

EXECUTIVE DEAN
OF AGRICULTURE AND NATURAL RESOURCES

Report to the New Jersey State Board of Agriculture
August 2010

Finfish Efforts at the Haskin Shellfish Research Laboratory

The **Haskin Shellfish Research Laboratory** (HSRL) is a unit of the New Jersey Agricultural Experiment Station and a field station of the **Institute of Marine and Coastal Sciences**. It operates several facilities in southern New Jersey, including the **Bivalve Laboratory**, in Port Norris, Cumberland County, the **Cape Shore Laboratory** located in Green Creek, and the **Multi-Species Aquaculture Demonstration Facility Laboratory**, located in North Cape May on the Cape May-Delaware Bay Canal. HSRL's science-based fisheries program concentrates on species that are of recreational and commercial importance to New Jersey and the region. The program focuses on providing expertise in support of improved stock assessments, research to address assessment and regulatory uncertainties, and the development of support mechanisms for enhanced industry-academic partnerships.

Assessment Support

The Magnuson-Stevens Sustainable Fisheries Act stipulates that all federal fisheries be managed



HSRL scientist collecting scales for age determination of summer flounder landed by the commercial fishery. Fish scales record the age of the fish as yearly growth lines. Data on the age of landed fish is a critical component of the database for the NMFS summer flounder stock assessment

at maximum-sustainable yield. That goal can only be obtained with the application of sophisticated models and adequate databases for the models, a need that has stretched the capacity of fisheries science and made more difficult the involvement of fishermen in the management process.

HSRL scientists have routinely participated in federal stock assessment programs to provide expertise, data analysis, and interpretation of issues for the fishing industry. Among the fisheries assessments in which HSRL scientists routinely participate are the assessments for summer flounder, black sea bass, surf clams, ocean quahogs, *Illlex* and *Loligo* squid, butterfish, and monkfish. Our participation has facilitated quota increases for summer flounder, surf clams, and ocean quahogs, and stabilized quotas for *Illlex* and *Loligo* squid.

HSRL scientists serve on two NOAA National Marine Fisheries Service (NMFS) committees that develop assessments: the Southern Demersal Working Group (summer flounder, black sea bass), and the Invertebrate Subcommittee (surf clams, ocean quahogs, *Illlex* and *Loligo* squid).

RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

Developing Enhanced Industry Support

HSRL has played an important role in fostering methods by which the fishing industry can contribute towards the funding of academic research responsive to assessment needs. Two of these initiatives are particularly noteworthy.

The commercial and recreational finfish industries donate 3% of their yearly quota for science. This includes 3% of the summer flounder, black sea bass, butterfish, *Loligo* squid, and bluefish quotas. The donation is the right to harvest 3% of the quota. HSRL, in collaboration with the National Fisheries Institute Scientific Monitoring Committee, each year accepts a substantial share of this donated quota. Through an open and well advertised bidding process, fishermen (both commercial and for-hire) bid on the right to harvest this quota. HSRL manages the harvest



Determining the sex of summer flounder landed by the for-hire fishery. HSRL collects fish racks from summer flounder caught on for-hire trips each week during the recreational fishing season. These data are provided to the NMFS to support the summer flounder stock assessment

process; the bid price is paid by the fishermen and these funds transferred to an account that supports academic science. Over the last few years, HSRL, and the Mid-Atlantic fishing industry, has raised about \$1 million per year to support scientific research through this mechanism.

The second initiative is the formation of the Partnership for Mid-Atlantic Fisheries Science (PMAFS), a multi-state multi-institutional partnership that seeks to utilize academic and recreational and commercial fisheries resources

to address the most urgent scientific problems limiting successful management of fisheries in the Mid-Atlantic region. PMAFS partners include the Save the Summer Flounder Fishery Fund, Garden State Seafood Association, United Boatman of New York, Jersey Coast Anglers Association, United Boatman of New Jersey,

Recreational Fishing Alliance, the New York Fishing Tackle Trade Association, and the Long Island Commercial Fishing Association. HSRL played a leading role in bringing together these organizations to form PMAFS and has played a leading role in fostering the partnership's efforts to obtain funds to support science. PMAFS raised \$1 million in 2009 and \$1 million in 2010. The 2009 program has funded six targeted research projects aimed at improving the summer flounder assessment. These funds are supporting scientists at Rutgers University, Cornell University, University of Massachusetts at Dartmouth, and the National Marine Fisheries Service.

HSRL has been retained by PMAFS to administer the science program and HSRL scientists lead its Science Advisory Committee, which is charged with designing the research programs, reviewing the research produced, and inculcating that research into the stock assessment process.

RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

School of Environmental and Biological Sciences and New Jersey Agricultural Experiment Station
SEBS.RUTGERS.EDU • EXECDEANAGRICULTURE.RUTGERS.EDU • NJAES.RUTGERS.EDU

Research

HSRL is coordinating a Mid-Atlantic program to develop a database for the sex ratio of commercial and recreational landings of summer flounder in cooperation with commercial and recreational fishing vessels in ports from Massachusetts to North Carolina. Summer flounder females grow faster than males and also live longer. The fisheries, by targeting the largest fish, harvest females more heavily than males. Improving the summer flounder assessment and increasing the summer flounder quota requires modifications in management of the fishery that encourage increased harvest of males. This requires documentation of the relative bias in harvest between males and females today in the Mid-Atlantic fisheries, which is the purpose of the research program.



HSRL scientist-measuring a summer flounder caught on a for-hire fishing trip. This trip was part of a study to evaluate alternate fishing regulations that would reduce discards and enhance landings under a pre-determined fishing quota to maintain maximum sustainable yield. Participating for-hire boats came from five ports in New Jersey and Long Island, NY

A separate collaboration with Cornell University involves an analysis of the geographic variability in stock characteristics for summer flounder. Among the important population dynamics attributes that vary with latitude and depth are the sex ratio, the age frequency, and the length frequency. Modeling the stock to set quota goals to achieve maximum sustainable yield requires understanding how geographic variation in key population dynamics attributes influences the dynamics of the stock and how that interacts with the distribution of fishing effort. The results of this research will be used in the 2011 benchmark assessment for summer flounder to better parameterize the assessment models.

The laboratory has developed a model of the party boat fishery that is designed to optimize the setting of bag and size limits. The summer flounder fishery is regulated in New Jersey by an eight fish bag limit and a maximum size limit. The size limit is high enough that the fishery targets females preferentially and discards many undersized fish while anglers rarely catch their bag limit. The model is designed to examine a number of alternative management strategies that might (a) bring bag limits back into the manager's repertoire, (b) trade discards for landings, thereby increasing angler gratification, and (c) provide an increased number of fish per unit of landings weight, thereby realizing for the angler a greater number of kept fish.



RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

School of Environmental and Biological Sciences and New Jersey Agricultural Experiment Station
SEBS.RUTGERS.EDU • EXECDEANAGRICULTURE.RUTGERS.EDU • NJAES.RUTGERS.EDU

Spotlights

Snyder Farm Great Tomato Tasting Event Wins PRIDE Award



The Snyder Farm Great Tomato Tasting was named the sole national winner of the 2010 PRIDE Award at the National Association of County Agricultural Agents (NACAA) conference in Tulsa, OK. The award recognizes "NACAA members or team of members for outstanding use of Public Relations in Daily Efforts (PRIDE) that improve the understanding of agriculture in their communities." **Nicholas Polanin** (agricultural and resource management agent, Somerset County) and **Peter Nitzsche** (agricultural and resource management agent, Morris County) nominated the annual tomato tasting festival to NACAA, a professional organization committed to the strengthening of extension and agriculture. Polanin accepted a certificate and check as part of the 2010 NACAA award, sponsored and underwritten by the United Soybean Board and the National Rural Electric Cooperative Association. The 2010 Annual Great Tomato Tasting festival takes place on September 1. [Read more.](#)

Appropriations For Blueberry and Cranberry Research Approved in US Senate Committee

A total of \$758,000 in agriculture funds for New Jersey was announced by U.S. Senators Frank R. Lautenberg (D-NJ) and Robert Menendez (D-NJ) on July 16. The funding includes \$522,000 for the Rutgers University **Phillip E. Marucci Center for Blueberry and Cranberry Research** in Chatsworth and \$236,000 for the New Jersey Association of Conservation Districts and is a part of the \$35,658,000 in federal funds targeted for New Jersey military construction and agriculture projects. The projects were included in the FY 2011 Agriculture, Rural Development, Food and Drug Administration Appropriations bill and the FY 2011 Military Construction and Veterans Affairs Appropriations bill, which was approved in the Senate Appropriations Committee. The bills now head to the full Senate for consideration. [Read more.](#)

RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

School of Environmental and Biological Sciences and New Jersey Agricultural Experiment Station
SEBS.RUTGERS.EDU • EXECDEANAGRICULTURE.RUTGERS.EDU • NJAES.RUTGERS.EDU

Faculty and Staff Activities and Accomplishments

Steve's Club, a Camden, NJ-based non-profit organization and marketer of a specialty line of products for the "paleo" diet, is one of the newest clients at the **Rutgers Food Innovation Center** in Bridgeton, NJ. Steve's Club produces Paleokits snack packs, a blend of free-range beef jerky, raw nuts and dried berries that are sold via the internet and to CrossFit fitness and conditioning programs across the country. Last month, Steve's Club displayed its existing products in a vendor booth and premiered its brand-new Paleo Stix, an organic, grass-fed beef stick, at the 2010 CrossFit Games in Los Angeles, CA. The proceeds from Steve's Club support efforts to improve the lives of youth in Camden through promoting fitness and community.

Bruce Barbour (agricultural and resource management agent, Warren County) and Keith Douce, University of Georgia, received a \$60,000 eXtension grant for "Community of practice on invasive species for master gardeners."

William Sciarappa (agricultural and resource management agent, Monmouth County), **Stacy Bonos** (Plant Biology and Pathology), **Margaret Brennan-Tonetta**, (associate director, New Jersey Agricultural Experiment Station), **William Hlubik** (agricultural and resource management agent, Middlesex County), and **Zane Helsel** (extension specialist in agriculture energy, Plant Biology and Pathology) were awarded a \$29,281 Northeast Sun Grant Initiative grant for "Development of online educational programming and agricultural bioenergy." The grant is designed to create online training curricula for New Jersey and northeastern agriculturalists, agents, and advisors.

Brian Schilling (assistant extension specialist, Agricultural Economics and Marketing), **Jack Rabin** (associate director NJAES farm programs), and **Lucas Marxen** (Food Policy Institute) presented "Characterizing New Jersey's farm landscape: Case studies of urban fringe farm footprints" at the Northeastern Agricultural and Resource Economics Association 2010 Annual Conference held in Atlantic City, N.J. In addition, Schilling, **Kevin Sullivan** and **Lucas Marxen** (Rutgers Food Policy Institute) presented "Evaluating criteria for farmland assessment in New Jersey" at conference.

Diane Holtaway (associate director, Food Innovation Center), **Brian Schilling** (assistant extension specialist, Agricultural Economics and Marketing), and **Kevin Sullivan** (Food Policy Institute) presented "New opportunities for New Jersey community farmers markets: Assessing the costs, benefits and best practices of participation in and sponsorship of community farmers markets" at the Northeastern Agricultural and Resource Economics Association Conference held in Atlantic City, NJ.

This report is produced by the Office of Communications and is available online at <http://execdeanagriculture.rutgers.edu/boa/>.

For information or to provide comments, please contact Paula Walcott-Quintin at quintin@aesop.rutgers.edu or 732-932-7000, ext. 4204.

