How does a cleaner Lake Erie translate to a stronger Ohio economy? Decision makers and elected officials touched, saw, and learned the answers at Legislative Days on Lake Erie on August 4 – 5. The event was hosted by Ohio Sea Grant, Lake Erie Shores and Islands, Ohio State University President E. Gordon Gee, and two members of the Ohio General Assembly. At the opening luncheon in the shadow of Cedar Point’s newest ride, co-hosts Ohio Representative Dennis Murray (D-Sandusky) and Ohio Senator Mark Wagoner (R-Ottawa Hills) spoke about Ohio Sea Grant’s and Stone Lab’s accomplishments and contributions toward a healthier Lake Erie, Ohio’s greatest natural resource, before introducing President Gee.

Gee praised Stone Lab for being “a stellar guide to preserving the quality of Lake Erie. We have faced tremendous challenges and turned them into tremendous research and teaching opportunities for our scientists and students. Ohio Sea Grant’s ability to leverage funds amazes Rep. Murray, as he compares the Lab’s work to alchemy. “The way they are able to take $300,000 from the state and leverage funds from the federal government and other sources and do the great things they do, it’s just magical and crucial for Ohio.”

After a quick ride across the Lake on the Jet Express ferry, attendees toured and explored Gibraltar Island where they met Stone Lab researchers and tried their own hands at science in the field. They sampled plankton, tested water transparency, and pulled a fish trawl from the Lab’s research vessels. The plankton sample showed the water’s algae concentration. Some of the algae, namely the blue-green algae, called cyanobacteria, produce toxins that have been responsible for closing several Ohio public beaches. The fish trawls collected yellow perch, white bass, and emerald shiners, in addition to zebra mussels, round goby, and white perch, invasive species that are impacting Lake Erie’s ecosystem.

Before the event, many participants had known only what they had read in the news about specific issues facing Lake Erie, but when they left, they had heard from scientists about dead zones and nutrient runoff, harmful algal blooms (HABs), and they had seen Asian carp up close.

“The hope is that as our elected officials return to Columbus and Washington, D.C. to make decisions, they will take with them the firsthand experiences and knowledge gained during their visit to our Great Lake,” says Melinda Huntley, Ohio Sea Grant Extension Tourism Program Director. “There’s nothing like a day spent measuring water quality and talking with some of our nation’s top Lake Erie scientists to give our decision makers the information they need to lead change.”

Scientists for a Day

It’s easy to read in the news about Lake Erie’s harmful algal blooms (HABs) and invasive species, but sometimes it’s difficult to fully understand these complex issues until people take an oxygen reading from a dead zone or see for themselves as algae blooms turn the water green.

Legislative Days participants stepped aboard one of Stone Lab’s research vessels and motored out from Put-in-Bay to learn about plankton and HABs. As the plankton sample settled in a jar, Stone Lab Co-Manager John Hageman pointed out the green layer forming on top of the water. “We solved this problem in the ‘80s and ‘90s by reducing phosphorus coming into the Lake and now it’s back,” he says.

Hageman explained that these cyanobacteria have several negative impacts on the Lake. Some produce harmful toxins that lead managers and park officials to close public beaches when toxic concentrations get too high. And if that’s not bad enough, after the algae die, they sink to the bottom and consume oxygen from the water as they decompose. Dead zones form at the bottom of Lake Erie’s Central Basin (between Sandusky, Ohio and Erie, Pennsylvania) where oxygen levels drop too low to support popular sport fish.

Legislative Days on Lake Erie, Up Close

by Matthew Forte, Ohio Sea Grant Communications

Stone Laboratory Co-Manager John Hageman (middle right) explains the reading from an oxygen sensor, which found a sufficient amount of dissolved oxygen at a spot in Lake Erie’s Western Basin. Dead zones form at the bottom of the Lake’s Central Basin where oxygen levels drop too low to support popular sport fish.
The first step in making a decision is collecting information to understand the issue. After seeing some specific concerns up close on the Lake, participants heard from Ohio Sea Grant and Stone Laboratory Director Jeff Reutter about the facts behind Lake Erie issues that may come across legislators’ desks.

One of those issues is nutrient loading. While forests filter runoff water that enters the other Great Lakes, only a precious few scattered wetlands filter the water coming into Lake Erie. Agricultural fields and urban areas cover northern Ohio’s landscape, draining nutrients from fertilizer, manure, and sewage treatment plants into the Lake. Lake Erie is the southernmost, shallowest, and warmest of the Great Lakes, and the combination of nutrients and warm water makes Lake Erie the most biologically productive of the Great Lakes.

Reutter introduced the 50:2 Rule that describes Lake Erie’s importance as a productive ecosystem and a driver for Ohio’s economy. With only 2 percent of the total water in the Great Lakes, Lake Erie produces 50 percent of the fish and is often referred to as the “Walleye Capital of the World.” On the other hand, Lake Superior holds nearly 50 percent of the water, but produces only 2 percent of the fish.

Unfortunately, the same factors that make Lake Erie home to so many fish also make it an incubator for large growths of cyanobacteria that can produce dangerous toxins. Phosphorus and nitrogen, two crucial nutrients in agricultural fertilizer, fuel these harmful algal blooms (HABs).

Researchers agree that if excessive phosphorus continues to enter Lake Erie, the HAB problem will continue to grow worse, but decreasing phosphorus runoff into waterways will reduce the problem. Scientists reduced large blooms in Lake Erie in the 1960s and ’70s by decreasing phosphorus loading by two-thirds. Now, the Lake is experiencing the phosphorus levels it had in the 1970s, when the Lake was so polluted that it was proclaimed “dead” by the popular press.

To guide Ohio’s agricultural fertilizer practices, Ohio Sea Grant and a bi-national team of scientists recently completed a report that makes recommendations for reducing nutrient runoff. “To avoid being regulated,” Reutter explains, “farmers need to be proactive and take the steps recommended in the report to reduce phosphorus loading. Reducing phosphorus levels by two-thirds again will solve the HAB problem.”

The view of the Lake is amazing when you stand at Lookout Point on Gibraltar Island. As the Jet Express ferry makes its regular trips to Put-in-Bay and fishing boats haul in their catches, it’s easy to understand the important role a clean Lake Erie plays in Ohio’s $39 billion tourism economy.

Ohio Sea Grant Tourism Director Huntley says a recent survey shows many people think the water quality of Lake Erie is bad everywhere except near Cedar Point. “Perception is reality in the tourism industry and the advertising dollar is often what drives public perception,” she says. Because the theme park spends a lot of money advertising beyond Ohio’s borders, potential guests are most familiar with these images. People are not as familiar with images from other parts of the Lake because of the lack of state and local tourism advertising budgets. “Who is in charge of shaping the perception of Ohio?” Huntley asks. “In most cases, it is the tourism industry that shapes these perceptions through advertising. Their goal may be to increase visitors, but their advertising efforts also shape perceptions for those who may be interested in relocating businesses to our state.”

For its part in building the capacity of Ohio’s tourism industry to address challenges, Ohio Sea Grant works with the Ohio Travel Association to conduct the Tourism Leadership Academy. Tourism professionals learn how to collaborate with those involved in transportation, historic preservation, economic development, and resource conservation policy decisions, and they get involved with legislative procedures in order to grow Ohio’s tourism industry. “We don’t do anything alone,” Huntley explains. “Instead, we work alongside coastal communities—for example, we recently completed a strategic plan for Ashtabula County’s sustainable tourism—and sometimes we connect those communities with other organizations for assistance.”

Ohio Tourism Director Amir Eylon spoke about how the state is working to encourage sustainable tourism that would create jobs. “The Lake acts as an economic driver because it sustains 114,000 full-time jobs in counties along its coast,” he notes. “Building tourism helps all aspects of the state and brings a valuable return on our investment.”
Legislators had the opportunity to handle and learn about Asian carp and Lake Erie watersnakes. The carp consume food eaten by fish that serve as prey for larger, popular sport fish, threatening the Great Lakes’ $7 billion fishing industry. As outreach and research efforts based at Stone Lab helped the Lake Erie watersnake population grow, the animal was taken off the federally threatened species list this summer.

Middle Bass Island State Park Open for Business

Legislative Days guests had an opportunity to visit Middle Bass Island State Park, escorted by Karen Beckman, Middle Bass Island State Park Assistant Manager. Managing 21 campsites and dock slips for 150 boats is a tall order for Beckman and her team, but word has apparently gotten out about this calm marina. Nearly 40 boats dock there on an average weekday, and it was full every weekend in July and August.

The park’s employees face supply challenges because of its remote location. Planes and boats bring everything to the island, and the price of a gallon of milk shoots up to $7 during the winter, Beckman says. Keeping spare parts on hand for vehicle and equipment maintenance is a must because even if a light bulb burns out without a replacement, Beckman has to wait for the next boat. The island doesn’t have a gas station, making fuel such a valuable commodity that the park keeps its supply under triple lock and key.

Another essential that is taken for granted on the mainland posed a problem for the marina. When the Ohio Department of Natural Resources (ODNR) purchased the land in 2000, the island’s existing wastewater treatment plant and water lines didn’t meet health regulations or provide enough water. ODNR overcame the hurdle by working with the island’s water company to upgrade their systems and build a tall water storage tower.

Lake Erie Shores and Islands West Director Larry Fletcher lends a hand to Karen Beckman, Middle Bass Island State Park Assistant Manager, as she updates legislators and guests on plans at Middle Bass Island State Park.

A Walk in the Park and a Climb to the Top of a Lighthouse

Sharing with visitors and protecting the remaining natural areas on South Bass Island is the goal of the Lake Erie Islands Chapter of the Black Swamp Conservancy. Conservancy board member and Park District Chairman Kelly Faris showed some Legislative Days participants the nine-acre result of a recent collaboration with the Put-in-Bay Township Park District and the Western Reserve Land Conservancy. After walking the trails at the new Scheef East Point Nature Preserve, some Legislative Days guests had an opportunity to visit the Aquatic Visitors Center, an educational facility managed by Ohio Sea Grant through a lease with the Ohio Division of Wildlife.

“We showed them the importance of Lake Erie education,” says Tory Gabriel, Ohio Sea Grant Extension Educator. “By letting the legislators use the microscopes and experience the hands-on displays we have at the Visitors Center, they can better understand the importance of educating the public about how Lake Erie resources matter to people in their everyday lives.”

A visit to the South Bass Island Lighthouse provided an additional treat when boats from the Inter-Lake Yachting Association Race Week rounded the point at the same time, with their spinnakers creating a parade of color.

“A healthy environment is an important factor for attracting visitors.” This was the message while visiting the National Park Service’s Perry’s Victory and International Peace Memorial. “After people see the view from atop Perry’s Victory and International Peace Memorial, they invite their friends back,” says Park Superintendent Blanca Alvarez Stranisky. “We need clean air so people are rewarded when they look out over the Lake from the viewing platform.” Stranisky also gave Legislative Days guests a preview of the planned War of 1812 Bicentennial activities and an update on restoration of the memorial.

A healthy environment is an important factor for attracting visitors.
Tourism Paying Off for Ohio

The importance of tourism is evident at Put-in-Bay and budget allocated to Ohio’s tourism opportunities is a sound investment with the potential to bring good returns for the state’s dollars.

“We have a strong tourism marketing message in Ohio—‘Ohio is Too Much Fun for Just One Day’—and we are receiving 13 new tax dollars for every $1 spent on marketing,” says Matt MacLaren, Ohio Hotel and Lodging Association Executive Director. “However, with only a $5 million budget, our tourism division is only about a third of the average budget of our contiguous states. If we directed more funding to marketing Ohio, we could increase visitor spending and generate tens of millions of new tax dollars.”

Marc McQuaid, Executive Director of the Ohio Travel Association invited participants to join the effort to protect Lake Erie from invasive species and other known threats. “Ohio has a lot to offer,” he says. “Lake Erie shores and islands are home to some of the greatest destinations in the state. The region’s tourism industry is comprised of a vast network of businesses, large and small, that provide services to the visitors and keep them coming back.”

Marc McQuaid, Executive Director of the Ohio Travel Association invited participants to join the effort to protect Lake Erie from invasive species and other known threats. “Ohio has a lot to offer,” he says. “Lake Erie shores and islands are home to some of the greatest destinations in the state. The region’s tourism industry is comprised of a vast network of businesses, large and small, that provide services to the visitors and keep them coming back.”

Visit go.osu.edu/legislativedays2011 to see more photos from the event.