



Ebb & Flow

A Newsletter of the Atlantic Ecosystem Initiative (AEI)

Spring 2009

(Re) Introducing the AEI/ACAP staff...

Behind the scenes, supporting the 16 Atlantic Coastal Action Program (ACAP) organizations across the Atlantic provinces and the four larger regionally based ecosystem coalitions in the Atlantic Region, there is a small and dedicated group of people who make up the Sustainable Communities and Ecosystems division at Environment Canada.

Wayne Barchard is acting in the manager’s position for Larry Hildebrand. He calls himself a “midwife” of ACAP since he was the original Atlantic Hotspots Manager in 1989. Wayne’s scientific background is in systems ecology. By using a community-based stakeholder approach to his work, Wayne encourages people to re-think their relationship with the natural world and take a gentler path.

Melanie Corkum is on assignment as the Region’s ACAP Coordinator, filling in for Colleen McNeil who is on maternity leave. Melanie oversees the agreements made with each ACAP organization, working with them from the proposal stage to final reporting, and everywhere in between. She helps

ACAP executive directors, their staff, board members, and EC “windows” meet their objectives under Environment Canada’s strategic environmental outcomes.

Kathryn Parlee is the main contact and resource person for the regional coalitions whose work positively impacts larger ecosystems such as the Gulf of Maine, the Southern Gulf of the St. Lawrence, and the Bay of Fundy. Kathryn works with these organizations to coordinate and advance regional ecosystem-based management efforts in the Atlantic Region and supports them in their efforts to improve regional coastal areas.

Suzie Dech analyzes all the data and information from each of the organizations that fall under the Atlantic Ecosystem Initiatives, including all 16 ACAP organizations, and prepares a variety of reports, including the annual Atlantic Ecosystem Year in Review. Suzie is also the lead for the branch on the



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Science Linkages Initiative for the ACAP organizations, serving as a link to EC scientist in various branches of the department in the region.

Veronica Sherwood joined the Atlantic Ecosystem Initiative in January. Her focus is on Labrador, training, and her role as the Atlantic Region's link to the Northern Ecosystems Initiative. Veronica works with the two Labrador ACAP organizations to help build capacity and strengthen their community role. She also is a liaison with other Environment Canada divisions within the Atlantic Region, including Policy and Education & Engagement, relating to Aboriginal Affairs issues.

For the past decade, **Larry Hildebrand** has been the manager of the Atlantic Ecosystem Initiative and the main link between Environment Canada and work on the ground with non-profit organizations. Larry is an expert on oceans and coastal management and has travelled the world, teaching and celebrating the ecosystem model we have been building and

supporting here in the Atlantic Region. In December 2008, Larry accepted an assignment with Environment Canada as the Senior Coastal and Oceans Specialist. In his new role, Larry is working with an internal departmental team on developing a strategy for Environment Canada that will guide its engagement in current and emerging coastal and oceans management initiatives across the country.

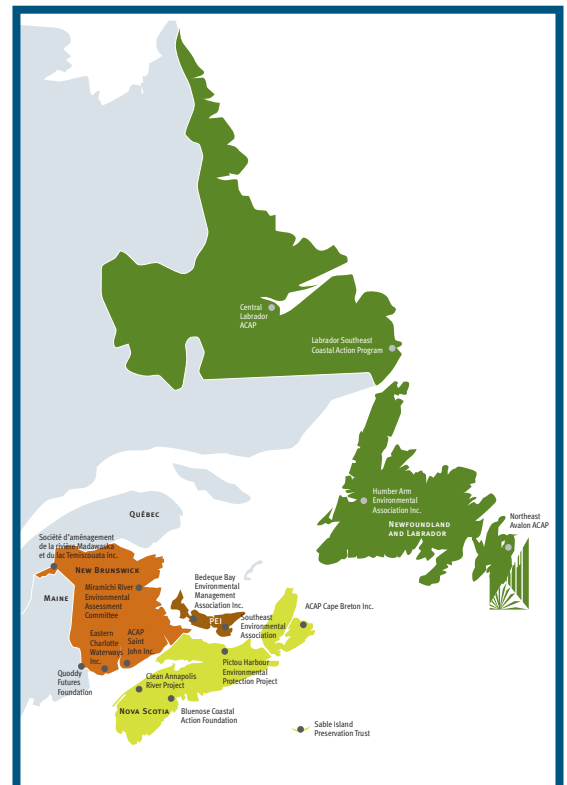
We will all miss Larry's direct involvement in our program. We wish him luck in his exciting new role and continued success in his coastal and oceans endeavors.

This small but mighty staff will continue to work with the 16 ACAP sites and regional ecosystem coalitions to build on the Atlantic Ecosystem Initiative's many successes over the past 18 years, and look towards the future as they plan the next phase of the Initiative in 2010.

For more information, please contact Melanie Corkum at (902) 426-5777, e-mail melanie.corkum@ec.gc.ca



(l-r): Melanie Corkum, Veronica Sherwood, Larry Hildebrand, Suzie Dech, Wayne Barchard and Kathryn Parlee



Atlantic Coastal Action Program (ACAP) Locations





PEI Students Become Young Scientists While Taking Part in Adopt-A-River Project

Bedeque Bay Environmental Management Association, Prince Edward Island



During the month of June 2008, over 250 students in Prince Edward Island were busy wading through island streams, experiencing what it is like to be an environmental technician. The students were participating in the Bedeque Bay Environmental Management Association's Adopt-a-River education pilot program, which saw a total of seven stream sites adopted by local intermediate and high school classes.

The program engages youth aged 10–15 in the observation of aquatic habitats and introduces them to the concept of ecological health indicators (such as water temperature and bacteria levels). The main goal of the project is to get students involved in their environment by taking action to solve environmental problems at a local level.

As part of a physical-chemical study, the PEI students gathered data on indicators of a stream's overall health including the levels of temperature, pH, turbidity (or muddiness), dissolved oxygen, coliform bacteria and nitrates. They also gathered data on *benthic macroinvertebrates*, creatures

without backbones that live on the bottom of a watercourse. These organisms are particularly sensitive to changes in the chemical and physical make-up of their habitats, making them excellent indicators of a river's overall environmental quality.



Participating teachers expressed a real interest in ecology and welcomed the opportunity for students to observe a stream's natural environment. While the original project outline is designed to include one or two full field sampling days for each group, the teachers opted to break down the field work into smaller units which involved class period field trips of up to 90 minutes in combination with in-school labs and class time.

The students enjoyed the hands-on field sampling and lab water chemistry activities. Each class used the information gathered to develop conservation and enhancement plans for the site's property landowners, outlining the overall health status of the stream, possible problem areas and potential activities to improve the stream's health.

The association would like to thank the teachers and students at Three Oaks High School, Kinkora Regional High School and Summerset Intermediate School for their enthusiasm and initiative in the project. Together, all of the Adopt-a-River student participants made a significant contribution to the Island's stream ecosystem, which includes wildlife and all the people who use it.

For more information on the Adopt-a-River program, please contact Tracy Brown at Bedeque Bay Environmental Management Association (902) 886-3211, e-mail staff@bbema.ca, or visit www.bbema.ca.





Monitoring Water Quality on the LaHave River

Bluenose Coastal Action Foundation, Nova Scotia

The LaHave River is well known for its salmon fishing, shipbuilding, lumbering, and the overall beauty it brings to the South Shore. It also hosts a high level of residential, industrial, and recreational activity, which has taken its toll on the watershed. In response to these pressures, the LaHave Water Rescue Project was developed by the Bluenose Coastal Action Foundation to determine the health of the river and to preserve and enhance its sustainable use by present and future generations.

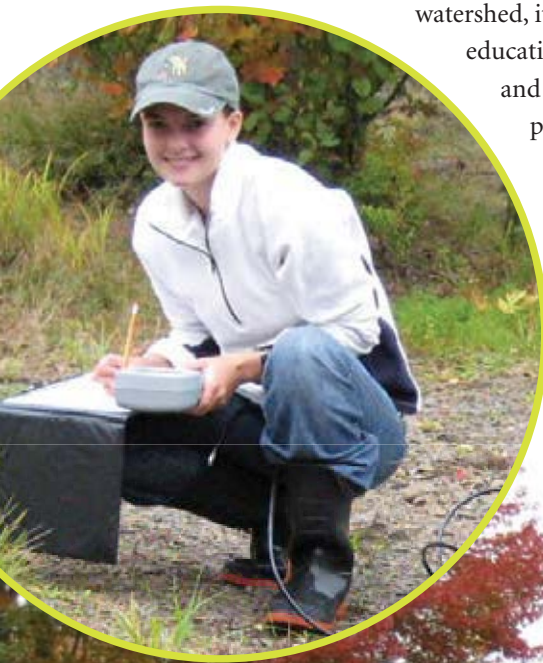
While the project is focusing on long term water quality monitoring for the LaHave River watershed, it's also seeking to enhance watershed education within local schools, agricultural and forestry industries, and the general public. An advisory committee was formed to guide the project's direction and consists of a number of partners from all levels of government, the private sector, non-government organizations, concerned residents, and academia.

Through the support of its partners, the Bluenose Coastal Action Foundation has completed

one year of water quality monitoring and has reached over 500 people through education and awareness campaigns. Currently, the water quality data is being linked with land use information to highlight areas of concern, activity booklets focusing on healthy watershed practices are being developed, and a database is being created to house the data collected and make it accessible to the public through the foundation's website. Future steps include continuing to monitor water quality, with the addition of completing the riparian health assessments for the watershed which provide information about the ability of that area to protect against erosion and maintain water quality; working with farmers to build fences and restore waterways; and graphing water quality data on a watershed map to provide a visual interpretation of how conditions are changing.

It is hoped that the wide variety of groups involved in the project combined with the interest and cooperation partners and the public have shown will ensure the sustainability of the project and the future protection of the watershed.

For more information about the LaHave Water Rescue Project, please contact Brooke Nodding at Bluenose Coastal Action Foundation (902) 624-9888, e-mail brooke@coastalaction.org, or visit www.coastalaction.org.





Garlic Mustard Management in Nova Scotia

Clean Annapolis River Project, Nova Scotia

Garlic mustard, also known as *alliaria petiolata*, is a shade-tolerant invasive alien biennial plant, originally introduced to North America from Europe. The only confirmed location of this species in Nova Scotia is in the community of Grand Pré, near Wolfville. Garlic mustard becomes established in disturbed areas, such as ditches, and then spreads into undisturbed areas, including closed-canopy forests.

In the spring and summer of 2008, the Clean Annapolis River Project, working with Parks Canada and the Nova Scotia Department of Transportation and Infrastructure Renewal, initiated a garlic mustard

management project in Grand Pré. This work was supported by the Invasive Alien Species Partnership Program. Project activities included mapping of the core and satellite garlic mustard populations; hand-pulling second-year flowering plants at satellite locations and along roadside ditches; developing best management practices (BMP) for right-of-way maintenance; and preparing a management plan for the garlic mustard population at Grand Pré.

Numerous agencies have recognized that invasive water and land based alien plant species pose a major threat to biodiversity, the integrity of ecosystems and the economy. In addition to attempting to control the spread of this invasive plant, the project also raised awareness in the local community of this invasive species by providing 119 households with garlic mustard information.

Due to the reservoir of seeds within garlic mustard infestations, successful control efforts in other jurisdictions have required concerted efforts over at least three to five years. Parks Canada and the provincial transportation department have indicated their willingness to continue control efforts in the Grand Pré area. Over the coming months, discussions will be held with other partners to identify lead agencies for the 2009 season.

The efforts to control the garlic mustard infestation at Grand Pré have highlighted the challenges of initiating a rapid and coordinated response to controlling an invasive species. Due in part to this experience, the Nova Scotia Invasive Species Working Group is holding a conference at Acadia University on December 3 and 4, 2008 to discuss the establishment of an Invasive Species Council for the province.

For more information, please contact Andy Sharpe at Clean Annapolis River Project (902) 532-7533, e-mail andysharpe@annapolisriver.ca, or visit www.annapolisriver.ca/.





Partners for Environmental Education

Eastern Charlotte Waterways, New Brunswick

Eastern Charlotte Waterways will soon become more visible in elementary schools thanks to their Partners for Environmental Education initiative in four local elementary schools in Eastern Charlotte County.

Throughout the school year, Eastern Charlotte Waterway's Environmental Outreach coordinator Laura Barrett will visit classrooms to engage students in interactive lesson presentations and activities designed to heighten their awareness of current environmental issues and initiatives, including:

- A series of hands-on activities that will allow kindergarten classes to discover the various properties of pollution and its consequences for humans and other animals;
- Teaching Grade 1 students about the 3 Rs by designing and crafting new products from "waste" items to explore alternatives to discarding items in the trash;
- Increasing the awareness of Grade 2 students throughout the region about the need for water conservation and protection through a series of water education activities;
- Directing role-plays and experiments with Grade 3 students to demonstrate the process of erosion and to teach students about preventative measures to protect waterways;
- Interactive activities for Grade 4 students that will call into question waste disposal practices and illegal dumping, and will culminate in the design and testing of filtration systems.
- Teaching students in Grade 5 about the greenhouse effect and the properties of gas by conducting an experiment to create carbon dioxide. They will also draw connections to energy use and climate change by conducting a home energy audit.
- Exploring the concept of food miles with students in Grade 6 to increase their awareness of the origin of the food they eat, the environmental consequences of conventionally farmed and imported food products, and the range of social and nutritional benefits of choosing locally produced foods.

For more information, please contact Laura Barrett at (506) 456-6601, e-mail ecwinc@nbnet.nb.ca, or visit www.ecwinc.org.





Cultivating Young Professionals

Miramichi River Environmental Assessment Committee, New Brunswick

Many recent university graduates know all too well the vicious cycle of “no experience, no job, and no job, no experience,” when embarking on their careers after college.

Kara Baisely is an exception. A recent graduate from the Atlantic Baptist University and the Marine Institute in St. John's, Newfoundland and Labrador, Kara gained a job and hands on experience through an internship with the Miramichi River Environmental Assessment Committee. The organization received funding for Kara's position from Environment Canada's Science Horizons program, designed to create a pathway from university to the work world by offering young scientists work experience in their field.

Kara began working with the Miramichi River Environmental Assessment Committee in June of 2007 and completed her internship in December.

“The diversity of the experiences in my chosen field was the strength of working with this organization,” says Kara. “I was involved in seven different outdoor projects that have all been learning experiences and will strengthen my job prospects.”



Kara is pursuing a future in relief work where she plans to improve and maintain water quality in developing countries. Hands on experience with programs like Swim Watch, sub-watershed monitoring, and the Sanitary Shellfish Program will all contribute to her goal. Throughout her internship, Kara collected hundreds of samples and analyzed them in the Miramichi River Environmental Assessment Committee's micro-laboratory to determine levels of fecal and total coliforms.

A survey commissioned by Environment Canada found that between 2001 and 2007, the Atlantic Coastal Action Program (of which the Miramichi River Environmental Assessment Committee is a member) generated 700 person years of employment. Much of this work was created for youth.

Joel Corcoran, chairperson of the Miramichi River Environmental Association, says work internships are key to supplementing a university or college education with real world experiences, by helping to make young professionals more marketable.

“Most interns move into well paid positions within government or industry,” says Joel. “As an educator, I see this role of community groups as a public service. If we are creating conditions that promote the career development of local youth, then we as a community reap the benefit by offering opportunities for our young people here at home.”

For more information, please call (506) 778-8591, e-mail mreac@nbnet.nb.ca, or visit www.mreac.org.





Community Partnership in Action

Northeast Avalon ACAP, Newfoundland and Labrador

In recent years, Northeast Avalon ACAP has undertaken a number of monitoring projects, including water/sediment quality and stress indicators of fish, in the Kelligrews River watershed and specifically, the Nut Brook tributary of this system.

While the Kelligrews River is located within the Town of Conception Bay South, Nut Brook and its tributaries is situated near the outer boundary of the City of St. John's. Outside of the residential neighbourhoods, industrial development around Nut Brook has not followed environmental best practices. The river system is bisected by Incinerator Road, which is heavily impacted by industrial activity from a number of quarries, a septic waste handling facility, a hazardous waste storage facility, a teepee incinerator no longer in use, a landfill and car wreck burial site, a salt storage facility, and a meat rendering plant that recently closed. The overall result is a visual "brown zone" of pollution and destruction of the river and its associated environments.

In partnership with the Kelligrews Ecological Enhancement Project,

Northeast Avalon ACAP has raised awareness about the extent of the environmental problems in and surrounding Nut Brook. In 2007, after numerous reports of contaminant releases into Nut Brook, the provincial Minister of Environment and Conservation created the Incinerator Road Environment Committee, whose membership includes government and industry representatives and members of the ACAP organization and the Kelligrews Ecological Enhancement Project. Northeast Avalon ACAP is currently supporting the work of a team of Masters students from Memorial University who are conducting a risk analysis of Nut Brook. Additionally the committee has recently issued a call for proposals to local environmental consulting firms to undertake a baseline study of the area that will include recommendations for future clean-up initiatives.

Northeast Avalon ACAP and the Kelligrews Ecological Enhancement Committee haven't stopped there. In early October 2008, volunteers of both organizations, as well as staff from one of the quarry operators, Capital Ready-Mix, planted 1,500 native seedlings over the site of the abandoned landfill. It is hoped that through these types of community efforts, Nut Brook will again flow clearly in future years.

For more information, please call Diana Baird at (709) 726-9673, e-mail info@naacap.ca, or visit www.naacap.ca.





ACAP Saint John continues International Cleanup Efforts

ACAP Saint John, New Brunswick

ACAP Saint John organizes annual beach cleanups as our contribution to the Ocean Conservancy's International Coastal Cleanup (the world's largest volunteer cleanup event) and the Great Canadian Shoreline Cleanup, which is the Canadian contingent to this international initiative. Last year 378,000 volunteers in 76 countries took part in the cleanup, removing more than 2.7 million kilograms of debris from shorelines around the world.

In 2008, ACAP Saint John organized four beach cleanups during the weekend of September 27. Sites chosen included the Irving Nature Park in West Saint John, Crystal Beach on the Kingston Peninsula, Harbour Passage and Tin Can Beach in the south end of Saint John. Following the cleanups, all of the participants were invited to a BBQ hosted by the Irving Nature Park.

Despite the rains of Hurricane Kyle, 73 volunteers from groups such as Efficiency NB, Ernst and Young, Xerox, and Wyndham Worldwide braved the weather to help with the cleanups. ACAP Saint John has

been hosting these annual beach cleanups for 15 years and has yet to have one without rain!

Atlantic Emergency Response Team Inc. provided each team with kit bags containing gloves, garbage bags, ropes, first aid kits and data cards. Other sponsors for the event included the Irving Nature Park, Dive Shack, Waste Management, City of Saint John and the Crystal Beach Campground.

Once again the number one item found was cigarette butts followed closely by food containers. In all, a total of 2,000 kilograms of debris was collected from all four locations and included a laptop computer, bottles from the 1940s, and four carpets that were starting to grow into the ground. The data from these cleanups was forwarded to the Ocean Conservancy to be included in their annual International Coastal Cleanup report (www.oceanconservancy.org/site/PageServer?pagename=press_icc). The data is used to determine the source of the debris to help reduce its deposition in the future.

For more information, please contact Crystal Colpitts at (506) 652-2227, e-mail acapsj@rogers.com or visit www.acapsj.com.





Non-profit Cooperation is Sustainable

Quoddy Futures Foundation, New Brunswick

The Quoddy Futures Foundation, formerly ACAP St. Croix, is leading the charge to increase sustainable tourism in the Charlotte County region.

Art MacKay, Director of Development for the Quoddy Futures Foundation says while tourism in the region is currently considered a “down market,” his organization is beating the odds.

“Like many non-profits in Charlotte County, we are a small organization with increasingly limited resources,” says Mr. MacKay. “This year, we increased cooperative partnering between the Ganong Nature Park, Camp Waweig, and Ministers Island – three of the premiere properties in the County. The goal is to increase the community’s ability to thrive economically on sustainable opportunities.”

The Foundation’s Executive Director Kim Reeder says these local non-profits didn’t have the finances to achieve their sustainable tourism goals on their own, so they decided to work together to promote the area’s offerings.

“In these tough times, this type of cooperation will become essential to survival here in Charlotte County and elsewhere,” says Ms. Reeder. “With the assistance of the Quoddy Futures Foundation, Ministers Island has increased its visitations by 24 per cent in a down year and hard work has also seen Camp Waweig approach break-even. We’re now turning our attention to kick-starting the new Ganong Park and Quoddy Learning Centre.”

Staff from all three sites have also engaged in “guerrilla marketing” to attract more visitors to visit and learn first hand about this special area. The organizations’ websites, e-mail lists, listservs, and blogs have become important tools in getting the message out.

Through this type of partnership and cooperation, the Quoddy Futures Foundation is empowering local, individual communities to address environmental, economic and development challenges together as one larger community.

For more information, please contact Kim Reeder at (506) 467-9905, e-mail kimreeder@quoddylearningcentre.org, or visit www.quoddylearningcentre.org.





Shifting Focus to the Economy: Low-income Women Learn What's Needed to Start their Own Small Business

Southern Gulf of St Lawrence Coalition

Recognizing that in addition to the environment, social and economical sustainability are critical components to creating vibrant communities, the Southern Gulf of St. Lawrence Coalition on Sustainability decided to diversify its funding sources and start addressing these two other pillars of sustainability.

With funding support from Status of Women Canada, we recently launched our Women in Coastal Communities – securing a healthy economic future project which consists of hosting eight learning sessions in various coastal communities throughout the Southern Gulf. The sessions are targeted to low-income women so they may learn of the important resources, tools and networks available to start a small business and how to become integral contributors to the sustainability of their communities.

The one-day session includes: demonstrating the vital linkages of a healthy environment and a dynamic economy; guest speakers sharing their entrepreneurial successes; identifying the chal-

lenges to starting a small business and finding solutions; brainstorming on possible business ideas; and revealing tips to writing a winning business plan. Four sessions have been held to date and have been extremely well received with 15 to 25 women participating each session.

While organizing a session in Charlottetown, a group of Chinese immigrant women expressed such enthusiasm that a private Mandarin translator was hired and the session was tailored uniquely to their needs. Additionally, all sessions are being video recorded and portions of each session will appear on the coalition website along with a final report in early 2009.

As a follow-up to this project, the coalition has submitted a second proposal to Status of Women Canada. The goal will be to work closely with two to three women from each community committed to having their business ideas bear fruit.

For more information, please contact Nadine Gauvin at (506) 858-4495, e-mail coord@coalition-sgsl.ca, or visit www.coalition-sgsl.ca.



Ecosystem Indicators and Tools in the Gulf of Maine

The Gulf of Maine Council on the Marine Environment (Council) is a U.S.-Canadian partnership of government and non-government organizations which has focused its attention on the health, environmental quality and productivity of the Gulf of Maine for almost two decades. One of the steps in sustaining the integrity of the gulf is maintaining vigilance over the entire ecosystem, including human communities. To assist efforts in

preserving ecological integrity and sustaining economically and socially healthy human communities, the council formed the Ecosystem Indicator Partnership (ESIP) to determine and report on a series of priority ecosystem health indicators.



ESIP Indicator Selection Criteria

- Scientifically valid
- Responsive to change
- Cause and effect link
- Accurate data available
- Relevant to users
- Comparable regionally
- Useful at different scales comparable to targets, thresholds, or standards
- Indicates at condition, i.e. not just a measurement

The Ecosystem Indicator Partnership is comprised of over 100 volunteer scientists, planners, academics, and others working on six indicator focus areas: coastal development; climate change; contaminants; eutrophication; fisheries/aquaculture; and aquatic habitats. Subcommittees were created for each focus area and members tasked with identifying priority indicators. Indicators were selected using the thorough criteria noted in the side box This year a total of 24 priority indicators were selected for the six focus areas. The list of indicators is available on the Ecosystem Indicator Partnership website at www.gulfofmaine.org/esip.

Following the indicator development process, the partnership produced a state-of-the art web tool called the ESIP Indicator Reporting Tool (see figure). This tool contains datasets and layers that are automatically updated on a weekly basis, providing the user with fresh data. Currently the tool houses data from Gulfwatch, Mussel Watch, and Gulf of Maine Ocean Observing System (GoMOOS) buoys, along with selected data layers on point sources of contamination and eelgrass extent. The public can request data for specific time periods or produce graphs of multiple data sets within the tool.

Through the efforts of the indicator development, plus the addition of useful and updated webtools, the Ecosystem Indicator Partnership is well on its way towards providing people in the region with information on the valuable and diverse ecosystem that is the Gulf of Maine. Utilizing this knowledge will be critical to making informed decisions and assessing the health of the region for current and future generations.

For more information, please contact the Christine Tilburg at (207) 929-8079, e-mail ctilburg@seurespeed.us or visit www.gulfofmaine.org/esip/.