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BALLAST WATER MANAGEMENT AND REDUCTION OF AIR POLLUTION FROM SHIPS

(109–87)

HEARING

BEFORE THE

SUBCOMMITTEE ON
COAST GUARD AND MARITIME TRANSPORTATION

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

JULY 11, 2006

Printed for the use of the
Committee on Transportation and Infrastructure

U.S. GOVERNMENT PRINTING OFFICE

30–657 PDF WASHINGTON : 2007

For sale by the Superintendent of Documents, U.S. Government Printing Office
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BALLAST WATER MANAGEMENT AND REDUCTION OF AIR POLLUTION FROM SHIPS

Tuesday, July 11, 2006

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, WASHINGTON, D.C.

The subcommittee met, pursuant to call, at 10:00 a.m., in room 2167, Rayburn House Office Building, the Hon. Frank A. LoBiondo [Chairman of the subcommittee] presiding.

Mr. LOBIONDO. Good morning. The Subcommittee will come to order.

The Subcommittee is meeting this morning to review draft legislation that addresses the treatment of invasive species in ballast water and the implementation of international vessel emission requirements under Annex VI of the MARPOL Convention. This Subcommittee has held numerous oversight hearings on the Federal Government's efforts to reduce the risk of aquatic invasive species through the release of ballast water from vessels operating in U.S. waters. The Coast Guard has issued regulations to require all vessels on a voyage originating in a foreign port to carry out ballast water exchange before the vessels enter U.S. waters.

I am concerned, however, that the ballast water exchange alone may not fully protect our coastal ecosystems from the threat of invasive species.

This draft bill would require the Coast Guard to establish national ballast water discharge standards after the service has certified there exists alternative ballast water management methods which are capable of reducing the concentration of organisms in ballast water, at least to the international standard. If the Coast Guard determines concentrations of invasive species can be reduced to a level which exceeds the international standards, the draft bill requires the Coast Guard to issue regulations implementing methods to do so.

The draft bill also proposes to use the Coast Guard Shipboard Technology Evaluation Program to demonstrate the capabilities of experimental alternative ballast water management methods on board vessels active in maritime commerce.

The draft bill is a work in progress. It does not represent a consensus of all interested parties or members of this Subcommittee.

I look forward to hearing the comments of the witnesses and the members of the Subcommittee on how we should direct the Coast Guard to address ballast water management in the future.

The Subcommittee is also considering draft legislation that would implement international vessel emission standards that were agreed to in MARPOL Annex VI. Earlier this year, the Senate gave its advice and consent to the treaty, contingent on the adoption of legislation to implement these requirements here in the United States.

The draft bill incorporates several provisions included in the Administration's proposal to Congress with several changes regarding the role of the Environmental Protection Agency to develop and administer and enforce regulation aboard vessels operating in the United States.

The draft bill proposes to maintain these responsibilities of administering and enforcing U.S. laws aboard vessels under the authority of the Coast Guard. The Coast Guard currently administers and enforces regulations regarding the release of oil, harmful substances, and garbage from vessels that were issued under the authority of the Act to prevent pollution from ships. The Coast Guard should remain the primary Federal agency responsible for implementing the Act. The draft bill would require the Coast Guard, in consultation with EPA, to issue regulations to reduce the emission of pollutants from vessels operating in U.S. territorial waters.

The draft bill would also require ports and terminals to provide vessel operators access to adequate reception facilities for ozone-depleting substances and other compounds.

I want to thank the members of the Subcommittee for their continuing involvement in the development of this legislation. I look forward to working with those members as we continue to address these importance issues

I would like to ask unanimous consent that Mr. Ehlers be able to sit on the Committee this morning.

If no objection, so ordered.

I will turn to Mr. Filner for an opening statement.

Mr. FILNER. Thank you, Mr. Chairman. Welcome, Dr. Ehlers and Mr. Hoekstra to this Committee. Thank you.

Those of us, like myself, who represent port regions of our Country, and I represent San Diego, California, are obviously concerned about the pollution from ships entering our ports. While they do bring economic activity, they also have the potential of bringing in pollution.

The ballast water is important to maintaining a ship's stability, but it also contains plants and animals from foreign ports that pollute our waters. These foreign critters can grow and thrive in our waters because they don't have any natural predators. Ports and communities around the United States spend billions of dollars annually to address the problems created by these invasive species.

Because of these concerns, Congress enacted a program for voluntary ballast water exchange for ships entering the United States from overseas. People were under the misguided perception that vessel owners would spend money voluntarily to pump out the ballast water they took on in a foreign port and replace it with saltwater mid-ocean. When shipowners failed to participate in this program, the Coast Guard made it a mandatory program for all vessels entering the United States.

As the Chairman said, now is the time to move to the next step in solving this problem. The ballast water must be treated just as we treat sewage before it is discharged in our waters.

The International Maritime Organization has adopted the new convention entitled the International Convention for the Control and Management of Ships' Ballast Water and Sediments. While the overall framework of this convention is good and commendable, the treatment standards adopted by the IMO were the lowest common denominator that could be agreed by the flag-of-convenience countries and the countries whose shipowners register their vessels in flag-of-convenience countries. Attempts by the U.S. delegation to strengthen the environmental standards in the convention were rejected.

It is time for Congress to enact meaningful standards for ballast water treatment that will protect our environment and our communities. These standards should also apply to U.S.-flag ships that move between two different ecosystems in the U.S.

The other portion of today's hearing will deal with possible implementing legislation for so-called MARPOL Annex VI which deals with emissions from ships and offshore platforms. Regional air quality standards and global warming require us to look at every source of pollution in our communities. Ships should not be allowed to enter our ports unless they comply with these standards.

The question remains as to whether or not a State like California should be allowed to enact more stringent emission standards for vessels that are in our ports. The current Clean Water Act allows California to do so. I believe that that authority should be maintained in any legislation to regulate emissions from ships.

Thank you, Mr. Chairman for scheduling this hearing today. I look forward to working with you to develop bipartisan legislation to regulate both ballast water and ship emissions. There are not many days left in our session. I am hopeful that if we start early to work with the other body on this legislation, we can enact it this year.

Thank you, Mr. Chairman.

Mr. GILCHREST. [Presiding] Mr. Ehlers, an opening statement?

Mr. EHLERS. Thank you, Mr. Chairman.

As Mr. LoBiondo said a few moments ago, ballast water exchange is not enough. I want to thank the Chairman very much for holding this important hearing today.

Ballast water management and the broader issue of aquatic invasive species is a matter that receives far too little attention, given its drastic impact on the economy and the environment. I have been actively working on this issue for several years, and I am pleased that the Chairman recognizes how critical this issue is, and I am hopeful that we can work together to move forward with legislation to improve and strengthen existing law in this area.

An aquatic invasive species is defined as a species that is both non-native to the ecosystem and whose introduction causes or may cause economic or environmental harm to harm to human health. Aquatic invaders enter the ecosystem through many different pathways, for example, the ballast water of a shipping vessel, attached to a ship, natural migration, et cetera, but clearly, the ballast water is a major avenue or a major pathway.

The economic damage includes the cost of the control, damage to property values, health costs, and other factors. Just one species can cost Government and private citizens billions of dollars. For example, zebra mussels alone have cost the various entities in the Great Lakes Basin an estimated $3 billion for the past 10 years for cleaning water intake pipes, purchasing filtration equipment, and so forth. Sea lamprey control measures in the Great Lakes cost at least $10 to $15 million annually. The total annual cost for the United States for the Governments and the citizens runs approximately $13 billion per year. This is not chump change.

This is not just a Great Lakes issue. From Asian carp in the Mississippi to Chinese mitten crabs in the North Pacific to moon jellyfish in the Gulf and on and on, we have many foreign invaders including those mentioned by the gentleman from San Diego a few minutes ago.

Given the enormous economic and environmental impact that these invaders cause, two clear goals emerge. First, we need to focus more resources and energy into dealing with this problem at all levels of Government. Second, our best strategy for dealing with invasive species is to focus these resources to prevent them from ever entering the United States. Spending millions of dollars to prevent species introduction will save billions of dollars in control, eradication, and restoration efforts. The old adage is still true: An ounce of prevention is worth a pound of cure.

Along with our colleague on this Committee, Mr. Gilchrest, I have introduced comprehensive legislation that has received broad bipartisan support. I won't get into the details of that legislation here, but it adds ballast water treatment technology certification, not just ballast water exchange but a treatment technology certification program and incentives to shipowners to install experimental treatment technology.

Unfortunately, the draft bill that we are discussing here today is not comprehensive. It is a good start, but we need something more. It does not address the many other pathways that aquatic invasive species enter into our waterways and ecosystems. I recognize this Committee does not have jurisdiction over many of the elements necessary to take a comprehensive approach, but I am hopeful that we can move forward with a comprehensive bill at some point.

I have introduced legislation related to our existing research needs. Let me emphasize research needs because that is all it concentrates on. When it comes to understanding invasive species, how they get in, and how to stop them from entering and spreading, the Aquatic Invasive Species Research Act, H.R. 1592, authorizes comprehensive research to ensure that efforts to prevent, control, and eradicate aquatic invasive species are based on the best science and done in the most cost-effective and environmentally sound manner. It puzzles me why that bill has not received more support and passage because it does not adopt any policy changes; it just simply says, look, let us do the research. We can't make the right decisions without doing the research first.

Mr. Chairman, we must have a strong research portfolio to understand as much as we can and how much we need to about these critters and how to prevent them from entering an ecosystem and wreaking havoc.

I appreciate the surveys included in the draft legislation which will be very helpful. I hope that the Committee and the Chairman will work with me in incorporating other provisions that have already been favorably approved by the Science Committee.

I look forward to hearing from the witnesses today. I look forward to working cooperatively with the Subcommittee and the full Committee to try to address this very costly and environmentally damaging phenomenon.

I yield back, Mr. Chairman.

Mr. GILCHREST. Thank you, Mr. Ehlers, and I do look forward to working with you on this issue, so that we can integrate policies both from the Science Committee and the Transportation Committee.

Mr. EHLERS. Mr. Chairman, may I respectfully ask that the remainder of my statement be entered into the record?

Mr. GILCHREST. Without objection.

The other gentleman from Michigan, Mr. Hoekstra?

Mr. HOEKSTRA. I thank the Chair for the opportunity just to make some brief comments. I would like to submit my entire statement for the record.

Mr. GILCHREST. Without objection.

Mr. HOEKSTRA. I am glad that the Chairman is holding this hearing. I am glad that we have bipartisan support in moving forward in addressing this issue.

Concrete action under the basis of the 1990 legislation and the 1996 amendments contained in the National Invasive Species Act have been painfully slow. Action has been paralyzed by seemingly endless analysis. We continue to await the required analyses and standards, but new invasive species have been introduced and taken up residence, and the people of the Great Lakes Region have paid the price.

I prefer the terminology used by my colleague on the other side of the aisle for invasive species. I like the term, critters. We keep getting more of these critters into the Great Lakes, and it has a direct economic impact as well as an environmental impact.

For many in the Great Lakes Region, the claim that the technology is not available to justify alternative ballast water treatment methods sounds more and more like excuses from those resistance to change or unwilling to acknowledge the severity of the issue. Research in the area of ballast water treatment has taken place for over a decade, but there has been no force or incentive driving the implementation of solutions.

I think that the staff draft is a step in the right direction. I know my colleague from Michigan, he has introduced legislation in this area. I have introduced legislation in the past. I hope that, on a bipartisan basis, we can actually implement some legislation that gets this process moving forward.

On that, Mr. Chairman, I will yield back the balance of my time.

Mr. FILNER. I am glad that ″critters″ will bring our two parties together. Thank you.

Mr. GILCHREST. It sounds like a country and western song.

Thank you, Mr. Hoekstra.

We look forward to the witnesses testifying today, so we can have some sense of understanding of where the Coast Guard is, where

NOAA is, where the Administration is on this basically international issue, and where the U.S. fits in with the IMO, and where the vote is on international agreements, and what the status is for the size of the critter that we want to eliminate in the ballast water.

My colleagues are correct that this is an economic issue. It is an ecological issue. It is a research issue. It is a science issue. It is a public policy issue.

I guess the Founding Fathers didn't envision that we would have so much to do as individual members of Congress to focus on any one particular issue, but I think for the remainder of this term and certainly in the next Congress, we hope we can get something done in this term. This is an issue that has been very fragmented, and it is an issue that people have been focused on either in the Congress or the Administration.

So, we don't want to take people to task here today for not coming up with a solution yet, but I want to make a comment, especially for my colleague from Michigan, Mr. Ehlers or Dr. Ehlers. I am going to wait until he stops talking, so he hears this and corrects me where I am wrong. I am telling the audience that I want to make a comment with your background in mind.

To understand the ecological issue, we need to understand the physics of the ecology. If we can understand, and Vern does, the Theory of General Relativity, quantum mechanics, and string theory as basic building blocks for the framework of understanding the somewhat unknown origin of creation and what has happened since then, this sets up the framework for our whole ecology.

If we can understand those vast, complex theories, I think we can focus on planet Earth and understand the issue of invasive species in ballast water and how they disrupt the ecological systems of the Great Lakes, the Chesapeake Bay, and the Gulf of Mexico. You name it; they are disrupting it, costing a lot of money. We are doing really unknown damage for millenniums to come with species that we depend on, like oysters in the Chesapeake Bay which have been devastated mainly because of ballast water, and the problems that they have with a series of critters in the Great Lakes.

If we can really, literally have ongoing dialogues about the intricacies of the universe and the tiny, tiny, tiny, infinitesimal particles that make up that and cause gravity to happen, well, we can sure find technology to eliminate invasive species in ballast water. I really think we can.

So, unless my colleague wants to make a comment about my layman's perspective on physics.

Mr. EHLERS. Mr. Chairman, I yield to your greater authority of layman's knowledge of physics.

Mr. GILCHREST. Greater authority of layman's knowledge—I have a lot more confidence now, Vern, thank you.

We thank the gentleman for coming this morning and Rear Admiral Salerno and a good friend, Mr. Keeney. Welcome, and we look forward to your testimony.

Admiral, you may begin.

TESTIMONY OF REAR ADMIRAL BRIAN SALERNO, DIRECTOR OF INSPECTIONS AND COMPLIANCE, U.S. COAST GUARD HEADQUARTERS; TIMOTHY R.E. KEENEY, DEPUTY ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE

Admiral SALERNO. Good morning, Mr. Chairman and Ranking Member Filner and distinguished members of the Subcommittee. I am Rear Admiral Brian Salerno, Director of Inspections and Compliance at U.S. Coast Guard Headquarters. It is my pleasure to appear before you today to provide the Coast Guard's views on air pollution reduction from ships and ballast water management.

In May, 2005, Annex VI to the International Convention for the Prevention of Pollution from Ships entered into force. The Coast Guard played a leading role in the development and adoption of Annex VI at the International Maritime Organization, IMO. At present, however, the U.S. has not ratified it. Annex VI represents the first time that air pollution and air quality issues associated with ships have been regulated internationally. It creates a foundation to build from as IMO parties seek to improve its effectiveness at reducing ship source air pollution.

U.S. ratification of Annex VI is extremely important to furthering our interest in reducing maritime pollution and enactment of the implementing legislation is the final remaining major statement.

Concerning ballast water management, the Coast Guard shares this Committee's concern with the significant environmental and economic damage caused by aquatic invasive species introduced through shipping. At this time, the Administration has not formed official views on the discussion drafts provided by the Committee. The comments provided in my written statement and those that follow represent the Administration's preliminary informal views.

There is no question that the current legislative framework needs to be upgraded to move us to a greater level of protection. We believe that aquatic invasive species present a complex international problem which requires a comprehensive international solution. The IMO has agreed to the text for an international convention for the control and management of ships' ballast water and sediment.

Because of the international nature of shipping, the Administration believes that the domestic approach must be compatible with the structure and framework of the international provisions. In this respect, a number of provisions in the discussion draft are problematic and others could actually delay reaching the goal of effective ballast water management. In general terms, the Administration prefers to see a standard that would encourage development of new technologies rather than being based on currently available technology. For example, we would like to use a standard to set a goal for developers to achieve fewer organisms per cubic meter of water.

Senate Bill 363 closely tracks the approach in the convention, and the Administration is willing to support the approach taken in S. 363 with minor modifications. We recommend that this Subcommittee consider that approach as well.

The Coast Guard has determined that a discharge standard for ballast water is the most expedient approach to approving appropriate technologies for use on board vessels. In conjunction with the discharge standard, the Coast Guard is working in partnership with EPA to develop test procedures for approving ballast water management systems and with the Naval Research Laboratory to validate and refine the procedures. We are also working with NOAA in facilitating the testing and demonstration of practical and effective shipboard ballast water management methods.

Turning to the Great Lakes specifically, the Great Lakes ballast water regulations remain the most stringent in the world for restricting the discharge of unmanaged ballast water. However, for the Great Lakes, there is a justified concern regarding vessels that enter the lakes fully loaded with cargo and declaring no ballast on board, commonly referred to as NOBOB vessels. This is because the regulations for ballast water exchange do not apply when ships enter as a NOBOB. However, the risk of invasion remains due to residual freshwater and sediment in empty ballast tanks which are sufficient to sustain invasive species.

To address this risk, in 2005, the Coast Guard announced new policy that encourages vessels that enter the Great Lakes as NOBOBs to conduct specific best management practices wherever possible. The Coast Guard and Transport Canada are cooperatively examining the degree to which industry is able to conduct these practices and their efficacy in reducing the risks of introducing aquatic invasive species.

Until approved, alternative ballast water management methods are available. Consistent application of these practices should result in a significant reduction in the risk of introducing aquatic nuisance species.

Thank you for the opportunity to provide comments on air pollution reduction from ships and ballast water management. The Coast Guard looks forward to working with Congress as we continue our ongoing efforts to safeguard the maritime environment. I will be happy to answer any questions that you may have.

Mr. GILCHREST. Thank you very much, Admiral.

Mr. Keeney?

Mr. KEENEY. Good morning, Chairman Gilchrest, Ranking Member Filner, Dr. Ehlers, and members of the Committee. I am Tim Keeney, Deputy Assistant Secretary of Oceans and Atmospheres at NOAA. Thank you for inviting me to testify on the Ballast Water Management Act.

The Administration supports the goal of this legislation to provide for the management and treatment of ballast water, to prevent the introduction of non-indigenous or invasive aquatic species. The President's Ocean Action Plan recognizes the urgent need for ballast water management, and we remain committed to working with our Congressional partners to address this issue in a comprehensive way.

The transfer of organisms from ballast water has resulted in the introduction and establishment of hundreds of aquatic invasive species into the United States. The consequences of these invaders are being felt from the Great Lakes to Maine to the Gulf Coast to

the shores of California. In fact, every coastal State is experiencing this problem.

The introduction of zebra mussels provided the initial impetus for coordinated Federal action on aquatic invasive and nuisance species and led directly to the passage of the Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990. Recognizing the pathway that brought zebra mussels to the United States can bring other species, the Act required that steps be taken to manage ballast water.

In 1996, Congress passed the National Invasive Species Act which led to the creation of the Ballast Water Technology Demonstration Program by NOAA and the Fish and Wildlife Service. Since its inception, the program has spent over $13.2 billion in support of 63 ballast water technology research and development projects. As our understanding of ballast water management as developed, the state of ballast water technology has also advanced. This is evidenced by fewer laboratory-scale projects and more full-scale demonstration projects on ships being funded by the program. In fact, now more than 50 percent are full-scale projects. We believe the program is a good example of how different agencies can work together to reach a common goal.

In other research, NOAA's Great Lakes Environmental Research Laboratory led the first extensive biological characterization and assessment of risk association with the residual ballast water and sediment in ships. The Coast Guard used the assessment in issuing new policies for ballast water management of No Ballast On Board or NOBOB vessels entering the Great Lakes.

NOAA would prefer the reauthorization of the Non-indigenous Aquatic Nuisance Prevention and Control Act but appreciates the Committee's attention to the ballast water issue. We want to work with you on the issue since it is an immediate, pervasive, and well known vector for the introduction of invasive species.

I would like to highlight several significant concerns in the draft legislation that are addressed in greater detail in our written testimony.

The IMO has approved the International Convention for the Control and Management of Ships' Ballast Water and Sediment. NOAA believes the domestic legislation including the Ballast Water Management Act should be compatible with international provisions such as the convention because of the international nature of shipping. For example, S. 363 closely tracks the approach in the convention, and the Administration is willing to support the approach taken in S. 363 if minor modifications are made. We strongly recommend the Committee consider this approach as well.

A number of provisions in the proposed legislation could actually delay effective ballast water management. For example, one section requires surveys on the number of organisms in untreated ballast water and in exchange ballast water. However, several surveys have already been conducted in both these areas, and the results are available in published literature.

The proposed legislation is also weaker than the IMO convention discharge standards. The Act only requires regulating the upper standard for organisms greater than 50 microns. The convention standard includes organisms between 10 and 50 microns, and orga-

nisms in this category include dinoflagellates that cause harmful algal blooms. In general, NOAA prefers to see a standard that addresses organisms down to 10 microns and encourages development of new technologies.

NOAA supports the Coast Guard's Shipboard Technology Evaluation Program, or STEP, and supports the bill of statutory authorization of that program. NOAA is concerned that the proposed legislation prevents ballast water technology demonstration programs at NOAA from supporting any projects other than the shipboard technology demonstration under the STEP program. Smaller-scale control projects are still needed before some promising technologies will be ready for demonstration on board ships.

R and D projects are also needed to perfect monitoring and assessment technology to assure that organisms have been rendered non-viable and that compliance can be effectively monitored. The proposed document appears to prevent NOAA's ballast waster technology demonstration program from supporting either of these kinds of projects. These and other examples included in our written testimony indicate NOAA's difficulty in supporting legislation until these significant changes are made.

To conclude, we only have to look at the spread of aquatic invasive species that have come to our shores through ballast water to realize we will be living with the consequences of past introductions for a long time to come. We are optimistic that the ongoing ballast waster research will lead to a number of promising technologies that will enhance our ability to prevent new invasions.

NOAA welcomes the opportunity to work with the Committee staff to provide technical drafting and other assistance in order to address our concerns. Thank you again. I am happy to respond to any questions the Committee might have.

Mr. GILCHREST. Thank you, Mr. Keeney.

It appears that both your testimonies would prefer that our draft bill incorporated Senate Bill 363. I feel that is a pretty accurate statement.

Mr. KEENEY. That is correct.

Mr. GILCHREST. Would Senate Bill 363 I am not familiar with it—more closely align with the international agreement at the IMO?

Mr. KEENEY. It would, Mr. Chairman.

Mr. GILCHREST. Would the international agreement and Senate Bill 363 deal uniformly with ballast water in the Great Lakes or the Chesapeake Bay or the San Francisco Bay or any other port throughout the United States?

Mr. KEENEY. It will do that as well.

Mr. GILCHREST. So for the exchange of ballast water that now goes on outside U.S. territorial waters that is for the purpose of bringing a ship into the Great Lakes, I guess the question is: How will Senate Bill 363 or even our draft bill deal with ships exchanging ballast water at sea or not exchanging ballast water at sea because of safety reasons?

Then, that means that some ships may exchange ballast water after going into the Great Lakes, and some ships may not exchange ballast water if they are coming into the Chesapeake Bay. How will

the international agreement or Senate Bill 363 deal with that? That is a concern that I have.

Admiral SALERNO. Sir, the IMO convention would, in fact, phase out ballast water exchange after a number of years and replace it with a discharge standard which would limit the number of organisms per unit volume of ballast water. The technology for achieving that is still under development, but that is the basic construct.

Mr. GILCHREST. That is the goal.

Admiral SALERNO. Yes.

Mr. GILCHREST. Is that in Senate Bill 363?

Admiral SALERNO. That is the goal of the IMO provision. I believe that is reflected in 363.

Mr. GILCHREST. Is that discharge standard still 10 organisms greater than 50 microns?

Admiral SALERNO. The IMO standard is a weaker standard that what we would envision for ships entering the United States. We have not yet determined what the discharge standard will be for vessels entering the United States. That is currently under development. But, under the terms of the IMO convention, we do have the authority to set a more strict standard than may be in place internationally.

Mr. GILCHREST. So countries can set stricter standards than the IMO agreement.

Admiral SALERNO. That is correct, sir.

Mr. GILCHREST. The Senate Bill is similar to that, to allow a country to set stricter standards for their discharge. After a number of years, is there a set number of years that they would eliminate ballast water because of technology that will eliminate the invasive species in the ballast water?

Admiral SALERNO. Yes, sir, there is a phase-out provision in Senate 363 as well.

Mr. GILCHREST. A phase-out for exchange of ballast water, is there a technology on the horizon that would enable us to do that, that you can point to?

Admiral SALERNO. Sir, the technology is still under development. We don't have any approved technology at present. In the STEP program, there are a number of applications which we are considering that look very promising to test prototype technologies on board ships, but currently there are no approved systems.

Now, there are also systems being tested internationally, some that use chemical means, some that use filtration and so forth, some that use physical.

Mr. GILCHREST. Are they in use right now?

Admiral SALERNO. There are some that are in use currently.

Mr. GILCHREST. Do we have any that are in use?

Admiral SALERNO. None that are approved.

Mr. GILCHREST. Mr. Keeney?

Mr. KEENEY. Mr. Chairman, I would just like to say that with regards to technology, NOAA has been involved for many years in the development and in the review of various different technologies. As I mentioned in my testimony, we are well beyond the proof of concept stage for a number of different technologies. We believe that if development efforts continue at the present rate, technologies meeting the IMO standard will be available by 2009

at least for some ships. Several technologies are already ready for field demonstrations, full-scale tests.

Mr. GILCHREST. What do you need in order to implement those full-stage tests?

Mr. KEENEY. I think we need to continue the existing program.

Mr. GILCHREST. Do you need this legislation passed to do that?

Mr. KEENEY. We can continue the testing of that technology. I think what we are talking about today is setting a standard that the technology can aim towards.

Mr. GILCHREST. Do you want in the legislation to set a standard, or would you rather us say that we accept the IMO standard of less than 10 organisms greater than 50 microns and we can eventually do better than that, some flexibility in the actual standard?

Mr. KEENEY. Well, NOAA believes that the correct standard is the standard that we negotiated at the Ballast Water Convention in February of 2004 which is .0 organisms per cubic meter greater than 50 microns and 0.1 organisms per milliliter for organisms between 10 and 50 microns, which again is the same and is the standard that we agreed to as a group going into the IMO negotiations.

Mr. GILCHREST. I see. We may have a second round. I guess I was in time. I must be close to five minutes.

I will yield to Mr. Filner.

Mr. FILNER. Thank you, Mr. Chairman.

While I don't often agree with the Administration on a lot of things, I think your support of S. 363 is appropriate, and I think if we are going to get a bill this year, we ought to start with that.

From my perspective for the Pacific Coast, with all this talk about the Great Lakes, let me bring in the Pacific Coast. Would you agree with my assessment that, number one, if you are going between two biological different ecosystems like California and Hawaii, we should not exempt the U.S.-flag ships from the ballast water treatment requirements?

Admiral SALERNO. Sir, we believe that ultimately we should not exempt those vessels, that there is a risk of transmission of aquatic nuisance from ecosystems within the United States. Currently, our regulations do not provide for ballast water exchange even for ships on a coastwise voyage unless they transit outside 200 miles.

Now, in the example you cited, there is that opportunity to exchange ballast water beyond 200 miles, but on more domestic coastwise voyages, most ships do not transit outside 200 miles and therefore have the ability, under current regulations, to enter with that ballast water. Typically, they would discharge that ballast water in order to take on cargo. So that risk exists, and it is something that we would anticipate addressing with the discharge standard.

Mr. FILNER. I think that is the difference between S. 363 and the draft coming out of this Committee.

Secondly, we have a lot of ships that go from San Diego or other parts of California to Mexico and return, and they may not have enough time to treat all the water before they enter back in our port. Do you agree that there should be a designated ballast water exchange for such situations or landside water treatment discharge?

Admiral SALERNO. Sir, a designated ballast water exchange area is something that would be considered, but we don't have any specifics that I can offer you at this point. It is something that could be considered as part of the ballast water treatment.

Mr. FILNER. Under S. 363, I think you can.

Do you want to add anything, Mr. Keeney?

Mr. KEENEY. Yes, Congressman Filner, just last week, NOAA hosted a conference in Seattle that looked at alternative exchange zones, and we would be willing to share with the Committee staff any information we get out of that session.

Mr. FILNER. I agree with the Chairman on the standards issue. I think we ought to have a higher standard than is proposed in the IMO regulations, and I think I heard you say you agree with that, both of you.

Admiral SALERNO. Yes, sir, that is correct.

Mr. KEENEY. That is correct. Mr. Filner, again, just to give you an idea, the standard that we went into the IMO negotiations with, that we still agree to, is 100 times more stringent than the IMO standard. So we are well beyond what we think is needed beyond the IMO standard.

Mr. FILNER. Let me just quickly ask you a question about the MARPOL Annex VI. In Annex V, ships are subject to it, even if they are just transiting through our waters, say going from Mexico to Canada off of San Diego. Aren't we concerned about the pollution coming from that ship to California equally as if they were on our shores? Is that clear? Did I hear you clear?

Mr. GILCHREST. It is clear. It is clear to me. That was a good question.

Admiral SALERNO. Sir, I would like to maybe get back to you on that one. There may be some law of the sea issues there for vessels.

Mr. FILNER. I think I and Chairman Gilchrest would agree that we ought to have that authority in VI, similar as it was in V.

Also, in giving the Coast Guard the authority to enforce air pollution standards, the Coast Guard, as I understand it, enforces Annex V even if that country of the foreign flag does not subscribe to the international treaty. Shouldn't we do the same for Annex VI? If they are in our waters but not a signatory to the treaty, shouldn't we enforce that?

Admiral SALERNO. Yes, sir. Generally, with all the annexes to MARPOL that we are party to, we would hold any ships from other nations, coming into our waters, accountable for those standards, regardless of whether they are parties to that convention.

Mr. FILNER. Is there anything that would diminish my State of California from establishing more rigorous air pollution standards in the proposed legislation?

Admiral SALERNO. Sir, to give you a more complete answer, I would like to consult with our EPA colleagues, but my understanding is that the rights of the States to impose more strict standards is preserved.

Mr. FILNER. I just want to bring that to the record, Mr. Chairman, to make sure we continue that practice.

Thank you, Mr. Chairman.

Mr. GILCHREST. Thank you, Mr. Filner.

Dr. Ehlers?

Mr. EHLERS. Thank you, Mr. Chairman.

First of all, I have to register considerable disappointment with the IMO standards, and I am pleased to hear that you are both discussing far more stringent standards than the IMO. I totally agree with that.

A simple question about scientific expertise: I am not at all familiar with the Coast Guard's scientific abilities. Admiral, can you give me a quick summary of what you have available to you to do this work scientifically?

You mentioned the EPA a moment ago. Do you make use of their scientists, or do you have a strong scientific effort within your agency?

Admiral SALERNO. We do work with other agencies that have specific scientific expertise. The Coast Guard also has scientific experts on staff as well as a research and development center which provides scientific capability as well.

Mr. EHLERS. Do you make use of NOAA's scientists?

Admiral SALERNO. We are working with NOAA in the demonstration projects, yes, sir.

Mr. EHLERS. Mr. Keeney, do you believe you have sufficient scientific expertise within your agency to resolve these issues?

Mr. KEENEY. Mr. Chairman, of course, we do have significant scientific expertise within NOAA. We also try to take advantage of expertise through other organization. As you know, through Sea Grant and through our Great Lakes Environmental Research Laboratory and through our demonstration program, we have competitive grant programs that try to bring in top scientists from all over the Country. As I mentioned in my testimony, we have really worked with over 20 different technologies and have made some significant advances in many of them.

Mr. EHLERS. Thank you.

Just a little side note, my colleague, Mr. Hoekstra from Michigan who was here earlier, introduced a bill some years ago requiring treatment of ballast waters. This mirrored a bill that eventually passed the Michigan Legislature and is in effect.

I recall someone affiliated with the shipping industry was on my doorstep the next day, saying, you can't do that.

I said, why not?

He said, well, it is far too expensive.

I said, well, I am willing to listen to that argument. In fact, I am quite willing to say we shouldn't have those standards as long as we simply pass the law of making the shipping industry liable for any critters that get into our waters.

He said, well, we couldn't possibly do that. It would be way too expensive.

I said, that is my point.

That is precisely what we face. This is a very, very costly problem for the United States and for the State Governments. If we think aquatic species are bad at $13 billion a year, the terrestrial ones are far more expensive, well over $100 billion a year. That is a lot of money. So I think we have a very strong base, not only ecologically but also financially for supporting very, very high standards for anything coming into this Country.

Admiral, I am impressed with what you are saying and what you are trying to do, and that is refreshing to me because, frankly, I have been very disappointed in the performance of the Coast Guard up to this point.

The Congress first passed a law in the early nineties and gave the responsibility to the Coast Guard, and absolutely nothing happened. In the mid–1990's, another law was passed which more explicitly put requirements on the Coast Guard; nothing happened. When I first introduced my bill dealing with this issue, I immediately had a visit from one of your predecessors trying to persuade me that we couldn't possibly be that stringent.

I hope that you are really taking this to heart and really trying to establish decent standards. I, for one, and there are many in the Congress who feel the same way, question whether or not the Coast Guard should even be involved in view of their track record. And so, I hope you will work very, very diligently on this issue to try to overcome the perception that the Coast Guard has neither the interest nor the expertise to deal with this problem. I just wanted to get that off my chest.

With that, Mr. Chairman, I will yield back.

Mr. GILCHREST. Thank you very much, Dr. Ehlers.

I don't know if this is Mr. Baird or Dr. Baird.

Mr. BAIRD. Today, it is Dr. Baird.

Mr. GILCHREST. Dr. Baird.

Mr. BAIRD. First of all, I thank the Chairman for convening this, and I thank the panelists.

An issue that is very important in my particular region right now, we are obviously very concerned about the ballast water and ultimately about zebra mussels infiltrating potentially the West Coast, but particularly prominent recently has been the proposal to establish a number of LNG terminals on the West Coast.

I wonder if either of the panelists, I know you may not be prepared for this. I wonder if you have any insights into two things: one, ballast water issues vis-a-vis LNG ships, but two, how the regulatory structure of the sites' terminals would interface with any proposed regulations for ballast water.

Admiral SALERNO. Sir, regarding ballast water and LNG ships, the regulations that would apply to any ship would also apply to LNG ships. Typically, the LNG ships, when they arrive in the United States, are loaded, and then they would take on ballast water in the U.S. port to return back to their point of origin. So, it is not quite the same risk issue that we have with vessels that are discharging ballast water in our waters.

Mr. BAIRD. It is your take then that the FERC siting process that was passed in the Energy Bill a year or so ago would not necessarily be impacted or would not necessarily override any ballast water discharge issues.

Admiral SALERNO. I am not as familiar with the FERC issue, sir, so perhaps we could get back to you on the record.

Mr. BAIRD. I don't think it has been tested yet, but just for the record, I would say that this should be one of the factors that gets considered in the EIS, as far as siting LNG terminals, that we look at this issue in general.

Admiral SALERNO. I am told that it is being considered, sir.

Mr. BAIRD. Being considered, meaning looking at this interface?

Admiral SALERNO. As part of the Environmental Impact Statement.

Mr. BAIRD. Excellent, good, that is what I wanted to know.

I thank the Chairman and yield back.

Mr. GILCHREST. Thank you, Dr. Baird.

Dr. Boustany?

Mr. BOUSTANY. Thank you, Mr. Chairman.

I have a question for Mr. Keeney. Your testimony also states that the Administration prefers to see a standard that would encourage of new technologies rather than being based on current available technology. In light of your comment that developing technologies are not even ready for full-scale evaluation by the Coast Guard, shouldn't we start with an achievable standard and then ratchet it down as better technologies become available?

Mr. KEENEY. Congressman, we believe that the technology development is moving in the right direction and that, but for a standard, the technology development would be much further along than it is. So we believe that a standard actually can be very helpful in giving the developers of the technology a target to shoot for. Therefore, and because of the vast experience we have had with dealing with various technologies, we believe that they are well along the way to meet a strict standard, and we are confident that can happen, and we think, therefore, even though the technology may not be actually able to be applied today, that it could be ready when needed.

Mr. BOUSTANY. Thank you.

Have existing ballast water treatment technologies been demonstrated to effectively remove or kill small organisms, bacteria, and viruses in the ballast water?

Mr. KEENEY. Yes, they have. There are several technologies that can kill organisms less than 50 microns. For example, ozone and nitrogen injection are currently being investigated. There also has been substantial research on the potential utilities of biocides, such as hypochloride which is used in sewage treatment facilities.

Through the Ballast Water Technology Development Program at NOAA and the National Sea Grant College Program, NOAA is funding projects dealing specifically with technology to monitor treatment effectiveness.

Mr. BOUSTANY. Is there an estimate of the number or impact of unidentified invasive species that potentially fall into a smaller class size? Do we have any information this now?

Mr. KEENEY. I am not sure about numbers, sir, but harmful algal blooms are a category that do fall into that, and dinoflagellates do fall into that arena that we believe are very, very important with regards to their potential impact on water quality and human health.

Mr. BOUSTANY. Thank you.

Could you comment on how the international community arrived at the standards that were established in the convention? Could either of you do that?

Admiral SALERNO. At the IMO, of course, the member nations get together in a committee format and hammer out the standards that they feel they can all live with. In this case, the result was not re-

flective of the U.S. position. As Mr. Keeney mentioned, we went in with a very aggressive proposed standard, discharge standard that was not what was ultimately adopted, but the success of this overall process is that we did retain the ability to establish a national standard under the conditions of the convention which is more strict than which may apply worldwide.

Mr. BOUSTANY. What data or observations were used to support standards that were established in the convention and the standards that were proposed by our U.S. delegation?

Mr. KEENEY. The standard that the U.S. went in there with was the result of a technical workshop sponsored by the National Academy of Sciences and basically represents a zero risk of species invasions.

Mr. BOUSTANY. Thank you.

Mr. Chairman, that is all I have.

Mr. GILCHREST. Thank you, Dr. Boustany.

I am going to have to go, and I think Dr. Boustany is going to take the Chair, but I have one last quick question and Dr. Boustany will have a second round as we complete the questions on this first one.

Regarding the standards that the U.S. went in with to recommend to the IMO and then the IMO adopted a certain standard, does the Coast Guard and NOAA, do you both agree? Does the Coast Guard and NOAA agree on the standard, or are there still differences of opinions on what the standard should be between the Coast Guard and NOAA?

Is the IMO standard of less than 10 organisms greater than 50 microns in size per cubic meter of ballast water, is that the standard at the IMO?

Admiral SALERNO. Sir, both of us would agree that the IMO standard is not stringent enough.

Mr. GILCHREST. And you both agree that you want to be more stringent.

Admiral SALERNO. That is correct, yes, sir.

Mr. GILCHREST. Do you both agree on how more stringent?

Admiral SALERNO. That is yet to be decided.

Mr. GILCHREST. Yet to be decided.

Admiral SALERNO. We have a range.

Mr. GILCHREST. So we can decide that, can't we?

Admiral SALERNO. You certainly can, yes, sir.

Mr. GILCHREST. But we want to be more strict than the standard right now at IMO.

Admiral SALERNO. We do want to be more strict than the IMO standard. What is currently taking place is that we are evaluating a number of different standards within the range that Mr. Keeney mentioned, looking at the economic and the environmental aspects of that as part of a programmatic Environmental Impact Statement. Through that process, we will be able to better determine what the most appropriate standard would be.

Mr. GILCHREST. I see.

I yield to Mr. Filner and turn over the Chair to Dr. Boustany.

Mr. FILNER. I think just for the record, I think the U.S. at that meeting proposed 0.01 organisms per cubic meter of water. The delegation had some standard, right?

Admiral SALERNO. That is correct, sir. It was a range, the 0.01 to 1, if I understand correctly.

Mr. KEENEY. Actually, I believe, Mr. Filner, we actually did agree that the standard should be 0.01 organisms per cubic meter, greater than 50 microns, and 0.01 organisms per milliliter for organisms between 10 and 50 microns, and that was agreed to by the delegation.

Mr. GILCHREST. I want to thank Dr. Filner for that question.

Now, here is Dr. Boustany.

Mr. BOUSTANY. [Presiding] Before we get to the second round of questions, we will recognize Mr. Diaz-Balart.

Mr. DIAZ-BALART. Thank you, Mr. Chairman.

Very briefly, it may sound like kind of a weird thing, but in Florida, the fifth largest port in Florida is the Miami River. As you all know, those are actually mom and pops. It is not a port. It is a number of small businesses.

I want to talk a little bit about the air emissions portion and probably the other part as well. How would that affect those?

We are talking about mostly small freighters that go to the Caribbean. A lot of them are very small. These new standards, how do they deal with that situation? Does it treat them all the same, including the case of small little freighters that are in some cases one freighter that is owned by one company or one individual that then docks in the Miami River?

It is not a huge port facility. It would be a small business. How do you deal with that? Does it affect that situation at all, or does it have no effect on them?

Admiral SALERNO. Regarding the air pollution from the smaller ships, sir, the convention itself applies to ships of a certain size. Many of the ships in the Miami River would be non-solace vessels. However, we would still, under our domestic legislation, impose standards on vessels visiting our ports.

Mr. DIAZ-BALART. Thank you, Mr. Chairman.

Mr. BOUSTANY. We will start off with the second round of questioning now. Mr. Filner, you are recognized.

Mr. FILNER. I just want to clarify again for the record my one question, Mr. Chairman.

The IMO adopted a standard for discharge a thousand times higher than the U.S. proposal, and the U.S. proposed 0.01 organisms per cubic meter. I assume you would support something in that range and not the IMO standard.

Mr. KEENEY. That is correct, Congressman Filner. Actually, it was a hundred times less stringent than the U.S. position, and we would certainly support something within that range. What our negotiating position was at the IMO convention was on the one side; on the other side was what the IMO standard eventually ended up being.

Mr. FILNER. I don't mean to argue with you on a hundred versus a thousand, but if our proposal is 0.01, isn't 10 a thousand times that?

Mr. KEENEY. I am sorry. You actually are correct, of course. Sorry about that.

Mr. FILNER. We have too many Ph.Ds up here in these seats to try to get away with that.

Thank you, Mr. Chairman.

Mr. BOUSTANY. Dr. Ehlers, you are recognized.

Mr. EHLERS. Thank you, Mr. Chairman.

First, a short one, the California U.S. District Court recently ruled that the EPA does have responsibility for aquatic invasive species under the Clean Water Act and also in relationship to ballast water. How is that going to affect your work?

It is being appealed, by the way, to the Ninth Circuit, but I suspect they will uphold it. What impact do you expect this will have?

Admiral SALERNO. Sir, if I may, the court decision would not change the Coast Guard's authority to approve ballast water treatment systems, and as mentioned, we are working with EPA in that approval process.

Mr. EHLERS. Is that your opinion, too, Mr. Keeney?

Mr. KEENEY. That is correct.

Mr. EHLERS. Next, getting on to the NOBOB vessels, the current law requires that all vessels equipped with ballast water tanks must carry out ballast water exchange prior to entering U.S. waters. However, the Coast Guard exempts vessels that report no ballast on board. Why and how can you exempt them under the current law because the current law doesn't say all vessels with ballast water? It says equipped with ballast water tanks which includes all of them.

Admiral SALERNO. Sir, the way the regulations are structured, if there is no ballast on board, a ship coming across would not have any ballast to exchange. What the guidelines that we have issued propose and suggest to the shipowner is that the conduct flushing of those tanks, so that although it is not an exchange, it does rinse out the tanks and remove, to the greatest extent possible, any residual organisms or sediments that are in those tanks. That is not a regulation. It is a policy which I mentioned earlier is being reviewed in conjunction with our Canadian colleagues. What we have seen so far is that there is a fairly high rate of compliance by the shipowners.

Mr. EHLERS. That concerns me a great deal because that especially affects the Great Lakes because they may, in the course of their travel through the Great Lakes, take water in and discharge water. So I really think it should be part of the regulations rather than simply a guideline. A guideline doesn't guarantee it is going to happen.

Admiral SALERNO. Yes, sir, we would agree. The guidelines are a interim step.

Mr. EHLERS. When do you expect to change the regulations?

Admiral SALERNO. Sir, we are really just now looking at what is feasible, so I don't have an exact date.

Mr. EHLERS. I would guess if it is not done soon, you are likely to face suit from the environmental organizations, too, because it is very clear in the law that it says all vessels equipped with ballast water tanks, not just those that are carrying water.

The second issue is, of course, the one I mentioned with the Great Lakes. This presents a huge problem in the Great Lakes if they are not actually examined. Do you just take the captain's word for it when that ballast water has been exchanged, or do you run

some tests on the ballast water to see what type of water is in there or what type of organisms are present?

Admiral SALERNO. The ships are required to maintain records which we do verify, and we also have the authority to test ballast water and can determine the salinity of the ballast water.

Mr. EHLERS. I would suggest that would be very good for you to at least take samples from every ship. You may not have the money or the time to test every one, but if you take samples, at least the shipowner knows and the captain knows that there is a high probability that they be tested.

I don't think you can distinguish between ballast water and no ballast water because of the large number residual organisms in the tank. I think the have to be treated equally. I would encourage you to begin that as soon as possible because I am sure some environmental group is going to come up with a lawsuit which you will lose, and that takes a lot of time, money, and effort away from your work if you have to do that.

With that, I yield back.

Mr. BOUSTANY. I thank the gentleman.

One final round of questions here: The draft bill would direct the Coast Guard to utilize the existing STEP program to encourage onboard testing and evaluation of experimental ballast water management systems. What have been the major difficulties in activating the program and commencing testing aboard of oceangoing vessels?

Admiral SALERNO. Sir, we have had five applications for the STEP program. The first two were very incomplete, and we could not proceed any further with them. The remaining three look very promising. So we envision that we will have some prototype testing under the STEP program in the near future.

Mr. BOUSTANY. I thank the Admiral.

Would a STEP program at full participation levels provide sufficient data over a period of one or two years perhaps to make a determination that experimental ballast water management systems are functioning at a sufficient level to begin the establishment of ballast water discharge standards as provided under the draft bill?

Admiral SALERNO. Yes, sir, the STEP systems would provide valuable information as well as other prototype systems that are being evaluated as part of the NOAA program.

Mr. BOUSTANY. I thank the Admiral. That is all I have.

Mr. Filner?

With that, thank you, gentleman. We appreciate your testimony and your answers to the questioning.

We will proceed now with the second panel.

Mr. EHLERS. May I just make a comment while we are going through the change here? I just want to comment that there is a serious proposal floating around to close the Great Lakes, to close the St. Lawrence seaway, I should say, to any shipping. I don't know why it is being seriously considered, but it is a serious proposal being entertained because a study has shown that the cost of the invasive species is greater than the net income to the shipping industry. They are contesting that, but I want to get that statement on the record. Thank you.

Mr. BOUSTANY. Let me begin by welcoming our second panel. First, we have Ms. Catherine Hazlewood, Senior Policy Advisor with the Nature Conservancy; Ms. Kathy Metcalf, Director of Maritime Affairs, Chamber of Shipping of America; and Mr. Donald O'Hare, Vice President of the World Shipping Council.

Welcome.

We look forward to your testimony. Mr. O'Hare, you may begin.

TESTIMONY OF DONALD L. O'HARE, VICE PRESIDENT, WORLD SHIPPING COUNCIL; KATHY J. METCALF, DIRECTOR OF MARITIME AFFAIRS, CHAMBER OF SHIPPING OF AMERICA; CATHERINE L. HAZLEWOOD, SENIOR POLICY ADVISOR, GLOBAL INVASIVE SPECIES INITIATIVE, THE NATURE CONSERVANCY

Mr. O'HARE. Ranking Member Filner and members of the Committee, we appreciate the opportunity to speak to you today on these critical environmental issues that have been very important to the shipping industry for the past five to eight years.

My name is Donald O'Hare. I am Vice President of the World Shipping Council, a non-profit trade association representing international ocean carriers. We were established to address public policy issues of interest to the international liner shipping industry. Our members include the full spectrum of ocean carriers from large container and roll-on/roll-off carriers to car carriers. Last year, we carried approximately 93 percent of U.S. imports and exports or approximately $500 billion worth of American commerce.

The World Shipping Council and the Chamber of Shipping of America, from whom you will be hearing shortly, are both members of a very large industry coalition which represents the carriers as well as maritime labor. For five years, this coalition has been advocating ratification of the MARPOL Annex VI treaty regulating vessel air emissions and seeking an effective ballast water management system.

In 2004, the report by the U.S. Commission on Ocean Policy raised the awareness level, both in Government and the private sector,, of the fragile nature of our oceans and coastlines. We applaud this Committee's leadership in dealing with these two issues of critical importance to the long term well-being of those invaluable resources.

Mr. Chairman, since the Chamber of Shipping of America and the World Shipping Council are both members of this industry coalition, I will focus my remarks primarily on MARPOL Annex VI, and Ms. Metcalf will focus hers on ballast water management. We are in harmony on all of those issues, and the members of both of our organizations represent the vast majority of vessels coming in and out of U.S. ports.

We thank you for holding the first Congressional hearing, Mr. Chairman, on implementing legislation for the MARPOL Annex VI treaty which internationally regulates air emissions from large oceangoing ships. As the Chairman pointed out in his opening statement, the Senate gave its advice and consent to ratification of the treaty this past April, and it is appropriate, we feel, that Congress enact the implementing legislation during this session.

Shipping is an inherently international business with more than 30,000 vessels flying the flags of more than 100 countries and serving the commerce of virtually every nation of the world. International regulation of vessel air emissions is a critical and timely issue, particularly here in the United States and in other major trading countries which host large numbers of vessels each year in their ports and waters. According to the U.S. Maritime Administration, commercial ships made more than 55,000 calls at U.S. ports last year.

U.S. ratification of MARPOL Annex VI will be a major first step toward improving vessel air emissions and air quality at U.S. ports and in U.S. waters.

We would like to provide some brief background on MARPOL Annex VI for the Committee.

The treaty is the sixth annex of the International Convention for the Prevention of Pollution from Ships. It was adopted by the International Maritime Organization in 1997 after five years of negotiation in which the United States played a leadership role. Annex VI sets limits of sulfur oxide and nitrogen oxide emissions from ship exhaust and prohibits deliberate emission of ozone-depleting substances. The treaty also provides for the establishment, through the IMO, of Sulfur Emission Control Areas or SECAs with stricter sulfur control.

In order for the treaty to enter into force, 15 countries with at least 50 percent of world merchant tonnage needed to ratify. That threshold was met in May of 2004, and the treaty entered into force in May of 2005. This provided the incentive for other countries to ratify, and as of June 1 of this year, 35 countries with more than 70 percent of world tonnage are parties to the treaty, including most of the United States' major trading partners.

Here in the United States, two important things happened regarding this issue in 2003.

In January, the Environmental Protection Agency published a final rule establishing vessel air emission standard for U.S.-flag vessels. The standards mirrored Annex VI standards. The rule also committed EPA to establish stricter standards for U.S.-flag ships by 2007 and to seek comment on its potential regulatory authority over non-U.S.-flag at the same time. EPA also recognized in the rule that the Administration was seeking ratification of Annex VI and that they, EPA, would work at the IMO to develop stricter standards that would be accepted and applied internationally to all ships.

In May, the Bush Administration sent Annex VI to the Senate for its advice and consent. This was done with the full support and encouragement of the maritime industry. The Administration also began an interagency process to draft implementing legislation for the treaty.

These two efforts were not coincidental. The Administration recognized the need for an international solution to this issue.

It remains an open legal question as to the scope of EPA's authority to regulate engine emission standards for foreign-flag ships which make over 90 percent of the vessel calls at U.S. ports. Accordingly, if the United States wishes to have clear and certain legal authority over ships of all registries and have a meaningful

impact on air quality in our ports and waters, we must ratify MARPOL Annex VI.

As I stated earlier, the Senate gave its advice and consent in April. However, the Administration has made it clear that it will not deposit the U.S. instrument of ratification until the implementing legislation is enacted.

Work has begun at IMO to develop stricter SOx and NOx standards and to regulate emission of particulate matter. While the U.S. is participating in that process, we will have no real influence over final decisions and no vote for or against the new standards unless the U.S. is a party to the treaty. U.S. ratification of MARPOL Annex VI is essential to enable the United States to work with our trading partners, to strengthen the treaty, and establish meaningful international air emission standards for the first time.

Mr. Chairman, we fully recognize that the current standards in Annex VI need to be updated in order to bring about meaningful improvement in vessel emissions. It is important for the United States Government to be an effective participant in developing those standards which can only happen if our trading partners know that we will implement those standards as a party to the convention.

The Council and our coalition partners have supported the Administration's draft implementing legislation for Annex VI which was sent to Congress last October. We understand that this draft was achieved after extensive interagency discussion and compromise.

We have reviewed your Committee's proposed amendments to that draft bill, which primarily relate to agency jurisdiction, and we are neutral on them. Our industry has consistently remained neutral on matters of Government agency jurisdiction in environmental matters. Our concern, however, is that such jurisdictional issues could delay the enactment of this important legislation and thus the U.S. ratification of MARPOL Annex VI.

We urge the Subcommittee to send this bill to the full Committee as soon as possible, so that it may take action before the August recess. We believe it is important to leave time to resolve any differences which may exist between the House and the Senate or between the Congress and the Administration, so that the legislation can be enacted this year and the treaty ratification process can be completed.

We thank the Committee for the opportunity to present our views on vessel air emissions, and Ms. Metcalf will present the industry coalition views on ballast water management. Thank you.

Mr. BOUSTANY. Thank you, Mr. O'Hare.

We are expecting a vote probably sometime in the next 15 minutes. So I will ask you to try to stick to the five-minute rule, and we will try to get some questioning going. Thank you.

With that, Ms. Metcalf, you may proceed.

Ms. METCALF. Thank you, Mr. Chairman and members of the Subcommittee.

Dr. Ehlers, it is always good to see you. I think we have been seeing each other for about the last 10 years on this issue.

I am about to do something that I will apologize in advance for, but I am hopeful that it will be of benefit to the members and to

the Subcommittee in doing this. I am throwing my testimony right out the window, what I was going to say to you, and try and restructure it off the cuff.

Excuse me, sir?

Mr. FILNER. Have those papers been tested for microorganisms that you are going to throw away?

Ms. METCALF. Well, the critters, yes, sir.

I noticed a certain theme running through the questions that you provided the first panel, and I would like to hopefully address those aspects to your satisfaction.

Very briefly, my name is Kathy Metcalf. I am testifying today on behalf of the Chamber of Shipping of America.

With all due respect and to shorten our testimony time, everything he said about MARPOL Annex VI, we agree with. Certainly, to enable the United States to keep its leadership role at IMO and making more stringent air emission reductions for marine vessels and to allow the U.S. EPA to begin to construct Sulfur Emission Control Areas within the United States, it is imperative that the U.S. become a party. So that is all I will say very quickly on Annex VI.

There is a mantra that the coalition has had for a number of years relative to the ballast water issue. It is no surprise to most of the folks whom we have worked with, but it can be summarized in one simple sentence: We need a national ballast water program, and we need it yesterday.

The industry from time to time has been portrayed as unwilling to take action. I am not suggesting that there were not members of the industry that were slow to move as were other aspects. What I will tell you is that, as of right now with 27 member companies, we have five companies that have onboard shipboard systems that are under test. They have not been approved under STEP because the administrative part of the program and the approvals and the package that you have to submit isn't there. We have one individual company that has spent over $5 million on testing an ozone system aboard a West Coast tanker. So there truly is a commitment by the majority of the industry to solve this problem.

The mantra that we have created for years is as follows: We would like to see an international system. We need an international system because, unfortunately, we don't live in the cocoon of our own coastal waters. We would like the national program to be as consistent with an international framework as it possibly could be, and we believe that recently we have gone on record and testified in support of S. 363 which, as was indicated by the earlier panel, very closely parallels the IMO convention.

There are some areas of concern, the standard not the least of which, but I would also suggest to you in the discussions that you have, and I have said a number of times, the standard can be set at zero or a million as long as there is a realistic pre-review process before that standard is implemented. We don't know what we can do yet with technology, and that is the step we need to take.

We also know we need to do something, about what is the less than satisfactory concept of ballast water exchange. That is what is creating a lot of the no deviate and delay issues. That is what is creating a lot of why we need a coastwise exemption issue. As

an example, a company on the West Coast has estimated that on a one-week coastal trip, they will add one additional day to comply with the new California State regulations at $50,000 a day charter hire on an average. That is about $2.4 million a year for one ship. Multiply it by the number of ships out there, and that gets fairly pricey.

What my position is on this is that we don't want ballast waste exchange. We want to find a treatment solution, and that is what we are committed to doing. We have worked closely with and it has been our honor to work with the U.S. delegation at MEPC, and we support ratification of the ballast water convention, acknowledging that each country can make more stringent provisions, which worries us but it is something we are going to have to live with because we need a structure, both internationally and nationally.

We need more explicit, rather than less explicit, legislation. The legislation that is proposed, we support most of the concepts in that, but we are concerned that there are a number of issues that are missing in that bill that we think the synthesis of that bill with 363 could be helpful.

I will wrap up very briefly, Mr. Chairman.

There are two very big points of contention. One is preemption. Right now, we have a number of State programs that are at odds, one with the other and with the IMO convention and with the Federal program. A shipmaster that wants to comply needs a staff of attorneys to try and figure out, well, at this port, I have to do this, but at this port, I have to do that.

We believe and support the creation of a strong, robust Federal program that is the program this Nation employs in its waters without other State programs diverging from that.

We need a quantitative standard in the legislation. The NEPA analysis that is involved with the creation of an environmental standard by regulation can take five to seven years, I am told, but if it is contained in the legislation, it is far shorter.

The last issue I would like to just briefly touch on is the issue associated with the California court case. The appeal process is not started. The remedy order is still pending, last that I know. We believe that there should be language in there that specifically carves out ballast water discharges from ships under the enacted statute which we hope will have the markings of all of you who have distinguished yourselves in leadership on this issue.

Lastly, Mr. Ehlers and Mr. Gilchrest, this bill that has been out there, we do not object to a comprehensive aquatics bill. Our only concern with that and the similar S. 770 over in the Senate is the budgetary potential delays associated with budgetary issues which we will leave to the experts to deal with. Certainly, to take the provisions of this bill, S. 363 and to use that as the ballast water portion of a comprehensive bill would be certainly endorsable by the industry.

Thank you.

Mr. BOUSTANY. I thank you.

I will assure all three witnesses that your full testimony will be included in the record.

Ms. Hazlewood, you have been waiting patiently. You may proceed.

Ms. HAZLEWOOD. Thank you. I tend to speak quickly, so maybe that will come in handy today.

Good morning. I am Catherine Hazlewood, a Senior Policy Advisor with the Nature Conservancy's Global Invasive Species Initiative.

I wish to thank the Subcommittee for its consistent support of legislation to prevent new invasions from aquatic invasive species. The Nature Conservancy has previously endorsed both the National Aquatic Invasive Species Act as well as the Aquatic Invasive Species Research Act, legislation introduced with significant leadership and support from this Subcommittee. So we thank you for your efforts on that.

We additionally welcome today's opportunity to comment on prospects for more targeted proposals to look at invasive species from ships' ballast water. The Conservancy has not taken a position on the draft bill to implement MARPOL annex with regard to air pollution, and so I will focus my comments on the draft ballast bill.

I appreciate your staff's collaborative efforts to address this issue, and we look forward to providing continued assistance.

As you may know, we are an international non-profit organization, dedicated to protecting biological diversity. While we own and manage a large, private network of nature preserves in the world, in fact, the largest private network in the world, we recognize we cannot achieve our mission simply through site-based efforts alone. For this reason, about five years ago, the Conservancy created the Global Invasive Species Initiative within our organization to create a core team of specialists who could help enhance our own capacity to prevent invasive species and work to advocate for better policies to help us prevent them. We do so through a combination of advocacy, through collaborative efforts with industry, through site-based management on our own preserves, and through promotion of research and development.

As the Subcommittee well knows, invasive species pose an imminent and growing threat to our freshwater and marine biodiversity in the world. I won't tell you the things that you already well know. In fact, I would like to take the opportunity to speak to some of the issues that have been raised by previous people testifying today.

Broadly speaking, I want to touch briefly on the issue of the standard. I will submit, when I first saw the standard proposed to IMO, I looked at it thought, oh my God, that is page of numbers, and I promptly called four different scientists with different agencies. I then called ballast management technology vendors. I then called industry.

I said, so, what do you think? It looks like a lot of numbers to me, and it seems like they have looked at the organisms, and it seems like they have looked at the right indicators. Does that make sense?

Then I heard the story that what was going into IMO and what came out of IMO, they simply moved the decimal point three places. While the science going into the IMO might have been intelligent to a lawyer's mind, the science coming out of the IMO might not have made as much sense.

I think to some extent, similarly with industry, we thought that if you would like to set a numeric standard as a floor in your legislation, then we would encourage a review process to make sure it is the right standard. Where we probably differ from industry a bit is that we would like to ensure a review process prior to the establishment of the numeric floor, and the review process should detail that technology which moves forward forces improvement over time. We simply don't know our current technological capacity to address invasive species, but it seems that we need to make improvements on this important issue.

I recognize industry's need for some consistency in their economic constraints, and so we would welcome perhaps consideration of the factors that the Agencies should consider in reviewing the standard, including economic factors.

Secondly, I would like to ask the Committee to consider addressing a few additional sources of shipboard invasive species, such as NOBOBs and ships engaging in coastal traffic. As Mr. Keeney mentioned earlier today, NOBOBs are posing a problem with our Great Lakes where about 80 percent of the ships currently entering the Great Lakes do so under this regulatory exemption. These ships do carry residual ballast water, and our thought is that they could be subject to ballast management measures without imposing significant delays in their voyage time or significant technology expenses.

We would urge the Subcommittee to continue a lot of the staff's efforts in looking at this issue. We commend the staff for some prior work on this issue, and we suggest moving ahead quickly on this issue.

Similarly, it has been previously mentioned, the issue of coastwise traffic. We would suggest including coastal traffic in the draft ballast bill. We recognize that S. 363 does include language that we would recommend on coastal traffic and that we would encourage your incorporation on this issue. On the West Coast, one of the greatest problems facing the Northwest Coast are the ships that enter first into San Francisco Bay and then continue up the coast. The San Francisco Bay is overrun with about 260 different invasive species, and many of these species then are spread up the West Coast.

Lastly, I would like to touch very briefly on the two controversial issues that I recognize were mentioned, I thought very well, by Ms. Metcalf's remarks.

The issue of State preemption, my personal opinion is that State preemption comes up where States are faced with the prospect of, in their view, settling for a Federal program that may not afford them adequate guarantees of moving ahead on this issue. For example, I heard from our staff in Washington that they would be potentially concerned about moving forward with this legislative proposal because it includes a coastwise exemption. Since the Washington State law deals with coastal traffic, they would prefer to be able to continue with their State law.

I think that if the Federal proposal raised the bar high enough, this would alleviate States' concerns.

Additionally, I cannot speak to the litigation specifically since I am not a litigant at this time, working for the Nature Conservancy, but I would like to suggest that I think here, too, this is an issue

that needs to be addressed in legislation. In my mind, the States and environmental groups that have supported Clean Water Act application of this issue have done so largely out of frustration at both the EPA and Coast Guard's inadequacy in dealing with these issues. They wish to bring all available Federal authorities to bear on the situation.

I would encourage the Committee to think very carefully about exemptions to the Clean Water Act and to just continue to work through to figure out what are the tools available under the Clean Water Act that we would like to emulate in further Federal legislation. These include tools like adequate State involvement through delegated programs, even citizens who do evaluation and user fees. I think these are all tools that are critically important and could be brought to bear on this issue.

In conclusion, again, I welcome the leadership demonstrated by the Subcommittee over the years in looking at this issue. I hope the Subcommittee will take immediate action on the NOBOB issue. We look forward to continued collaboration with your staff and other stakeholders in developing the larger legislative proposal to address ballast management from ships.

Thank you.

Mr. BOUSTANY. We thank you.

Dr. Ehlers, you are recognized.

Mr. EHLERS. Thank you, Mr. Chairman.

I have several comments and questions. First of all, Ms. Metcalf, I really appreciate your testimony and I hope you don't understand my earlier comment to be critical of the shipping industry because that occurred at the very first introduction of the first bill, and I have worked with the shippers or tried to.

I guess my one concern is, though, that I think it would have been very, very helpful to have strong support from your community on my bill to do the research. Then your shipowners wouldn't have to be spending $5 million doing it. I would hope the Federal Government would be funding that research and working together with the shipping industry. Unfortunately, it is water over the dam, but had that bill been passed when first introduced, most of the questions we still have would have been resolved, at least the scientific questions, and perhaps we would have had a better result at the IMO.

I believe it is absolutely essential that we come to a uniform standard for the shipping industry. I know from my years in Government that the worst thing you can have is to have multifaceted regulatory Agencies, all of whom adopt different rules in different ports. You have to know what you are dealing with. If the business community can't know what the rules are, it leads to critical uncertainty and expense. So I very much appreciate your testimony and your comments.

I have a couple questions for Ms. Hazlewood. Your testimony states that one new invasive species is established in the Great Lakes on average every eight months. Has that rate decreased since the establishment of ballast water exchange requirements in the Great Lakes?

Ms. HAZLEWOOD. It has not, that I know of, decreased, and I don't know of recent studies in the last couple of years that would

speak to that issue. Just looking at the curve as it represents maybe the last 40 years, the rate continues to curve, more or less. It has not increased in part because the new traffic coming into the Great Lakes hasn't had a corollary increase. It seems to be about leveled off over the last five to ten years.

Mr. EHLERS. You also note that monitoring and rapid response capabilities are critical to minimize the spread of invasives once they are introduced. What efforts are you aware of that are currently in place to monitor coastal ecosystems to identify new introductions of invasive species before they are completely established? What do we have going on now?

Ms. HAZLEWOOD. I would be happy to follow up in greater detail with your staff on the variety of programs. I admit to only knowing probably a few areas of current partnership between the Nature Conservancy and Federal Agencies to provide monitoring on some of the projects that we work on together.

For example, in Mr. Gilchrest's District, we have a nutria monitoring project and eradication project, and it is hoped that with continued Federal funding, that project will be successful in eradicating nutria in the Delmarva Peninsula.

In Washington, we have worked to provide early detection and monitoring capacity to the State Wildlife Agency in monitoring for spartina, an invasive weed in Willapa Bay, and based on the monitoring, we were able to help the State in developing an early detection and rapid response fund, an authority that would allow the State to successfully try to eradicate that weed as well.

In other areas, I believe that success really is difficult in the aquatic environment simply because we don't have the same ability to monitor them as easily as we might on land. For that reason, I have admired and supported Mesa's earlier provision of increased Federal capacity to cooperate with States in early detection and rapid response efforts, and I think that is a critical component of legislation that we would greatly support.

Mr. EHLERS. Thank you.

Mr. O'Hare, I just want to comment again and give my sympathy to your industry in terms of the emission problem, exactly the same thing that I have said about the invasive species, that business and industry need the certainty of regulation and also fair and equitable application of the regulations. I can certainly understand your frustration up to this point, and I hope we can clarify that even though some of that is outside the bailiwick of this Committee.

Mr. O'HARE. Can I respond to that?

Mr. EHLERS. Yes, please.

Mr. O'HARE. Thank you for those thoughts, Congressman Ehlers.

Just to emphasize our industry's position, we are very eager to see stricter standards brought about through MARPOL Annex VI. We want international regulation. We would very much like to see a low sulfur standard, so that the energy companies produce low sulfur fuel that becomes commercially available on a worldwide basis. We would very much like to see low nitrogen and particulate matter levels, so that stack technology and emulsion technology and those types of new developments are speeded up.

We appreciate your thoughts, and we look forward to a very improved MARPOL Annex VI in the coming years. Thank you.

Mr. EHLERS. Thank you.

I yield back the balance of my time.

Mr. BOUSTANY. Mr. O'Hare, Annex VI requires facilities to provide receptacles to receive ozone-depleting substances and solid waste from exhaust cleaning systems, and the draft bill would implement this international requirement by requiring such facilities at U.S. ports and terminals. Do any of our ports in our Country have such pollution receptacle facilities?

Mr. O'HARE. They have. My understanding is they do have reception facilities but not necessarily for the kinds of chemicals and the kinds of pollutants that we will be talking about that will come from the types of technology that are being developed to eliminate the nitrogen and the sulfur. They have reception facilities to deal with some of the other MARPOL annexes, dealing with perhaps noxious liquids and other various chemicals that are byproducts of other processes but not necessarily those that are going to come out of this annex.

So that is going to be something that will have to be developed. It will have to be determined how that will be disposed of. Our shipping industry along with the port industry will certainly be eager to work on that.

Mr. BOUSTANY. Do we have any cost estimates in implementing such systems?

Mr. O'HARE. We don't have any cost estimates at this point because we don't know what technology will be available to do it, Congressman.

Mr. BOUSTANY. OK, thank you.

How is the shipping industry supporting the onboard testing of ballast water treatment systems, any of you?

Ms. METCALF. Well, Mr. Chairman, I would like to start out by saying that I think for about the last five years, I waded through about 10,000 pages of proposals, and it was my pleasure to do so because I like pain, no, because I was allowed to participate in the technology review process with NOAA and MARAD and Coast Guard. Not only was that a good process, but it was a great experience for me because it allowed me to learn a little bit more about the different technologies and where they were in their development. So in that respect, we are supporting here in Washington within the Executive Branch deliberations.

We also have a number of companies out there. I wish I could turn around and see my Coast Guard staff guy there, but I think he left. I think there are well over 100 testing programs that are beyond just the sort of: I have a great idea; let us put it on the lab countertop. I think there are over 100 projects globally that are at least at pilot stage which would be a higher capacity shore-based program that would be testing real seawater. I would say there are probably 30 that are on board ships right now all over the world.

The support of that is very sporadic. Some companies have received support through the NOAA and the demonstration projects, while other companies have just kind of mined out on their own and said, we need to solve this problem, so let us put some money up.

Mr. BOUSTANY. Thank you.

What is the relative risk of NOBOB vessels operating in U.S. waters without having first carried out ballast water exchange? Do we have a pretty good estimate of that risk?

Ms. HAZLEWOOD. Well, an estimate of the risk, I think, to some extent is dependent upon the geographic area that has been studied. In the Great Lakes, I believe the issue has been studied better perhaps than in other areas of the Country.

There was a fairly high level study recently concluded, I think in 2004, from Cornell University and University of Michigan with support from NOAA that tried to quantify the risk associated with NOBOB vessels entering the Great Lakes. At the time, and I apologize for an oversimplification, but they concluded it was a significant risk that should be addressed. Coast Guard has included, I think, recognition of this study in some of their recent efforts to study the NOBOB issue and to consider it. I would be happy to follow up with you to just give you an update of the Coast Guard's activity on that, if that would be helpful.

Mr. BOUSTANY. I thank you.

Dr. Ehlers, do you have a follow-up question?

Mr. EHLERS. Just a comment to wrap things up, I really appreciate the hearing. It has been very, very helpful to me, and I want to thank the witnesses on both panels for stimulating some new ideas in my head. The older I get, the more difficult that seems to be. So I definitely appreciate it.

I also want to mention one thing to Ms. Metcalf that I forgot to mention earlier, and that is I absolutely, totally agree with your comment that ballast water transfer is not the answer. I think it is dangerous. I think there are far better, simpler ways of doing it that will be lower cost, but we haven't found them yet.

I am convinced we can do a better job if we really take a look at it from ground zero, a thorough, good, technical, scientific approach to the issue. I think if we do that together, we can come up with solutions that are less costly for you as well as safer and also less costly for the Government and the taxpayers.

With that, I yield back.

Mr. BOUSTANY. Thank you, Dr. Ehlers.

I have one final question, and I asked a similar question to the first panel. That is: Are existing ballast water treatment technologies capable of effectively removing or killing smaller organisms, bacteria, and viruses in the ballast water? I would be interested in hearing all three of you comment on that.

Ms. HAZLEWOOD. Here, too, I have had to defer to greater experts than me. In talking to staff at EPA and Coast Guard along with ballast technology vendors, I have been assured that they can address even the smaller mechanisms.

I would suggest that in drafting a significant proposal, though, simply that if you start with a numeric floor, you include a process to ensure agency review that includes participation from stakeholders to ensure it is a meaningful standard that is robust. I think that is my greatest justification for always encouraging a technology-forcing standard that looks to what can we do better in time because it will force the same study of the meaningful standard.

Mr. BOUSTANY. Thank you.

Do either of the two of you have other comments?

Ms. METCALF. Yes, there is technology available that can kill anything.

[Laughter.]

Ms. METCALF. Hospitals have employed it for a number of years. The difficulty is taking the leap from a small-scale system and putting it on a thousand foot long vessel that carries 40,000 metric tons of ballast water that needs to move that ballast water at 5,000 metric tons per hour to meet its current economies of motion.

Absolutely, the technology is there. The difficulty is taking that step through wonderland and actually making it a reality on a large-scale application.

Mr. BOUSTANY. Thank you. That is all I have.

Dr. Ehlers, do you have any further questions?

Mr. EHLERS. No further questions.

Mr. BOUSTANY. We thank you very much for your testimony and your answers to these questions.

With that, the Subcommittee stands adjourned.

[Whereupon, at 11:47 a.m., the subcommittee was adjourned.]

Statement by Vernon J. Ehlers
Subcommittee on Coast Guard and Maritime Transportation
Legislative Hearing on Draft Legislation Regarding
Ballast Water Management
July 11, 2006

Mr. Chairman,

Thank you very much for holding this important hearing today. Ballast water management and the broader issue of aquatic invasive species is a matter that receives far too little attention around here, given its drastic impact on the economy and the environment. I have been actively working on this issue, as you know, for several years. I am pleased that you recognize how critical this issue is, and I am hopeful that we can work together to move forward with legislation to improve and strengthen existing law in this area.

For those who are unfamiliar with this topic, an "invasive species" is defined as a species that is both non-native to the ecosystem and whose introduction causes or may cause economic or environmental harm or harm to human health. Aquatic invaders enter into ecosystems through many different pathways: in the ballast water of a shipping vessel, attached to a ship hull, natural migration through canals and waterways, aquaculture and trade, planned importations of live organisms, and many other ways. Regardless of how they get here, aquatic invasive species can cause enormous damage, both to our economy and our environment.

The economic damage includes the cost of control, damage to property values, health costs and other factors. Just one species can cost government and private citizens *billions* of dollars. For example, zebra mussels have cost the various entities in the Great Lakes basin an estimated $3 billion during the past 10 years for cleaning water intake pipes, purchasing filtration equipment, and so forth. Sea lamprey control measures in the Great Lakes cost approximately $10 million to $15 million annually; and, on top of these expenses, there is the cost of lost fisheries due to this invader. It is for these reasons that combating aquatic invasive species is a central element of the Great Lakes Regional Collaboration strategy to protect and restore the Great Lakes.

But let me be clear – this is not just a Great Lakes issue. From Asian carp in the Mississippi, to Chinese mitten crabs in the North Pacific, to moon jellies in the Gulf, to rappa whelk in the Chesapeake Bay, to zebra mussels across the U.S., these foreign invaders cause significant economic and ecological damage throughout North America. And until we update our laws, we are just waiting for the next problem to arrive.

Given the enormous economic and environmental impacts these invaders cause, two clear goals emerge. First, we need to focus more resources and energy into dealing with this problem at all levels of government. Second, our best strategy for dealing with invasive species is to focus these resources to prevent them from ever entering the United States. Spending millions of dollars to prevent species introductions will save billions of dollars in control, eradication and restoration efforts once the species become established. It is an old adage, but one worth following – "An ounce of prevention is worth a pound of cure."

Along with our colleague on this committee, Mr. Gilchrest, I have introduced comprehensive legislation that has received broad bipartisan support. The National Aquatic Invasive Species Act (NAISA), H.R. 1591, reauthorizes, strengthens, and expands the National Invasive Species Act of 1996. Many aquatic invaders enter through ballast water of ships, so the legislation establishes a mandatory ballast water management program for all commercial vessels operating in U.S. waters. It also adds a ballast water treatment technology certification program and incentives for ship owners to install experimental treatment technology. To address other pathways, the bill requires screening of planned importations of live aquatic organisms, and it establishes our first national monitoring network for detecting new invasions, a rapid response fund, and state and regional grants for combating invasive species.

Unfortunately, the draft bill that we are discussing here today is not comprehensive. It does not address the many other pathways that aquatic invasive species enter into our waterways and ecosystems. I recognize that this committee does not have jurisdiction over many of the elements necessary to take a comprehensive approach to preventing further invasions. But, I am hopeful that we can move forward with a comprehensive bill at some point. Nevertheless, ships are generally recognized as the most common vector for introductions, so we certainly have to take action to strengthen existing law regarding ballast water, sea chests and hull fouling.

I have introduced legislation related to our existing research needs when it comes to understanding invasive species, how they get in, and how to stop them from entering and spreading. The Aquatic Invasive Species Research Act (H.R. 1592) authorizes comprehensive research to ensure that our efforts to prevent, control, and eradicate aquatic invasive species are based on the best science and done in the most cost-effective and environmentally sound manner. Specifically, the bill establishes a marine and freshwater research program to assess rates and patterns of nonnative species introductions; a competitive grant program to award research funding; and a research program to help improve the treatment technologies for ballast water. The resulting research will help support the necessary management decisions that need to be made to deal with the threat from invasive species.

Mr. Chairman, we have to have a strong research portfolio to understand as much as we can about these critters and how to prevent them from entering an ecosystem and wreaking havoc. I appreciate the surveys that you have included in the draft legislation, which I think will be helpful. I hope you will work with me on incorporating other provisions that have already been favorably approved by the Science Committee.

I look forward to hearing from the witnesses today about the draft bill and how it will help us improve our preventive capabilities. I am eager to hear an assessment of whether the standards included in the bill are environmentally protective, whether they are science-based, and whether the standards and timelines are aggressive enough to move ballast water treatment technology forward so that we can prevent further environmental and economic harm.

THE HONORABLE BOB FILNER
RANKING DEMOCRAT
SUBCOMMITTEE ON COAST GUARD AND
MARITIME TRANSPORTATION
BALLAST WATER MANAGEMENT AND SHIP AIR POLLUTION
July 11, 2006

Thank you Mr. Chairman for scheduling today's hearing on ballast water management and air pollution from ships. Those of us representing port regions of the country are very concerned about pollution from ships entering our ports. While ships bring economic activity – they also bring in pollution. Ballast water is important to maintaining a ship's stability – it also can contain plants and animals from foreign ports that pollute our waters. These foreign critters can grow and thrive in our waters because they don't have any natural predators.

Ports and communities around the United States spend billions of dollars annually to address the problems created by these invasive species. Because of these concerns, Congress enacted a program for voluntary ballast water exchange for ships entering the United States from overseas. People were under the misguided perception that vessel owners would spend money voluntarily to pump out the ballast water they took on in a foreign port and replace it with salt water in mid ocean. When shipowners failed to participate in this program – the Coast Guard made it a mandatory program for all vessels entering the United States.

Now it is time to move to the next step in solving this problem – the ballast water must be treated just as we treat sewage before it is discharged into our waters. The International Maritime Organization has adopted the

new Convention titled the "International Convention for the Control and Management of Ships' Ballast Water and Sediments". While the overall framework of this convention is good and commendable – the treatment standards adopted by the IMO were the lowest common denominator that could be agreed to by the flag-of-convenience countries and the countries whose shipowners register their vessels in flag-of-convenience countries. Attempts by the U.S. delegation to strengthen the environmental standards in the convention were rejected. It is time for Congress to enact meaningful standards for ballast water treatment that will protect our environment and our communities. These standards also should apply to U.S.-flag ships that move between 2 different ecosystems in the United States.

The other portion of today's hearing will deal with possible implementing legislation for MARPOL annex VI which deals with emissions from ships and offshore platforms. Regional air quality standards and global warming require us to look at every source of pollution in our communities. Ships should not be allowed to enter into our ports unless they comply with these air emission standards. The question remains is whether or not a state like California should be allowed to enact more stringent emission standards for vessels that are in California ports. The current Clean Air Act allows California to do so. I believe that that authority should be maintained in any legislation to regulate emissions from ships.

Again, thank you Mr. Chairman for scheduling today's hearing. I look forward to working with you to develop bipartisan legislation to regulate ballast water and ship emissions. There are not many days left in

this session. I am hopeful that if we start early to work with the other body on this legislation – it can be enacted this year.

Thank you.

Worldwide Office
4245 North Fairfax Dr.
Suite 100
Arlington, Virginia 22203

tel (703) 841-5300
fax (703) 841-7400
nature.org

Ms. Catherine L. Hazlewood
Senior Policy Advisor, Global Invasive Species Initiative

Testimony
Before the Coast Guard and Maritime Transportation Subcommittee
Transportation and Infrastructure Subcommittee

United States House of Representatives

July 11, 2006 Hearing regarding Draft Legislation:
The Ballast Water Management Act of 2006

Good Morning. I am Catherine Hazlewood, Senior Policy Advisor for North America with The Nature Conservancy's Global Invasive Species Initiative. I thank the Subcommittee, not only for the opportunity to testify today, but for the Subcommittee's consistent support of strong legislation to enhance federal authority to prevent new invasions from aquatic invasive species. The Nature Conservancy has previously endorsed H.R. 1591, The National Aquatic Invasive Species Act (NAISA), legislation introduced with significant leadership and support from this Subcommittee. We additionally welcome today's opportunity to comment on the prospects for a more targeted legislative proposal to address invasive species from ships. We are appreciative of the collaborative spirit in which the staff of this Subcommittee have worked on this proposal, and look forward to providing continued assistance in the development of legislation.

A. Introduction

The Nature Conservancy is an international, nonprofit organization dedicated to the conservation of biological diversity. Our mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. Our on-the-ground conservation work is carried out in all 50 states and in 27 foreign countries and is supported by approximately one million individual members. We have helped conserve nearly 15 million acres of land in the United States and Canada and more than 102 million globally.

Because we recognize that our mission cannot be achieved through ownership of private areas alone, we are additionally working to abate the top threats facing these and other protected areas, including invasive species.[1] In a survey of Conservancy land managers across the United States, invasive species were identified as a threat impeding conservation of an overwhelming 94% of our projects and preserves. Quite simply, we are losing the battle to conserve and protect land and water ecosystems without the benefit of improved federal and international policies in place to prevent and respond to invasions. For this reason, drawing upon our years of experience with invasive species management, The Nature Conservancy created the Global Invasive Species Initiative in 2001 to focus a core team of specialists within the Conservancy to work to prevent new invasions and reduce the spread of invaders at the national and international scale, as well as to build our organization's capacity to assess, prevent, rapidly detect and control invasive species that threaten biodiversity targets. We are working to accomplish these goals through implementation of diverse strategies, including:

- Advocacy to advance state, federal and international policy and law to prevent and abate the threats posed by invasive species;
- collaboration to implement best management practices in partnership with industries such as the horticulture and nursery trade;
- application of lessons learned from our own site-based monitoring, rapid response and eradication efforts to assist other land and aquatic managers in responding to invasive species threats; and
- developing improved science and data capacity to promote better decision making. For example, this last March The Nature Conservancy and The University of Notre Dame announced an innovative partnership to establish a Center for Aquatic Conservation at the University, lead by Dr. David Lodge, to test innovative methodologies to forecast and respond to invasive species in the Great Lakes region.

In the following testimony, I will characterize very generally the basic threat posed by aquatic invasive species, and outline a few recommendations to the Subcommittee for consideration in further developing your draft legislative proposal. While as currently drafted, we believe the legislative proposal will not achieve the Subcommittee's goals to reduce the risks associated with aquatic invasive species, The Nature Conservancy welcomes your continued leadership on this critical issue and offers you our fullest assistance in further developing the proposal. Additionally, we urge the Subcommittee to consider moving forward immediately to mark up and report targeted legislation to ensure interim regulation of NOBOB vessels, even in advance of pending legislation to require vessels to treat their ballast water.

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[1] This testimony uses the term "invasive species" to refer to an "alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Alien species are, "with respect to a particular ecosystem, any species, including its seeds, eggs, spores or other biological material capable of propagating that species, that is not native to that ecosystem." *See* Executive Order 13112, "Invasive Species" (Feb. 3, 1999).

B. Aquatic Invasive Species Threat

Invasive species pose an imminent and growing threat to freshwater and marine biodiversity throughout the world.[2] After habitat destruction, invasive species are considered the greatest cause of the loss of biological diversity,[3] and according to the International Maritime Organization, invasive species are one of the four greatest threats to the health of the world's oceans. The Great Lakes Regional Collaboration's recently completed strategy identified aquatic invasive species as *the* greatest problem facing the Great Lakes.

Remarkably, invasive species have been established in *every* marine and freshwater environment for which The Nature Conservancy has data.[4] The actual number of present invasive species is presumed to be much higher. In many areas of the world, particularly where financial resources are limited, very little is known about the distribution of aquatic invasive species.[5] Within the Great Lakes, a new invasive species is established at the alarming rate of one every eight months, joining the over 160 invasive species already causing serious ecological and economic harm in the Lakes.[6]

Unlike conventional pollutants, invasive species are difficult if not impossible to eradicate and remove.[7] As a result, aquatic invasive species fundamentally alter the nation's aquatic ecosystems *permanently.* Perhaps worse, the rate of new invasions continues to increase along with the expansion of human activities which cause the species dispersal.[8] Without new federal authority to prevent new invasions and reduce the spread of existing invasions, we will continue to suffer irreparable losses through new and increased invasions.

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[2] J.T. Carlton and K. Richardson, *Code of Practice on the Introductions and Transfers of Marine Organisms* (1994). *See also* A.N. Cohen and J.T. Carlton Biological Study: *Nonindigenous aquatic species in a United states estuary: a case study of the biological invasions of the San Francisco Bay and Delta.* (Connecticut Sea Grant NTIS Report Number PB96-166525).

[3] P.M. Vitousek, H.A. Mooney, J.Lubchenco and J.M. Melillo, *Human Domination of Earth's Ecosystems,* Science 277: 494-499.

[4] *See* TNC Marine Habitat Assessment Team data, Ecoregional Statistics, Global Science Data, Draft May 16, 2006.

[5] For example, "[l]ittle is known or documented on the status of marine invasive species in the Caribbean beyond a few instances (e.g. *Perna viridis* - green mussel)." Kairo, *et al* (2003).

[6] *See* Great Lakes Regional Collaboration Strategy (2005).

[7] "Unlike chemical or conventional pollutants, waters . . . do not have the capacity to 'assimilate' [invasive species] without changing the species abundance and diversity of the waters, which is a change to the biological integrity of the system." California Regional Water Quality Control Board, San Francisco Bay Region, "*Prevention of Exotic Species Introductions to the San Francisco Bay Estuary: A Total Maximum Daily Load Report to U.S. EPA,*" p. 7 (May 8, 2000).

[8] See, *Invasion of coastal marine communities in North America: apparent patterns, processes, and biases.* Ruiz, Fofonoff, Carlton, Wonham, and Hines, *Annual Review of Ecology and Systematics* 31: 481-531 (2000).

The introduction of invasive species through the discharge of ships' ballast water is currently the major cause of non-native aquatic species introductions to marine ecosystems throughout the world.[9] Close to 50,000 commercial cargo-carrying vessels discharge more than 21 billion gallons of ballast water containing living organisms into U.S waters every year.[10] Though research has shown the rate of invasions attributed solely to shipping has been increasing exponentially over time,[11] scientists believe that the number of invasive species currently identified in ballast water still may "grossly underrepresen[t]" the actual number of invasive species in ships' ballast.[12] Additionally, species attach themselves to ship hulls, on the rudder and propeller shafts, or may be associated with the cargo carried aboard the ship itself. [13]

An additional significant vector for invasive species are NOBOB (no-ballast-on-board) vessels. These vessels come into port loaded with cargo and thus do not need ballast water for safe operations. However, ballast tanks often contain small amounts residual water and accumulated mud that cannot be pumped out. Once cargo is offloaded, ballast water is needed to replace the cargo weight until new cargo is loaded. Such fresh ballast water provides a potential environment for larval and adult organisms trapped in the residual ballast material present in the tanks, as well as establishing conditions suitable for the hatching of resting stages in the accumulated residual sediments. Because resting stages are embryonic forms, resistant to adverse environmental conditions, these are primary candidates to survive the rigorous conditions found in ballast tanks. Thus, NOBOB ships have contributed further to the spread of invasive species, through the dissemination of those organisms found in their residual ballast and sediments.[14] Over 80% of the vessels entering the great Lakes do so as a NOBOB vessel, exempt from current regulations requiring exchange, and NOBOBs enter additional ports around the country.

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[9] *See, e.g.*, Carlton and Geller, "Ecological Roulette: The Global Transport and Invasion of Nonindigenous Marine Organisms," *Science* (1993); *see also* Marine Board of the National Research Council, *Stemming the Tide*, National Academy Press, Washington D.C. (1996).

[10] Reauthorization of the 1990 Non-indigenous Aquatic Nuisance Prevention and Control Act: Hearings on S. 1660 Before the Subcommittee on Drinking Water, Fisheries and Wildlife, Senate Environment and Public Works Committee Regarding Non-indigenous Species and S. 1660 (Testimony of Dr. James Carlton, Director of the Maritime Studies Program of Williams College and Mystic Seaport).

[11] Ruiz, Gregory *et al*, "Invasion of Coastal Marine Communities in North America: Apparent Patterns, Processes and Biases," *Annu. Rev. Ecol. Syst.*, vol. 31, pp. 481-531, at 492-3 (2000); *see also* National Research Council, *Stemming the Tide: Controlling Introductions of Nonindigenous Species by Ships' Ballast Water*, p. 11 (1996).

[12] *See* Wonham, M.J. *et al*, "Fish and Ships: Relating Dispersal Frequency to Success in Biological Invasions," *Marine Biology*, vol. 136, pp. 1111-1121, at 1111, 1118 (2000).

[13] National Sea Grant Program, *The Role of Shipping in the Introduction of Nonindigenous Aquatic Organisms to the Coastal Waters of the United States (other than the Great Lakes) and an Analysis of Control Options*, pp. 24-32 (April 1995).

[14] *See, Assessment of NOBOB Vessels and Low-Salinity Ballast Water as Vectors for Nonindigenous Species Introductions to the Great Lakes*, Dr. David Reid (2004). The program was led jointly by the NOAA Great Lakes Environmental Research Lab and the University of Michigan's Cooperative Institute of Limnology and Ecosystems Research.

As the Subcommittee has recognized in past hearings, ships are by no means the only pathway by which invasive species are spread. Trade itself remains a vibrant source of new invasive species, including both the intentional trade and transport of species which themselves may be invasive, and the unintentional transport of invasive species associated with other cargo.[15] According to the U.S. Fish and Wildlife Service, in 2002 more than 223 million fish were imported into the United States, as well as more than 47,000 mammals, 379,000 birds, 2,000,000 reptiles, and 59,000,000 amphibians. The pet industry contributes to the movement and release of invertebrates, fish, seaweed, and seagrasses used in the aquarium industry. Fisheries, including marine aquaculture, have resulted in the unintentional escape of invasive species into the open surrounding environment.[16] Additionally, intentional releases of species occur as a part of an intended stocking effort, and on occasion these introduced species have caused harm. An unknown number of living marine organisms are deliberately transported around the world daily for consumption, as bait for fishing and for aquaculture. There are an equally unknown number of incidents in which the public releases a few non-native organisms.[17] Other vectors for aquatic invasions are varied and include drilling platforms, dry docks, canals, research, ballast sediments,[18] recreational fishing and boating, intentional introductions and aquatic transport of trash.[19] Introductions from each of these vectors can have a significant impact on local ecosystems, impacts that can spill over to connected waterways and spread hundreds or even thousands of miles.

As the Subcommittee has previously recognized, prevention is the single most important strategy in the management of aquatic invasive species. By identifying how these species are spread, and managing the risks associated with those methods of transport, we can best minimize both the rate and spread of new invasions. Unfortunately, despite the significant volume of species moving both intentionally and unintentionally, the nation remains extremely vulnerable to new invasions because we currently lack the meaningful statutory authority to screen species coming into the United States for their potential to become invasive, and prevent those few species that are likely to cause harm.[20] Where prevention fails, and an invasive species is detected, it is critical to attempt to minimize the spread of the invasion as quickly as possible through an early

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[15] For example, wood packaging material in ships cargo, imported plants, and other host organisms brought into the country can contain associated pests and pathogens.

[16] Atlantic salmon are now found in the Pacific Ocean, having escaped from aquaculture pens off the coast of Maine.

[17] The local "snakehead" fish now established in the Potomac is a well known example. Additionally, the use of seaweed for bait packaging with worms from the U.S. Atlantic coast apparently led to the introduction of the European shore crab on the American Pacific coast.

[18] *See, e.g.*, Godwin, L. Scott, "Hull Fouling and Ballast Sediments: The Importance of Vectors Other than Ballast Water in Transporting Nonindigenous Marine Species in the Hawaiian Islands," Presentation at the First National Conference on Marine Bioinvasions, M.I.T., Cambridge, Mass. (Jan. 25, 1999).

[19] Barnes, David, "Invasions by Marine Life on Plastic Debris," *Nature*, Vol. 416, pp. 808-09 (April 25, 2002).

[20] While Congress has struggled each year since the 1990s to appropriate critically needed funding to the Army Corps of Engineers to maintain an electric barrier to prevent two species of highly invasive asian carp from entering the Great Lakes chain, millions of these fish continued to be legally bought and sold until as recently as 2005.

detection and eradication effort. The Ecological Society of America's recently released position paper *Biological Invasions: Recommendations for U.S. Policy and Management,* recognized that while the risk is alarming, strong proactive policy solutions based in science can greatly enable the country to better prevent and respond to aquatic invaders.[21]

C. Recommendations to the Subcommittee

1. Continued Leadership to Support Enactment of Comprehensive Federal Authority to Address All Pathways of Aquatic Invasive Species

The Nature Conservancy has previously urged Congress to take swift action on comprehensive legislation such as NAISA that would address *all* pathways of aquatic invasive species. We are concerned that continued action to address only a single pathway will fail to stop new harmful invasions. While we appreciate the jurisdictional limitations of this Subcommittee, we request that you continue your consistent record of collaboration with Members of other relevant Committees towards enactment of a coordinated legislative approach.

In particular, we note the Subcommittee draft would remove the existing National Invasive Species Act's (NISA) provision that recognizes Congressional intent to coordinate Coast Guard authority under NISA with EPA authority to regulate ballast discharges under the Clean Water Act.[22] A similar provision in Senate legislation to block the application of EPA's Clean Water Act authority has been challenged by several Great Lakes State Governors, Attorney Generals, and environmental groups.[23]

While The Nature Conservancy has supported legislation such as NAISA that would provide enhanced authority to both EPA and Coast Guard in managing ballast water discharges, we have voiced concerns with proposals to replace EPA's Clean Water Act authority with less stringent legislative authority vested solely with Coast Guard. The Clean Water Act provides significant tools, such as the availability of strong civil and criminal penalties for non-compliance, state involvement, citizen suit enforcement, and user fees that could be brought to bear on this critical problem. The application of potential tools such as these should not be abandoned in the establishment of new statutory authority. We hope to continue our current dialogue with

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[21] *See* David Lodge et al, *Biological Invasions: Recommendations for U.S. Policy and Management,* Ecological Society of America (2006).
[22] *See* National Invasive Species Act, 16 U.S.C. § 1411(b)(2)(C).
[23] *See, e.g., Letter,* Attorney Generals for the states of Illinois, Michigan, Minnesota, New York, Pennsylvania, Wisconsin, to Senator Stevens (July 20, 2005), "The bill unacceptably removes EPA's regulatory authority under the Clean Water Act to control pollutant discharges in ballast water, preempts states' ability to enforce laws that protect against these harmful pollutants; and perpetuates an ineffective regulatory effort and fails to replace it with timely sound environmental standards. Accordingly, we urge you not to permit this bill to advance."

industry, states and affected stakeholders over the coming months to assist this Subcommittee, as well as the Water Resources and Environment Subcommittee, in further shaping legislative proposals to ensure they expand, not detract from, the existing authority available to federal agencies and states in responding to invasive species contained in ballast water.

2. We Urge Further Development of the Draft Legislative Proposal to Ensure Rapid, Strong Progress in Preventing New Invasions from Ships Ballast Water

Should the Subcommittee elect to move forward to address the ship pathway as a stand alone measure, forgoing more comprehensive legislation, the following comments are intended to assist the Subcommittee in ensuring that its goal to enact strong federal standards to treat ballast water discharges is achieved. We additionally request the Subcommittee consider addressing a few additional vessel pathways currently not included in the July 5th Draft ballast legislation.

a. Ensure that treatment standards improve technology and reduce invasions over time

The Nature Conservancy has supported application of a ballast treatment standard that forces the development of ever improving treatment technology over time, as economically available. This could be achieved either by establishing a numeric floor in statute and requiring its periodic review and improvement by the relevant agency, or by establishing clear factors for the standard-setting agency to consider in articulating a standard through regulation (as proposed by both S. 770 and the Clean Water Act's technology standards). Either of these approaches, if utilized by the Subcommittee, would accommodate the current scientific uncertainty over what may be achievable in the future, while creating strong accountability to ensure consistent progress over time. In either case, we support the implementation of treatment technology on board ships within 5 years from the date of enactment of legislation, the incorporation of adequate incentives to develop and utilize new technology, and meaningful penalties for delay and non-compliance in meeting the standards.

The July 5th Draft proposal would require the Coast Guard to first undergo rulemaking to ascertain whether technologies exist to meet a specific numeric standard within the next two years. The proposed numeric standard is based on a subcomponent of the standard utilized in the International Maritime Organization's Ballast Water Convention (hereinafter IMO Ballast Convention). If the technologies exist, the Coast Guard is directed to require the standard to be met 5 years later. There are currently no provisions provided in the draft bill, such as incentives or penalties, to ensure compliance with the requirement to meet standards, nor does the proposed bill require monitoring or inspections. Finally, while the proposal indicates the Coast Guard "may" review standards periodically, and "if appropriate" tighten the standards, it does not further elaborate under which circumstances such review should occur.

We strongly support the legislation's recognition for the need for improvement over time in development of treatment standards, and we appreciate the Subcommittee's effort to expedite compliance with a standard compared with the decade implementation regime envisioned by the Convention. However, we are concerned that the framework as currently drafted is insufficient to achieve the Subcommittee's goals to reduce new invasions.

First, if the Subcommittee prefers to establish an initial numeric floor in statute for later periodic review, we suggest basing that initial numeric standard on EPA and Coast Guard's recommended standard in entering the IMO Ballast Convention negotiations. While IMO's standard may reflect a reasonable first step for the world as a whole, we believe that EPA and Coast Guard's initial recommended standard should be utilized as the more appropriate indicator of U.S. capabilities.[24] Utilization of this standard as the floor, while not immediately achievable, would be feasible through the development of technology within a suggested time frame prior to initial implementation.

Second, the delay of 5 years between feasibility review and implementation of treatment technology on ships may cause research and development to stagnate, and we believe the latitude granted to Coast Guard in defining the appropriate circumstances for review is overbroad. We urge the Subcommittee to revise the standard process to ensure the strengthening of standards over time by requiring the review of standards periodically under a specific time schedule and criteria established in the statutory language. We additionally urge the Subcommittee to impose its baseline initial standard to be implemented on all ships no later than 5 years from the date of enactment.

Finally, we recommend the subcommittee link the standard review process to an overarching legislative goal, such as zero discharge of viable species, to ensure a continued statutory mechanism to improve ballast treatment technology over time. The Clean Water Act contains a similar zero discharge of pollutants goal which drives the establishment of technology standards to be reviewed and improved over time. There simply is no known safe amount of invasive species; unlike conventional pollutants, even a few individual species discharged may cause irreversible harm. Therefore, it is imperative to always strive for improvement as economically feasible to do so.

[24] Currently IMO Convention has only 7 signatories to date, and the United States has declined at this time to become a signatory. Even assuming the Convention in time achieves the needed signatory nations to enter into force, and that the United States ratifies the Convention, the Convention fully recognizes the right of individual nations to unilaterally take more stringent action.

b. We urge the Subcommittee to address additional significant sources of ship borne invasive species such as NoBOBs and ships engaging in coastal traffic.

As noted earlier, NOBOB vessels are currently exempted from existing law requiring ballast exchange, and we urge the Subcommittee's leadership to urge Coast Guard to take immediate regulatory action implementing better management practices for NOBOB vessels. The Great Lakes Regional Collaboration recognized action on NOBOB vessels to be one requiring 'immediate' attention. The National Invasive Species Act requires Coast Guard to issue regulations to "prevent the introduction and spread of aquatic nuisance species"[25] and further requires these regulations to apply to "all vessels equipped with ballast water tanks."[26] Coast Guard has unfortunately applied regulations only "to each vessel that carries ballast water,..."[27] not to all vessels equipped with ballast tanks, leading to the regulatory exemption of over 80% of the vessels entering the Great Lakes.[28]

We urge the Subcommittee to introduce targeted legislation as soon as possible addressing solely the NOBOB issue, while continuing to further develop draft ballast and other pathway provisions. This would help ensure NISA's existing requirements to carry out ballast water exchange or alternate ballast water management methods apply to *all* vessels. The legislation could simply require Coast Guard to issue regulations immediately prescribing the development of alternate ballast water management methods for these ships. Targeted action this Congress on this important issue would not adversely affect the vessels' later compliance with ballast treatment standards developed under the larger new statutory framework, but would simply help close the current regulatory loophole until such time as that framework is provided. We appreciate and strongly support Subcommittee staff's prior efforts on this very issue in other legislative proposals affecting the Great Lakes.

In addition to NOBOB vessels, ships that operate exclusively within the U.S. Exclusive Economic Zone would be exempt from the Subcommittee's proposal as currently drafted. Many of these ships, particularly on the West Coast, have contributed to the spread of invasive species from port to port. We urge the Subcommittee to additionally ensure these vessels are subject to ballast water treatment standards.

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[25] 16 U.S.C. § 4711(b)(1).
[26] 16 U.S.C. § 4711(b)(1)(A).
[27] 33 C.F.R. Part 151, subpart C.
[28] The GAO summarized the NOBOB problem and inadequate regulatory response by Coast Guard in a recent report, entitled "Invasive Species: Progress and Challenges in Preventing Introductions in U.S. Waters via the Ballast Water in Ships," pages 14-15, *available at* <http://www.gao.gov/new.items/d051026t.pdf.>

c. Ensure accountability through inclusion of enforcement provisions that compliment state efforts and coordinate federal authorities

The Draft proposal currently does not suggest new enforcement provisions beyond those afforded by the existing framework NISA, while removing the potential application of Clean Water Act authority. Both Coast Guard and EPA's record in implementing existing statutory authority available through both NISA and the Clean Water Act has been decidedly inadequate. Given this history, states and the public are understandably reluctant to give up the availability of applying the Clean Water Act's tools, including the opportunity to ensure federal agency action through citizen suit action, without strong legislative provisions to ensure goals established in new legislation will be met.

Consider, for example, that reporting on ballast water exchange was ostensibly made mandatory in 1996 through amendments to the NISA program. However, compliance with even this initial step failed because of a lack of enforcement. Only for the West Coast of the contiguous U.S. did compliance with the reporting requirement increase markedly over time, primarily from an increase in California. This increase coincided with implementation of the 1999 California state law that requires submission of copies of the federal ballast water management reports to the State Lands Commission, authorizes monetary and criminal penalties for noncompliance, charges fees for maintenance of the program, and utilizes an active boarding program that targets 20-30% of arrivals, far higher than the level of boarding by the Coast Guard during that period. As a result, compliance with reporting in California increased over the 12-month reporting period to approximately 75%. Today, reporting in California is well over 3 times that of the rest of the nation. California agencies use the funding available from the fee program to board over 25% of the incoming vessels as part of the enforcement program, further boosting compliance.

Since California's passage of a state ballast law, several additional states have introduced and enacted state legislation, largely out of frustration at the slow pace of federal efforts. While states support the enactment of strong national standards, many have voiced opposition to proposals that would preempt their authority without providing a sufficiently stringent federal floor for action, and where the removal of Clean Water Act authority (including the right to bring citizen suit action to enforce federal agency action in implementing the federal program) was at stake.[29] The July 5th Draft Proposal currently does not speak to the issue of state preemption,

[29] *See, e.g., Letter,* Council of Great Lakes Governors (including Wisconsin, Ohio, Illinois, Indiana, Michigan, New York, Minnesota, Pennsylvania) to the Senate Commerce Committee, September 12, 2005, "The following provisions must be included in any effective Congressional Bill that addresses this issue: [...] Maintain the possibility of using U.S. EPA's Clean Water Act authority to address ballast water discharges so that States can assure their publics that they and their resources will receive adequate protection from this threat even if the federal program fails to be implemented; Maintain the possibility of State action to improve on federal protections related to ships. While a uniform federal regulatory process is necessary, it should not preclude the States from strengthening

though the Proposal would remove existing law's recognition of Clean Water Act applicability to ballast water discharges. The states and the public want adequate assurance that new federal authority created will be sufficiently rigorous, and they have requested continued meaningful involvement in any new federal authority created to abate invasive species.

Therefore, The Nature Conservancy recommends new federal legislation establish strong uniform federal treatment standards, yet allow states to continue exercising robust authority to take additional actions such as imposition of user fees, monitoring and inspection, and enforcement as the states may deem necessary to protect their natural resources held in the public trust. We additionally urge the Subcommittee to include further opportunity for public review and comment on agency obligations and timelines established under the proposal. We are appreciative of the Subcommittee's issuance of this Discussion draft to further the development of a proposal which we hope in time will reflect a balance between environmental protection and economic consistency that will enable the proposal to receive broad stakeholder support. We will continue to offer more targeted recommendations to your staff.

d. Provide designated funding through establishment of a user fee program

Implementation of NISA's ballast water management program and research has been inadequate in part because of the lack of critical funding. Unfortunately, despite strong support from several Members of the Subcommittee, annual appropriations for NISA programs have been lacking. For example, research has been hampered by a lack of funding, coordination, standardization and access to data. A lack of needed research impairs the nation's ability to assess the effectiveness of ballast water management methods, roles of other sources of aquatic invasives, and the state of invasions in the nation's waters. It would be unrealistic to provide substantially broader authority and responsibility for several federal agencies without providing them with the necessary financial support to meet their obligations. Regular, stable and increased funding is essential to the success of the program.

Therefore, TNC recommends the creation of a fund supplemented through user fees to be used for enforcement and rapid response. For example, the Clean Water Act has achieved general success in regulating point source discharges through its permit program, under which water users and dischargers pay fees for the enforcement and implementation of the Act. Similarly, the California ballast water program includes fees of $400 per qualifying vessel voyage, and as a result is more adequately funded and far more successful than its federal counterpart. Notably the implementation of the stringent ballast treatment program in the state has not resulted in a

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these protections as needed." [...] "We are concerned with the following provisions: A State preemption clause that would preclude States from taking steps to protect against damage by AIS introduced through ballast water; a clause that the Act would supercede any provision of the Clean Water Act with respect to ballast water..."

decrease of traffic. We urge the Subcommittee to support the inclusion of a user fee fund, to pay for the implementation and enforcement of the program, thus ensuring the success of the overall program.

Conclusion

It is widely accepted that the nation is facing an alarming and *increasing* rate of aquatic species invasions. It is overwhelmingly evident that we must act swiftly to provide comprehensive authority to prevent further aquatic invasions. We welcome the leadership demonstrated by this Subcommittee in holding repeated hearings on several important legislative proposals over the years to advance thinking on this important issue. We hope the Subcommittee will take immediate action to address NOBOBs, and we look forward to continued collaboration with your staff in developing the larger legislative proposal to address ballast water discharges from all ships.

Opening Statement of
Congressman Pete Hoekstra
Ballast water management and reduction of air pollution from ships
Subcommittee on Coast Guard and Maritime Transportation
July 11, 2006

I commend the Chairman of the Coast Guard Subcommittee for today's hearing on the staff discussion draft of legislation to stem the scourge of invasive species. This committee must assume a strong leadership role on the problem of invasive species in Michigan and across the nation. I welcome today's hearing and look forward to the testimony of our witnesses.

The Second Congressional District of Michigan, which I represent, includes nearly 200 miles of some of the most beautiful shoreline of Lake Michigan. On a day-to-day basis, the quality of life and indeed, the very livelihood of many of my constituents, is directly impacted by the health of Lake Michigan and the other Great Lakes.

As we know all too well, the problems created by invasive species have immensely impacted the Great Lakes region. Over the next 10 years, estimates indicate that the infamous zebra mussel will cost U.S. and Canadian industries in the Great Lakes region more than $5 billion.

The introduction of additional non-native species to the Great Lakes is one of the largest economic and environmental threats to the Great Lakes region today. We can debate which techniques will best stem their introduction or adequacy of the effectiveness of current laws, but there is little debate that once an invasive species become established, its impacts are too frequently profound.

Worse yet, we remain all too vulnerable to these intruders. Our current defenses are inadequate. For now, we are losing the battle against Great Lakes intruders.

Since the 106th Congress I have introduced legislation that seeks to accelerate action by the Coast Guard to stem the introduction of invasive species into the Great Lakes from ballast water. Concrete action under the basis 1990 legislation and the 1996 amendments contained in National Invasive Species Act has proceeded painfully slow. Action has been paralyzed by seemingly endless analysis. We continue to await the required analyses and standards, but new invasive species have been introduced and taken up residence, and the people of the Great Lakes region have paid the price.

For many in the Great Lakes region, myself included, the claim that the technology is not available to justify alternative ballast water treatment methods

sounds more and more like excuses from those resistant to change or unwilling to acknowledge the severity of the issue. Research in the area of ballast water treatment has taken place for over a decade but there has been no force or incentive driving the implementation of solutions.

The staff draft is a step in the right direction because it establishes the framework for a ballast water discharge standard that alternative technologies can meet. However, I believe we need to aggressively encourage the Coast Guard to act. Further delay could catastrophically impact the health of the Great Lakes.

The status quo is no longer acceptable for ballast water management on the Great Lakes. I look forward to working with the Chairman to address the urgent threat of invasive species.

In building a better defense for the Great Lakes against the introduction of new invasive species, we must vigorously use the most effective tools currently available, while awaiting the improved techniques derived from additional research and its application through the free enterprise system.

We need to move forward on both fronts as aggressively as possible.

WRITTEN TESTIMONY OF
TIMOTHY R.E. KEENEY
DEPUTY ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

LEGISLATIVE HEARING ON A DISCUSSION DRAFT:
BALLAST WATER MANAGEMENT ACT

BEFORE THE
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES

JULY 11, 2006

Good morning, Chairman LoBiondo and members of the Committee. I am Timothy Keeney, Deputy Assistant Secretary for Oceans and Atmosphere and the National Oceanic and Atmospheric Administration (NOAA). Thank you for inviting me here today to testify on the draft *Ballast Water Management Act*. I am co-chair of the Aquatic Nuisance Species Task Force and am pleased to be here today to discuss this important issue. The Administration supports the goal of this legislation to provide for the management and treatment of ballast water to prevent the introduction of non-indigenous, or invasive, aquatic species. The Administration's *Ocean Action Plan* recognizes the need for ballast water management, and we remain committed to working with our Congressional partners in their efforts to address this issue in a comprehensive way.

While marine transportation is an important link in the chain of global trade, the introduction of invasive aquatic species that it can bring threatens the health and value of our coastal and inland waterways. NOAA's mission is to serve as steward of the nation's marine resources through science-based conservation, management and protection of ecosystem health.

I appreciate the opportunity to speak to you today about the spread of aquatic invasive species through ballast water, NOAA's ballast water research priorities, federal coordination and cooperation, and our comments on the *Ballast Water Management Act*.

Aquatic Invasive Species Spread Across the Nation

Ballast water is a significant pathway for the introduction of non-native species into our coastal ecosystems and waterways. Given the high level of commercial shipping traffic in U.S. waterways, it is important to strengthen our current tools for management and treatment of ballast water to prevent the introduction of invasive aquatic species. Historically, the transfer of organisms by ships has resulted in the unintentional introduction and establishment of hundreds of freshwater and marine

invasive species into the United States. Ballast water was the likely pathway for the introduction of species such as the clam *Potamocorbula amurensis* into San Francisco Bay, and the fishhook water flea and zebra mussel into the Great Lakes.

The Great Lakes basin is the aquatic gateway to the heartland of America and a hot spot for aquatic species introductions to major interior sections of the United States. Approximately 180 invasive aquatic species have become established in the Great Lakes; 36 percent of which are attributed to shipping activities. While the spread of aquatic species introduced in most U.S. coastal ecosystems is generally restricted to adjacent contiguous coastal ecosystems, the Great Lakes provide a pathway for freshwater-adapted invasive species to spread throughout the interior waters of the central and eastern United States.

One need only examine the spread of zebra mussels —the poster child for aquatic invasions — which were first discovered in Lake St. Clair in 1988 and are believed to have entered the Great Lakes through ballast water. Zebra mussels now thrive outside the Great Lakes–St. Lawrence River system as far west as the middle of Kansas, as far south as the Mississippi delta below New Orleans, Louisiana, and as far east as western Vermont and the Hudson River estuary north of New York City. Zebra mussels have fouled industrial and municipal water intakes that must now be chemically treated on a regular basis throughout the summer months to keep them flowing. Estimates of the annual cost of zebra mussel control and mitigation are in the hundreds of millions of dollars per year in the Great Lakes basin alone. The introduction of zebra mussels provided the initial impetus for coordinated federal action on aquatic nuisance species and led directly to the passage of the *Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990* (*NANPCA*).

NOAA's Research on Ballast Water

When the *NANPCA* passed, Congress recognized there was a larger issue than the problems caused by zebra mussels or any other lone invader. Recognizing the pathway that brought the zebra mussel to the United States could be a pathway for other species, the law required that we take steps to manage ballast water. By the time *NANPCA* was due for reauthorization, it was common knowledge that ballast water was, and continues to be, a significant pathway for new introductions of invasive species into coastal waters.

Ballast Water Technology Demonstration Program

The National Research Council's (NRC) July 1996 report, *Stemming the Tide – Controlling Introductions of Nonindigenous Species by Ships' Ballast Water*, recommended that "U.S. authorities should sponsor and encourage further research and development efforts," addressing filtration and other ballast water treatment technologies, the level of treatment needed to reduce invasion risk, and appropriate monitoring systems.

In 1996, Congress passed the *National Invasive Species Act* (*NISA*) to amend *NANPCA*.

Drawing upon the recommendations of the NRC report, *NISA* instructed the Secretaries of the Interior and Commerce to work in cooperation with the Secretary of Transportation to "conduct a ballast water management demonstration program to demonstrate technologies and practices to prevent aquatic nonindigenous species from being introduced into and spread through ballast water in the Great Lakes and other waters of the United States." In response, the Department of the Interior through the U.S. Fish and Wildlife Service, and the Department of Commerce through NOAA, created the Ballast Water Technology Demonstration Program (Program).

In 1998 at the Program's onset, few ballast water treatment technologies were sufficiently advanced to be demonstrated on ships undertaking actual voyages. Further development of technologies was needed in order to achieve the statutory goal of demonstrating the effectiveness of ballast water treatment technologies at preventing the introduction and spread of aquatic nonindigenous species via ballast water. Therefore, the Program focused on ballast water treatment technology research and development, providing opportunities for researchers to advance promising technologies from the laboratory to full-scale shipboard demonstration. The Program has also contributed to the development of improved methods and technologies required for testing ballast water treatment systems. Testing full-scale systems in a credible and economically efficient manner is requiring the development of new tools and methods. The Program is ideally situated to facilitate this key research and development effort.

Because much of the expertise in the development and demonstration of ballast water technologies is found outside the federal government in a number of academic, commercial, and entrepreneurial centers, the Program has been administered through a system of competitive grants. Federal applicants, if statutorily authorized, have been allowed to compete on an equal basis with non-Federal applicants. Each year, except 2003, the Program has called for grant proposals to support Ballast Water Technology development at any stage from laboratory research to full-scale shipboard demonstration. Proposals are evaluated by an independent technical review panel of government, academic, and private sector experts.

The NOAA National Sea Grant College Program is authorized to award grants for "research on biology and control of zebra mussels and other important non-native species" (33 USC 1131). The priorities of the Sea Grant Aquatic Invasive Species Research and Outreach Grants Program include research and development into ballast water management methods, and the Sea Grant Program works closely with the Ballast Water Technology Demonstration Program to maximize coverage and prevent duplication of ballast water related efforts.

Since the inception of the Ballast Water Technology Demonstration Program, including spending estimates for 2006, NOAA has expended over $13.2 million in support of 63 ballast water technology research and development projects. The U.S. Fish and Wildlife Service has contributed $1.9 million towards these awards, and the Program's third Federal partner, the U.S. Maritime Administration, has contributed the use of seven ships from its fleet to ballast water technology researchers to facilitate the demonstration of

technology projects. In addition, the Sea Grant program has spent $3.6 million in support of 25 ballast water technology projects.

Twenty-four different technologies have been studied, often in multiple projects spanning several years that started as bench-scale proofs of concept and matured to pilot-scale or full-scale demonstrations. The appendix shows the ballast water technology studies supported by the Program or by the NOAA National Sea Grant Program. In 2004, two ballast water treatment technologies supported by the Program received "Global Technology Innovation Awards" from the Wall Street Journal, and a third project won an "Environmental Challenge" award from the International Association of Independent Tanker Owners (INTERTANKO). In addition, the Program has directly benefited the U.S. Coast Guard's efforts to develop ballast water discharge standards and procedures and methods for testimony and evaluating ballast water treatment systems.

In 2005, the Program enhanced its capacity to support ballast water treatment technology development and demonstration. In addition to seeking proposals for individual technology development and demonstration grants, the Program sought proposals for projects to establish and maintain a research, development, testing and evaluation (RDTE) facility in the Great Lakes in 2006. This and future RDTE facilities are intended to further support the ballast water technology development efforts by increasing:

- Long-term continuity in projects;
- Standardization and quality control in experiments;
- Independence between treatment technology vendors and investigators evaluating their technologies;
- Greater engagement of ship and port interests, including at the local and regional level;
- Ease of access to necessary physical infrastructure not otherwise available for ballast water technology demonstration; and
- Coordinated regional participation in the development and use of consensus standard ballast water test methods and protocols.

RDTE facilities are also likely to play an important role in testing ballast water treatment systems for purposes of approval by the U.S. Coast Guard. As such, this component of the Program is critical to the timely availability of market-ready technology. The Great Lakes was chosen as the venue for the RDTE facility because the public and private sector interest, technical expertise and available infrastructure in this region are more advanced than elsewhere.

The state of ballast water technology has advanced since the passage of *NISA* and inception of the Program, as evidenced by the fewer laboratory-scale projects and the increased number of full-scale demonstration projects funded by the Program. In 2004, the Program adopted the programmatic priority that applications for grants to generate data needed to meet the criteria for acceptance into the U.S. Coast Guard's Shipboard

Technology Evaluation Program (STEP) would be given preference. In 2005 and 2006, the Program included a programmatic priority giving preference to grants for projects from applicants accepted into the STEP program. (Because no applicants were accepted into the STEP program in time to qualify for grants in these years, this preference has so far gone unrealized.)

The Program will continue to work closely with the STEP program, but the work of developing technologies to the point where they are eligible to be accepted into STEP is not complete. Support is still necessary to foster the development of ballast water treatment technologies, and to increase the national capability to prevent ballast water-mediated introductions of invasive species.

Great Lakes Environmental Research Laboratory

Ongoing research throughout NOAA and the federal government on ballast water, and the threats and effects aquatic invasive species can bring, is needed to improve the scientific basis for our decision-making. The Great Lakes Environmental Research Laboratory (GLERL) is NOAA's leading institution for aquatic invasive species research and for ballast water research related to the Great Lakes. GLERL has been actively engaged in research on aquatic invasive species since shortly after zebra mussels were initially discovered in our waterways. GLERL's mission is to conduct high-quality research and provide scientific leadership on important issues in both the Great Lakes and marine coastal environments, leading to new knowledge, tools, approaches, and awareness.

GLERL achieves its mission through applied research, monitoring, technology development, information synthesis and assessment, multi-institutional partnerships, scientific leadership and education. GLERL houses a unique combination of scientific expertise in biogeochemical, hydrological, ecological, physical limnology, fish ecology, and oceanographic sciences. This broad range of disciplines is needed to adequately understand and address the important and complex issues that confront the effective management of aquatic environments. Of particular relevance to ballast water management, GLERL led the first extensive biological characterization and assessment of risk associated with residual ballast water and sediment in ships declaring "No-Ballast-on-Board" (NOBOB). The U.S. Coast Guard, along with the Environmental Protection Agency, provided start-up funds for this project in FY 2000 in order to provide information upon which the Coast Guard could base an informed management position. GLERL is currently determining the effectiveness of biocide treatments, such as chemicals, heat, UV light and oxygen deprivation on the viability of resting eggs, often found in ballast water and NOBOB vessel sediments. GLERL is also working with several private companies and the U.S. Naval Surface Warfare Center to use computational modeling water flow in ballast tanks to improve understanding and maximize effectiveness of management practices and treatment mechanisms.

Ballast Water Exchange Research

The concentration of organisms in open-ocean water is much lower than in coastal areas where ships are likely to have taken on their original ballast water. Ballast water exchange consists of flushing coastal water from ballast tanks, replacing it with oceanic water. This is intended to reduce the concentration of coastal organisms, which are more likely to become established in subsequent coastal ports upon ballast discharge; in contrast, most oceanic organisms are considered unlikely to colonize coastal habitats. In addition, it is believed that most (but not all) organisms likely to survive in the Great Lakes and upper Hudson River – freshwater ecosystems - would die in saltwater because of "salinity shock," thus increasing the efficacy of ballast water exchange.

For ships bound to marine U.S. coastal waters, the effect of ballast water exchange is primarily dilution, which results in a reduction in the concentration of organisms in the ballast water. For ships entering the Great Lakes, the effect is both dilution and salinity shock.

There is not a large volume of high quality data available to assess the effectiveness of ballast water exchange. However, over the past 6 years, the Smithsonian Environmental Research Center (SERC) has conducted more than two dozen shipboard ballast water exchange experiments across four main vessel types: commercial oil tankers, container ships, bulk carriers, and Navy refuelers. The SERC research constitutes the largest body of data available on the efficacy of ballast water exchange for ships transiting U.S. waters, and the results are being compiled and documented for a report to be published jointly by NOAA and SERC later this year. The report will conclude that while there are recognized limits to the effectiveness of ballast water exchange, when the exchange is conducted according to current requirements it can be a highly effective preventive approach. Due to the difficulty of conducting on-board experiments, SERC's data are still very limited and do not completely address all aspects of the issue. However, the available evidence suggests that until something better is developed, ballast water exchange is an appropriate and useful preventive practice.

As noted above, GLERL is working with the U.S. Naval Surface Warfare Center to develop a high resolution computer model to predict and visualize the mixing and flow of water in a ballast tank, with application to the ballast water exchange process.

NOBOB Research

The issue of ships with "No-Ballast-on-Board" (NOBOB) was raised in the Great Lakes region in the mid-1990s. Technically these ships are carrying no ballast, but most have some amount of residual water in the tanks which includes sediment that can be resuspended when new ballast water is added. This resuspended sediment can therefore be discharged during ballasting operations while in the Great Lakes. When we realized that NOBOB ships could be a source for new introductions, NOAA began a research program to investigate this pathway for invasion.

Although circumstances vary from ship to ship, some water and entrained sediment usually remain in ballast tanks even after complete pump-out. The residual water and sediment can contain a wide assortment of plants, animals, and microorganisms, including so-called "resting stages" such as cysts or resting eggs. The life cycles of many invertebrates, algae (including toxic dinoflagellates), protozoa, and bacterial species include the capability of producing resting stages. Production of resting stages ensures long-term viability of the population because they are extremely resistant to adverse conditions including anoxia, noxious chemicals, freezing, and passage through digestive tracts of fish and waterfowl. Resting eggs of invertebrates and cysts of dinoflagellates usually sink when released. Resting stages may remain viable in sediments for decades or even centuries, and can germinate or come to life under a combination of favorable light, temperature, and other environmental conditions.

NOAA is particularly concerned about ballast water and sediment residuals in ballast tanks in the Great Lakes region, where over 90% of the foreign vessels entering are declared NOBOB. Consider a single ballast tank holding 1,500 metric tons of water when full. If only 0.5% of that volume is not able to be pumped, then up to 7.5 metric tons (7.5 cubic meters, or about 2,000 gallons) of water would remain. Across a ship's numerous tanks, a significant volume of ballast water and mud can remain onboard. As ballast water treatment technologies are developed and tested, their effectiveness in dealing with the NOBOB residuals should also be evaluated. NOAA (GLERL) initiated a NOBOB assessment research program in 2001 that was completed in 2005. The final report for that project is the most detailed characterization and risk assessment of NOBOB ballast residuals to date and was followed almost immediately by the U.S. Coast Guard issuing new policies, in part based on findings from the NOAA study, for ballast management of NOBOB vessels entering the Great Lakes.

In the absence of effective treatment technologies, a "best management practices" approach has been initiated, especially for the Great Lakes. The effects of different management practices on reducing the biological invasion risk associated with NOBOB tanks is an important area for research. NOAA (GLERL) initiated and is in the final year of a study to assess the practicality and effectiveness of best ballast management practices that were adopted by the shipping industry in 2000, the St. Lawrence Seaway management corporations in 2001, and more recently, the U.S. Coast Guard and Transport Canada. Additional research is needed to verify some of these practices, to develop remote measurement capabilities that allow better measurements of the amount of sediment accumulated across the entire ballast tank, and for determination of the salinity of residual ballast water.

Patterns, Corridors, and Vectors of Invasion

Preventing the movement of non-native organisms from one location to another via ballast water or other means is the only effective strategy to prevent invasions. A major barrier to planning for and preempting future invasions is trying to identify where future species invasions may originate, and which species may pose the highest potential risk of successfully invading that ecosystem. Comprehensive analyses of recent and past

patterns of species invasions by coastline, region, or coastal ecosystem may help to identify the most significant invasion corridors or pathways by which invasive species arrive in our coastal ecosystems. Monitoring and analyzing global trade and shipping patterns may be able to help identify future shifts in likely invasion corridors leading to the United States. These analyses may help determine which species are capable of invading U.S. coastal ecosystems.

Federal Coordination and Cooperation

The efforts of NOAA, and other federal agencies and organizations, have demonstrated how coordination and cooperation can improve our effectiveness in addressing the environmental and economic damage caused by aquatic invasive species that enter our waterways, including through a ship's ballast. The interagency Aquatic Nuisance Species Task Force set up under *NANPCA* has fostered much of this activity. The Task Force is chaired by NOAA and the U.S. Fish and Wildlife Service, and has eight other federal members and thirteen *ex officio* members representing other levels of government. In addition, two invited observers from Canada's Federal Government participate. This pattern is repeated with even stronger state government and other stakeholder involvement on each of the Task Force's six Regional Panels. For example, similar coordination is occurring at a regional level around the Great Lakes where the Regional Working Group, representing 11 federal agencies, was established by Presidential Executive Order in May 2004.

The Aquatic Nuisance Species Task Force is not the only entity working on such coordination. Executive Order 13112 created a National Invasive Species Council (NISC) to help coordinate invasive species actions more broadly. NISC currently has representatives from thirteen federal departments and agencies, and is a policy and coordinating body. In order to give structure to the federal government's efforts in addressing invasive species issues, NISC prepared a comprehensive *National Management Plan*, which specifically addresses ballast water. Similarly, a number of executive agencies are working together on the Security and Prosperity Partnership that was set up with Mexico and Canada in which ballast water has been identified as an area of cooperation related to the movement of invasive species.

Ballast water research is an excellent example of federal interagency collaboration and cooperation. It is not an exaggeration to state that we often are in contact with other federal agencies on ballast water issues several times a week. Regular meetings take place among the federal partners to address specific aspects of the ballast water issue. Our federal partners include the U.S. Fish and Wildlife Service, the U.S. Coast Guard, the Environmental Protection Agency, the Maritime Administration, the U.S. Geological Survey, and the Department of Defense.

At an international level, an interagency working group under the leadership of the U.S. Coast Guard has been responsible for the development of United States' position on ballast water management at the United Nations' International Maritime Organization. The United States' contribution to this process has been significant. The U.S. delegation

greatly influenced the overall framework of the Convention, and led the effort that resulted in several key provisions including: more stringent measures, sampling for port state control, concentration based standard, and phase out of ballast water exchange. The U.S. has also been heavily involved in the development of fourteen sets of technical guidelines.

Comments on the *Ballast Water Management Act*

At this time, the Administration has not formed official views on the discussion draft. The Departments of Commerce, Defense, Homeland Security, Justice, State and Transportation, the Environmental Protection Agency, and others are currently reviewing the document. The comments that follow represent the Administration's preliminary, informal views on the discussion draft. The Administration appreciates the Subcommittee's efforts to address the ballast water issue and stands ready to work with the Subcommittee to ensure the bill's progress. The Administration will provide detailed official views in the near future.

While preferring full reauthorization of the *NANPCA*, the Administration is willing to work with drafters to focus on ballast water, given that it is an immediate, pervasive, and well-known vector for introduction of invasive aquatic species. However, there are major concerns with the discussion draft. The International Maritime Organization (IMO) has agreed to the text for an International Convention for the Control and Management of Ships' Ballast Water and Sediment (Convention), and because of the international nature of shipping, the Administration believes it is important that the approach taken in domestic legislation must be compatible with the structure and framework of the international provisions. S. 363 closely tracks the approach in the Convention, and the Administration is willing to support the approach taken in S. 363 if modifications are made. We strongly recommend the Subcommittee consider this approach as well.

At this time, the Administration would like to highlight some, but not all, concerns with the discussion draft:

A number of provisions in the discussion draft are problematic and could actually delay reaching the goal of effective ballast water management. Proposed section 1102(h) requires surveys on the number of organisms in untreated ballast water and in exchanged ballast water. Several surveys have already been conducted in both of these areas, and results are available in published literature. Under the Convention, discharge standards are applicable to some vessels on which construction is initiated after January 1, 2009. With a 36-month deadline for review of alternative ballast water management methods before domestic standards would be proposed, proposed section 1105 makes it unlikely that the shipbuilding industry will have adequate lead time to meet that date.

Even though the U.S. Government proposed a more stringent discharge standard at the diplomatic conference that drafted the Convention, the standard specified in the discussion draft is weaker than the IMO standard. The discussion draft only explicitly requires regulation setting the upper standard of 10 viable organisms greater than or equal

to 50 micrometers per cubic meter of water ((Sec. 6 of the draft bill setting forth a new Sec. 1104(a)(4)), while the Convention has a standard that includes organisms between 10 and 50 micrometers and standards for pathogens (Regulation D-2). Organisms in the smaller size category include dinoflagellates that cause harmful algal blooms. In both Australia and France, harmful algal blooms have been caused by organisms introduced in ballast water. The Department of Commerce previously testified that it had concerns with even the IMO standard since it allowed so many organisms that technically constitute a "harmful algal bloom" by the definition used to shut down shellfish beds. In general terms, the Administration prefers to see a standard that would encourage development of new technologies rather than being based on currently available technology – i.e., fewer organisms per cubic meter of water.

Also of concern is the exemption from regulations provided to participants of STEP (Sec. 6 of the draft bill setting forth a new Sec. 1104(a)(4)). In particular, the Administration is concerned with the scope and timing of how exemptions for STEP systems would operate. S. 363 includes a more targeted exemption for STEP participants with a defined time limit, which the Administration supports.

The Administration is concerned that the discussion draft would change the nature of our Ballast Water Management Demonstration program. Most of the projects funded to date have involved controlled experiments at laboratory or pilot scale so that basic research could be conducted leading to development of alternative technologies that would be effective and practicable when used on board ships. One of the objectives of the demonstration program has been to facilitate the availability of shipboard systems eligible for inclusion in the U.S. Coast Guard Shipboard Technology Evaluation Program (STEP). Although NOAA already has indicated that it would give priority to projects approved for the STEP program, the discussion draft would restrict projects only to the STEP program when one of the priorities should be development and testing of new technologies at the research and development stages prior to that which could be used in the STEP program. The current program has the flexibility to focus resources on shipboard tests, either within or separate from STEP, as circumstances warrant. The Administration also is concerned that the interagency cooperative nature of the current program would be changed. *NANPCA* currently provides that the Ballast Water Management Demonstration program is to be a joint effort of both the Department of Commerce and the Department of the Interior. The U.S. Fish and Wildlife Service (FWS) has made a significant contribution to the program. In addition, even though there is no statutory mandate to do so, the Maritime Administration (MARAD) of the Department of Transportation has become a key partner in this program. NOAA, FWS, and MARAD currently put out a joint request for proposals and conduct a joint peer review of the proposals received. NOAA believes that the program is a good example of how different agencies can work together to reach a common goal.

The discussion draft would exempt vessels engaged in coastwise trade (within the EEZ) from the requirement to meet the discharge standard. This would greatly compromise the protectiveness of the resulting regulatory regime, as coastwise vessels would then facilitate the dispersal of harmful aquatic organisms introduced by other pathways.

Additional technical concerns have been raised which will be included in the Administration's detailed views.

Conclusions

We only have to look at the spread of zebra mussels, and the continuing efforts to manage them and other invasive species that have come to our shores through ballast water, to realize that we will be living with the consequences of past introductions for a long time to come. While we may have made progress towards reducing the risks associated with ballast water — the most significant pathway for introductions into coastal areas and waterways — much more remains to be done. We are also optimistic that ongoing research will lead to a number of promising technologies that will enhance our ability to address ballast water transfer of aquatic invasive species.

We appreciate the opportunity to provide testimony on the draft Ballast Water Management Act, and we appreciate the Committee's efforts to address this important issue.

This concludes my testimony and I would be happy to respond to any questions that members of the Committee may have.

APPENDIX

Ballast Water Technologies studied under the Ballast Water Technology Demonstration Program and National Sea Grant College Program (# of projects)	
Chemical Biocides:	**Energy:**
Carbon Dioxide (1)	Acoustic (6)
Chlorine / Chlorine Dioxide (1)	Microwave (1)
Ferrate Ion (1)	Thermal (4)
Gluteraldehyde (2)	Ultraviolet (6)
Halogens (1)	**Practices/Other:**
Hydrogen Peroxide (2)	Coagulation (1)
Juglone (1)	Depressurization (1)
Menadione (2)	Deoxygenation (5)
Ozone (8)	Exchange (7)
Peracetic acid (2)	Onshore Treatment (3)
Sodium Hypochlorite (1)	Design of Ships or Tanks (4)
	Related Research:
Separation:	Assessment (1)
Filtration (including Media & Screen) (10)	Microorganisms (6)
Vortex/Hydrocyclone (4)	Monitoring / Standards (5)
Centrifugation (1)	No-ballast-on-board (NOBOB) ships (2)
	Outreach (2)
	Toxicity Analysis (1)

STATEMENT OF THE HONORABLE FRANK A. LoBIONDO, CHAIRMAN – SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION LEGISLATIVE HEARING ON DRAFT LEGISLATION REGARDING BALLAST WATER MANAGEMENT AND REDUCTION OF AIR POLLUTION FROM SHIPS

JULY 11, 2006

The Subcommittee is meeting this morning to review draft legislation that addresses the treatment of invasive species in ballast water and the implementation of international vessel emission requirements under Annex 6 to the MARPOL Convention.

This Subcommittee has held numerous oversight hearings on the Federal government's efforts to reduce the risk of aquatic invasive species through the release of ballast water from vessels operating in U.S. waters. The Coast Guard has issued regulations to require all vessels on a voyage originating in a foreign port to carry out ballast water exchange before the vessel enters U.S. waters. I am concerned, however, that ballast water exchange alone may not fully protect our coastal ecosystems from the threat of invasive species.

The draft bill would require the Coast Guard to establish national ballast water discharge standards after the service has certified there exists alternative ballast water management methods, which are capable of reducing the concentration of organisms in ballast water at least to the international standard. If the Coast Guard determines concentrations of invasive species can be reduced to a level which exceeds the international standard, the draft bill requires the Coast Guard to issue regulations implementing methods to do so. The draft bill also proposes to use the Coast Guard's Shipboard Technology Evaluation Program (STEP) to demonstrate the capabilities of experimental alternative ballast water management methods on board vessels active in maritime commerce.

The draft bill is a work in progress. It does not represent a consensus of all interested parties, or the Members of this Subcommittee. I look forward to hearing the comments of the witnesses and of the Members of the Subcommittee on how we should direct the Coast Guard to address ballast water management in the future.

The Subcommittee is also considering draft legislation that would implement international vessel emission standards that were agreed to in MARPOL Annex 6. Earlier this year the Senate gave its advice and consent to the treaty contingent on the adoption of legislation to implement these requirements here in the United States.

The draft bill incorporates several provisions included in the Administration's proposal to Congress with several changes regarding the role of the Environmental Protection Agency (EPA) to develop, administer and enforce regulations aboard vessels operating in the United States. The draft bill proposes to maintain these responsibilities of administering and enforcing U.S. laws aboard vessels under the authority of the Coast Guard. The Coast Guard currently administers and enforces regulations regarding the

Testimony of

Kathy J. Metcalf

On behalf of the

Chamber of Shipping of America

On

REDUCTION OF AIR POLLUTION FROM SHIPS

And

BALLAST WATER MANAGEMENT

Before the

Coast Guard and Maritime Transportation Subcommittee

Of the

House Transportation and Infrastructure Committee

July 11, 2006

Good morning, Mr. Chairman and members of the subcommittee. My name is Kathy Metcalf and I am testifying on behalf of the Chamber of Shipping of America which represents 27 US based companies that own, operate or charter oceangoing tankers, container ships, and other merchant vessels engaged in both the domestic and international trades. The Chamber also represents other entities that maintain a commercial interest in the operation of such oceangoing vessels.

CSA is also a member of the Shipping Industry Ballast Water Coalition. The Coalition is a broad-based industry coalition formed to promote the development of a practical, effective, and comprehensive mandatory national ballast water management program in the United States which is protective of marine safety and the marine environment. Our coalition and its member associations represent the full spectrum of vessel types – tankers, bulk carriers, container vessels, roll-on/roll-off vessels, towing vessels, and barges, both US and foreign flag – that carry the preponderance of this nation's domestic and international commerce, the public US ports at which they call, and US maritime labor. Although the Coalition was unable to meet to discuss the proposed ballast water legislation due to the accelerated scheduling of this hearing, I can assure you that my testimony today is based on well-established positions included in testimonies offered by the Coalition over the past several years to a number of Congressional committees in both the House and Senate, including testimony provided to this subcommittee on March 25, 2004. Most recently the Coalition has provided testimony and additional comments to the Senate Commerce, Science and Transportation Committee in support of S 363, the Ballast Water Management Act of 2006, which has been favorably reported out of the committee and is awaiting action by the full Senate.

We appreciate the opportunity you have given us to provide testimony to your subcommittee on two issues of great importance to the maritime industry – ratification of MARPOL Annex VI by the United States and ballast water management. We are also pleased to be testifying with our colleague from the World Shipping Council on these issues of mutual interest. In order to avoid duplicative testimony, we will focus the majority of our oral testimony on ballast water issues while our colleague from the World Shipping Council will focus on MARPOL Annex VI ratification.

US RATIFICATION OF MARPOL ANNEX VI

CSA has had the honor for a number of years of serving as an industry advisor in the US delegation to the International Maritime Organization's Marine Environment Protection Committee (MEPC). During this period, the issue of air emissions from marine vessels was placed on the committee's agenda for discussion and action which, in 1997, resulted in the adoption of the Protocol of 1997 of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78). This Protocol contains Annex VI to the Convention and entered into force on May 19, 2005. As of May 31, 2006, the Annex has been

ratified by 35 countries representing over 70% of the world's tonnage. Regrettably, the US is one of the few major maritime trading nations which have not yet ratified the Convention.

Annex VI, among other things sets limits on sulfur oxide and nitrogen oxide emissions from ship exhausts, prohibits emission of ozone depleting substances, establishes a global cap for sulfur content (4.5%) of marine fuels and contains provisions which allow for the designation of special sulfur oxide emission control areas (SECAs) in which more stringent controls on sulfur emissions from ships may be established through lower sulfur fuels (1.5%) and/or shipboard installation of emission control systems. In short, the Annex establishes a global system for the control of air emissions from ships and can serve as the foundation for future discussions aimed at decreasing further marine related air emissions. In fact, the MEPC is currently engaged in a review of the Annex with a focus on those provisions which may be modified to further reduce these emissions and the US is leading the discussion on a number of these issues. Additionally, the US Environmental Protection Agency is currently evaluating the need to establish SECAs in the US. To enable the US to effectively continue its leadership role in these discussions, to establish SECAs in our coastal waters and to ensure that all vessels calling in US ports, regardless of flag are subjected to the same types of controls, it is imperative that the US become a party to the Annex as soon as possible. Therefore, we strongly support prompt ratification of MARPOL Annex VI.

CREATION OF A COMPREHENSIVE US BALLAST WATER MANAGEMENT PROGRAM

1. Need for an internationally and nationally consistent ballast water management program.

CSA and the Shipping Industry Ballast Water Coalition strongly support the creation of a national ballast water management program that is environmentally protective, technologically and economically achievable, will parallel as closely as possible international requirements and is practical in the sense that it should not interfere with the existing efficiencies of the marine transportation system which is so important to our national economy. In order to achieve these goals, it is important to avoid what is an ever growing problem of state ballast water programs which create a patchwork quilt of varying requirements, many in conflict one with the other and most in conflict with existing federal and international requirements.

2. CSA and Coalition activities supporting creation of international and national ballast water management program.

Over the past decade, CSA and members of the Coalition have responded to virtually every legislative and regulatory initiative relating to ballast water management. We have also participated as industry advisors to the US

delegation and on the delegations of shipping related non-governmental organizations at the International Maritime Organization's Marine Environment Protection Committee (MEPC) which resulted in the adoption, in February 2004, of the International Convention for the Control and Management of Ship's Ballast Water and Sediments. While not yet in force, the Convention provides a detailed framework and requirements for the management of ship's ballast water and which will well serve the purpose of establishing international requirements for the truly international operations of maritime transportation. We fully support US ratification of the Convention and respectfully suggest that these provisions should provide the basic framework for US legislation addressing ballast water management so that domestic requirements will parallel the international requirements to the maximum extent possible.

3. Need for explicit and detailed legislation.

Traditionally, the regulated community has advocated for general legislation that mandates the creation of regulatory initiatives by agencies with jurisdiction over a particular regulated community. This position reflects the recognition that within these specific agencies, rest the necessary expertise to create the "nuts and bolts" of highly technical implementation programs. However, in the case of ballast water, CSA and the coalition have taken a contrary position and advocate for sufficiently detailed legislation which will provide the necessary certainty to the regulatory agencies, regulated community and every citizen of the United States. Certainly the necessary expertise resides within the agencies in this case; however, we can ill afford the delays in creation of a national ballast water management program that are so typically encountered as a result of complex regulatory initiatives. Once such example of this type of delay is discussed in detail in paragraph 7 below.

4. Need for a coordinated federal program which can be implemented by the states.

Shipping is international and so also should be the regulation of shipping. While this is not always possible, we believe that the regulation of shipping through international requirements is the correct way to comprehensively regulate the industry in a clear manner. However, we also recognize that there are cases where domestic legislation has been enacted which varies with international requirements, a sovereign right of any nation. Not without some pain, the industry has adjusted to these exclusively US provisions. Unfortunately, over the past several years, individual states have implemented their own unique ballast water management programs which vary from existing and proposed national and international requirements and we suggest that this trend will only continue without the inclusion of language which federally preempts state ballast water management programs. Failure to include such language would be catastrophic for the environment, the maritime industry, including ports, and undermine the progress which we can make on this issue by the establishment of a strong, uniform federal program administered consistently throughout our nation. Any

federal legislation should make clear that the ballast water management program created by the statute is the sole program established in the United States for the management and control of ballast water discharges.

5. Need for a coordinated federal program which establishes itself as the sole federal program by which ballast water management discharges will be managed.

We believe that any federal legislation should be the exclusive federal program which regulates ballast water management. As a result of a recent US District court decision, there is some question as to whether Congress intended to include ballast water discharges under the general provisions of the Clean Water Act and specifically the National Pollutant Discharge Elimination System (NPDES) permitting program. We strongly support inclusion of legislative text that clearly establishes Congressional intent to regulate ballast water management through the provisions of the more specific legislation which focuses on ballast water and not through the more general provisions of the Clean Water Act.

6. Need for a quantitative ballast water management performance standard and periodic review process.

As an example of the need for more, rather than less, detail in legislation, in the past, the industry has faced a conundrum with ballast water management that closely resembles the chicken or the egg dilemma i.e. which comes first, establishing a ballast water performance standard or waiting for technology to be developed and tested to define what is achievable. It is important to note that there is very little published peer-reviewed data that suggests the capabilities of developing technologies, although we are optimistic that the technologies will emerge from a number of shipboard and shore side testing programs which are underway around the world and on a variety of ship types. Recognizing the significant financial investment that is being placed on ship owners, it is critical that the first standard be established in quantitative terms and be achievable, recognizing future adjustments that can and should be made during periodic reviews of developing technologies. CSA and the Coalition strongly support the inclusion of this quantitative performance standard in federal legislation and not leave the establishment of the standard to the regulatory process. Our reasons for espousing this position are two-fold. First, I can unequivocally state that it was only when the fixed quantitative standard was established by IMO, that ship owners and technology developers alike were in a position to commit vast sums of financial and human resources to finding a solution to this problem through the initiation of pilot scale and shipboard studies which now include testing of systems actually installed aboard vessels. Once this quantitative standard was established, both ship owners and technology developers had a "hard target" at which to aim. While we agree that the concept of best available technology is a viable one, it is most appropriate as the general criteria by which later reviews and adjustments of the performance standard are made over time. Second, without specification of a quantitative performance standard in legislation, we

would expect the NEPA analysis which is triggered by any regulatory process which will establish an environmental discharge standard to take far longer than we or the marine environment can afford to wait. We believe inclusion of the quantitative performance standard in the legislation will significantly abbreviate the NEPA analysis which would be required in finalizing the regulations implementing the provisions of the statute.

Equally critical is the establishment, in legislation, of a rational and periodic technology review process by which the standard may be adjusted to more stringent levels as technology development progresses. In this regard, we believe that five key criteria should be established by which this review process is conducted. The five criteria are considerations of safety, environmental acceptability, practicability, cost effectiveness and biological effectiveness. By including these specific criteria, Congress will more clearly outline the charge to the agencies which will be responsible for implementing these periodic review programs.

7. Specific comments on the Ballast Water Management Act of 2006.

We very much appreciate the leadership role taken by this sub-committee over a number of years in progressing the issue of ballast water management and the control of invasive species. We also appreciate this opportunity to provide you with some specific comments on the provisions of your bill which we hope will further illuminate future discussions on this and other bills currently pending in both the House and Senate.

Section 4(b) – National Regulations. We strongly support the inclusion of language which establishes that a vessel need not deviate from its intended voyage or incur undue delay to meet the requirements of the regulations. This is a key provision to our industry since without its inclusion vessels engaged in coastwise trade or even short international voyages would find themselves in the position of adding significant time to their voyages for the purpose of going some pre-determined distance offshore to conduct a "mid-ocean" ballast water exchange. As an example, one ship owner has indicated that on a typical coastal run, one full day would be added to each 6 day voyage which translates to approximately 48 additional days per year solely for the conduct of ballast water exchange. At a $50,000 per day charter rate, the resulting $2,400,000 loss of revenue per year is severe indeed and this is only for one vessel. Further extrapolating this loss to the number of vessels engaged in coastwise or short international voyages translates to hundreds of millions of dollars of lost revenues for the execution of what is quite frankly a temporary and relatively ineffective "fix" until such time as ballast water treatment systems can be developed and approved for use aboard vessels. In short, the marginal environmental benefits accruing to a mid-ocean ballast water exchange are overwhelmed by the costs associated with the delay or deviation.

Section 6 – Ballast Water Management Evaluation and Demonstration Program. We strongly support the provisions of this section which will provide the critical foundation by which promising technologies can make those important steps from conceptual design to shore-side pilot to actual shipboard installations which are tested under real-world operating conditions.

Section 6(a) – Shipboard Technology Evaluation Program (STEP). We are especially appreciative of that provision which suggests that a variety of vessel types should be used in the STEP; however, we would suggest the addition of text to this section to reflect a similar need to test systems aboard vessels on a diversity of voyages, both domestic and international. We also note the inclusion of part of the IMO performance standard as the basis for acceptance into the STEP program, but suggest addition of text which requires that some considerations of that portion of the IMO standard addressing organisms less than 50 microns and indicator microbes should also be integrated into the STEP approval process, albeit these could be included as testing parameters for a system which was approved for STEP under the language proposed e.g. organisms over 50 microns in dimension. Without such considerations, vessels successfully participating in the STEP program may find themselves in a situation where they could not trade to foreign ports where the provisions of the IMO convention had already been adopted. Finally, we very much appreciate the grandfathering provision found in this section which would permit a vessel which participates in STEP to continue operations with the STEP tested system for the useful life of the vessel or ballast water management method, whichever is less.

Section 6(b) – Shipboard Technology Demonstration Program. We strongly support the vast majority of provisions of this section since it will result in the infusion of federal funds into what have, up to now, been very expensive ventures, funded in most cases by the private sector. Historically, we have found that most shipboard testing programs, from start to finish, will cost (equipment, installation, testing, analytical processes and hiring of appropriately credentialed scientists) at the very least $500,000, with most averaging in the $1,000,000 range and a few exceeding $5,000,000. We would also request your further consideration of proposed Section 6(b) (2) which requires that the installation and construction of alternative ballast water methods be performed in the United States. We believe this language requires further clarification and modification so as not to be so limiting. Understanding that US funding sources are meant to link with US based activities which provide benefits to US waters, but also acknowledging that a number of the more promising technologies in test at this time originate abroad, we would suggest that this section be revised to limit the expenditure of funds to shore based pilot programs conducted in the US or aboard vessels which trade to the US, regardless of nationality. This point is critical since the most valuable testing programs will be those which result in generated data from ballast water treatment systems tested under a variety of challenge conditions, on a variety of ship types and with ballast water from a variety of geographical locations.

Section 7 – National Ballast Water Discharge Standards. We support the provisions contained in this section but have reservations that certain provisions as contained in the IMO convention are not included here - namely those provisions relating to organisms less than 50 microns and indicator microbes. While we certainly support a phasing in of standards to reflect technological feasibility, we also believe that alignment with the IMO standard is important to ensure that vessels which are compliant with the US provisions will also be compliant with the global requirements. As contained in both the IMO convention and this section, the pre-implementation review process will provide the necessary reality check to assure that a standard is set which reflects technology at the time of implementation. We also very much support the provisions of Section 7(f) relating to existing equipment which assures that vessels with installed treatment systems will not have to retrofit a new system each time the standard is made more stringent. While we appreciate the logic of the implementation schedule as found in Section 7(h) which requires compliance with the standards not later than the earlier of 60 months after the standard takes effect or the end of the first drydocking after establishment of the standard, we believe that implementation of the initial performance standard should be stretched out over a longer period of time as is currently the case with the IMO convention. This position is based on concerns that sufficient numbers of "new" systems which meet the new standard will not be available over a five year period for the significant population of vessels which would have to comply with the requirements nor would be the necessary global infrastructure necessary to assure that spare parts and technical experts would be available to attend to a ship whose system had malfunctioned. Finally, we are very supportive of the provision in Section 7(h) that exempts vessels engaged in the coastwise trade from complying with the standards, although, we must admit that a permanent exclusion of coastwise vessels is likely not justified based on what we know today about secondary and tertiary transfers of invasive species which have been identified between and among ports on the West Coast of the United States. As an alternative and perhaps more appealing position to those who would oppose such a blanket exemption, we would suggest that this section could be modified to allow the Secretary to determine if available technology, as determined by the periodic reviews, could be installed on coastwise vessels, taking into account the often times, short duration, of coastwise voyages. We would also ask you to note that the coastwise dilemma is most severe at the current time when ballast water exchange is the only viable ballast water management process recognized which may, at times, require a vessel to divert offshore and remain there until a ballast water exchange can be completed (24 to 30 hours on average), adding significant off-hire costs. We are hopeful that once treatment systems are approved, most of the coastwise dilemma should resolve itself, since voyage duration will be far less an issue with systems which treat the ballast water upon uptake, discharge or both.

THE WAY FORWARD – TOWARDS AN EFFECTIVE US BALLAST WATER MANAGEMENT PROGRAM

As indicated at the outset of our testimony, we very much appreciate the leadership your subcommittee has exhibited over the past several years in progressing the ballast water and invasive species issues from identification of the problem, through to, what we are hopeful, will be an environmentally protective and operationally achievable national program. While we are very supportive of the provisions contained in your proposed legislation, we are also concerned that too much detail is left to the regulatory process which often fails to meet legislatively mandated timetables, many times for very justifiable reasons including the highly technical and lengthy process required under NEPA when an environmental discharge standard is to be created by regulation. In addition, providing additional detail in legislation provides a great deal of certainty to the regulated community as to the requirements their compliance program will have to meet. We stand ready to work with you and your colleagues in both the House and Senate to create this most needed national program and respectfully suggest that your bill and the provisions of pending S 363, when synthesized, would meet the environmental protection goals of our nation, the operational needs of the maritime industry as well as reflecting to the greatest extent possible, the international requirements as established by the IMO convention.

Thank you again for this opportunity to provide our comments. We would be pleased to answer any questions you may have.

Testimony of

Donald L. O'Hare
Vice President of the

World Shipping Council

on

Reduction of Air Pollution from Ships

and

Ballast Water Management

before the

Subcommittee on Coast Guard and Maritime Transportation

of the

House Committee on Transportation and Infrastructure

July 11, 2006

I. INTRODUCTION

Mr. Chairman and members of the Committee, thank you for the opportunity to testify before you today on these important environmental issues. My name is Donald O'Hare. I am Vice President of the World Shipping Council (the Council), a non-profit trade association representing international ocean carriers, established to address public policy issues of interest and importance to the international liner shipping industry. The Council's members include the full spectrum of ocean carriers, from large global operators to trade-specific niche carriers, offering container, roll-on/roll-off, car carrier and other international transportation services. They carry roughly 93% of the United States' imports and exports transported by the international liner shipping industry, or more than $500 billion worth of American foreign commerce each year. A list of our members is attached to my testimony.

The World Shipping Council and the Chamber of Shipping of America, also before you today, are both members of a large coalition representing all sectors of the maritime industry and maritime labor. For five years the coalition has been advocating ratification of the MARPOL Annex VI treaty regulating vessel air emissions and seeking an effective ballast water management system.

The 2004 report by the U.S. Commission on Ocean Policy raised the awareness level, both in government and the private sector, of the fragile nature of our oceans and coastlines. We applaud this Committee's leadership in dealing with these two issues of critical importance to the long-term wellbeing of those invaluable resources.

II. MARPOL ANNEX VI

Mr. Chairman, the shipping industry thanks you for holding the first congressional hearing on implementing legislation for the MARPOL Annex VI treaty which internationally regulates air emissions from large oceangoing ships. The Senate gave its advice and consent to ratification of the treaty this past April and it is appropriate that Congress enact the implementing legislation during this session.

Shipping is an inherently international business, with more than 30,000 vessels flying the flags of more than 100 countries and serving the commerce of virtually every nation in the world. International regulation of vessel air emissions is a critical and timely issue -- particularly here in the United States and in other major trading countries which host large numbers of vessels each year in their ports and waters. According to the U.S. Maritime Administration, commercial ships made more than 55,000 calls at U.S. ports last year. U.S. ratification of MARPOL Annex VI will be a major first step toward improving vessel air emissions and air quality at U.S. ports and in U.S. waters.

We would like to provide some brief background on MARPOL Annex VI for the Committee:

The treaty is the sixth annex to the International Convention for the Prevention of Pollution from Ships. It was adopted by the International Maritime Organization (IMO) in 1997 after five years of negotiation in which the United States played a leadership role. Annex VI sets limits on sulfur oxide (SOx) and nitrogen oxide (NOx) emissions from ship exhaust and prohibits deliberate emission of ozone deleting substances. The treaty also provides for the establishment, through the IMO, of Sulfur Emission Control Areas (SECAs) with stricter sulfur controls.

In order for the treaty to enter into force, 15 countries with at least 50 percent of world merchant tonnage needed to ratify. That threshold was met in May 2004 and the treaty entered into force in May 2005. This provided the incentive for other countries to ratify and, as of June 1 of this year, 35 countries with more than 70 percent of world tonnage are parties to the treaty, including most of the United States' major trading partners. A list of the parties is attached to my testimony.

Here in the United States, two important things happened regarding this issue in 2003:

- In January, the Environmental Protection Agency published a Final Rule establishing vessel air emission standards for U.S.-flag vessels. The standards mirrored Annex VI standards. The Rule also committed EPA to establish stricter standards for U.S.-flag ships by 2007 and to seek comment on its potential regulatory authority over non-U.S. flag ships at the same time. EPA also recognized in the Rule that the Administration was seeking ratification of Annex VI and that they (EPA) would work at the IMO to develop stricter standards that would be accepted and applied internationally to all ships.

- In May, the Bush Administration sent Annex VI to the Senate for its advice and consent. This was done with the full support and encouragement of the maritime industry. The Administration also began an interagency process to draft implementing legislation for the treaty.

These two efforts were not coincidental. The Administration recognized the need for an international solution to this issue.

It remains an open legal question as to the scope of EPA's authority to regulate engine emission standards for foreign-flag ships, which make over 95 percent of the international vessel calls at U.S. ports. Accordingly, if the United States wishes to have clear and certain legal authority over ships of all registries, and have a meaningful impact on air quality in our ports and waters, we must ratify MARPOL Annex VI.

A. MARPOL ANNEX VI RATIFICATION

As I stated earlier, the Senate gave its advice and consent to ratification of MARPOL Annex VI this past April. However, the Administration has made it clear that it will not deposit the U.S. instrument of ratification with the IMO until implementing legislation to amend U.S. law is enacted.

Work has begun at the IMO to develop stricter SOx and NOx standards and to regulate emission of Particulate Matter (PM) and Volatile Organic Compounds (VOC). While the United States is participating in that process, we will have no real influence over final decisions, and no vote for or against the new standards, unless the U.S. is a party to the treaty. This will not be good for the maritime industry or for the environment.

U.S. ratification of MARPOL Annex VI is essential to enable the United States to work with our trading partners, who have brought this treaty into force, to strengthen the treaty and establish meaningful international vessel air emission standards for the first time.

Mr. Chairman, we fully recognize that the current standards in Annex VI need to be updated in order to bring about meaningful improvement in vessel emissions. It is important for the U.S. government to be an effective participant in developing those new international standards, which can only happen if our trading partners know that we will implement them as a party to the treaty; and it will be considerably easier to implement and enforce new standards through this international instrument for the thousands of vessels of all flags calling at U.S. ports than through unilateral regulation.

B. ANNEX VI IMPLEMENTING LEGISLATION

The Council and our coalition partners have supported the Administration's draft implementing legislation for Annex VI which was sent to Congress last October. This draft was achieved after extensive interagency discussion and compromise. We have reviewed your Committee's proposed amendments to that draft bill, which primarily relate to agency jurisdiction, and are neutral on them. Our industry has consistently remained neutral on matters of government agency jurisdiction in environmental matters. Our concern, however, is that such jurisdictional issues could delay the enactment of this important legislation and thus the U.S. ratification of MARPOL Annex VI.

We urge the subcommittee to send this bill to the full Committee as soon as possible so that it may take action before the August recess. We believe it is important to leave time to resolve any differences which may exist between the House and Senate or between the Congress and the Administration so that the legislation can be enacted this year and U.S. ratification of the treaty can be completed.

United States ratification of MARPOL Annex VI will establish international air emission standards for all commercial vessels in U.S. ports and waters for the first time

and will provide a structure for early improvement of those standards with full U.S. participation. It will meet environmental objectives that are not achievable through unilateral regulatory action, such as the establishment, through the IMO, of Sulfur Emission Control Areas in U.S. waters. It will regulate the maritime industry in a uniform, consistent manner regardless of a ship's registry. And it will reestablish U.S. leadership in international marine environmental matters.

III. BALLAST WATER

A. General Comments

The Council and the other members of the Shipping Industry Ballast Water Coalition strongly support a single, federal standard to govern ballast water discharges in order to avoid a patchwork of overlapping and conflicting federal and state programs. We support the implementation of the standards and framework contained in the IMO's International Convention for the Control and Management of Ships' Ballast Water and Sediments (IMO Convention), which is not yet in force. The United States and other countries are presently reviewing the Convention, with the goal of ratification and enactment of the necessary domestic implementing legislation. The Council's ultimate objective is to establish a reasonable international standard for ballast water management and treatment, with an appropriate review for technical feasibility and with a reasonable implementation regime.

In addition, of the several pending ballast water bills in Congress, the Ballast Water Management Act of 2005 (S. 363), currently being considered by the Senate, contains many provisions similar to and consistent with the basic structure of the IMO Convention. The Council and our ballast water coalition partners have expressed our support for the passage of S.363 in the Senate, in the hope that it would facilitate both houses of Congress agreeing on a mutually acceptable bill this year.

The federal government has long been interested in this issue, beginning with the National Aquatic Nuisance Pollution Control Act, as amended by the National Invasive Species Act of 1990, which mandated the creation of a broad multi-agency Aquatic Nuisance Species (ANS) Task Force, and designated the Coast Guard as the lead federal agency to address the problems surrounding the introduction of ANS through ballast water discharges. Acting on its own initiative, and in concert with other federal and state agencies and cooperative arrangements, the Coast Guard mandated a system of open-ocean ballast water exchange for all vessels, including those not traveling beyond the Exclusive Economic Zone. Currently, absent a technological breakthrough, the Coast Guard has been active in this field and has done what it can to address this issue with mid-ocean exchange.

However, other than mid-ocean ballast water exchange, already mandated by Coast Guard regulation, there are currently no proven environmentally sound methods of removing ANS from ballast water. The majority of ballast water treatment options are currently under development and can only be considered potentially available in the

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B. Comments on the Ballast Water Management Act of 2006

We commend the Committee for its leadership and interest in ballast water and aquatic nuisance species. We can provide the Committee staff with detailed section-by-section comments at a later time, and hope the following more general comments on the draft legislation will be helpful.

Section 4(b). National Regulations: We commend the Committee for including a "no deviation" clause.

Section 7. National Ballast Water Discharge Standards: The Council generally supports this most-important section of the proposed bill. First, the Council endorses the technology review process contained in paragraph (a). Second, the Council concurs with the Committee's benchmark review standard and the basic review criteria contained in paragraph (b). Third, the Council applauds the language contained in paragraph (f) regarding existing equipment and the ability for it to remain on board for the shorter of the life of the equipment or vessel. Fourth, we support the coastwise trade limitation found in paragraph (h)(2).

One suggested change would be to bring some of the other legislative text into closer alignment with the IMO Convention, particularly in regard to sections on distinctions between vessels (paragraph (b)(1)(B)), additional standards (paragraph (c)) and applicability of standards (paragraph (h)). The Committee may also wish to consider adopting the discharge standard contained in the IMO Convention. This, of course, could be done during the regulatory process, but the Council suggests it be clarified here to avoid any unnecessary later confusion.

One larger issue is the absence of either state or Clean Water Act preemption language. The purpose of this language should be to clearly establish a single, national standard and an exclusive source for regulation. The Council suggests that language be inserted in Section 7 to make clear that this legislation supersedes any state law regarding ballast water and that this legislation is the sole federal law regarding the regulation of ballast water. It should be clearly drafted, while still protecting the rights of states to enforce their own penalty regimes should they wish to do so, so long as they too are consistent with the federal regime.

IV. CONCLUSION

We thank the Committee for the opportunity to present our views on vessel air emissions and ballast water management, and again commend the Committee for its leadership on these two important marine environmental issues.

Member Companies of the World Shipping Council

APL
A.P. Møller-Maersk (including Maersk Line and Safmarine)
Atlantic Container Line (ACL)
China Ocean Shipping Company (COSCO)
China Shipping Group
CMA-CGM Group
Compania Sud-Americana de Vapores (CSAV)
Crowley Maritime Corporation
Dole Ocean Cargo Express
Evergreen Marine Corporation (including Italia Marittima and Hatsu Marine)
Great White Fleet
Hamburg Sud (including Alianca)
Hanjin Shipping Company
Hapag-Lloyd Container Line (including CP Ships)
Höegh Autoliners, Inc. (formerly HUAL North America, Inc.)
Hyundai Merchant Marine Company
Kawasaki Kisen Kaisha Ltd. (K Line)
Malaysia International Shipping Corporation (MISC)
Mediterranean Shipping Company (MSC)
Mitsui O.S.K. Lines
NYK Line
Orient Overseas Container Line, Lt. (OOCL)
United Arab Shipping Company
Wan Hai Lines Ltd.
Wallenius Wilhelmsen Logistics
Yangming Marine Transport Corporation
Zim Integrated Shipping Services, Ltd

ANNEX VI RATIFICATIONS

IMO member states having ratified MARPOL Annex VI as of June 1, 2006

35 countries representing 70.53 percent of world merchant tonnage

Azerbaijan	Lithuania
Bahamas	Luxembourg
Bangladesh	Marshall Islands
Barbados	Norway
Belgium	Panama
Bulgaria	Poland
China	Saint Kitts and Nevis
Croatia	Samoa
Cyprus	Saudi Arabia
Denmark	Singapore
Estonia	Slovenia
Finland	South Korea
France	Spain
Greece	Sweden
Germany	Tuvalu
Italy	United Kingdom
Japan	Vanuatu
Liberia	

U. S. Department of Homeland Security
United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street, S.W.
Washington, DC 20593-0001
Staff Symbol: G-ICA
Phone: (202) 366-4280
FAX: (202) 366-7124

DEPARTMENT OF HOMELAND SECURITY

UNITED STATES COAST GUARD

STATEMENT OF

REAR ADMIRAL BRIAN SALERNO

ON

**AIR POLLUTION FROM SHIPS (MARPOL ANNEX VI)
AND BALLAST WATER MANAGEMENT**

BEFORE THE

**SUBCOMMITTEE ON COAST GUARD AND MARITIME
TRANSPORTATION**

U.S. HOUSE OF REPRESENTATIVES

July 11, 2006

Good morning Mister Chairman and distinguished Members of the Subcommittee. I am RDML Brian M. Salerno, Director of Inspections and Compliance at U.S. Coast Guard Headquarters. It is my pleasure to appear before you today to provide the Coast Guard's views on air pollution reduction from ships and ballast water management (BWM).

I would like to comment first on air pollution from ships.

In May 2005, Annex VI to the International Convention for the Prevention of Pollution from Ships, otherwise known as Annex VI to MARPOL 73/78, entered into force. At present, the United States is not yet a party to Annex VI. Annex VI addresses various aspects of air pollution from all ships including: limits in emissions of nitrogen oxides (NOx) from engines installed on or after January 2000; sulphur oxides (SOx) emissions; fuel quality of fuel consumed on ships; prohibition of new installations of equipment that use ozone depleting substances; design and operation of incinerators used on ships for managing ship-generated wastes; and adequacy of reception facilities to receive those specified wastes in Annex VI.

The Coast Guard played a leading role in the development and adoption of Annex VI at the International Maritime Organization (IMO). Additionally, the Coast Guard, Environmental Protection Agency, Department of State, Maritime Administration, National Oceanic and Atmospheric Administration, U.S. Navy, Minerals Management Service, and Department of Justice worked closely together through the interagency process to ensure that concerns and issues of interest to the United States were addressed. We are at the initial stage of working with the Environmental Protection Agency to ensure seamless development and deployment of the ensuing regulations to the maritime industry once implementing legislation have been enacted.

Annex VI represents the first time that air pollution and air quality issues from ships have been regulated internationally and creates a benchmark to build from as IMO parties seek to improve its effectiveness at reducing ship-source air pollution. In fact, IMO began efforts in July 2005 to consider such revisions to Annex VI. Issues currently under consideration include: more stringent limitations on NOx emissions from both new and existing engines; control of particulate matter (PM) from both new and existing marine engines; lowering of sulphur content levels in fuels; and control of emissions of volatile organic compounds (VOC) from cargoes during transit. United States ratification of Annex VI is extremely important to furthering our interests during the revision process at IMO. We are working to put into place implementing legislation which is one of the final remaining major steps towards ratification of Annex VI.

I would now like to comment on ballast water management.

The Coast Guard shares this Committee's concern with the significant environmental and economic damage that has been caused by aquatic invasive species introduced via the operations of vessels. While the United States has been a leader in international efforts to address this issue and we have made significant progress domestically, there is no question that the current legislative framework needs to be upgraded to move us to a greater level of protection. We are committed to working with Congress to identify actions that will substantially reduce the potential for damaging invasions through the ship pathway. We believe that aquatic invasive species present a complex national problem, which requires a comprehensive national solution and we are working diligently to provide that solution.

Initially in 1993, the Coast Guard implemented a ballast water management approach, which was mandatory for the Great Lakes. This was followed by a progression of voluntary and compulsory enhancements to the scheme, consistent with the authorities provided to us by Congress. In 2002, the

Coast Guard concluded that compliance was inadequate, and in July 2004 issued mandatory regulations for BWM and fouling management. The Coast Guard's BWM requirements apply to all vessels equipped with ballast tanks entering from outside the U.S. Exclusive Economic Zone, or EEZ, with the exception of DOD and Coast Guard vessels. Such vessels with ballast water aboard must conduct at least one of the following BWM practices: ballast water exchange; retain the ballast water on board; or use a USCG approved alternative BWM method. For non-Great Lakes waters there are safety exemptions and no requirement to divert or delay. Importantly, the existing authority does not directly cover vessels that carry ballast water between ports or places of the U.S. during voyages within the EEZ. These domestic, or coastwise, voyages have the potential to move organisms to other regions of the U.S. where they do not naturally occur.

Coast Guard Boarding Officers, Port State Security Officers and Marine Inspectors conduct BWM Examinations in conjunction with other regularly scheduled major marine examinations and commercial vessel inspections to verify compliance with the mandatory BWM practices. Since October 2004 over 10,000 BWM Examinations have been conducted by the Coast Guard, and the rate of examinations has continually increased. Over 6,300 BWM exams were conducted in 2005, representing an 82% increase from 2004, and a 145% increase since 2003.

The U.S. Government has determined that a discharge standard for ballast water is the most expedient approach to approving appropriate technologies for use on board vessels in lieu of conducting ballast water exchange and it supports the stringent standard set forth in S. 363.

In conjunction with the discharge standard, the Coast Guard is also developing draft test procedures for approving BWM systems in partnership with EPA; validating and refining the procedures with assistance from the Naval Research Laboratory; and assisting NOAA to facilitate the testing and demonstration of practicable and effective shipboard ballast water management methods. In January 2004, the Coast Guard initiated the Shipboard Technology Evaluation Program (STEP) as an incentive to ship-owners and operators to install and operate alternative BWM systems aboard vessels.

In February 2004, the International Maritime Organization adopted the International Convention for the Control and Management of Ships' Ballast Water and Sediments, a significant step forward in the global effort to combat aquatic invasive species. The Coast Guard-led U.S. delegation played a major role in developing the Convention's basic structure and ensuring that a number of key objectives were included in the treaty. The Convention calls for ships to meet a concentration-based ballast water discharge standard according to a schedule of fixed dates, beginning with certain ships constructed in 2009. While the United States supports the structure and format of the ballast water management discharge standard in the IMO treaty, the U.S. negotiating position was for a much more stringent standard than is now in the treaty. These requirements signal the need for investment, purchase plans, and equipment inventory to both the shipping and ballast water treatment industries. The convention would also require the phasing out of ballast water exchange, provide for the shipboard testing of prototype ballast water treatment systems in a manner consistent with STEP, and allow the sampling of ballast water from ships by Port State control authorities to evaluate compliance. Although the ballast water discharge standards contained in the treaty are not as stringent as the U.S. had sought during negotiations, at U.S. insistence, the treaty preserves the ability of Parties to set more protective standards to better safeguard their waters against invasions. Because the structure and basic approach of the Convention in many respects reflect successful accomplishment of the United States' negotiating goals, we generally believe its basic framework and approach could serve as a useful pattern when considering further development of domestic legislation.

For the Great Lakes specifically, there is justified concern regarding vessels that enter the lakes fully loaded with cargo, declaring No Ballast on Board (thus referred to as NOBOB vessels). The Great Lakes ballast water regulations remain the most stringent in the world for restricting the discharge of unmanaged ballast water. Unpumpable residual freshwater and sediments in the ballast tanks of some NOBOB vessels pose a risk of introductions of freshwater invasive species into the Great Lakes as these vessels take on and discharge ballast during cargo operations. In August 2005, after considering short-term and long-term strategies, the Coast Guard announced a new policy that encourages vessels that may enter the Great Lakes as NOBOBs to conduct specific best management practices whenever possible. The Coast Guard and Transport Canada are cooperatively examining the degree to which the industry is able to conduct these practices and their efficacy in reducing the risks of introducing aquatic invasive species (AIS). Initial indications are that a large proportion of NOBOB vessels are conducting the practices, such that most are arriving with tanks containing either too little water to sample or with high salinity residual water. Until approved alternative BWM methods are available, consistent application of these practices should result in a significant reduction in the risk of introducing ANS.

Comments on the Ballast Water Management Act

At this time, the Administration has not formed official views on the discussion draft. The Departments of Commerce, Defense, Homeland Security, Justice, State, and Transportation, the Environmental Protection Agency, and others are currently reviewing the document. The comments that follow represent the Administration's preliminary, informal views on the discussion draft. The Administration appreciates the Subcommittee's efforts to address the ballast water issue and stands ready to work with the Subcommittee to ensure the bill's progress. The Administration will provide detailed official views in the near future.

While preferring full reauthorization of the Nonindigenous Aquatic Nuisance Prevention and Control Act, the Administration is willing to work with drafters to focus on ballast water, given that it is an immediate, pervasive, and well-known vector for introduction of invasive aquatic species. However, there are major concerns with the discussion draft. The International Maritime Organization (IMO) has agreed to the text for an International Convention for the Control and Management of Ships' Ballast Water and Sediment (Convention), and because of the international nature of shipping, the Administration believes that the approach taken in domestic legislation must be compatible with the structure and framework of the international provisions. S. 363 closely tracks the approach in the Convention, and the Administration is willing to support the approach taken in S. 363 if modifications are made. We strongly recommend the Subcommittee consider this approach as well.

At this time, the Administration would like to highlight some, but not all, concerns with the discussion draft:

- A number of provisions in the discussion draft are problematic and could actually delay reaching the goal of effective ballast water management. Proposed section 1102(h) requires surveys on the number of organisms in untreated ballast water and in exchanged ballast water. Several surveys have already been conducted in both of these areas, and results are available in published literature. Under the Convention, discharge standards are applicable to some vessels on which construction is initiated after January 1, 2009. With a 36-month deadline for review of alternative ballast water management methods before domestic standards would be proposed, proposed section 1105 makes it unlikely that the shipbuilding industry will have adequate lead time to meet that date.

- Even though the U.S. Government proposed a more stringent discharge standard at the diplomatic conference that drafted the Convention, the standard specified in the discussion draft is weaker

than the IMO standard. The discussion draft only explicitly requires regulation setting the upper standard of 10 viable organisms greater than or equal to 50 micrometers per cubic meter of water ((Sec. 6 of the draft bill setting forth a new Sec. 1104(a)(4)), while the Convention has a standard that includes organisms between 10 and 50 micrometers and standards for pathogens (Regulation D-2). Organisms in the smaller size category include dinoflagellates that cause harmful algal blooms. In both Australia and France, harmful algal blooms have been caused by organisms introduced in ballast water. The Department of Commerce previously testified that it had concerns with even the IMO standard, since it allowed so many organisms that technically constitute a "harmful algal bloom" by the definition used to shut down shellfish beds. In general terms, the Administration prefers to see a standard that would encourage development of new technologies rather than being based on currently available technology – i.e., fewer organisms per cubic meter of water.

- Also of concern is the exemption from regulations provided to participants of STEP (Sec. 6 of the draft bill setting forth a new Sec. 1104(a)(4)). In particular, the Administration is concerned with the scope and timing of how exemptions for STEP systems would operate. S. 363 includes a more targeted exemption for STEP participants with a defined time limit, which the Administration supports.

- The Administration is concerned that the discussion draft would change the nature of our Ballast Water Management Demonstration program. Most of the projects funded to date have involved controlled experiments at laboratory or pilot scale so that basic research could be conducted leading to development of alternative technologies that would be effective and practicable when used on board ships. One of the objectives of the demonstration program has been to facilitate the availability of shipboard systems eligible for inclusion in the U.S. Coast Guard Shipboard Technology Evaluation Program (STEP). Although NOAA already has indicated that it would give priority to projects approved for the STEP program, the discussion draft would restrict projects only to the STEP program when one of the priorities should be development and testing of new technologies at the research and development stages prior that which could be used in the STEP program. The current program has the flexibility to focus resources on shipboard tests, either within or separate from STEP, as circumstances warrant. The Administration also is concerned that the interagency cooperative nature of the current program would be changed. NANPCA currently provides that the Ballast Water Management Demonstration program is to be a joint effort of both the Department of Commerce and the Department of the Interior. The U.S. Fish and Wildlife Service (FWS) has made a significant contribution to the program. In addition, even though there is no statutory mandate to do so, the Maritime Administration (MARAD) of the Department of Transportation has become a key partner in this program. NOAA, FWS, and MARAD currently put out a joint request for proposals and conduct a joint peer review of the proposals received. NOAA believes that the program is a good example of how different agencies can work together to reach a common goal.

- The discussion draft would exempt vessels engaged in coastwise trade (within the EEZ) from the requirement to meet the discharge standard. This would greatly compromise the protectiveness of the resulting regulatory regime, as coastwise vessels would then facilitate the dispersal of harmful aquatic organisms introduced by other pathways.

- Additional technical concerns have been raised and will be discussed when the Administration provides its comprehensive views.

Thank you for the opportunity to provide comments on both air pollution reduction from ships and ballast water management. The Coast Guard looks forward to working with Congress as we continue our ongoing efforts to safeguard the maritime environment. I will be happy to answer any questions you may have.

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