelines.

Under the *Guidelines*, a discharge is permittable only when there is no practicable alternative with less adverse effect on the aquatic ecosystem, appropriate steps have been taken to minimize potential adverse effects to the aquatic ecosystem, and unavoidable impacts are mitigated.

The no-net-loss goal is accomplished in the Section 404 program by working with applicants and resource and regulatory agencies to avoid, minimize, and compensate for unavoidable impacts to aquatic resources. For the last ten years, Corps' data show an overall no net loss of wetlands for the 404 program and that lost aquatic functions are being replaced. However, the Federal government uses many other programs and authorities, including Sections 1135 and 206 of the Water Resources Development Act (WRDA) and the Comprehensive Everglades Restoration Program (CERP) to achieve an overall increase or improvement in the waters and wetlands nationwide. The U.S. Fish and Wildlife Service's report *Status and Trends of Wetlands in the Conterminous United States 1998 to 2004* reported an average annual net gain of 32,000 acres a year.

Corps Successes and Future Challenges

The George W. Bush Administration supports our program and wetlands protection. The Administration has budgeted increases in funding for our Regulatory Program from $138 million in FY 2003 to $180 million in FY 2008, a 30 percent increase (in nominal dollars). Under the year-long FY 2007 Continuing Resolution, the Regulatory Program was allocated $160 million. The Corps Regulatory Program staff makes over 110,000 jurisdictional determinations and provides over 100,000 written authorizations, annually. In addition to enforcement duties, Corps regulators are also adjusting to the many changes in the program caused by court decisions, policy adjustments, program improvements, and the effects of increased coordination under the Endangered Species and National Historic Preservation Acts.

Despite these challenges, the Corps, in coordination and cooperation with other agencies, is helping to exceed no-net-loss while further improving program performance, predictability, and transparency through the following actions:

1. In 2004, a multi-agency team developed a Mitigation Action Plan with 17 specific action items to improve the ecological performance of compensatory mitigation. To date, nine actions have been completed.
2. In March 2006, the Corps and the EPA published a draft compensatory mitigation rule to improve performance, consistency, and update a number of guidance documents in one place. This draft rule used input from the National Research Council and provides flexibility for evaluating

compensatory mitigation strategies in a watershed context -- we are optimistic that the final rule will be published later this year.

3. In March 2007, the Corps published new and greatly improved Nationwide Permits, general permits whereby activities with minimal effects can be authorized quickly and efficiently, while protecting the aquatic environment. In addition, Corps of Engineers Districts have issued about 280 State Program General Permits and Regional General Permits, which piggy-back on state environmental programs, and provide one-stop-shopping and streamlined decisions for the regulated public.
4. The Corps has invested in a new database system, a web-based tool to improve the management of the Corps' programs including recording impacts of authorized activities and the performance of compensatory mitigation projects. This system also includes spatial tools and a robust geographic information system enabling regulators and the public to better consider watershed factors in the permit evaluation process. It pulls digital wetlands data over the Internet through a Web mapping connection directly from the U.S. Fish and Wildlife Service's National Wetlands Inventory database. We are currently working with our Federal, Tribal, State and local partners, including the general public, to ensure that all wetlands data are available in digital format and are as up-to-date as possible. We are also working with these parties to share data and to ensure public accessibility to the system. The data base was installed for use Corps-wide in May 2007.

5. The Regulatory Program has been studied by the General Accountability Office approximately five times since 2000 and we have worked to implement nearly all of the GAO recommendations, including the improvement of documentation practices and mitigation project monitoring, data base development, enhancing inter-agency coordination, implementing consistency initiatives and improving productivity and efficiency through the utilization of WRDA Section 214 funds for additional staff. In addition, programs supporting transportation streamlining and addressing off-shore aquaculture issues have also been implemented.
6. In June 2007, the Corps and the EPA signed and released guidance to the field and public regarding the landmark U.S. Supreme Court decision in the Rapanos and Carabell cases. This inter-agency guidance focuses on using the two standards) defined by the Supreme Court (Scalia and Kennedy) in order to produce clear jurisdictional decisions and enhance consistency and predictability nationwide. The Guidance also establishes a coordination protocol between the Corps and EPA to ensure proper application of the guidance and promote consistency. We have been monitoring the day-to-day activities to determine the effects on the program, in particular response time to the regulated public. The agencies also initiated a six-month public comment period on June 5, 2007, to solicit input on early experience with implementing the guidance. The agencies, within nine months from the date of initiation for that comment period, plan to reissue, revise, or suspend the guidance after

carefully considering the public comments received and field experience with implementing the guidance. The agencies are also considering rulemaking.

Together, these actions enable the Corps to make better permit decisions, decide where and how to restore, enhance, and protect wetlands and other aquatic resources, improve the performance of compensatory mitigation projects, and expand the public's access to information on proposed projects and compensatory mitigation activities.

7. The Army is deploying Lean Six Sigma (LSS) to accelerate business transformation. In the Regulatory Program, a LSS pilot analysis for Individual Permits and jurisdictional determinations was performed in the South Pacific Division (FY 2005), and at the Seattle District (FY 2006). An additional study will be performed at Mobile District in FY 2007. By December 2007, a final report with recommendations will be implemented by all Districts. These recommendations will cover process improvements, such as streamlining, powering down decision-making, and relationship building with stakeholder, and will demonstrate the Army's commitment to wisely use allocated Program Funds.

I have personally visited each of the 38 District Regulatory Programs, and I have found Corps of Engineers Regulators to be very professional individuals, committed to the goals of the National Program. I am proud of their accomplishments, and feel we are very fortunate to have this dedicated workforce, who have earned and deserve all of our support.

Conclusion

In conclusion, the Corps and the EPA have a long history of working together closely and cooperatively in order to fulfill our important statutory duties on behalf of the public. We remain fully committed to protecting America's waters, as intended by Congress and expected by the American people. Although there are certain legal and policy challenges facing the Army's Regulatory Program, the 35th anniversary finds the program operating robustly, supporting over $200 billion in economic development annually, while protecting the aquatic environment.

Mr. Chairman, this concludes my testimony. I appreciate your interest and would be pleased to answer any questions you or the Members of the Committee might have.

STATEMENT OF THE
AMERICAN COUNCIL OF ENGINEERING COMPANIES
ON
"THE 35TH ANNIVERSARY OF THE CLEAN WATER ACT: SUCCESSES AND FUTURE CHALLENGES."
BEFORE THE
COMMITTEE ON TRANSPORTATION and INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES
OCTOBER 18, 2007

On the 35th year anniversary of the Clean Water Act, the American Council of Engineering Companies (ACEC) is pleased to offer its views on the Act's successes and challenges. We commend the Committee for its long-standing approach to solving water infrastructure issues in a bi-partisan manner and are gratified that you have made the effort to look back at the significant accomplishments of the Clean Water Act, as well as identifying its continuing challenges. The hearing today will help to bring much needed attention to the severe funding shortage for clean water that exists in the State Revolving Fund (SRF) program, and it is our hope that the additional focus will help with the enactment of legislation by this Congress. If enacted into law, the Committee's bill, HR 720, which is aimed at reauthorizing and expanding the SRF program will be of great benefit in helping to closing the growing gap between the federal-state-local investment in the nation's wastewater infrastructure and the needs of our communities.

The Need

The need for increased investment in our nation's 16,000 wastewater systems is tremendous and has been well documented. In 2002, the Environmental Protection Agency (EPA) reported that capital investment needs for wastewater treatment will have to be at least $331 billion by 2019 to keep the nation's systems in service. The Congressional Budget Office (CBO) concluded in 2002 that "costs to construct, operate, and maintain the nation's water infrastructure can be expected to rise significantly in the future." The CBO conservatively estimated that the needs would be $13 billion annually for wastewater systems over the next 20 years. The Water Infrastructure Network (WIN) – of which ACEC is a member -- reported in 2001 that wastewater systems

faced a capital investment shortfall of approximately $12 billion each year over the next 20 years

As you know, sewer overflows are a chronic and growing problem. Many of the nation's urban sewage collection systems are aging; some are more than one hundred years old. Because of budget constraints, many systems have not received the essential maintenance and repairs necessary to keep them working properly. The existing pipes, bricks and mortar that are holding the current system together are severely outdated and in need of repair. States are forced to delay construction projects in order to comply with important health and safety mandates by the EPA. As a result, it should not be a surprise that states and local governments are falling further behind in their efforts to repair and replace pipes and related facilities. Without a significantly enhanced federal role in providing assistance to communities for wastewater infrastructure, critical investments will not occur.

The nation's needs are large and growing because our systems are at a critical juncture in their life cycles. A combination of reduced federal spending over the past decade and increased federal mandates to meet treatment requirements is taking its toll. The collective aging of pipes and systems complicates the ability of communities to meet the objectives of the Clean Water Act. Seventy-five percent of the nation's capital investment in wastewater and drinking water infrastructure is buried underground and generally becomes visible to the public only when a system fails or a catastrophic event occurs. The useful life of many of these pipes and systems is coming to an end. Any additional deferral of the needed investments to repair and renew these systems will lead to greater increases in the future costs associated with protecting the nation's rivers, streams and lakes.

Congress has considered a number of bills in the last several years to alleviate the wastewater infrastructure funding problem. While they represented good steps forward in proposing to update and expand the SRF program, unfortunately, no new legislation has yet been enacted into law. In the meantime, the federal government has increasingly relied upon states, local governments, and utilities to finance the funding gap. It is time for the federal government to resume its shared responsibility for clean water by making a significant commitment to help remedy the problems associated with our nation's water infrastructure.

Conclusion

From the early days of the Clean Water Act, and for decades before, ACEC's member firms built much of this nation's clean water infrastructure. We are now fighting an uphill battle to maintain the collective investment made by the federal government, states, and local governments. The job must be done, and will only be more expensive 10 or 20 or 30 years from now. The engineering

community stands ready to help rebuild and replace the aging and failing infrastructure that puts so many communities and citizens at risk. We have the technology, the capability, and the expertise. We need a comprehensive federal re-commitment to clean water.

We commend the Chairman for his leadership, and the Committee for recognizing the enduring need for a strong federal investment in water quality and in the security and stability of the nation's wastewater infrastructure. By passing HR 720 this year to assist communities with upgrading and improving water treatment facilities and making the State Revolving Fund more flexible, the Committee has shown that its allegiance to the goals of the Clean Water Act is still strong. On behalf of the member firms of ACEC, we look forward to working with the Congress to improve our nation's water infrastructure.

Thank you for your consideration.

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ACEC is the business association of America's engineering industry, representing 5,700 independent engineering companies throughout the United States. ACEC members are directly engaged in the development of America's infrastructure, and play a particularly critical role in the effort to improve the nation's water and wastewater infrastructure. ACEC member firms represent the broad spectrum of the industry, from very large firms to small, family-owned businesses. Overall, our members employ well over 300,000 people throughout the 50 states and the District of Columbia. Founded in 1910 and headquartered in Washington, D.C., ACEC is a national federation of 51 state and regional organizations.

The 35th Anniversary of the Clean Water Act: Successes and Future Challenges

Statement of the American Road and Transportation Builders Association

Submitted to the United States House of Representatives Transportation and Infrastructure Committee

October 18, 2007

On behalf of the American Road and Transportation Builders Association (ARTBA) and its 5,000 member firms and public agencies nationwide, the association would like to thank Chairman Oberstar and Ranking Member Mica for commemorating the 35th anniversary of the Clean Water Act (CWA) and reviewing the Act's successes and future challenges.

ARTBA's membership includes public agencies and private firms and organizations that own, plan, design, supply and construct transportation projects throughout the country. ARTBA members are directly involved with the federal wetlands permitting program and undertake a variety of construction-related activities under the CWA. In the 35 years since the CWA's passage ARTBA has actively worked to combine the complementary interests of improving our nation's transportation infrastructure with protecting essential water resources. In doing so, we are proud to note the constant efforts of the transportation construction industry to minimize the effects of transportation infrastructure projects on the environment.

One of the main reasons for the success of the CWA over the past 35 years is the Act's clear recognition of a partnership between the federal and state levels of government in the area of protecting water resources. The lines of federal and state responsibility are set forth in Section 101(b) of the CWA:

> "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities of States to prevent,

> reduce, and eliminate pollution, to plan the development and use (including restoration, preservation and enhancement) of land and water resources..."[1]

This structure of shared responsibility between federal and state governments allows states the essential flexibility they need to protect truly ecologically important and environmentally sensitive areas within their borders while, at the same time, making necessary improvements to their transportation infrastructure. The success of the federal-state partnership is backed by dramatic results. Prior to the inception of the CWA, from the 1950s to the 1970s, an average of 458,000 acres of wetlands were lost each year. Subsequent to the CWA's passage, from 1986-1997, the loss rate declined to 58,600 acres per year and between 1998-2004 overall wetland areas increased at a rate of 32,000 acres per year.[2]

ARTBA has a long history of working with the Transportation and Infrastructure Committee to build upon the successes of the CWA by finding common-sense solutions to environmental issues through seeking to protect natural resources and efficiently deliver transportation improvements. A continuing recognition of the federal-state partnership embodied in the CWA is particularly important to state departments of transportation as it allows them to balance the unique environmental needs of their state against the equally important need to develop their transportation infrastructure.

Since the enactment of the CWA there have been both judicial and legislative attempts to blur the lines of the CWA's federal-state partnership. Straying from the original intent of the CWA to preserve the rights of state and local governments has caused the transportation construction industry and state departments of transportation to grapple with jurisdictional issues and face confusing and conflicting interpretations on the scope of federal jurisdiction. Many of the CWA issues confronted by the transportation construction industry involve wetlands and the wetlands permitting process. Often project planners do not know what is or is not a federally-jurisdictional wetland. The confusion created by such jurisdictional ambiguity complicates long-term transportation planning because planners can never be sure where permits will or will be not required.

ARTBA supports the reasonable protection of environmentally sensitive wetlands with policies balancing preservation, economic realities, and public mobility requirements. Much of the current debate over federal jurisdiction, however, involves overly broad and ambiguous definitions of "wetlands." This ambiguity is frequently used by anti-growth groups to stop desperately needed transportation improvements. For this reason, ARTBA has, and continues to, work towards a definition of "wetlands" that would be easily recognizable to both landowners and transportation planners and is consistent with the original scope of the CWA's jurisdiction. As an example of this, official ARTBA policy recommends defining a "wetland" as follows: "If a land area is saturated with water at the

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1 CWA §101(b).

2 *Draft 2007 Report on the Environment: Science*, USEPA, May 2007, available at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=140917

surface during the normal growing season, has hydric soil and supports aquatic-type vegetation, it is a functioning wetland."

As part of the highway construction process, ARTBA members are actively involved in the restoration and preservation of wetlands. ARTBA has consistently supported the concept of mitigation banking, which is particularly beneficial to the transportation project delivery process, as it provides project planners flexibility in meeting wetlands restoration obligations by allowing the choice of a mitigation site based on environmental value rather than proximity to a highway project. Mitigation banking also enables project sponsors to chose areas for mitigation that are well suited for wildlife and wetlands management (such as the enhancement of already degraded wetlands).

Mitigation banking represents one of the CWA's many achievements and demonstrates how the federal-state partnership creates flexibility allowing for both environmental protection and efficient delivery of transportation projects. For this reason, ARTBA continues to be actively involved in the development of regulations concerning mitigation banking and is actively promoting mitigation banking as an alternative to the more restrictive "postage- stamp" style of wetlands reclamation. Expansion of the use of mitigation banking as a preferred alternative for addressing the environmental impacts of transportation projects will help to build upon the CWA's successes.

ARTBA has been also actively involved in CWA litigation concerning federal jurisdiction over the nation's waters and wetlands for the better part of the past two decades. ARTBA was a main participant in litigation spanning 14 years concerning the United States Army Corps of Engineers (Corps) "Tulloch Rule" regulating incidental fall back from dredging and filling operations. Also, ARTBA was involved in multi-year litigation over modifications to the Corps' Nationwide Permit (NWP) program. Most important to this hearing, however, is that ARTBA filed amicus briefs representing the transportation construction industry's interests in the United States Supreme Court decisions of *Solid Waste Association of Northern Cook County v. United States Army Corps of Engineers* (*SWANCC*) and *Rapanos v. United States* (*Rapanos*). ARTBA's involvement in all of these cases helped to preserve the federal-state balance that is the foundation of the CWA's 35 years of success.

The decisions in both *SWANCC* and *Rapanos* benefited the transportation project delivery process by setting limits on Corps' jurisdiction. Specifically, *SWANCC* struck down the so-called "migratory bird rule," which was being used by the Corps to assert jurisdiction over intrastate wetlands based on the flight patterns of migratory birds. The theory behind such an expansion of Corps authority was based on migratory birds being instruments of commerce due to the possibility of hunters, bird-watchers or other interested state parties crossing state lines to view them. ARTBA's brief to the Court took issue with the Corps theory of jurisdiction, noting:

> "[t]he almost 'limitless' expansion of federal authority inherent in the migratory bird rule allows the Corps to essentially arrogate federal power over state and local

> governments contrary to the express language of the CWA and fundamental principles of federalism."[3]

The "migratory bird rule" was a severe hindrance to transportation planners as it made federal jurisdiction extremely hard to predict. Project developers, not knowing the habits of migratory birds, were unable to tell what was and was not a jurisdictional wetland. Again, ARTBA's brief illustrated this point:

> "The Corps's expansion of jurisdiction to include all migratory bird habitat could have the practical effect of allowing the Corps to overturn state and local approvals of public works projects impacting isolated 'wet areas' based on an alleged federal interest in the 'aggregate' health of the Nation's migratory bird population."[4]

The Court agreed with the issues raised in ARTBA's brief and recognized expansion of federal jurisdiction would threaten the fundamental principles upon which the CWA was created. As then Chief Justice Rehnquist stated:

> "These are significant constitutional questions raised by respondents' application of their regulations, and yet we find nothing approaching a clear statement from Congress that it intended [the CWA] to reach an abandoned sand and gravel pit such as we have here. Permitting respondents to claim federal jurisdiction over ponds and mudflats falling within the 'Migratory Bird Rule' would result in a significant impingement of the States' traditional and primary power over land and water use. See, *e.g.*, *Hess* v. *Port Authority Trans-Hudson Corporation,* 513 U.S. 30, 44 (1994) ('[R]egulation of land use [is] a function traditionally performed by local governments'). Rather than expressing a desire to readjust the federal-state balance in this manner, Congress chose to 'recognize, preserve, and protect the primary responsibilities and rights of States ... to plan the development and use ... of land and water resources ... .'"[5]

The decision in SWANCC was a victory reaffirming the balance of jurisdiction intended by the CWA. By striking down the "migratory bird rule" the Court recognized the role of state and local governments in continuing to protect important environmental resources

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[3] *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, 531 U.S. 159 (2001), Amicus Curiae Brief of the American Road and Transportation Builders Association, p.12.

[4] *Id.* at 13.

[5] *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, 531 U.S. 159, 174 (2001).

while at the same time managing their own development needs without unnecessary delay or interference.

The CWA's jurisdictional scheme was brought before the Court once again in the *Rapanos* litigation. At issue in *Rapanos* were two separate wetlands cases which were consolidated for the Court's review. The Court was asked to decide whether the Clean Water Act allows Corps regulation of "isolated wetlands" that have no connection with "navigable waters." The Court was also asked to decide whether or not a tenuous connection between a wetland and "navigable water" is enough to allow regulation by the Corps, or if there is a minimal standard that should be applied. Once again, ARTBA explained the CWA's legislative scheme of state and federal shared responsibility to the Court:

> "By federalizing any wet area, no matter how remote from navigable waters, [this Court would adopt] an unprecedentedly broad jurisdiction of the geographic scope of CWA jurisdiction. As this Court held in *SWANCC*, the courts should be hesitant to intrude upon the delicate balance between federal and state regulation of land and water resources...In enacting the CWA, Congress did not seek to impinge upon the States' traditional and primary power over land and water use when setting out the scope of jurisdiction under the CWA."[6]

The Court's split decision in *Rapanos* preserved the CWA's essential jurisdictional balance by preventing sweeping federal authority over isolated wetlands and man-made ditches or remote wetlands with finite connections to navigable waters. However, because the Court's decision was not issued by a majority of the justices, these issues are currently being examined by lower courts on a case-by-case basis. While ARTBA applauds the fact the decision prevented an expansion of already inefficient federal wetlands regulation, we also recognize the need for clarity in *Rapanos'* wake in order to preserve the necessary balance between federal and state jurisdictions that is essential to the continuation of the CWA's success.

In decisions such as *Rapanos* where four justices agree in both the plurality opinion (authored by Justice Scalia) and the dissenting opinion (authored by Justice Stevens) and one Justice (Justice Kennedy) writes a concurrence, the effects of the opinion should be taken from the areas where the plurality and the concurrence agree. The Supreme Court has spoken to this point specifically, stating:

> "[w]hen a fragmented Court decides a case and no single rationale explaining the result enjoys the assent of five Justices, 'the holding of the Court may be viewed as that

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6 *Rapanos v. United States*, 126 S.Ct. 2247 (2006), Amicus Curiae Brief of the American Road and Transportation Builders Association, p. 25.

> position taken by the members who concurred in the judgments on the narrowest grounds.'"[7]

In *Rapanos*, the five justices who agreed in the final judgment of the case were Justices Scalia, Thomas, Alito, Roberts and Kennedy. Thus, in responding to the *Rapanos* decision, the focus should be on those areas where agreement can be found among these five justices.

The Scalia plurality and the Kennedy concurrence agree on several points which should guide any regulatory or legislative response to the *Rapanos* decision. Most importantly, both Scalia and Kennedy disagreed with the existing Corps theory of jurisdiction that a wetland with tenuous and questionable connections to navigable water can be subject to federal jurisdiction if one molecule of water flows between both points. This has been termed by some as the "migratory molecule" theory of jurisdiction. Justice Kennedy specifically rejects the idea of the "migratory molecule" by noting that a "central requirement" of the Clean Water Act is "the requirement that the word 'navigable' in 'navigable waters' be given some importance."[8]

Justice Kennedy also explains the CWA's establishment of certain basic recognizable limits to the Corps' excluding man-made ditches and drains by refuting portions of Justice Stevens' dissent:

> "[t]he dissent would permit federal regulation whenever wetlands lie alongside a ditch or a drain, however remote and insubstantial, that eventually flow into traditional navigable waters. The deference owed to the Corps' interpretation of the statute does not extend so far."[9]

Further, Justice Kennedy notes such an over-expansive view of the Corps' authority is incompatible with the CWA:

> "Yet the breadth of this standard—which seems to leave wide room for regulation of drains, ditches, and streams remote from any navigable-in-fact-water and carrying only minor water-volumes towards it—precludes its adoption as the determinative measure of whether adjacent wetlands are likely to play an important role in the integrity of an aquatic system comprising navigable waters as traditionally understood. Indeed, in many cases wetlands adjacent to tributaries covered by this standard might appear little more related to navigable-in-fact waters that the isolated ponds held to fall beyond the Act's scope in SWANCC."[10]

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7 *Marks v. United States*, 430 U.S. 188, 193 (1977).
8 *Rapanos v. United States*, 126 S.Ct. 2247 (2006) (Kennedy, J. concurring).
9 *Id.*
10 *Id.* at 2249, referring to the holding in SWANCC

This leads to a central point of *Rapanos* echoed by members of the plurality, dissent and Justice Kennedy—there needs to be some sort of regulatory response from the Corps reflecting these limits on its jurisdiction. In his concurrence, Justice Kennedy states:

> "Absent more specific regulations, however, the Corps must establish a specific nexus on a case-by-case basis when it seeks to regulate wetlands based on adjacency to navigable tributaries. Given the potential overbreadth of the Corps regulations, this showing is necessary to avoid unreasonable applications of the statute."[11]

Chief Justice Roberts was more direct with his wording, noting a regulatory response from the Corps has been long overdue, and should have been promulgated after the *SWANCC* decision first recognized the jurisdiction of the Corps needed to be limited:

> "Rather than refining its view of its authority in light of [the Court's] decision in *SWANCC*, and providing guidance meriting deference under [the Court's] generous standards, the Corps chose to adhere to its essentially boundless view of the scope of its power. The upshot today is another defeat for the agency."[12]

Finally, Justice Breyer's dissent warns a refusal from the Corps to issue a regulatory response to *Rapanos* will only result in more litigation:

> "If one thing is clear, it is that Congress intended the Army Corps of Engineers to make the complex technical judgments that lie at the heart of the present cases (subject to deferential judicial review). In the absence of updated regulations, courts will have to make ad hoc determinations that run the risk of transforming scientific questions into matters of law. This is not the system Congress intended. Hence, I believe that today's opinions, taken together, call for the Army Corps of Engineers to write new regulations, and speedily so."[13]

Thus, the one thing that is clear from the *Rapanos* decision is the need for a response recognizing the limits of Corps jurisdiction and clarifying the existing wetlands regulations. The response can be either administrative or legislative in nature. In crafting either type of response, ARTBA recommends the result be a clarified, consistent regulatory program that operates within the proper jurisdictional limits of the CWA as reflected in the *Rapanos* and *SWANCC* decisions. ARTBA is currently working to

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11 *Id* at 2250.

12 *Id.* at 2236 (Roberts, C.J., concurring).

13 *Id.* at 2266 (Breyer, J., dissenting).

accomplish this objective in the United States Environmental Protection Agency (EPA)/Corps guidance released subsequent to the *Rapanos* decision. We also would like to offer several principles that should be the basis of any legislative initiative.

It is essential for any legislative clarification of federal wetlands jurisdiction to preserve the federal-state partnership embodied in the CWA. As both *Rapanos* and *SWANCC* stressed, a scheme of shared jurisdiction is necessary to carry out the original intent of the CWA. States need to be allowed to maintain full control over intrastate water bodies in order to allow them the flexibility to balance their own environmental needs with unique infrastructure challenges.

There have also been legislative responses attempting to solve the confusing issue of Corps jurisdiction. While ARTBA appreciates the desire of Congress to protect legitimately environmentally sensitive wetlands, we believe such efforts should not extend federal regulation to isolated areas that have no environmental value and have been removed from the Corps' jurisdiction by both *Rapanos* and *SWANCC*. Protecting an area simply for the sake of protection adds little from the standpoint of environmental quality, but can create needless, time-consuming regulatory complications. Specifically, removing the word "navigable" from the CWA would lend to this type of unnecessary regulation.

Also, ARTBA has repeatedly stated the involvement of multiple agencies (including EPA) in wetlands regulation only hinders the overall efforts of the Corps' permitting program. One of the principal problems that has plagued the 404 program is indecision and inaction, with no benefit for the environment. Justice Breyer reiterated this in his aforementioned *Rapanos* dissent, stating "If one thing is clear, it is that Congress intended the Army Corps of Engineers to make the complex technical judgments that lie at the heart of [federal wetlands jurisdiction]."[14] Congress reiterated this point in the National Defense Authorization Act for Fiscal Year 2004 by authorizing only one agency, the Corps, to issue 404 permitting program regulations. This direction should be continued. Thus, it should be the sole responsibility of the Corps to take the lead and build a stronger, more predictable compensatory mitigation program to both enhance environmental protection and provide a measure of certainty to regulatory staff and permit applicants. ARTBA continues to believe the Corps should be the principal agency administering the 404 wetlands regulatory program.

Many ARTBA members are directly involved in tremendously successful mitigation efforts as part of the projects they construct. ARTBA public official members also are integrally involved in the permitting process itself, as they regulate at the state and local level. A prime reason for the success of current mitigation efforts is the flexibility of individual states to delegate which wetlands to protect and direct mitigation efforts appropriately. Removing this flexibility and possibly mandate protection of all wet areas, no matter how environmentally important, could dilute both state and federal resources. Retaining state autonomy over wetland protection efforts is essential to maximize the efficiency of these programs and public sector resources. From a federal legislative

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[14] *Id.*

perspective, mitigation should be declared as the preferred, first-choice method of wetlands restoration and development. The permitting process should be altered to require mitigation banking, provided that it is advantageous to both the environment and project sponsors. Federal mitigation regulations should place a premium on flexibility and not be bogged down by requirements which offer no additional environmental protection and could lead to further delay of desperately needed transportation infrastructure projects

ARTBA looks forward to continuing its long tradition of working with the committee in order to continue building upon the successes and addressing the future challenges of the CWA and its essential scheme of shared federal and state jurisdiction.

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Statement of

The American Society of Civil Engineers

On the 35th Anniversary of the Clean Water Act:

Successes and Future Challenges

Before the Committee on Transportation and Infrastructure

U.S. House of Representatives

October 18, 2007

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Mr. Chairman and members of the Committee:

The American Society of Civil Engineers (ASCE)* is pleased to submit this testimony for the record for the hearing by the House Transportation and Infrastructure Committee on the 35th Anniversary of the Clean Water Act: Successes and Future Challenges.

I. Background

The Clean Water Act promised the nation in 1972 that it would ensure the "[r]estoration and maintenance of chemical, physical and biological integrity of [the] Nation's waters." The Act's stated purpose was to stop the release of all pollutants into the nation's waterways by 1985.

Although we have not met that deadline, the Act by and large has done much to restore and preserve the nation's waters. The 1972 law was written to deal with sewage and industrial wastes from distinct sources, and the National Pollutant Discharge Elimination System (NPDES) has worked remarkably well in reducing pollution from industrial sources in our waterways.

Problems remain, however. Based on an incomplete survey of water-quality standards provided by the states in 2000, the EPA reported that about 40 percent of the nation's streams, 45 percent of its lakes, and 50 percent of estuaries that were assessed were not clean enough to support uses such as fishing and swimming. We do not believe the picture has improved markedly since then. (The agency no longer reports aggregate data on national water quality because of the supposedly different methods each state uses in measuring water quality.)

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* ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents 140,000 civil engineers in private practice, government, industry and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a non-profit educational and professional society organized under Part 1.501(c) (3) of the Internal Revenue Code.

In our *2005 Report for America's Infrastructure*, for example, we gave the nation's wastewater treatment systems an overall grade of "D—," a grade perilously close to failing, principally due to the poor physical condition of many of the nation's 16,000 wastewater treatment systems caused by a lack of investment in plant, equipment and other capital improvements over the years.

Moreover, the Act has fared less well in the control of nonpoint-sources of pollutants under section 319. That program, enacted in 1987, was designed to reduce the discharge of pollutants from nonpoint sources through state-developed "management programs" and was funded by EPA grants to carry out the state programs.

Section 319 provides for states to prepare reports and propose management plans for the control of nonpoint-source pollution for approval by EPA, and encourages the development of plans on a watershed-by-watershed basis. States with approved management programs are eligible, on a cost-sharing basis, for federal grants to assist in the implementation of the program. Grants are also available to states with approved plans to assist the states in carrying out ground water quality protection activities which will advance the state toward the implementation of a comprehensive nonpoint source pollution control program.

But the EPA reports that, among the nation's 3.3 million water bodies (which include all river "reaches" located between two tributaries, lakes, and reservoirs), only 26 impaired water bodies or water-body segments have been "partially or fully restored" as a result of efforts under section 319. "Nonpoint source pollution is the leading remaining cause of water quality problems. The effects of nonpoint source pollutants on specific waters vary and may not always be fully assessed," the EPA explains.

The agency's "Clean Watersheds Needs Survey" (2000) reported that 38 states and the District of Columbia needed $13.8 billion in financial assistance under section 319 to deal with their nonpoint-source pollution problems.

II. Wastewater Infrastructure Today

The federal government has directly invested more than $80 billion in the construction of publicly owned sewage treatment works (POTWs) and their related facilities since passage of the Clean Water Act in 1972.

Moreover, state and local governments have spent many billions on water infrastructure projects over the past 50 years. In 2004 alone, these local expenditures totaled $28.3 billion, according to a recent report from the Congressional Budget Office. Approximately 75 percent of all state and local monies were spent on operation and maintenance, not on new capital investment, the CBO reported.

Nevertheless, we have a severe investment gap between what is needed and what is spent for wastewater treatment. That gap has been estimated at between $300 billion and $500 billion over the next 20 years.

That's not acceptable. This country has the economic strength and the technological know-how to solve this problem. All that has been lacking so far is the political will to use them.

The nation's 16,000 wastewater treatment systems continue to suffer from a lack of investment in plant, equipment, and other capital improvements. The typical lifespan of wastewater equipment is 20 years, even when well maintained. Many wastewater-treatment systems have reached the end of their useful design lives. Older systems are plagued by equipment malfunctions and by chronic overflows during major rain storms and heavy snowmelt that, intentionally or not, result in the discharge of raw sewage into U.S. surface waters.

Nearly five years ago, the U.S. Environmental Protection Agency (EPA) released a detailed gap analysis, which assessed the difference between current spending for wastewater infrastructure and total funding needs. The EPA Gap Analysis estimated that, over the next two decades, the United States must spend nearly $390 billion to replace antiquated wastewater infrastructure and to build new treatment plants (the total includes money for some projects not currently eligible for federal funds, which are not reflected in the EPA State Needs Survey).

In August 2004, the EPA estimated that the volume of combined sewer overflows (CSOs) discharged nationwide is 850 billion gallons per year. Sanitary sewer overflows (SSOs), caused by blocked or broken pipes, result in the release of as much as 10 billion gallons of raw sewage yearly, the agency reported.

In its "Clean Watersheds Needs Survey" (2000), the EPA said that the nation needs to invest an estimated $181 billion (in 2000 dollars) to upgrade its aging wastewater treatment plants. That estimate was submitted to Congress in August 2003. We believe that the need is even greater today; unfortunately the agency will not issue its next comprehensive needs report until 2009, based on data to be collected in 2008.

Meanwhile, federal funding under the Clean Water Act State Revolving Loan Fund (SRF) program has remained flat or declined sharply every year since 1995. Despite the impressive funding support provided in the 1970s and 1980s, federal assistance simply has not kept pace with the needs. Nevertheless, virtually every authority agrees that funding needs remain very high: the United States must invest the additional $181 billion for all types of wastewater treatment projects eligible for funding under the Act, according to the 2000 needs survey.

III. Operational Challenges for the Future

One of the greatest challenges for the future of wastewater treatment lies in the industry's ability to manage the increased demand for sewage treatment caused by population growth.

As of the middle of February, the U.S. Census Bureau estimated that there were 301 million people living in the United States. That number is expected to reach 400

million within the next 50 years. Although American families today are smaller, many are moving further from urban areas into remoter suburbs and rural areas. In 2004, the EPA reported that one-third of new housing developments will manage their sewage through septic systems (known as "on-site treatment") due to the increasing decentralization of the U.S. population. Paradoxically, increasing urbanization, as well as the continued presence of agricultural runoff, will provide additional sources of pollution not controlled by centralized wastewater treatment, according to the agency.

Both trends argue for a greater reliance on the use of regional wastewater treatment systems to ensure that discharges are treated and released from a single point-source under the successful NPDES program. This means that it is quite likely that the demand for federal financial assistance for new wastewater treatment systems will continue to grow as well.

Population growth not only adds to the volume of wastewater that must be treated but also increases the volume of nutrients (nitrogen and phosphorous) that is discharged to surface water. Nitrogen that is discharged from treatment plants causes excessive growth of microscopic Phytoplankton in salt water systems. The growth and ultimate decomposition of these organisms result in decreased concentrations of dissolved oxygen available for fish and shellfish, resulting in fish kills, a decrease in the abundance of fish, and a decline within and among species. Many treatment plants in the U.S. are also required to remove nitrogen and phosphorous within the treatment process. The added capital cost of nutrient removal at treatment plants is significant. Moreover, scientists are now evaluating the impact of pharmaceuticals, hormones, and other trace chemicals that might go unchanged through a treatment plant. Many of these are classified as endocrine disruptors, and their effects are well documented. No one knows what the financial impact will be if we have to remove trace chemical compounds.

Parts of the United States are experiencing water shortages already. Population growth will significantly increase the demand for water and cause further shortages. We now have to look at treating wastewater to a level sufficient to allow for its direct reuse. The cost of this will be staggering, not only in new capital investment but in operating and maintenance costs as well. But this investment must be made to ensure reliable sources of safe drinking-water.

Global climate change, resulting in higher temperatures and rising water elevations, also may produce new costs and challenges. Rising water levels will bring about the need for dikes, levees, and other protective measures. In addition, higher water levels may require the building or rebuilding of plants now located in coastal areas to levels above the existing floodplain elevations.

IV. Financial Challenges

Another challenge will be fiscal. Treatment plant costs have risen sharply in recent years: the average per capita cost for wastewater treatment among 132 public agencies in 2004 was $171, an increase of approximately 20 percent from the $143 per

capita cost in 1995, according to a recent survey by the National Association of Clean Water Agencies (NACWA).

At the same time, federal and state grants and loans declined from 10.6 percent to 5.9 percent of total publicly owned treatment plant revenues between 1992 and 2004, said NACWA. Thus more of the cost of providing wastewater treatment is falling upon local ratepayers, who already are paying nearly three-quarters of the cost through user fees and local bond issues. Two-thirds of all capital improvements to local treatment plants were financed by debt in 2004, said NACWA, while only 1.2 percent of all capital costs was provided by federal or state grants.

It appears that these trends will not be significantly reversed in the near future. Under current tax and spending projections, Congress faces years of real budget deficits. Combined with the recent reinstatement of the PAYGO rule in the Congress, these developments mean there will be difficult choices for this committee over the next decade at least.

V. Policy Recommendations

In the short run, ASCE supports legislation to reauthorize the Clean Water Act State Revolving Loan Fund (SRF) program. We believe the SRF needs to be authorized at a level of $10 billion to $20 billion over the next five years to assure adequate investment in new and rebuilt wastewater treatment plants. Congress also must appropriate the full amount of the authorized funding each fiscal year to ensure the proper level of investment is reached.

To address the long-term problem, ASCE supports several means of increasing the federal investment in wastewater infrastructure:

- We believe a federal multiyear capital budget for public works infrastructure construction and major rehabilitation, similar to those used by state and local governments, would greatly improve all U.S. infrastructure, including sewage treatment plants. The capital budget must be separated from non-capital federal expenditures. The current federal budget process does not differentiate between expenditures for current consumption and long-term investment. This causes major inefficiencies in the planning, design and construction process for long-term investments. A federal capital budget could create a mechanism to help reduce the constant conflict between short-term and long-term needs. It also would help increase public awareness of the problems and needs facing this country's physical infrastructure and help Congress focus on programs devoted to long-term growth and productivity.

- ASCE supports the creation of a Water Infrastructure Trust Fund to finance the national shortfall in funding drinking water and wastewater infrastructure systems and other projects designed to improve the nation's water quality. In addition, ASCE supports a variety of financial mechanisms for the trust fund, such as appropriations from general treasury funds; issuance of revenue bonds and tax-

exempt financing at state and local levels; public-private partnerships; state infrastructure banks; user fees on certain consumer products; and other innovative financing mechanisms, including broad-based environmental restoration taxes to address problems associated with water pollution and wastewater management and treatment.

Finally, we cannot create new water; we must continue to use and reuse water. We cannot take clean water for granted. Because of this, we need to have the federal government fund research and development. Federal R&D will provide a significant return on investment as the better treatment methods that result from this investment will help to significantly leverage all of the local investment already occurring. We estimate a return on the order of 10 to 1. This may well be the best use of limited federal dollars.

Federal investment in R&D is also necessary to retain our educational system that is producing educated professionals. Without research dollars there are no faculty working on wastewater studies, and without faculty there are no students. A number of major universities already have eliminated their traditional water and wastewater engineering programs, including Purdue University and Oregon State University, with others to follow because faculty cannot get research dollars.

R&D investments will also pay back by helping to build export industries, which this country needs. This is a proven model; it already is being implemented in places like France and Japan and currently being implemented in Singapore and China.

# # #

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March 25, 2008

Chairman James L. Oberstar
U.S. House of Representatives
Committee on Transportation and
Infrastructure
2165 Rayburn House Office Building
Washington, D.C. 20515-6256

Rep. John L. Mica
Ranking Minority Member
Committee on Transportation and
Infrastructure
2163 Rayburn House Office Building
Washington, D.C. 20515-6256

Dear Chairman Oberstar and Ranking Member Mica:

I am writing to officially request that the written testimony of the Texas Institute on Applied Environmental Research be officially included in the formal hearing record of the Full Committee of the House Transpiration and Infrastructure Committee hearing on October 18, 2007 to commemorate the 35th anniversary of the Federal Water Pollution Control Act Amendments of 1972.

Thank you in advance for honoring this request and the Texas Institute of Applied Environmental Research looks forward to continuing to work with the Committee on these issues in this session of Congress.

Sincerely,

Ron Jones

Ron Jones
Director

Testimony of
Ron Jones
Director
Texas Institute for Applied Environmental Research (TIAER)
For the Committee on Transportation and Infrastructure
United States House of Representatives

The Clean Water Act
Agriculture and the Environment

Mr. Chairman and members of the Committee, I am Ron Jones, Director for the Texas Institute for Applied Environmental Research (TIAER). TIAER is a multi-disciplinary research group that focuses on environmental issues and agriculture. Over the past 15 years we have closely studied and developed tools and policies that address issues related to water quality. We make great use of our 1,000,000 acre outdoor laboratory in the Bosque River watershed. Through our experience in the Bosque we have a unique opportunity to work on issues and policy, especially those involving the Clean Water Act that will impact private land owners and environment.

The Clean Water Act and its relationship to agricultural production are becoming more intertwined everyday. Agriculture faces the high probability that the industry will soon be brought under the National Pollutant Discharge Elimination System (NPDES). NPDES is a regulatory program that has been used at great advantage by the Environmental Protection Agency (EPA) to address point sources of pollution over the past 35 years. NPDES, then, is the key provision in the Clean Water Act of 1972 that drives clean water programs for point sources. We should be careful to remember NPDES was designed and tailored to the specific characteristics of point sources and needs of point source industries. In the NPDES program:

- effluent, the waste from human and industrial activities, manifests and is contained in controlled systems
- effluent is transported to treatment centers through controlled systems
- effluent is treated in a controlled system
- effluent treatment must meet established standards before it is discharged into receiving waters.
- effluent quality is not expected to vary from day to day or month to month because it is contained in a controlled system. Therefore, this program easily lends itself to inspection and enforcement.

The above description of how point sources manifest and are dealt with to achieve Clean Water Act objectives have significant implications for agricultural producers. Effluent standards were and are very helpful to the industry that creates point sources. In addition, the point source industry insisted that the NPDES program contain three other primary features.

- Regulatory personnel were not allowed to interfere with production processes.
- Industry would not be held responsible by the use of ambient water quality standards but instead would meet effluent based standards.
- Industry was far more concerned with certainty in the regulatory/permitting process than they were about cost to get a permit. The firms were price makers and the additional cost was treated as an ordinary cost of production and passed forward in the price of the product. The desire for certainty in the permitting process led to a very expensive administrative law driven program.

None of the above characteristics of point sources or needs of point source industries beyond the desire to not have environmental regulators in their production area and the need for a regulatory program are relevant for addressing non-point sources of pollution that occur on privately held agricultural lands. As a result, agricultural lands, with the exception of the production area of concentrated animal feeding operations (CAFO's), were exempt from the Clean Water Act of 1972.

However, 35 years later, agricultural lands are increasingly the focus of environmental groups, the EPA and the courts. Recently, the United States Department of Agriculture (USDA) through the Natural Resources Conservation Service (NRCS) joined with EPA, through a partnership agreement, to address agricultural Non-Point Source Pollution (NPS) through Market Based Programs (MBPs). The objective of Market Based Programs (MBPs) is to use the "market" to fund NPS objectives in agriculture. The idea here is excellent. It helps answer how government can afford to address polluted runoff across 1.3 billion acres of privately owned land. This program can be the centerpiece of an overall initiative to address runoff pollution issues in agriculture and on other privately owned lands.

In recent discussions with the USDA staff and others, TIAER has concluded that the agencies are close to agreeing that voluntary programs alone will not achieve the end points desired for MBPs. TIAER activities in the 1,000,000 acre Bosque River watershed (the TIAER outdoor laboratory), funded by both NRCS and EPA, confirmed that voluntary programs will fall short of achieving Clean Water Act objectives. As a result, we believe EPA and NRCS are turning to the only regulatory program available to them, NPDES, to use as the engine to drive

efforts to achieve Clean Water Act objectives in agriculture. NPDES is a top down, inspection based, regulatory program that will put government regulators in agriculture's production area. Producers, under NPDES as currently written, would have to get permits in order to farm. The permits would necessarily specify the type of crop grown and planned crop rotations, type of tillage practices to be used, fertilization rates, width and quality of buffer strips, and other management practices. It will be a huge challenge for agricultural producers to quickly respond to changing market signals under NPDES as written. It takes far too long to obtain permit amendments to change crop rotations or to adopt new technologies for producers to be able to be competitive in world markets. Just as industrial firms would not agree to let EPA regulators in their production area, agricultural producers and their corporate friends should take immediate steps to be proactive in addressing this issue – develop a new NPDES program or NPDES - NPS.

The circumstances listed above and other complicating factors discussed below will demonstrate the necessity that Congress fund and champion activities to modify the current NPDES program. NPDES should be modified in such a manner that it can be used to address non-point sources of pollution, NPDES-NPS, and thereby enable agriculture to achieve Clean Water Act objectives through a program designed and tailored to the peculiar needs of producers and the complex natural systems in which they work.

Pollution from agriculture activities occur in a far different manner that do point sources. Polluted runoff from agriculture manifests in open, uncontrolled, natural systems that have introduced complexity far beyond what EPA and others have faced over the past 35 years. There is no way to collect, transport, and treat polluted runoff. NPDES will require much modification if it is to be used to control agricultural runoff problems.

Developing an Environmental Program for Agriculture

When Congress enabled point sources to use effluent standards as their measure of success a number of very complex issues were sidestepped for 35 years. Almost all efforts to develop the science and economics needed to support programs that would deal with the complexity inherent in addressing landscape based issues were halted. As a result, government is currently "hobbled" in its efforts to address polluted runoff from agricultural operations. There is funding directed to develop some of the science, but far too little addresses the complexity issues that are inherent in the natural systems that compose a watershed or ecosystem. This does not mean, necessarily, that there is nothing that can be done until new programs are developed but it does mean careful steps should be taken by the Congress to authorize, through careful targeting, the development of the relevant science and economics that is not being addressed through current research and problem solving activities. In addition, ten to twelve watersheds in the 250,000 to 1,000,000 acre range should be instrumented in key ecosystems where major agricultural production occurs.

There are some watershed research activities underway but the focus is on determining the impacts of Best Management Practices (BMPs) – a very worthy but different research initiative.

I want to mention two factors that introduce much complexity when addressing runoff pollution.

- Cumulative impacts

  Landscape based issues must be dealt with through ecosystems and watersheds. Where water quality is the issue all sources in a watershed must be addressed and the cumulative impacts determined. Therefore, pollutant loadings from each land use, or export coefficients, in a watershed must be determined. The values will vary in every watershed. Therefore, I want to amplify the notion of dealing with the large number of potential sources of a pollutant. Land uses and land management practices on the landscape change on a daily basis, and potentially modify the concentrations and loadings in a watershed. Change in pollutant loadings are expected from day to day, month to month, season to season, rainfall event to rainfall event, and within rain fall events thereby, making it very difficult to use inspection based regulatory programs. The cost to government for this type of program will be huge.

- Ambient Standards

  When polluted runoff is the issue, unlike point sources, ambient water quality standards must be used as the measure of success. Therefore, the complexity increases by at least an order of magnitude. When activities in natural systems come into play complexity can be assumed. Moreover, aquatic life, habitat on land and in-stream, and other key and complicating factors must be addressed. In the long term, we believe industry that has used effluent standards for 35 years will be required to pay more attention to ambient standards. No one, no one, wants to be held accountable to ambient standards that are impacted by hundreds of potential pollutant sources, and the transformations that occur as pollutants travel through watersheds.

Given the above facts, steps should be taken to ensure production agriculture will be able to work under clean water programs that: 1) will resolve water quality issues, 2) are designed and tailored for the unique natural systems in which they work, and 3) are geared to the unique characteristics of the agricultural industry - just as was done for industrial firms in 1972. Environmentally conscience producers should be enabled to come into compliance with Clean Water Act objectives through producer friendly programs. On the other hand, producers who do not respond to an NPDES-NPS program would certainly receive no protection from regulatory programs in NPDES-NPS.

TIAER has developed a proposed program or model that was endorsed by EPA. At a TIAER sponsored Industry-Led Solutions meeting in New Orleans in 2004, the then Director of the Office of Wetlands, Oceans, and Watersheds commented *"TIAER's work, the model you have developed is (an) excellent one, it recognizes the need to use data that we've got to figure out what needs to be done and recognizes the need for collaborative leadership at the local level. So we think that is great and leadership like that from within this community (Industry-Led Solutions), is incredibility helpful. So, I want to endorse that and just say that you all are doing a great job."* Peer leaders in agriculture, members of Industry-Led Solutions have also endorsed this model. The endorsement here is not provided to make TIAER look especially good, however it does serve to point out that our work has been reviewed by key people outside the Institute.

October 17, 2007

Dear Chairman Oberstar and Ranking Member Mica:

On behalf of the members of the Waters Advocacy Coalition, we commend you for holding this hearing on the 35th Anniversary of the Clean Water Act (CWA) to highlight the successes and future challenges of the CWA. Over the last 35 years, the progress our nation has made in restoring the chemical, physical and biological integrity of our nation's waters is truly extraordinary. Not only have we reversed the historic trend of wetlands losses, but we have restored streams and rivers degraded by pollution. After many years, these waters are thriving again with life (see Attachment). We recognize that but for the collaborative efforts of the U.S. EPA, States, Tribes and industry, such progress would not have been possible.

While we have made significant strides to improve water quality, the next 35 years will focus on updating antiquated infrastructure and addressing sources of pollution inextricably intertwined with land use activities. Solutions will be more complex and costly, and will invariably require a greater commitment to fostering the federal-state framework critical to the CWA's success.

Toward this end, in 1972, Congress affirmed its long-standing deference to State water law in Section 510 of the CWA, which states "[e]xcept as expressly provided in this chapter, nothing in this chapter shall . . . be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States." 33 U.S.C. § 1370. Congress also reaffirmed its constitutional obligation to "recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources. . ." 33 U.S.C. § 1251(b). Congress understood that water and land use are inextricably linked and that the primary authority over such matters should continue to reside with the States. In that vein, we would encourage Congress to support the continued efforts of States and communities to protect local water resources through incentives, grants, and technical assistance.

In our attachment, we have summarized a few examples of the dramatic successes achieved by the Federal government, the States, and the regulated community working together to carry out the goals of this landmark legislation. While we acknowledge the additional work ahead, we take great joy in reflecting upon the 35th Anniversary of this remarkable law and how far we have come.

Thank you for your consideration.

American Farm Bureau Federation
American Forest & Paper Association
American Public Power Association
American Road and Transportation Builders Association
Associated General Contractors of America
Croplife America
Edison Electric Institute
The Fertilizer Institute
Foundation for Environmental and Economic Progress
Industrial Minerals Association North America
International Council of Shopping Centers
National Association of Counties
National Association of Flood & Stormwater Management Agencies
National Association of Home Builders
National Association of Industrial Office Properties
National Association of Manufactures
National Association of Realtors
National Association of State Departments of Agriculture
National Cattlemen Beef Association
National Corn Growers Association
National Mining Association
National Multi Housing Council
National Pork Producers Council
National Stone, Sand and Gravel Association
Responsible Industry for a Sound Environment
Western Business Roundtable

Clean Water: 35 Years of Progress

Over the last several decades, the Clean Water Act has been responsible for extraordinary advances in improving the health of the nation's surface waters and watersheds. Through the collaborative efforts of U.S. EPA, the States, Tribes and industry, the Act's regulatory and non-regulatory programs, augmented by other federal conservation programs, continue to serve as the engine of progress. The following examples help to illustrate this progress and other positive trends:

- In 1972, only between 30 and 40 percent of surface waters monitored met water quality goals. Now, between 60 and 70 percent of waters meet their goals and support basic uses such as fishing or swimming.[1]

- The EPA, States, Tribes and industry are working cooperatively to clean-up the 39,000 waterbodies that remain impaired. To date, over 25,000 total maximum daily loads (TMDLs), or watershed pollution budgets, have been developed and approved by EPA. These TMDLs provide a clear plan forward to ensure that these waters will attain water quality standards.[2]

- More people than ever before have access to wastewater treatment facilities. In 1972, only 141.7 million people were served by wastewater treatment facilities, and only 60 percent of those people were served by secondary treatment or better. Today, 223 million people (over 1.5 times as many as 35 years ago) are served by wastewater treatment facilities; nearly 99 percent of those people are served by secondary treatment or better.[3]

- Since 1972, total oxygen-demanding pollution from sewage treatment plants across the country has been cut by nearly 50 percent, despite a major increase in the amount of sewage sent to these plants for treatment.[4] The vast majority of States have either adopted or are in the process of adopting numeric nutrient criteria, which will result in greater nutrient reductions.

- Water quality standards have now been set for every river, stream, lake, and bay in the country. These standards protect aquatic life and human health, and reflect numeric criteria published by EPA for about 190 pollutants.[5]

- All 35 States and territories with coastal recreational beaches and waters have adopted water quality standards as protective as EPA's standards, an increase from 11 States and Territories in 2000. Through $10 million in EPA grants each year, States have significantly increased the assessment and monitoring of beaches, increasing from 1,000 in 1997 to greater than 3,500 in 2006.[6]

- Since 1988, over $24 billion in Clean Water Act State Revolving Funds (CWSRF) have been provided to States to help communities finance important water infrastructure projects to improve water quality. This is nearly three times the original CWA authorized level of $8.4 billion. Total CWSRF funding, including state match dollars and other funding sources, has totaled over $57 billion.[7]

- Since 1972, EPA has regulated pollution discharges from major categories of industry under the effluent limitation guidelines (ELG) program. Each year, the ELG program prevents more than 690 billion pounds of pollutants from being discharged into our nation's waters.[8]

- EPA and the States are making important strides to reduce combined and sanitary sewer overflows. EPA estimates that by 2008, long-term control plans will be in place for 75 percent of all CSO permits effecting 770 communities (or 40 million people). These efforts, along with increased enforcement, are helping to reduce the estimated three to ten billion gallons of untreated sewage discharged each year.[9]

- Each year EPA and States issue over 60,000 individual discharge permits to limit pollution with best available technologies and, in many cases, to require even more stringent limits to solve local water quality problems. About 15,000 concentrated animal feeding operations (CAFO) are also covered, plus more than 500,000 stormwater sources.[10]

- EPA's 2003 CAFO regulations are expected to reduce the discharge of more than 56 million pounds of phosphorus, 110 million pounds of nitrogen, and 2 billion pounds of sediments each year.[11]

- Since EPA issued its 2003 Water Quality Trading Policy, over a dozen States have developed formal trading programs, while successful trades have occurred in a total of 22 States, and are beginning to yield significant results. For example, in 2006, the Greater Miami River Conservancy of Ohio, through a trading program, purchased the reductions of 36 tons of phosphorous for less than $100,000 by paying farmers to implement practices that reduce excess nutrient loadings from agricultural runoff.[12]

- From the 1950s to the 1970s, an average of 458,000 acres of wetlands were being lost each year. By the 1986-1997 time period, the loss rate had declined to 58,600 acres per year. Between 1998-2004, overall wetland areas increased at a rate of 32,000 acres per year.[13] As well, EPA, USDA, and DOI work hand-in-hand to extend these gains through other non-regulatory federal programs.

    - Since 1992, 1.9 million acres of wetlands and associated upland acres have been enrolled in USDA's Wetland Reserve Program (WRP). WRP provides technical and financial support for landowners to protect wetlands, water quality, and other important natural resources.[14]

    - Currently, nearly 37 million acres of farmlands are enrolled in USDA's Conservation Reserve Program (CRP), including 2.4 million wetland acres, which is up from 1.7 million wetland acres in 2001. The CRP pays landowners to plant protective land covers to reduce soil erosion, improve water quality and enhance wildlife resources. USDA's National Resources Inventory survey, which gauges current land trends in the United States, indicates cropland soil erosion decreased by 43 percent between 1982 and 2003. Incentive-based programs such as CRP are preventing 450 million tons of soil erosion each year.[15] Not only does CRP enhance soil conditions and water quality, it also provides significant improvements to wildlife habitats. In fact bird species, such as bobwhite quail and sage grouse, have realized a significant benefit from the restorative effects of CRP on various grasslands.[16]

    - The National Wildlife Refuge System contains more than 95 million acres of valuable wildlife habitat, including 2 million acres of wetlands. In 2006, nearly 48,000 acres of wetlands were restored or created within the System, and an additional 49,000 are expected by the end of this year.[17]

- The U.S. Army Corps of Engineers issues permits to fill about 20,000 acres of jurisdictional waters each year. To minimize and compensate for any adverse impacts to wetlands and streams, the Corps requires compensatory mitigation on average of more than two acres for each permitted loss, thus resulting in net gains of aquatic resources. In some cases, the Corps and States require as much as 8:1 mitigation ratio.[18]

- The Act's regulatory and non-regulatory programs are being heralded across the country for thousands of success stories involving water quality improvements and the continued recovery of watersheds that historically have been degraded by point and nonpoint source pollution. For example,

    a. In 2006, reproducing populations of Lake Whitefish returned to the Detroit River for the first time since 1916. Since 1972, discharges of oil in the Detroit River have been reduced by 98 percent, phosphorous by 95 percent, mercury contamination in fish by 70 percent, and an 83 percent reduction in PCB levels in herring gulls that feed upon the fish.[19]

    b. With improved water quality, the American shad population in the Delaware River has rebounded to over 900,000, which is up from 100,000 in 1971.[20]

c. The Allegheny and Monongahela Rivers in Pittsburgh, Pennsylvania, were so heavily polluted from industrial discharges that just 30 years ago were devoid of fish. Today it supports over 20 different fish species and, in 2005, played host to the prestigious Bassmasters Classic fishing tournament.[21]

d. After years of industrial pollution and water quality degradation, millions of alewives, shad, Atlantic salmon and striped bass have returned to a 17-mile stretch of the Kennebec River in Maine. According to local biologists, in 20 years, the water quality has made a miraculous recovery.[22]

e. The extent of submerged aquatic vegetation, which is essential to supporting the blue crab and healthy ecosystems, nearly doubled in the Chesapeake Bay from 1978 to 2005.[23]

f. Since 1982, through CWA funding of agricultural best management practices and upgrades to failing septic systems and municipal wastewater treatment facilities, the Sauk River Chain of lakes in Central Minnesota has reduced total phosphorous and excess nutrient pollution by 48 percent, resulting in dramatic improvements to water quality.[24]

g. Atlantic salmon disappeared from the Connecticut River in the late 18th century as a result of overfishing and massive pollution. Salmon were first seen again in the late 1970s and were first documented to spawn and reproduce in 1991 - for the first time in 200 years.[25]

h. Water quality continues to improve in the Long Island Sound. Since the 1980s, the severity of hypoxia has decreased substantially in large part to water quality trading programs established by the City of New York and Connecticut. Upgrades to sewage treatment plants have reduced nitrogen loadings by nearly 20 percent since 1990. Toxics chemical releases to the Sound declined by 84 percent between 1988 and 1998.[26]

i. In 1972, only one State had adopted a program to control water quality impacts from forestry activities. Today, all States with significant commercial forestry activities have programs to protect water quality based on best management practices (BMPs).[27]

j. State surveys of forestry BMP use have indicated an increasing trend in rates of BMP compliance since passage of the Clean Water Act, with compliance generally reported to exceed 80 percent. Studies evaluating the efficacy of modern BMP prescriptions reveal that properly applied BMPs are effective at reducing sediment and nutrient loads by over 70 to 95 percent. Coupling the relationship between BMP implementation and efficacy, impacts to water quality declined dramatically as BMP implementation rates exceeded 80 percent.[28]

k. Since 1972, Pennsylvania has successfully reclaimed 34,000 acres of abandoned coal mines (containing over 200 pollution discharges) as a result of remining. This has resulted in the reduction of discharges of acid loading by 15, 918 pounds/day. In addition, since 1997, with the support of Clean Water Act funding, treatment systems have been installed at 19 other abandoned mines and, based on recent biological surveys, the streams and benthic organisms are recovering.[29]

For every story such as the ones above, there are thousands more that lay testament to the steady progress being made to improve water quality. For more success stories, see EPA's website, http://www.epa.gov/owow/nps/Success319/.

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The Arid West has the following types of waters, which flow from a variety of sources.

- Ephemeral watercourses: flow only in response to precipitation events;
- Perennial watercourses: flow year around due to groundwater base flow, tributaries, springs, and mountain snow runoff in the Spring;
- Effluent-dependent watercourses: receive the majority of flow from wastewater treatment plant effluent discharges;
- Intermittent watercourses: flow is interrupted due to channel bed loss or hydrologic and geologic influences;
- Natural lakes and ponds: water can be perennial or ephemeral, e.g. playa lakes;
- Man-made reservoirs and water conveyance structures: developed for the purpose of water storage and/or flood control, with water releases managed for various uses;
- Groundwater: water contained in a saturated zone beneath the earth's surface; and
- Reuse water: Wastewater effluent that has been reclaimed as a result of treatment, and is subject to reuse for a variety of uses.

Much of the arid West region receives less than 20 inches of annual precipitation, with some areas receiving as few as 4 inches annually (e.g. Las Vegas, Nevada). The western states have a history of routinely experiencing severe and prolonged drought. The western states have experienced drought for the past 8 years, and the drought is continuing. Today, the lack of water in the arid West is impacting compliance with both federal and state regulatory requirements regarding water quality and quantity, with ramifications for population growth, agriculture, and the natural ecology of the waters of the West.

II. Our Challenges Since 1972

Since 1972, the states in the arid West region worked diligently with the EPA to implement P.L. 92-500 i.e. the Clean Water Act. Our WESTCAS members in the arid West that fall under the permit jurisdiction of the Act have spent hundreds of millions of dollars in compliance efforts, especially in the area of infrastructure upgrades, permit monitoring and reporting, and design and construction of new wastewater treatment facilities. However, the 35-year Clean Water Act process has been primarily one of addressing moving targets, with EPA continuing to promulgate new requirements and making existing requirements more stringent. By and large, our arid West members have stayed on the path toward full regulatory compliance, but have not been without issues, significant personnel expense, and infrastructure investment. Sometimes despite the efforts, water quality compliance efforts were not successful.

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Since 1982, the end of the first decade of the Clean Water Act, federal infrastructure funding assistance has steadily diminished. As a result, a greater financial burden has fallen on the entities responsible for wastewater collection and treatment. In this regard, the following factors should be noted regarding the arid West:

- The rapid population growth in the arid West is challenging local governments, including county, municipal, tribal, and special districts, to provide quality utility services for water and wastewater due to the growing number of existing and new customers, their increasing water demands, and the volumes of wastewater requiring treatment;
- Existing utility infrastructure is typically: aged, and in need of upgrade or replacement, over-loaded, undersized, and constructed of materials that have not proven to have the life expectancy anticipated at the time of original installation or construction;
- Homeland security concerns have increased the costs associated with utility system surveillance, security protection, and response/mitigation planning for acts of terrorism and sabotage;
- The population growth in the Arid West has a significant demographic proportion of retired and aged citizens who are typically on a fixed and/or limited income, and who cannot afford the escalating utility costs that water and wastewater utilities must attempt to distribute to the local customer base;
- Funding mechanisms for water and wastewater infrastructure are constrained to a handful, and although local utilities understand that customers in the utility service area should bear the burden of full cost pricing, increased utility rates alone cannot generate the capital required to maintain, replace, or construct needed infrastructure;
- To-date, annual appropriations for the EPA state revolving loan funds for both drinking water and wastewater infrastructure have been inadequate to meet the growing national infrastructure demands; and
- Federal funding has been steadily decreasing, especially over the past 3 years, and the needs of water and wastewater utilities have outgrown the funding levels of the Clean Water State Revolving Loan Funds.

In addition to infrastructure challenges, WESTCAS members in the arid West recognize: that despite the tremendous expenditures on wastewater treatment for municipal and industrial effluent sources, such point source discharges to "waters of the U.S." typically only account for 10 to 15 percent of the water quality violations that are reported for a states' receiving waters. The majority of water quality standards violations in the arid West are due to non-point source contributions, which are not subject to regulation, but rather are only addressed with voluntary "best management practices". Although recent EPA watershed initiatives may eventually address this problem, currently the entities

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responsible for point source discharges are paying the majority of the cost of water pollution control, while the majority of the non-point source water pollution problems remain non-regulated while contributing to the financial burdens.

During the first two decades of the Clean Water Act, the required State biennial reports on the status of water quality (Section 305 b. reports) appeared to document that the Clean Water Act was indeed a success. At the very least, the majority of our western waters were not diminishing in quality, despite the constant increase in population growth and increase in effluents discharged. However, over time the affects of: population growth, infrastructure needs, diminishing dilution water in the receiving waters due to diversions and drought, and the evolving stringency of permit requirements, have led to an apparent increase in water quality issues, as easily seen in the bi-annual listing of impaired waters (i.e. Section 303. d. list) that requires development of total maximum daily loads (TMDLs). According to EPA in their national report to Congress for the 2002 reporting cycle, 45% of assessed rivers and streams, 47% of lakes, ponds and reservoirs, and 32% of bays and estuaries were reported as impaired.

The 303.d list does not distinguish violations of water quality standards resulting from non-point sources, such as physical parameters like temperature or turbidity from violations from point sources, such as toxic pollutants. All of the violations are reported to demonstrate water quality impairment, regardless of the significance of their source or true impact. The resulting 303.d list is a compilation of statistical information that does not "qualify" the water quality impairments. The statistical water quality picture, in many instances, has been painted to represent a negative situation, when in fact the problems may not be that severe. Especially in the arid West where sediment and turbidity are a natural hydrologic phenomenon, and lower, drought-impacted surface water flows may result in shallow water depths and temperature violations. The listing and TMDL processes do not sufficiently take into account the unique hydrologic characteristics of the arid West, nor the anthropogenic influences of water diversions, water conveyances, and other hydrologic modifications such as dams, flood control structures, and water storage reservoirs.

Storm water is another water quality issue that has implications for the arid West. Pollutants from storm water need to be addressed with application of Best Management Practices implemented through an enforceable permitting program. However, storm water discharges to "waters of the U.S." which are normally dry streams, i.e. ephemeral watercourses, may pose substantially different environmental risks than do the same discharges to perennial surface waters. States must have the ability to manage storm water pollution using a tailored approach that reflects the different risk posed by discharges to ephemeral watercourses. Over-regulation should be avoided when considering discharges to ephemeral watercourses in the Arid West.

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EPA has begun to work cooperatively with the states to develop and implement a TMDL program that provides flexibility to: accommodate state and local conditions, addresses funding needs in a realistic manner, recognizes a watershed approach to establishing TMDLs, and encourages incentive-based approaches, such as pollution trading programs and voluntary compliance before applicable mandatory measures are taken. The states, tribal governments, and EPA face unique coordination challenges regarding water quality issues as they relate to cross-jurisdictional flow regimes between state and tribal lands. Although the Western state Governors endorse government-to-government communications, EPA (as well as the states) needs to promote effective consultation, coordination, and communication. EPA's efforts in these areas should be given a higher priority to address the needs of the arid West.

However, in the implementation of the Clean Water Act provisions, the states should retain primary jurisdiction over related water resource allocation decisions, including how to most appropriately balance state water resource needs with the Clean Water Act objectives. Pending Clean Water Act amendments portend threats to the well-developed federal /state relationships over the definition of "waters of the U.S.". These proposed amendments should be considered cautiously, and it is the view of WESTCAS that a refinement of the definition of "waters of the U.S." is not required to adequately protect water quality in the U.S.

One final challenge we face is that since the Clean Water Act was passed in 1972 are the numerous other Federal Environmental Statutes have also been enacted into law. The rubric of the: Clean Water Act, Safe Drinking Water Act, and the Endangered Species Act and the regulated communities ensuing interplay with the EPA, the Department of the Interior and the U.S. Army Corps of Engineers is important for the Committee to further examine as your consider future changes to the Clean Water Act.

III. The Coordination of Federal Environmental Statutes

The Clean Water Act does not stand alone in protecting the nations' waters from non-point source pollution. Other ongoing programs at federal, state, and local levels must be adequately funded and coordinated with, not superseded by, the Clean Water Act. Non-point source pollution requires the development of watershed-oriented water quality management plans to reduce pollutant loading to western waters. Watersheds encompass a variety of land uses and activities, including those managed by federal and state agencies, which can impair surface and ground water. According to a 1996 GAO Report, federal agencies manage between 30% and 80% of the land in the western states. Accordingly, as part of these watersheds, federal agencies must be provided with the resources necessary to comply with the requirements of watershed management plans, developed under the vested responsibility of the states to control and reduce pollution.

In particular, state-administered programs, when coupled with various programmatic authorized funding from disparate statutes e.g. Clean Water Act (CWA), Safe Drinking Water Act (SDWA), the Farm Bill and the Water Resource Development Act (WRDA), and other incentives and support, can provide significant and continuing opportunity for major environmental protection. Federal water policies must recognize that the state programs, if enhanced through federal efforts, could provide a firm foundation for sound national, non-point source pollution policy. In particular, implementation of agriculture and forestry conservation programs in the pending Farm Bill should give priority to restoration of waters impaired by non-point source pollution.

In addition to the issues associated with non-point source pollution, as the Committee knows, there are a myriad of federal statutes, agencies, and budgets that affect water quantity and quality. Although there is continuous talk regarding streamlining the federal agencies programs with regard to water, little progress has been made to-date. Thus, our WESTCAS members in the arid West continue to urge Congressional action beyond authorizations to include appropriations for the backlog of water projects and programs under the purview of the Bureau of Reclamation and the Corps of Engineers. The bulk of these water projects includes: water infrastructure that is vital to the water supply in the western states, and that significantly impact the arid West. In addition, programmatic funding for federal agencies such as the U.S. Geological Survey must be increased to provide the invaluable research and date services provided in the areas of water resources, geologic, and biological sciences. Increased support for USGS monitoring, surface and ground water resource measurements, data interpretation and report publication is crucial to the present and future management of water resources in the arid West. But, likewise, water-related funding for programs managed by: the Fish and Wildlife Service, Bureau of Land Management, Natural Resource Conservation Service, National Oceanic and Atmospheric Administration, National Aeronautical and Space Administration, Environmental Protection Agency, Forest Service, and numerous other agencies must be optimized and managed to create an integrated web of federal programs that prudently support water resource management in the United States.

IV. New Water Quality and Quantity

As the arid West is grappling with burgeoning population growth, and decreasing water supplies exacerbated by a long-term drought and the prospect of climate change affecting future water supplies, there is increasing demand for new sources of water. In this regard, reclaiming and recycling wastewater effluent is playing a essential role in enabling the reuse of water. Moreover, the Clean Water Act reauthorization should include new emphasis on water reuse and encourage reuse of treated wastewater as a component of water quality improvement and efficient water resource management. This action, coupled with the Bureau of Reclamation programs regarding water reclamation, recycling, and reuse under their Title XVI program should be more aggressively supported and funded with appropriations.

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Water supply management in the West requires elaborate systems for moving waters across natural drainage divides. In many cases, these systems transfer non-native waters into separate and distinct water bodies. Generally, adequate state authorities are in place to protect the existing environment of these ecosystems from the potential adverse impacts of such water transfers. Consistent with Section 101 (g) of the Clean Water Act, the federal government should not intercede in state water allocations and management decisions. Federal permits should not be required for such inter-basin water transfers. However, where such water transfers result in water quality impacts, the states should manage the impacts as they deem appropriate, using appropriate state legal authorities.

Water scarcity (relative to demand) is a reality to much of the West, but reservoir storage, inter-basin transfers, groundwater development, water rights transfers, conservation, and other measures have allowed population growth to continue. However, in some areas for the first time legal and physical limitations are appearing on the planning horizon. In the future, the arid West may not be able to sustain unlimited growth and still maintain the current quality of life. Difficult political choices will be necessary regarding future economic and environmental uses of water and the best way to encourage the orderly transition to a new equilibrium. Among other things, these new realities require evaluation of the relationship between water policies and growth.

The ability to encourage and have the spectrum of parties, engaged in greater water resources planning, is an important incentive for Congress to bring to the table. The recently passed Water Resources Development Act for the U.S. Army Corps of Engineers is an important step in this regard. Regional planning and the encouragement to bring thoughtful solutions to problems we face is the best path forward. This was brought home to WESTCAS recently when we went back and took a look at the recommendations of the National Water Commission in 1973. Having a sound planning approach and good data, which the Federal agencies can assist in developing, helps with the decision making regarding the direction for use of scarce funding.

V. The Role of Water Quality Research

It is vital that any legislation amending the Clean Water Act be drafted to contain a title regarding water research. Research regarding: water quality criteria and standards; wastewater collection and treatment technologies; wastewater reuse and recycling technologies; represent just a partial list of scientific and technical research needed to address fundamental questions and support fundamental decision-making needed in Clean Water Act regulatory programs. Research is often over-looked and often budgets dedicated to research are pilfered to support other EPA programs.

For example, in a recent edition of "Inside EPA's Water Policy Report, Vol. 16, No. 20, October 1, 2007 EPA announced: that they had recently released a draft plan for conduction research on endocrine-disrupting chemicals (EDCs) that could lay the

foundation for the agency to develop its first-ever EDC water quality criteria designed to protect both aquatic life and human health, a growing concern for state regulators. However, an article following this announcement stated:

> "EPA has been forced to drop key components of its research on endocrine-disrupting chemicals (EDCs) and instead focus on core research due to increasing demand from various program offices and a lack of resources…"

Water quality research is vital to the underpinning of any regulatory program. WESTCAS members know that wastewater treatment requirements are largely based on national water quality criteria that were based on aquatic species and flow regimes not necessarily representative of low flowing rivers, ephemeral rivers, and effluent-dominated rivers typical of the arid West. In order to properly consider regional differences in aquatic species and hydrology, methodologies and criteria must be developed through sound, scientific research studies that can support site-specific water quality standards. WESTCAS has historically served as a dominant supporter of such research, and was successful in supporting the establishment of the Arid West Water Quality Research Project (AWWQRP) in 1995. The legislation resulted in a $5 million federal appropriation (P.L. 103-327) and the establishment of an Assistance Agreement between EPA and Pima County, Arizona. The establishment of the Agreement provided significant opportunity for: Pima County, EPA Region 9, and others throughout the arid West to work cooperatively to conduct scientific research necessary to develop appropriate water quality criteria and standards for the arid regions and improve the scientific basis for regulating wastewater and storm water in the arid and semi-arid west.

This research progressed since 1995 through 2006, when continuing research funding was not forthcoming. The extensive work products derived from the research work have been delivered to EPA, and it appears that EPA Headquarters is making some effort to derive either proposed rule-making, or at the least guidance to enable the application of the research results. WESTCAS strongly supports the timely utilization of the results of this research, and encourages future funding for water quality research of this nature.

Another important component of research is for the federal government to be encouraged to reach out to the private sector regarding the innovative technologies and solutions that are taking place not only in this country, but around the world on water resource problems. WESTCAS, through our Associates, has been exposed to some of the best cutting-edge applications of innovative technology taking place in our part of the country. The uniqueness of the arid West has presented environmental, engineering and technology challenges. The experience addressing those challenges, and the knowledge gained, could benefit the rest of the country as concerns with Global Climate Change grow. We believe the engineering, environmental consulting and private sector financial community have a lot to contribute to how we address the sustainability challenges of the future.

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The Western Coalition of Arid States
W E S T C A S

VI. The Pathway to Sustainability

In their publication entitled: "Water Needs and Strategies for a Sustainable Future", the Western Governors' Association in June 2006 raised five topics with their analyses and recommendations. They included: Water Policy and Growth; State Needs and Strategies to Meet Future Demands; Water Infrastructure Needs and Promising Strategies to Meet Them; Resolution of Indian Water Rights; and Preparations for Climate Change Impacts. These topics, (excluding resolution of Indian Water Rights) are impacted by the contents and administration of the Clean Water Act. From an arid West perspective: the demand for water supply in the west, coupled with explosive population growth, long-term drought, and the potential impact of climate change, creates a significant challenge with respect to the management of water quantity and quality, the provision of needed water infrastructure, and the protection of public health and the environment. The most promising pathway to sustainability is to engage EPA in a partnership with all of the other federal agencies relevant to water resource management, in order to develop and implement meaningful strategies, programs, and projects to ensure sustainable water quantity and quality. In implementing both the Clean Water Act and the Safe Drinking Water Act, EPA must work with other federal agencies, state agencies, local government, and other entities and organizations to address the issues from the "bottom-up" as well as the "top-down". Without a joint partnership, collaboration, and significant participation, the western states and especially those in the arid West will not succeed in meeting needs for sustainable water quantity and quality.

CONCLUSION

In conclusion I would like to make three suggestions as you move forward with efforts on examining the Clean Water Act: 1) WESTCAS believes it is important for the Committee to hold six field hearings around the country – one in each of the four corners and one for the Great Lakes and one for the Gulf Coast. By doing so we believe that any future changes will avoid the "one size fits all" approach and recognize the unique nature of the arid West and other parts of the country; 2) Request from each presenter before the Committee the three improvements they would recommend to the original Act (and why) to give the Committee a better way to categorize the nature of change that might be necessary; 3) Take advantage of the wealth of information, including the science, that has been developed as a result of the passage of the Clean Water Act. It is important to bring all of the federal agencies, and by this we mean all of them, not just the natural resource agencies, to give the Committee the best picture of what the Future Challenges are for the West from their perspective. Given the large amount of land held by the federal government in the West, and the federal footprint everywhere in the country, this is an important factor to understand and embrace with regard to future planning and sustainable growth.

Thank you again for the opportunity to provide this testimony for the record

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