

Illinois-Indiana Sea Grant Impacts



Illinois-Indiana Sea Grant combines research, education and outreach to empower southern Lake Michigan communities to secure a healthy environment and economy. Each year we document our success stories and the implications for local, regional, and, in some cases, international communities. Here are some recent program actions and results.

Green infrastructure becomes policy in Illinois

RELEVANCE: In light of climate change predictions, which include bigger storm events and more flooding, managing urban stormwater will become even more critical in northeastern Illinois and throughout the state. Green infrastructure may provide a useful approach.

RESPONSE: Illinois-Indiana Sea Grant was funded by Illinois EPA to study the standards and costs of green infrastructure as a possible replacement or supplement to conventional urban stormwater infrastructure. The study found that, on average, green infrastructure practices are just as effective as conventional stormwater infrastructure, and are less expensive. Sea Grant's environmental planning specialist presented his final recommendations to the Illinois General Assembly.

RESULTS: The Illinois General Assembly established a \$5 million discretionary fund to support green infrastructure projects in communities around the state. In addition, because of this study, the Chicago Metropolitan Agency for Planning 2040 Regional Comprehensive Plan, adopted in the fall of 2010, recommended incorporating green infrastructure practices in future development.

Sea Grant workshops guide dam removal decision process

RELEVANCE: Many dams built in Illinois and Indiana have stood over 200 years—well beyond their life span. Posing safety and environmental threats, they are in need of repair or replacement.

RESPONSE: Illinois-Indiana Sea Grant, along with the Chicago Wilderness Consortium, has sponsored a series of workshops to inform natural resource managers and others about a variety of stream restoration options and techniques.

RESULTS: In LaPorte County, Indiana, the workshops provided key information to the decision making process as local officials dealt with a 170-year old dam likely to breach at any time. In 2010, with funding from the Great Lakes Fishery and Ecosystem Restoration Program, a section of the dam at Red Mill Pond was removed, the original stream channel was restored, and more than 100 acres of high quality wetlands preserved. These wetlands serve as the headwaters to the Little Calumet River and are critical to the health of the watershed.

Sea Grant provides medicine collection boxes to 15 communities

RELEVANCE: What should we do with unused and expired medicines? Pharmaceuticals have been detected in lakes and streams and in drinking water throughout the country so flushing them is not the answer.

RESPONSE: Illinois-Indiana Sea Grant has partnered with the Prescription Pill and Drug Disposal Program to help develop permanent collection programs in Great Lakes communities. Sea Grant has purchased 15 medicine collection boxes—six of those in 2010—for communities in Illinois, Indiana, and Wisconsin, which now have ongoing pharmaceutical collection programs.

RESULTS: In 2010, 15 Great Lakes communities collected 4,600 pounds of medicine in ongoing collection programs.

With Sea Grant help, 2,900 pounds of medicine were collected

RELEVANCE: What should we do with unused and expired medicines? Pharmaceuticals have been detected in lakes and streams and in drinking water throughout the country so flushing them is not the answer.

RESPONSE: Illinois-Indiana Sea Grant provided critical guidance to the planning and promotion of a single-day collection event spearheaded by Keep Northern Illinois Beautiful. Sea Grant also helped the non-profit organization develop a brochure on the importance of proper disposal and paid for the printing. The event was held June 11, 2010 in three Illinois sites: Machesney Park, Belvidere, and Freeport.

RESULTS: This collection event resulted in the participation of 1,108 households with a total of 2,900 pounds of pills collected and properly incinerated.

Kenya, Ghana develop baitfish and food fish businesses

RELEVANCE: A lack of business knowledge has been a major constraint to aquaculture development in Africa. In Kenya, aquaculture can play a role in helping to protect the threatened native shark-tooth catfish in Lake Victoria; it is being depleted by Nile River perch fishers who use it for baitfish.

RESPONSE: With funding from USAID and expertise from Illinois-Indiana Sea Grant, small- and medium-scale fish farmers in both Ghana and Kenya were trained in all aspects of aquaculture supply chain management and marketing as well about the potential environmental effects of their activities. In Kenya, farmers were trained in hatchery technology and business techniques related to farmed juvenile catfish that can be sold as an alternative to wild-caught baitfish. Specifically, women have been trained in pond construction and catfish breeding.

RESULTS: Farmers have implemented environmental best management practices on their farms, especially in Ghana. New market opportunities have opened for food fish producers in Kenya and Ghana. In Kenya, farmers now successfully sell baitfish in markets along the shores of Lake Victoria. Women bait traders who usually did not have income during the closed season on Lake Victoria now are able to farm and supply bait fish throughout the year. Farmers have successfully accessed urban markets and engaged in collective efforts (commonly called 'clusters' in Kenya) to plan production and manage supply and sales. Kenyan baitfish farmers are using the cluster farming system to improve their marketing capabilities.

Two new shrimp farms start up in Indiana

RELEVANCE: Less than one percent of the farm-raised seafood consumed in the U.S. is produced in the Midwest, but with such a large consumer base, it makes sense for these numbers to increase. In addition to satisfying a hungry market, Illinois and Indiana can provide a ready supply of corn and soybeans for low-cost fish feed as well as potential producers receptive to diversifying their existing farm operations. Aquaculture also holds the promise of improving struggling economies in rural as well as urban counties.

RESPONSE: Each year, Illinois-Indiana Sea Grant holds workshops and hands-on training to introduce potential aquaculture producers to technical and practical aspects of the business. In addition, training is available to producers who are already engaged in aquaculture to enhance their production and the marketability of their products. The Sea Grant aquaculture specialist also provides one-on-one on-site guidance to producers.

RESULTS: In Indiana, 2010 saw the start of two new shrimp farms. RDM Shrimp www.rdmshrimp.com in Fowler is a new family-owned aquaculture business. Their first sale was in December 2010. Bedrock Springs Seafood Farm at Ladoga is now selling Pacific white shrimp raised indoors without the use of chemicals or industrial oxygen.

Water supply plan leads to conservation program

RELEVANCE: With an expected population increase of nearly four million people by 2050, it is estimated that the 11 county northeastern Illinois region could experience as much as a 64 percent increase in water demand. Current sources are not expected to meet all future water demands for the region. Proactive planning is necessary to maintain the sustainability of regional water supplies.

RESPONSE: Illinois-Indiana Sea Grant provided critical data and oversight to the development of Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan, specifically concerning water pricing and water rates. Water 2050 was approved by the Regional Water Supply Planning Group in 2010. The new plan provides a comprehensive framework of recommendations aimed at state, regional, and local governments as well as public water suppliers. Over 200 recommendations cover a variety of topics—from land use policy to water efficiency best management practices. Water 2050 provides regional direction to guide local actions for integrating water supply issues into planning decisions and programs.

RESULTS: An early result of the new water supply plan is a rebate program in Batavia, Illinois that provides a \$50 incentive to residents who replace their toilets with high-efficiency models. These toilets use an average of 1.28 gallons per flush and are on the U.S. EPA WaterSense list. To qualify to be on that list, toilets need to use 20 percent less water than the 1992 Energy Policy Act standard of 1.6 gallons per flush. About 35 residents took advantage of the program in 2010 and a similar number is expected for 2011.

Sea Grant is a primary information source during dredging of contaminated sediment

RELEVANCE: The West Branch Grand Calumet River in Hammond, Indiana is a U.S. EPA Area of Concern because after years of being one of the most industrialized areas of the country, it is heavily polluted. At the same time, it is home to some of the most diverse native plant and animal communities in the Great Lakes Basin.

RESPONSE: Through funding from the Great Lakes Legacy Act and local partners, a three-year dredging project to remove contaminated sediment in the Grand Cal is in progress. Throughout the planning and execution of this project, Illinois-Indiana Sea Grant has played a key role in keeping the community informed, as well as helping EPA provide a sounding board for concerns through flyers, open houses, and public meetings.

RESULTS: The first stretch of clean up is finished with 77,000 cubic yards of contaminated sediment removed or capped along a half-mile of the river. Native grasses, flowers, trees, and shrubs have been planted along riverbanks and upland areas to restore this stretch of the river.

Milwaukee riverfront economy boosted by clean up

RELEVANCE: In 2007, American Rivers magazine called the Kinnickinnic River in Milwaukee, Wisconsin one of the 10 most troubled rivers in the nation. Contaminated with PCBs and other toxins, and lined with concrete in places, the river had become more of an eyesore than a resource.

RESPONSE: Through the Great Lakes Legacy Act, a section of the Kinnickinnic River was selected for remediation. Illinois-Indiana Sea Grant, working with project partners including the U.S. EPA, developed a plan to ensure that local residents were part of the process and that they had ample opportunities to have their questions answered. This project was completed in October 2009.

RESULTS: The removal of 167,000 cubic yards of contaminated sediment and the restoration of the shoreline has led to economic recovery along that stretch of the river. So far, a riverfront restaurant has expanded fivefold with a new boardwalk and boat piers, plus a large outdoor patio expansion with volleyball courts and riverfront

seating. A nearby marina has expanded 2-3 times and can now accommodate larger boats. And the Paul Davis Restoration Co. is building a \$5 million industrial complex along the river.

Water gardening retailers go native in new plantings

RELEVANCE: State and federal agencies are spending millions of dollars each year to control the spread of invasive plants and reverse their impacts in affected habitats. As the invasive Brazilian elodea and hydrilla began to appear in local lakes, the Indiana Department of Natural Resources (IDNR) turned to Illinois-Indiana Sea Grant for help in developing a game plan to prevent future invasive plants from finding their way to Indiana waters.

RESPONSE: The goal was to involve stakeholders in the decision process to inspire a bottom-up approach for taking action. Because invasive plants are often spread through gardening activities, IISG's AIS team put together a working group from the nursery trade—retailers, wholesalers, and hobbyists—plus scientists and representatives from related non-profit organizations. The group has been developing solutions that encompass policy, best management practices, and outreach.

RESULTS: Some results are in the works, but at this point, several water garden business owners who served on the working group are already taking action. One retailer has begun to educate customers about invasive species through on-site classes. The retailer is also guiding customers to purchase more native plants and is using more native plants in pond installations. Another water garden plant supplier has stopped growing and selling more than 10 invasive plant species.

Indiana planning commission incorporates climate change, green infrastructure

RELEVANCE: Climate change is among the top environmental challenges facing society today. It has the capability of impacting global economics, as well as human and environmental health.

RESPONSE: Illinois-Indiana Sea Grant presented a seminar on climate change, land use, and human health impacts to the Northern Indiana Regional Planning Commission (NIRPC) Environmental Management Planning Committee. Thirty people were in attendance. This led to the development of a climate change steering committee, which drafted a resolution on climate change for the NIRPC Board of Trustees. Sea Grant also participated in this process.

RESULTS: The NIRPC Board of Trustees approved the resolution in September 2010, which requires that any future planning and funding efforts that NIRPC puts forth incorporate climate change components, especially green infrastructure.

