



Georgetown Water Resources Project

2013



Issue Areas

- Ensuring Sustainable, Vibrant Coastal Communities
- Addressing the Effects of Land Use Activity on Water Quality
- Restoring Coastal Habitats

Project Description

At the start of 2013, Georgetown was facing a severe lack of information about its coastal water quality. Outside of bacteria information, there had been virtually no collection of coastal water quality data. Understanding how characteristics like pH and dissolved oxygen (DO) varied around the island was vital to understanding the health of Georgetown's coast and the local economy that it supports. Raising awareness in the community about the importance of water quality and what people can do to protect it is also vital to the long term health of Georgetown's water resources.

The Georgetown Water Resources Project targeted water quality in Georgetown, bringing together volunteers, research and outreach to increase knowledge and awareness about Georgetown's valuable natural resources.

Project Approach

Building knowledge and understanding

- **Establishing a volunteer water sampling program:** Volunteers were recruited from around the region to take part in Georgetown water sampling in 2013. The nine volunteers were trained in water sampling methods and procedures. Volunteers completed sampling from June 27th through October 31st.
- **News and publicity:** Press releases about the volunteer water sampling and other research aspects of the project were shared with local news outlets.
- **College student research:** A Bowdoin College marine biogeochemistry class studied the characteristics of the sediment, water, and clams at two clam flats to determine what caused some of the shells to be thin and others to be thick.
- **Middle schoolers targeting invasives and taking science outside:** A 7th grade science class from Bath Middle School studied and measured invasive green crab populations at 2 sites in Georgetown and 1 site in Woolwich.
- **Taking information about Georgetown water resources and pollution sources to local residents:** Information was shared through conversations and a display at the Georgetown Working League Fair.
- **Officer SALTY in the classroom:** The Georgetown Shellfish Warden and KELT staff brought the Officer SALTY program to 4th grade students in Bath and Georgetown.
- **Raising awareness about water quality and coastal resources:** Programs for high school students, summer campers, middle school students and community members brought people outside to explore and experience clamming, water quality testing and Georgetown's stunning coastal resources.

- Keeping clam flats open: The chairman of the Georgetown Shellfish Committee and the Georgetown Shellfish Warden collected 25 water samples on 6 separate sampling dates to be analyzed for bacterial water quality.
- Sharing information with the region: Information about the Georgetown Water Resources Project was shared at the Maine Beaches Conference.

Testing methods and taking action

- Invasive plant removal in a wetland habitat: An 11,600ft² patch of invasive phragmites was removed and treated at the Little River marsh, a tidal marsh in southern Georgetown, to allow the regrowth of native plants and return of native habitats.
- Cleaning up the coastline: A volunteer coastal cleanup took place over two days in September, bringing in hundreds of pounds of debris from around the island.
- Developing water sampling methods and a volunteer sampler training: 8 sites were identified for water sampling, methods for testing samples were determined, and a volunteer manual and volunteer training were developed.

Results

- 80 water samples from across 10 days and 8 sites were collected and analyzed for characteristics including salinity, temperature, dissolved oxygen, pH, nitrate, nitrite and ammonia.
- A volunteer handbook was developed.
- A final report assessing Georgetown's water quality was compiled.
- The equipment and infrastructure for a volunteer water sampling program was established.
- Information about various aspects of the project was shared in 4 different local newspapers.
- 9 volunteers were trained and certified as volunteer water samplers.
- More than 80 elementary school students took part in the Officer SALTY program.
- More than 50 summer campers took part in programs where they learned about water quality and water resources.
- More than 55 middle school students took part in research and exploration projects on Georgetown's clam flats.
- 46 high school students took part in exploration projects on Georgetown's clam flats.
- 15 college students took part in research projects on Georgetown's clam flats. A poster of project results was developed and provided for the town.
- More than 50 community members took part in exploration projects and programs on and about Georgetown's water resources.

Next Steps/Opportunities

With the infrastructure and knowledge base in place, the Georgetown Water Resources Project is poised to continue and expand in 2014.

More school connections and projects

- More schools in the region are seeking out the Officer SALTY program. With both KELT and the Georgetown's Shellfish Warden experienced in offering this program, more local students will have the chance to learn about coastal resources and water quality in this fun and interactive way.
- The Georgetown School is interested in having its 6th grade participate in water sampling in 2014.
- The Georgetown School is interested in having its students participate in green crab trapping in 2014.

More community outreach

- Planning has started by KELT and Georgetown community members for a water quality presentation focused on Georgetown septic systems and overboard discharges in summer 2014.
- The results of the water sampling in 2013 will be shared with the town through an article in the Georgetown Tide, a newsletter put out bimonthly by the Georgetown Historical Society.
- The Water Quality Report outlining results of 2013 water sampling will be shared with the Board of Selectmen, the Shellfish Committee, the Conservation Committee and all water sampling volunteers.

More sampling and action

- The Georgetown Shellfish Committee is working with the DMR to coordinate any extra sampling that may be needed to open Hall Bay clam flats. This potential extra sampling has been discussed and is targeted for 2014.
- The Georgetown Shellfish Committee is interested in undertaking significant amounts of green crab trapping in 2014 to understand and reduce green crab populations on clam flats.
- The volunteers who participated in volunteer sampling in 2013 have expressed interest in taking part in sampling again in 2014.
- With the materials developed and the equipment on hand, the volunteer water sampling program is poised to continue in 2014.

Needs

The Georgetown Water Resources Project has identified the need for continued work to protect and share information about Georgetown's water resources.

- Green crab population information.
- Green crab trapping methodology and design.
- Continued pH water testing to learn more about the sources of the low pH values identified in the waters at some of Georgetown's coastal shellfish flats.
- Continued DO water testing to learn more about the sites with low DO values.
- More volunteers in 2014.
- Minor supplies to replace those used up in 2013.

- More outreach, specifically targeting overboard discharges and septic systems.

Lessons Learned

- The volunteers who took part in sampling really enjoyed it. Volunteers would often remark about how lucky they felt to be living in the Town of Georgetown and how they were glad of an excuse to visit the places in town where they were collecting samples. Water sampling helped them to feel more connected to the land and water resources in their town.
- Regular attendance at meetings of the conservation commission and the shellfish committee allowed the project to focus on issues that were of most importance to the members of the town who are tasked with the conservation of its natural resources.
- To have a successful outreach program that raises awareness about septic systems and overboard discharges, it is essential that it be scheduled in the narrow window of July and August. So many of Georgetown's coastal property owners are seasonal summer residents. By mid September, many of them have left their Georgetown homes.
- Both children and adults enjoy outreach programs where they can get outside onto the clam flats.

Applicability For Other Municipalities

This approach to water resource conservation that combines education and outreach with research and on-the ground projects serves as a model for other towns seeking to rally their citizens around local water quality. This multifaceted approach raises awareness about the project and works with local people to ensure that the project meets the needs of the community.

Quote From a Town on the Utility of the Effort

"Being a water sampler in Georgetown was a great opportunity to be more connected with this beautiful place. As I revisited collection sites every two weeks during the summer, I was constantly reminded of the magnificence of the natural places of Georgetown and of how vital and fragile our natural resources are.

Our coastal waters make Georgetown the community that it is. I am thankful that the Town of Georgetown has been able to undertake this initiative to monitor and understand our waters."

-Kathy Gravino, Member of the Georgetown Conservation Commission

This document was prepared by the Kennebec Estuary Land Trust under award NOAA CZM NA11NOS4190077 and NA11NOS4190188 to the Maine Coastal Program from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of the National Oceanic and Atmospheric Administration or the Department of Commerce.