New York Sea Grant's 40 Years of Great Lakes Research

1971 Dr. Kenton Stewart (Buffalo) studied isotherms under Lake Erie ice. Results helped boost commerce by extending the Lake's navigational season

1972 Starting in the 1970s Dr. Phil Liu (Cornell) worked on breakwater technology to aid public access to Lake Erie. Now his models are used the world over

1973 Dr. D. Price (Cornell) looked at the beneficial uses of heated effluent from power plants

1975 Dr. D. Cox (Oswego) investigated how filamentous algae (*Cladophora*) negatively impacted water quality

1987 Dr. Joseph Buttner (Brockport) studied walleye management and helped Native Americans stock perch

1989 Dr. H. Sikka (Buffalo) examined uptake by Lake Erie rainbow trout of PBDE contaminants that come from manufacturing flame retardants

In the 1990s NYSG was a pioneer in mitigating the spread of invasive species and received national Sea Grant funding for the National Aquatic Nuisance Species Clearinghouse

1990 Dr. Howard Riessen (Buffalo State) studied the seasonal and spatial distribution of zebra mussel veligers during their initial colonization in eastern Lake Erie

1971 Dr. J. Scott (Albany) studied the impact of waste heat disposal in Lake Ontario

1972 NYSG began research to enhance Great Lakes coastal tourism businesses that support recreational angling, boating and diving

1973 Dr. Robert Werner (ESF) began research series on Great Lakes sportfish

1983 Dr. Stephan Brandt (Brockport) helped improve fisheries management by studying the relationship between the number of salmon and trout (predators) stocked and the numbers of prey fish

1987 Dr. Greg Boyer (ESF) examined and developed tests for cyanobacteria and other harmful toxins from algae found in New York waters

1989 Dr. Donald Stewart's (ESF) study on the diet of smelts, an important prey species in the Great Lakes, was utilized by a special task force of the Great Lakes Fishery Commission

1991 Dr. Barbara Knuth (Cornell) studied the perceptions of fish consumption advisories

New York Sea Grant (NYSG) is a statewide network of integrated research, education, and extension services promoting coastal economic vitality, environmental sustainability and citizen awareness and understanding about the State's marine and Great Lakes resources. These three elements, **economics**, **environment**, and **education**, are the foundation of our Strategic Plan. NYSG has been "Bringing Science to the Shore" since 1971.

One of 32 university-based programs under the National Oceanic Atmospheric Administration's National Sea Grant College Program, New York Sea Grant is a cooperative program of the State University of New York and Cornell University.

1993 Dr. D. Stewart studied alewife as well as deepwater and slimy sculpins

1994—1996 Cornell Human Dimensions projects on sportfishing studied angler satisfaction in face of declining catch rates

1998 Dr. Neil Ringler (ESF) studied the importance of coastal wetlands and littoral habitats as young fish nursery areas in Irondequoit Bay

2000 Dr. Patrick Sullivan (Cornell) and SG Scholars carried out breakthrough salmon and trout research aiding NYS in making important stocking decisions

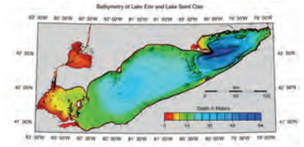
2002 Drs. Paul Bowser and Rod Getchell (Cornell) discovered a new method to diagnose botulism which was causing fish kills and waterfowl die-offs in Lake Erie and Lake Ontario

2007 Dr. Christopher Pennuto (Buffalo State) looked at how the invasive goby has impacted tributaries and how readily it will expand upstream

2007—2009 Studies find economic impact of fishing faces a predicted 32% decline

With 1.5 million days of fishing, there is a $60 million economic impact (loss of $11-19 million over a 5 years

2009 Drs. Stewart and Ringler explored predator-prey dynamics of alewife and Chinook Salmon



2011 Dr. Joseph Atkinson develops the concept of "resource sheds," creating a web-based tool that allows users to understand the processes that underlie Great Lakes issues such as hypoxia

1991

2001

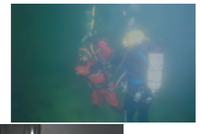
2011

1992—1994 Drs. Ed Mills (Cornell), Joe Makarewicz (Brockport) and their Sea Grant Scholars examined the habitats of invasive zebra mussels and the "benthification" of the Lakes' food webs

1994 Dr. Ronald Scrudato (Oswego) studied PCBs in Lake Ontario's air and water

1996—1998 Cornell researchers found that anglers spent over $170 million and that 24% of anglers come from out of state

1999 In the late 1990s, SUNY Cortland research Dr. Sharon Todd's team looked at impacts of recreational diving to NY's Great Lakes economy



2000 Dr. Michael Twiss (Clarkson) studied the dynamics of the toxic metal thallium, and its concentration in Lake Ontario

2002 Dr. Lars Rudstam (Cornell) and his team used acoustics to study and predict populations of prey invertebrates (mysids), both native and invasive

2006 Dr. Randy Snyder (Buffalo State) studied growth of alewives, a forage fish

2009 Dr. Diane Kuehn's (ESF) research provides information to coastal businesses and tourism promotion organizations on the motivations and constraints associated with resident bass fishing

2009 Dr. Michael Twiss (Clarkson) studied productivity under the ice to answer questions about hypoxia

2011 Over 180 invasive species now in the Great Lakes not only disrupt the food web, but cost billions of dollars in impacts to the state's economy

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