Research Projects Funded Through NOAA's National Marine Aquaculture Initiative (NMAI)

In 2004, with $700,000 for competitive grants, NMAI funded projects to:

- Study the environmental and technical aspects of cage and bag-on-bottom, bag-on-rack and bottom-suspended oyster and clam culture in the Pacific Northwest, led by local shellfish growers, the Pacific Shellfish Institute, the Pacific Coast Shellfish Growers Association, the Connecticut Sea Grant Extension Program, the Massachusetts Institute of Technology and the Virginia Institute of Marine Science
- Demonstrate high rate algal systems for sustainable marine bivalve seed and shrimp co-production led by Clemson University in South Carolina
- Demonstrate hatchery and offshore grow out technology for production of cobia and Florida pompano, led by researchers at the University of Miami, and in Puerto Rico, the Bahamas and Brazil
- Monitor the carrying capacity of the offshore environment in Hawaii based on a scaled-up version of the Hawaii offshore aquaculture research project, led by the University of Hawaii and Cates International
- Measure the environmental impact, the benthic loading and the benthic impact from an open-ocean fish farm in the tropical waters of Puerto Rico and Florida, led by the University of Puerto Rico, the University of Miami and NOAA Fisheries Service
- Identify and measure the extent of the colonizing plants and animals that create a unique floating reef habitat for organisms at marine finfish farms in the Pacific Northwest, led by local researchers

In 2002 and 2001, with $8.2 million for competitive grants, NMAI funded projects to:

- Develop an integrated approach to the development of cobia culture in the United States, led by Virginia Institute of Marine Science, University of Texas, University of Southern Mississippi, Southland Fisheries Corporation, the South Carolina Department of Natural Resources and Fins Technology
- Develop spawning, nursery and juvenile production techniques for commercialization of black sea bass aquaculture, led by South Carolina Marine Resources Research, University of New Hampshire, Clemson University, University of North Carolina, Texas A&M University, NOAA Ocean Service, Waddell Mariculture Center, South Carolina Sea Grant Extension, Southland Fisheries, Swimming Rock Fish and Shrimp Company and Great Bay Aquafarms Inc.
- Use sable fish to create a technical base for marine fish aquaculture in the Pacific Northwest, led by NOAA Northwest Fisheries Science Center, University of Washington, Makah Tribal Fisheries, Spar Technologies, Supreme Alaskan Seafoods and the Aquaseed Corporation

National Marine Aquaculture Initiative 2002 and 2001, cont'd …

- Develop hatchery production of mutton snapper and other high value marine food fish, led by University of Miami, Florida International University, North Carolina State University, Southland Fisheries Corporation, University of Miami, Florida Keys Community College and several private consultants
- Develop methods for the production of effective micro-particulate feeds for marine fish larvae, led by Oregon State University, NOAA Northwest Fisheries Science Center and the U.S. Fish and Wildlife Service
- Develop large-scale rearing methods for the continuous culture of marine copepods, led by North Carolina State University, Great Bay Aquafarms and USDA/Agriculture Research Service
- Develop a novel and rapid approach for development of aquaculture vaccines, led by Kent Sea Tech and the University of California
- Develop a National Aquatic Animal Health Plan for the U.S. Exclusive Economic Zone, led by NOAA Fisheries Service and the Washington Department of Fish and Wildlife
- Determine dietary requirements for cultured summer flounder for enhancement of aquaculture potential, led by Virginia Tech, Virginia Seafood Agricultural Research and Extension Center and Virginia Tech's Veterinary School
- Produce a best management practices manual for aquaculture in Wisconsin and the Great Lakes region, led by University of Wisconsin, Wisconsin Aquaculture Association, Wisconsin Department of Natural Resources, Wisconsin Department of Agriculture and the Milwaukee Public Museum
- Develop an ocean resource information system for Massachusetts (MORIS), led by Massachusetts Office of Coastal Zone Management, Massachusetts Department of Food and Agriculture, Woods Hole Sea Grant and the Massachusetts Division of Fisheries
- Develop a methodology for sustainable offshore aquaculture in the Gulf of Mexico, led by University of Southern Mississippi, Texas A&M University, Massachusetts Institute of Technology, Mississippi State University, NOAA Fisheries Service, Ocean Spar Technologies, Land of Lakes Farmland Feed, Good Streak Marine, Mississippi/Alabama Sea Grant, Auburn University, University of Kiel, and Texas Parks and Wildlife
- Develop offshore finfish aquaculture in the Western Strait of Juan de Fuca in Washington State, led by Washington Sea Grant Program, Rensel Associates, Battelle Marine Science Lab, University of Southern California, Bellweather Consulting, Washington Fish Growers Association, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Fish and Wildlife, Makah Tribal Nation and several private consultants
- Continue the Hawaii offshore aquaculture research Project (HOARP), led by University of Hawaii, Oceanic Institute and Cates International

National Marine Aquaculture Initiative 2002 and 2001, cont'd …

- Study the ecological characteristics and carrying capacity of suspended shellfish culture systems, led by Pacific Shellfish Institute, Taylor Resources, Inc., Aquatic Environmental Science Lab, University of Washington and Northwest Research Associates
- Improve recovery and utilization of seafood processing waste and bycatch in aquafeeds to enhance the substainability of aquaculture, led by Texas A&M University, Hagerman Fish Culture Experiment Station at the University of Idaho, NOAA Fisheries Service Alaska Office and Texas Sea Grant Extension
- Quantify impacts of clam culture on adjacent communities, led by the Florida Department of Agriculture and Consumer Services
- Clarify marine aquaculture legal rights and improve the legal interest framework, led by University of Maine Law School
- Adapt and demonstrate a prototype aquaculture system for high rate sustainable marine shrimp and bivalve production, led by Clemson University and Atlantic Aquafarms
- Develop an integrated recirculating aquaculture system for urban aquaculture, led by University of Connecticut, State University of New York, University of New Brunswick, University of New Hampshire, Great Bay Aquafarms and the Bridgeport Regional Vocational School
- Study the environmental impact of sustainable offshore cage culture production in waters off Puerto Rico, led by Puerto Rican Commercial Aquaculture Research and Development Center and the University of Miami
- Develop and test an operational framework for offshore aquaculture in conjunction with stakeholders at national and regional levels, led by University of Delaware, NOAA Fisheries Service, State of Hawaii, South Carolina Sea Grant, Delaware Aquaculture Resource Center, Sea Grant Law Center, Policy Center for Marine Bioscience and Technology at the University of Massachusetts, Coastal States Organization, Texas Sea Grant, Moonstone Oysters, Sea Web and several private consultants
- Apply Geographic Information System (GIS) technology to offshore aquaculture siting in the U.S. in the Caribbean and Florida, led by University of Miami, NOAA Fisheries Service, Florida Department of Agriculture, DNER/Marine Resources Division and Puerto Rico's Coastal Zone Program

In 2000, with $800,000 for competitive grants, NMAI funded projects to:

- Develop model codes of practice for environmentally responsible aquaculture led by a local grower, Maine Department of Marine Resources and the Maine Aquaculture Innovation Center
- Improve the regulatory framework for regional planning and economic decision-making for marine aquaculture, led by Woods Hole Oceanographic Institution
- Understand the barriers to the development of sustainable marine aquaculture, led by the University of Massachusetts
- Further national marine recirculating aquaculture, led by Virginia Polytechnic Institute
- Identify and mitigate the legal and regulatory hurdles to offshore aquaculture in the Gulf of Mexico, led by Texas, Louisiana and Mississippi-Alabama Sea Grant
- Develop environmental codes of practice for the Pacific shellfish industry, led by the Pacific Coast Shellfish Growers' Association and a local grower
- Develop a code of conduct for net-pen salmon farming in the Northwest, led by the Washington Fishgrowers' Association and NOAA Fisheries Service
- Strengthen aquaculture planning and coordination in the Pacific Northwest and Alaska, led by the Pacific Aquaculture Caucus
- Evaluate potential open ocean aquaculture sites in Hawaii using GIS and regulatory processes, led by the University of Hawaii
- Develop a framework for addressing state/federal aquaculture activities, led by the Atlantic States Marine Fisheries Commission

In 1999, with $800,000 for competitive grants, NMAI funded projects to:

- Develop a policy framework for offshore marine aquaculture in U.S. Federal waters, led by the University of Delaware
- Reduce the risk of open-ocean aquaculture facilities to protected species, led by Woods Hole Oceanographic Institution
- Develop a process for successful captive culture of cobia, led by the Virginia Institute of Marine Science
- Develop hatchery technology for commercial tropical marine fish offshore aquaculture in the Gulf of Mexico and the Caribbean focused on mutton snapper and greater amberjack, led by the University of Miami
- Conduct biological engineering, environmental and legal research for the development of offshore cage aquaculture in the Gulf of Mexico, led by Mississippi-Alabama Sea Grant Consortium, Texas Sea Grant College Program, and the Massachusetts Institute of Technology Sea Grant College Program

National Marine Aquaculture Initiative 1999, cont'd …

- Establish commercial production of pompano through the use of modern marine recirculating technologies, led by Louisiana State University's Aquaculture Research Station and the Louisiana Universities Marine Consortium
- Continue the offshore aquaculture demonstration project in Hawaii, led by University of Hawaii and Cates International
- Enhance hard clam aquaculture along the Atlantic coast trough the development and introduction of triploid technology, led by Rutgers University's Haskin Shellfish Research Laboratory
- Reduce negative impacts to wild resources and aquaculture stocks by controlling the risk of viral disease transfer in shrimp aquaculture production and processing facilities, led by the Virginia Seafood Agricultural Research and Extension Center
- Develop scallop aquaculture technology as a viable alternative for fishermen who have been displaced by Florida's net ban, led by the University of South Florida and the Florida Sea Grant Extension Program
- Advance hatchery-release technology to replenish bay scallop populations on the West Coast of Florida, and to test the relative efficiency of cage vs. free-planting cultured scallops in the field, led by Mote Marine Laboratory
- Breed, develop and rear a domesticated, specific-pathogen-free line of shrimp for aquaculture in the U.S., led by the University of Arizona and the University of Texas, in cooperation with the Yellow Sea Marine Fisheries Research Institute in Qingdao, China
- Improve the competitiveness of shrimp aquaculture in the U.S. by developing a technology to combat the infectious diseases that plague the industry, led by the University of California Department of Pediatrics and the shrimp industry
- Implement a virtual clearinghouse for information on aquaculture, led by Illinois-Indiana Sea Grant College Program, the Sea Grant Marine Advisory Service at the University of Delaware, and the Maryland Sea Grant College Program
- Develop and demonstrate hatchery and nursery techniques for the production of larval and juvenile black sea bass to make aquaculture of this species commercially viable, led by the South Carolina Sea Grant Consortium