

EXECUTIVE DEAN  
OF AGRICULTURE AND NATURAL RESOURCES

Report to the New Jersey State Board of Agriculture  
July 2010

*Spotlights*

**NJDA and Rutgers FIC Receive Federal Grant To Enhance School Lunch Program**

The New Jersey Department of Agriculture, in collaboration with **Rutgers Food Innovation Center (FIC)** and the **Department of Family and Community Health Services**, received a \$51,215 federal



grant to create new food items derived from New Jersey agricultural products for use in the National School Lunch Program. The grant to New Jersey is part of \$1.3 million in matching funds to 18 states, provided under the Federal-State Marketing Improvement Program (FSMIP). Under the terms of the grant, the NJDA and the FIC “will utilize funds from this FSMIP grant to create new value-added agricultural products that meet the nutritional needs

of children in New Jersey schools, which also will provide benefits to New Jersey farmers and agricultural producers.” These value-added products may include portion-controlled products that meet the nutritional guidelines of New Jersey schools, such as fresh-cut fruit and vegetable snacks, healthy beverages, soups, entrees, and desserts, all derived from produce harvested from New Jersey farms. **Lou Cooperhouse** (director, FIC) co-authored the federally-funded proposal titled “From farms to schools, developing value-added agricultural products for the school lunch program.” According to the NJDA, which will work with Rutgers FIC to implement this grant, “the project is expected to begin after October of this year and should be completed by the end of 2011.” [Read more.](#)

**Build-Your-Own Rain Barrel Workshops**

For the second year in a row, the **Rutgers Cooperative Extension Water Resources Program** has helped New Jersey residents conserve water through the use of recycled food grade barrels converted into rain barrels. These rain barrels help save water and reduce rainwater from entering the storm drain system, thereby preventing flooding and pollution from entering New



Jersey’s lakes and streams. Since the beginning of the year, over 330 barrels have been sold throughout the State. These informative and practical workshops have been offered at farmer markets, public libraries, corporations, community parks, and on the New Jersey Boardwalk. View the website for the schedule of [Build-Your-Own Rain Barrel Workshops](#) offered by the Rutgers Cooperative Extension Water Resources Program.

**Sara Mellor**, of the Water Resources Program, helps Joseph Earley, of New Providence, NJ, build his very own rain barrel at the Livingston Public Library on June 29. Photo by Nate Schweber.



## *NJAES Research on Marine Fisheries*

The Rutgers **School of Environmental and Biological Sciences** and the **New Jersey Agricultural Experiment Station** (NJAES) recognize fisheries and aquaculture as important components of the state economy and its vital role in regional, national, and international markets. As field stations of the **Institute of Marine and Coastal Sciences**, the **Haskin Shellfish Research Laboratory**, located in Bivalve, NJ, on the Delaware Bay, and the **Rutgers University Marine Field Station** (RUMFS), located at the mouth of the Mullica River, near Little Egg Inlet, are dedicated to research, education, and extension in support of sustainable shellfish and finfish resources and fisheries.

*In this issue, we focus on RUMFS's role in finfish research. A subsequent issue will focus on HSRL's finfish research efforts.*

## *RUMFS Focus on Finfish Research*

As a field facility of the Rutgers University Institute of Marine and Coastal Sciences (IMCS), the Rutgers University Marine Field Station (RUMFS) is a working lab with year-round research



conducted by undergraduate interns, graduate fellows, post-doctoral and faculty members, and resident and visiting Rutgers scientists. RUMFS is uniquely situated across from the Little Egg Inlet in the Mullica River – Great Bay estuary, one of the cleanest estuaries on the East Coast. For this reason, RUMFS continually hosts a number of investigators from other colleges and universities. The duration of these visits range from day trips to summer-long sojourns.

One of the major goals of RUMFS is to create a corridor for research and education, from the upper reaches of the Mullica River drainage basin, down through the Great Bay estuary, to the inner continental shelf. The Mullica River – Great Bay estuary is an exceptionally productive



Winter flounder with ultrasonic tag used to determine habitat use and movements in Barnegat Bay

estuarine system for shellfish and finfish and is the site of early estuarine studies (late 1880s). The estuary is comprised of 87 square km of salt marsh and 56 square km of shallow (average 2 m) estuarine waters. Unlike most estuaries in the northeastern US, the surrounding watershed, including most of the Pine Barrens watershed, is protected from large-scale human disturbance. In recognition of its unique status, this estuarine system, including a portion of the adjacent continental shelf, has been designated as the **Jacques Cousteau National Estuarine Research Reserve**, and is part of a larger, nationwide National Oceanographic and Atmospheric Administration program.

Much of the current activity by resident scientists at RUMFS is focused on the life history and ecology of fishes with special



emphasis on the role of habitat as it affects survival for the dominant species in the estuary and on the continental shelf. This emphasis is reflected in an extensive, upcoming book on the ecology of estuarine fishes (Johns Hopkins University Press, to be published by fall 2010). In



Night-time shot of bridge netting: Ichthyoplankton sampling is part of a long-term monitoring program to understand the variation in fish larval supply to New Jersey estuaries

addition, using the relatively un-impacted estuary as a baseline, RUMFS has developed protocols for long-term (some over 20 years) monitoring of larval and juvenile fish abundance and assemblage structure. RUMFS also uses this estuary as a baseline to make functional comparisons to other, more impacted estuaries, including the Delaware Bay and the New York Harbor.

Other RUMFS research is focused in several areas. An emphasis on fish habitat ecology has several objectives including developing the techniques and data to determine habitat quality for fishes in the estuary and on the continental shelf. To that end, RUMFS uses towed camera sleds, fixed underwater cameras, passive and active acoustic detection and tracking techniques, and autonomous underwater vehicles and submersibles to determine the relationship

between fish and their habitat. A series of other habitat-related projects have evaluated the effectiveness of large-scale marsh restoration by determining fish response.

Focus on finfish fisheries research takes the form of an emphasis on the life history and ecology of economically (recreational and commercial) important species in the New Jersey region. In addition, long-term monitoring of the larvae and juveniles of these species in estuaries provides a



framework for understanding their annual fluctuations in abundance. More directed studies use acoustic telemetry for a variety of species, like striped bass, summer flounder, and winter flounder, to determine their patterns of seasonal migrations, availability to state and federal surveys, and discard mortality.

To underscore the importance of sustaining New Jersey's marine fisheries, the university recently hired **Olaf Jensen** (assistant professor of fisheries science and aquatic ecology, Marine and Coastal Sciences) in a continuing effort to provide fisheries expertise. Most recently from the University of Washington's School of Aquatic and Fishery Sciences, Jensen's field and laboratory research on sustainable fisheries management and population dynamics of fishes is based out of RUMFS.

At left, **Olaf Jensen** weighs an endangered taimen (*Hucho taimen*) on the Uur River, in Mongolia

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## *Faculty and Staff Activities and Accomplishments*

**George Hamilton** (extension specialist in entomology) was awarded a USDA Extension IPM grant of \$103,000 for "Extension IPM coordination in NJ." In addition, Hamilton was awarded \$10,000 from the New Jersey Department of Agriculture for research on "Improving New Jersey's detection abilities through increased awareness."

**Cesar Rodriguez-Saona** (assistant extension specialist in Entomology) and colleagues received the following grants:

- \$10,000 from the New Jersey Blueberry Research Council, Inc. for "Evaluating new tools to better monitor and control plum curculio populations in blueberries."
- \$7,778 from the New Jersey Cranberry Research Council, Inc. for "Evaluating cranberry resistance to insect pests and color traps for monitoring blunt-nosed leafhopper populations."
- \$5,186 from the Cranberry Institute for "Evaluation of new reduced-risk insecticides for efficacy against *Sparganothis* fruitworm," a key pest of cranberries.

**Rachael Winfree** (Entomology) and collaborators received a \$50,000 USDA-SCRI-CAP Planning Grant for "Conserving native bees and valuing their services for sustainable specialty crop production."

**Thomas Manning** (bioresource engineer), **David Specca** (assistant director, Rutgers EcoComplex), and **A.J. Both** (extension specialist in bioresource engineering) received a \$194,805 rebate check from the New Jersey Clean Energy Program, which is administered by the Board of Public Utilities, for their landfill gas to energy project that includes the installation of a 250 KW microturbine at the NJ EcoComplex Research and Demonstration Greenhouse. The combined heat and power generated are used to operate the one-acre greenhouse facility. Excess electricity is sold to the local grid through an arrangement with PSE&G.

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

## *Outreach Efforts: Public/Community Service*

**Rutgers Cooperative Extension** personnel continue to collaborate with the New Jersey Environmental Federation, the New Jersey Department of Environmental Protection, and others to develop and conduct IPM trainings focusing on the landscape and turf component for school district IPM programs. School IPM coordinator training sessions held during late spring in Sewell, NJ, and at Montclair State University, Montclair, NJ, drew large turnouts of school principals as well as head custodians, facility managers, and business administrators. **Bill Hlubik** (agricultural and resource management agent, Middlesex County) presented these sessions.



**Jan Zientek** (senior agriculture program coordinator) has provided strong leadership in the development of community and urban gardening in Essex County. In Maplewood, NJ, a new community garden opened this spring with 28 families gardening at the site with another 15 families inquiring about garden plots. A community garden in South Orange, NJ, is also experiencing pressure to expand with requests for almost 50 additional plots. As part of an overall urban gardening and farming program, Zientek began an Organic Gardening workshop series with a stable enrollment of 12 students. In addition, a new community garden collaboration with Newark's University Heights neighborhood is underway. Zientek is also working with the staff and students of an alternative school in East Orange, NJ, called Home School High Academy, on the design and maintenance of a school garden. Zientek met regularly with the Academy students during the summer.

## *Mark Your Calendars!*

### **County Fairs**

Take part in a New Jersey 4-H [County Fair](#) near you throughout the month of August!

### **Penn Atlantic Nursery Trade Show**

**WHEN:** August 3, 2010, 9 a.m. to 5 p.m.

**WHERE:** Greater Philadelphia Expo Center, 100 Station Avenue, Oaks, PA.

**WHAT:** A three-day networking opportunity with suppliers, with special green products.

**MORE INFO:** Contact PA Landscape and Nursery Association at 800-898-3411.

### **Pumpkin Producers Twilight Meeting**

**WHEN:** August 4, 2010, 6 p.m.

**WHERE:** Russo's Orchard Lane Farm, Chesterfield, NJ.

**WHAT:** A session on pumpkin production information for commercial farmers.

**MORE INFO:** Contact Ray Samulis, RCE of Burlington County, 609-265-5050.

### **Fall Nursery Weed Control Meeting**

**WHEN:** August 10, 2010, 5 to 7 p.m.

**WHERE:** Rivendell Nursery, Stathem's Neck Road, Greenwich, NJ.

**WHAT:** New Jersey Pesticide Applicator Units 1-Core, 2-PP2, and 2-3A.

**MORE INFO:** Contact Jim Johnson, RCE of Cumberland County, 856-451-2800

### **Master Gardener Advanced Training**

**WHEN:** August 19, 2010, 9:30 a.m. to 3 p.m.

**WHERE:** RCE of Ocean County, 1623 Whitesville Rd., Toms River, NJ.

**WHAT:** Advanced training provided by RCE agents and Georgian Court University collaborators.

**MORE INFO:** Contact Linda Schoch, 732-349-1246, [lschoch@co.ocean.nj.us](mailto:lschoch@co.ocean.nj.us).

This report is produced by the Office of Communications. For information or to provide comments, please contact Paula Walcott-Quintin at [quintin@aesop.rutgers.edu](mailto:quintin@aesop.rutgers.edu) or 732-932-7000, ext. 4204.

