

end of a remarkable stretch of public service that will leave an indelible mark on our society.

October 29, 1998, marks a triumphant day for our nation when Senator GLENN returns to space aboard the Space Shuttle Discovery. Nearly 37 years after his initial trip into space, he will again represent his country and our state as a member of Discovery Mission STS-95. As he prepares for his upcoming mission, the Members of the Ohio delegation wish salute to the Senator from Ohio. As he prepares for the upcoming mission, we salute the Senator and native of New Concord, Ohio. Godspeed, JOHN GLENN.

IN HONOR OF MICHAEL
MARCELLINO

HON. DENNIS J. KUCINICH

OF OHIO

IN THE HOUSE OF REPRESENTATIVES

Thursday, October 8, 1998

Mr. KUCINICH. Mr. Speaker, I rise today to honor Michael Marcellino. Michael Marcellino served as a United States Army combat correspondent in the Vietnam War from 1967 to 1968. After his honorable discharge from the service, he worked for 13 years as a newspaper reporter in Northeast Ohio with the Painesville Telegraph and the Sun Newspapers.

While at Sun Newspapers, Marcellino received two national awards for excellence in reporting—the Suburban Newspapers of America Award for Investigative Journalism and the national Newspaper Association's Community Service Award. His reporting included Veterans' affairs, government and politics.

From 1983–1987, Marcellino served on the Cleveland staff of Congressman Louis Stokes. As Community Relations Specialist, his work included advocacy for community, veterans and human rights issues. He was appointed Press Secretary to Mayor-elect Michael R. White in 1989. During nearly nine years with the White Administration, Marcellino also served as Liaison for Veterans and Military Affairs to Mayor White and Manager of Marketing for the City of Cleveland's Department of Public Utilities.

Marcellino is presently a writer and public relations consultant. He is a founding board member of the Greater Cleveland Veterans Business Resource Council and a member of the Veterans of Foreign Wars and the American Legion.

He attended Cleveland and Parma Public Schools and Wake Forest University. Marcellino and his wife, Laurie, a restaurant owner, have three children, Sean, Rachael, and Ari.

FISHERIES STOCK ENHANCEMENT

HON. DAN MILLER

OF FLORIDA

IN THE HOUSE OF REPRESENTATIVES

Thursday, October 8, 1998

Mr. MILLER of Florida. Mr. Speaker, as a leader in the field of fisheries stock enhancement, Mote Marine Laboratories was highlighted recently in an article from Fly Fishing

in Saltwater magazine. Mote Marine is located in Sarasota, Florida which is in the 13th District of Florida and provides innumerable benefits to our environment and my constituents. I am pleased therefore to enter this article recognizing Mote Marine's importance into the CONGRESSIONAL RECORD.

[From Fly Fishing in Saltwater, Sept./Oct. 1998]

SNOOK FOR THE MASSES—MARINE FISHERIES STOCK ENHANCEMENT MAY BE IN OUR FUTURE
(By Don Phillips)

On January 10, 1998, Steve Serfling and Todd Hershfield went fishing for snook in Sarasota Bay, Florida. In two hours they caught and released four snook on the fly.

That was no surprise because they were fishing an area where the Mote Marine Laboratory had earlier released small snook as part of an experimental stock-enhancement program. Serfling is director of Mote's aquaculture program and Hershfield works in the laboratory and their January trip was one of four the two had made to find out how the stocked snook were integrating with the natural population. Nice work if you can get it!

As of February this year, the Mote Laboratory had stocked 12,000 juvenile snook in eight different areas of Sarasota Bay, the Braden River, and several areas of Tampa Bay. The results have been most encouraging. Of 18 snook caught during Todd and Hershfield's four trips, half were from Mote's Aquaculture facility (their origin was readily determined by a miniature red marker implanted in the snook shortly before their release).

The laboratory and its partner, Florida's Department of Environmental Protection, are delighted. The stocked fish seem to have integrated well into the natural population and their growth, appearance, health, and behavior mirrors that of their wild cousins.

Actually, that shouldn't be too surprising; the stocked snook were raised from eggs and milt removed from wild snook netted from and released back into the same areas.

When I heard about the stocking program I made arrangements to visit Mote's aquaculture facility on City Island in Sarasota to find out more. Previous experience with freshwater and anadromous fish stocking programs had not left me exactly impressed with this method of fisheries enhancement. "Put-and-take" fishing mentality, genetic deterioration, diseases, and pollution are just some of the problems associated with hatchery programs. So it was with a fair amount of skepticism that I planned my visit.

But after touring the facility with Serfling I was impressed with the technical sophistication of Mote's approach. The lab has paid close attention to every detail of the snook's early life in an effort to duplicate its natural environment.

"We start with wild eggs and milt," Serfling said. "The fertilized eggs hatch into larvae that develop over a two-day period on their own yoke sacs. During these two days they develop eyes, mouths, and a digestive system, so they can feed. Then the larvae are fed microalgae and zooplankton cultured in our own hatchery, duplicating their natural food at this stage in their life.

"Pellet feeding begins after about four weeks, at the point when the fingerlings require larger food sizes. Cannibalism is a major problem with carnivorous fish like snook, because they instinctively prefer to each fish from day 20 onward. But they cannot be size-graded and separated to reduce cannibalism until around day 40, because the larvae and fry stages are too delicate to handle.

"A few days before stocking the snook are also fed live minnows, to reinforce their nat-

ural instinct to chase and eat swimming prey. Their immediate predatory behavior suggests that this instinct is alive and well."

The heart of the aquaculture facility is a closed-cycle water system that controls water salinity, temperature, pH, oxygen content, and turbidity. Waste products are treated and recycled. Only a very small amount of fresh water or filtered seawater is added weekly to replenish losses and adjust salinity.

This closed-cycle approach insulates the system from undesirable environmental phenomena such as red tide or periods of exceedingly cold temperature, significantly increasing survival of the young snook.

The aquaculture facility also uses cylindrical shaped tanks to minimize collision trauma among the fish. When the fish are large enough, size grading is done periodically to minimize cannibalism.

"We have now progressed to the point where 10 percent of our larvae survive to the 5- or 6-inch size range in six months," Serfling said, "This is quite impressive when compared with an equivalent 0.0005 percent rate for wild fish under favorable environmental conditions." The survival percentage is expected to increase even more as the laboratory learns more about young snook.

Mote also is raising Gulf and short-nosed sturgeon and has plans to include pompano, flounder and snapper in its program. Funding is through the William R. Mote Scientific Foundation.

After touring the facility I met with Dr. Ken Leber, Mote's senior scientist and director of fisheries and aquaculture research, and Dr. John Miller, professor of fisheries and oceanography at North Carolina State University who is a visiting scientist at the Mote Laboratory. Both were enthusiastic about the stocking program, but both also were candid about the hurdles still to be overcome.

Leber said the laboratory is prepared to continue the program up to and including full-scale hatchery releases, if appropriate federal and state support is obtained. But he added that a lot of research is still needed to understand the many variables of stock enhancement and to determine its economic viability as a fishery management tool.

"What, when, and where to stock are questions needing definitive answers," he said. For example, economic considerations might suggest stocking lots of fingerlings, but high initial predation rates could make this approach penny-wise and pound-foolish.

Similarly, stocking excessive numbers of fish could upset the balance of local ecosystems by adding too many predators or displacing wild stocks.

Determining the best season for stocking also is important so new residents have the best chance for acclimatization and survival.

Yet another consideration is finding the best places for stocking. Those places must provide immediate sanctuary and food. Thermal refuges may be particularly important to minimize mortality due to high or low water temperatures.

Leber and his staff are studying these questions by assessing current populations, performing stocking experiments, then evaluating the new populations.

Similar efforts are going on elsewhere around the world, with researchers sharing the results. Recently, Mote joined forces with research activities in Hawaii, Mississippi, and Florida (the Florida Marine Fisheries Research Institute) to address stock enhancement on a large scale. This multi-million dollar effort, sponsored by the federal government, is likely to draw in other research activities, especially from the Gulf States.

"Since the 1950s, the focus of marine fisheries management has concentrated on