

Herring Gut News

FALL 2009

A QUARTERLY UPDATE TO OUR SUPPORTERS

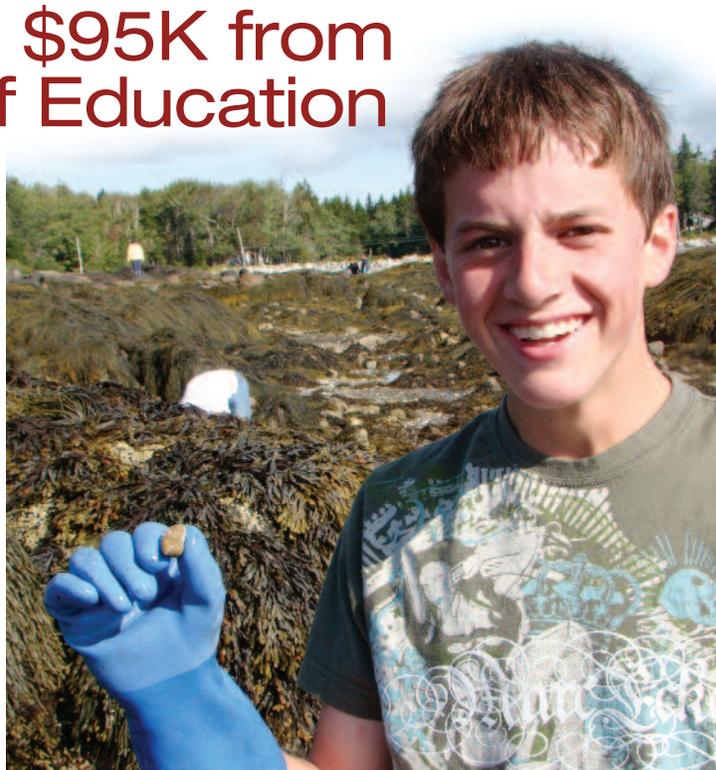
Herring Gut Receives \$95K from the US Department of Education

THE HERRING GUT STAFF is happy to report that the school has received \$95,000 from the U.S. Department of Education to expand its marine science and aquaculture programs through curriculum development and facility upgrades.

This project obtained funding through a US Department of Education appropriation, which was sponsored by Senator Susan Collins. Final funding approval was obtained from the US Department of Education in mid-September.

“The innovative and forward-thinking education programs being offered at Herring Gut Learning Center are outstanding resources for our students and instrumental in helping them to reach their full potential,” said Senator Collins. “I am delighted that I was able to assist in obtaining this funding, which will help to further develop and implement Herring Gut’s impressive educational portfolio.”

The money will be used to expand curricula supporting a variety of science programs at the school, including fisheries-based biology initiatives, marine science exploration, shellfish and finfish aquaculture projects and aquaponics lessons in the school’s newly renovated greenhouse. A portion of the money will also go toward the expansion of the school’s professional development programs that provide area teachers the opportunity to en-



Georges Valley Junior Cody Billings poses with a snail at Drift In Beach.

rich their existing science programs through teacher training workshops and education courses at the center. “This important support from Sen. Collins and the U.S. Department of Education strongly endorses the effectiveness of Herring Gut Learning Center’s unique, hands-on learning methods,” said Herring Gut Executive Director Wes Todd. “I hope more students and teachers will benefit from Herring Gut programs as we grow and the value of our work becomes more widely known.”



Campus Cape Gets a Makeover

THE THOMSON HOUSE, a scenic 19th century cape overlooking Herring Gut’s library and oyster hatchery, is currently undergoing some much-needed repairs and renovations. Purchased from long-time summer resident Arline Thomson in 2008, the house will offer overnight accommodations for educators participating in Herring Gut’s professional development programs.

Local contractors are repairing the roof, porch, windows and foundation of the house, taking special care not to alter the building’s overall appearance and historic character.

The Thomson House will play an important role in supporting Herring Gut programs once phase one of the renovations is completed by providing seasonal housing for four to six educators. Future renovations will focus on the building’s second floor, which could provide accommodations for as many as four additional program participants.



Water, Water Everywhere

HERRING GUT STUDENTS put the focus on water at the 2009 Conservation Fair in Union, presenting facts and answering questions about the all-important liquid at the Knox-Lincoln Soil and Water Conservation District's annual event. Speaking to scores of sixth- and seventh-grade students from across the region, RSU 13 middle school students from Herring Gut's oyster hatchery program covered everything from the phases of matter to solutes and solvents, complete with demonstrations and visual aides.

"The Conservation Fair is a great way for the kids to start off the year," said RSU 13 alternative middle school educator Jim Master-son. "It is an opportunity for them not only to learn important concepts, but to build their confidence as speakers. They have to really know their material if they are going to present it to other students, and they did a great job."

The oyster hatchery group uses their Conservation Fair project as a springboard for the fall semester, beginning algae cultures and lab preparations for the oyster hatchery in late October. Water was a fitting theme for this year's event, because an understanding of water and its properties is critical to successful oyster culture.



Jared Hunt and Autumn Larrando present the properties of water at the Conservation Fair.



Herring Gut student Isaac Porter examines a tiny lobster.

Don't Swat That Lobster!

IN PORT CLYDE, a delivery of over 100 lobsters usually calls for a big pot and a trip to the store for more butter, but when scores of Maine's favorite crustacean arrived at Herring Gut, there was nothing but cool, clean seawater waiting for them. Students from the Georges Valley High School alternative biology class welcomed the tiny lobsters to the lab in early September, where they will

stay until the student researchers put them out in specialized containers for an experiment this fall.

The lobsters were generously donated to the school by the Downeast Institute for Applied Marine Research and Education, a marine research facility located on Beals Island. After the long journey down the coast to Port Clyde, the lobsters were placed into temporary accommodations in the Herring Gut Oyster Hatchery until they are weighed, measured and transferred into custom-made "lobster condos"

Dozens of fly-sized lobsters find a new home at Herring Gut

provided by Ted Ames of the Penobscot East Resource Center in Stonington. The condos will provide safe housing for some of the juvenile lobsters when they are returned to the Atlantic in a quiet corner of Teel Cove.

"The lobsters in the condos will serve as the control for the experiment, which looks at the survival rate and comparative growth of lobsters in student-designed grow-out containers placed in our lobster pound," said Herring Gut biology instructor David Munson. "Growing young lobsters in captivity can be tricky, and we hope that the students' research will help provide new information on what techniques work best for growing juveniles lobsters for restocking programs and research."

The experiment is based on research conducted by the Downeast Institute's Director of Research, Brian Beal. Part of a larger lobster biology unit for middle and high school students, the experiment will be conducted by students from Georges Valley, SAD 40's Gifted and Talented Program, and the Janus Project.

New system upgrades promise to boost production and save energy.

SARA RADEMAKER IS GOOD TO HAVE AROUND. The 24-year-old aquaculture specialist and Americorps intern has brought Herring Gut's aquaculture and aquaponics systems into the twenty-first century, combining the most up-to-date methods with the school's proven educational approach, improving the quality of Herring Gut programming across the board. Assisting with updates and improvements to everything from tilapia spawning to waste management, Rademaker's newest project is a full system redesign for Herring Gut's popular aquaponics program.

The aquaponic system, which utilizes fish waste from the center's growing population of tilapia to grow herbs and other produce, is utilized in several student programs and teacher training offerings to illustrate concepts ranging from fish anatomy and plant biology to record keeping and personal responsibility. System changes that are already underway will allow Herring Gut to accommodate more aquaponics students than ever before by expanding and diversifying the hydroponic systems in the school's attached greenhouse. The upgrades will not only allow students to raise more fish and plants to be sold to local buyers, they also promise to reduce heat costs in the winter and all but eliminate the need for power-draining air conditioning in the summer months.

"The system improvements we are working on will allow students to apply the latest aquaculture and aquaponics techniques in the lab and greenhouse, eliminating the maintenance problems of the old system and boosting production of both fish and plants," said Rademaker. "By bringing the tilapia into the main building, we can more effectively control the water temperature and other environmental factors while opening up a lot of space for growing plants in the greenhouse."

Utilizing money provided by Maine Sea Grant and other sources, Rademaker will supervise the installation of a new raft hydroponic system in addition to the updated flow-through system currently being installed. Students from several area schools have continued to maintain the tilapia aquaculture system throughout the process, and the systems first seedlings sprouted in October. Phase one should be at full production by late fall.



A Wild Ride Beside the Tide

HERRING GUT'S 10TH SEASON of summer camps was a huge success, thanks to interns Sara Rademaker, Katherine Heldt and Zoe Keve. The fun-loving trio led hundreds of happy campers through the tidepools, marshes and mudflats of the St. George peninsula, offering boatloads of smiles along with a raft of information about the area's delicate wetlands and marine ecosystems.

More than 30 day-long sessions offered young participants everything from crafty crustacean creations to boot-sucking treks through the mud. Welcoming participants from throughout the Midcoast and across the country, each program featured a spe-



Zoe Keve and summer campers celebrate an afternoon on the mud flats.

cific environmental theme, a creative project and a picnic lunch. The wet weather of early summer only added to the fun, offering more than enough mud for squeezing, squishing and face painting. Bringing a broad range of expertise in aquaculture, marine science and education to the camps, Sara, Katherine and Zoe made learning fun for Herring Gut campers whatever the weather.

The 2009 season included some exciting new camps, including sea kayaking, digital photography and the popular Something Fishy day camp. The mid-summer night hike provided plenty of surprises, and the second annual overnight camp on Burnt Island was a hit with the 11 to 13-year-old crowd, thanks to the efforts of Maine Department of Marine Resources Education Director and Herring Gut Board Member Elaine Jones.

The Herring Gut staff sends out the sincerest of thanks to the fantastic interns and all the children, parents and volunteers who made the summer such a success. Sign up for our email updates at www.herringgut.org and be the first to find out about the great programs being planned for summer 2010!