



ReClam the Bay
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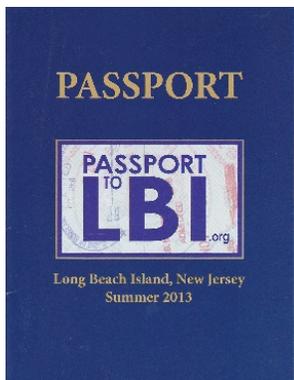
EDUCATION through RESTORATION
 RESTORATION through EDUCATION



Annual Report 2015

Overview

The year 2015 is the 10th year of operation for ReClam the Bay (RCTB), the 501 c3 volunteer organization established by the Barnegat Bay Shellfish Restoration Program (BBSRP) whose partners include Rutgers Cooperative Extension, NJ DEP Bureau of Shellfisheries, The County of Ocean and the Barnegat Bay Partnership. BBSRP has now trained over 164 Certified Shellfish Gardeners who, with other ReClam the Bay volunteers have put about 14 million clams and 4.2 million individual oysters and millions of oysters as “spat on shell” in Barnegat Bay since we started in 2005. But our work is more than just endeavoring to restock a decimated shellfish population. It is really about educating the public and empowering and energizing them to make changes to their life style.



RCTB the NJ Maritime Museum took the lead in 2013, 2014, 2015 to establish the **Passport to LBI** to combine the outreach efforts of many non-governmental organizations including:

1. Alliance for a Living Ocean ALO
2. Long Beach township
3. Beach Haven Fishing
4. LBI Museum
5. LBI Foundation of Arts & Sciences
6. Lighthouse International Film Festival
7. Mordecai Land Trust
8. NJ Maritime Museum
9. Southern Ocean County Chamber of Commerce
10. Viking Village
11. Ocean County Library
12. LBI Chamber of Commerce



Each organization promoted the other’s activities and we pooled our resources to create a full page ad in the SandPaper - weekly paper on LBI. Kids and adults enjoyed the variety of learning experiences and getting their passport page stamped at the different venues. (It was GREAT for tourism too) Pulling together enabled RCTB to reach about 10,000 people in 2015, which is about our average annual draw.

The message is simple a major problem

in the Barnegat Bay is too much nitrogen which causes both healthy and unhealthy algae to grow beyond the ability of nature to reach a balance. Since clams and oysters are filter feeders, their natural



feeding process can have a positive effect on the nitrogen in the bay. However, clams and oysters can't improve things on their own. The education sessions not only tell a lot about the clams and oysters that we grow, but also how people can be proactive and make changes to their life style. Things like riding bikes rather than burning fossil fuel in a car or, using less nitrogen based fertilizer, or building a rain garden, since plants can soak up the nitrogen that comes out of the air before it gets in the bay will all help. RCTB gets people involved by engaging them in growing shellfish from tiny seeds (the size of a pencil point, in June) to the size of an M&M candy by October. This close involvement establishes a sense of caring (stewardship) that helps people to see the reason to change behavior first hand.

This annual report covers:

- Outreach and education activities
- Growing Shellfish
- Investment in The Estuary
- Members
- Looking to the Future

Outreach and Education - The core of our outreach are our Certified Shellfish Gardeners, who enroll in a course conducted by Rutgers Cooperative Extension and the BBSRP. The course includes 24 hours of classroom training and a minimum of 20 hours of internship. Our goal every year is to increase public participation in ReClam the Bay activities. Since the people we want to reach are those who love the ocean and the bay, they are the ones who visit during the summer. Fun, *hands-on* education is a *home run*. It meets several goals of Governor Christie's 10 Point Plan for Barnegat Bay, supports the NJ Department of Environmental Protection Agency, and makes the region, including Barnegat Bay, an attractive tourist destination.

In 2015 RCTB continued to improve visual aids and *hands-on* activities to expand our outreach programs. We maintained and deepened our relationships with our partners including: Cattus Island, Viking Village, NJ Maritime Museum, Tuckerton Seaport, Island Beach State Park, LBI Foundation for the Arts and Sciences, Long Beach Township, Brick Township and Surf City Borough. Well received children's events included working with Alliance for a Living Ocean with a *critter roundup* that involved interactive shellfish demonstrations and seining. Also in its fourth year in 2015, was "ReShell the Bay" held at the Long Beach Township Park where kids decorated shells that will be used to expand the oyster reef off the Toms River. All of these were promoted through social media and supported with weekly newspaper ads that were part of the NJTT grant.

RCTB provides education to classroom students too. RCTB, working with Rutgers Cooperative Extension and the BBSRP, has established a curriculum that uses the growing of shellfish in the classroom to link science, math and other educational skills together. *Shellfish in the Classroom* enables teachers to engage students in the science necessary to improve and protect Barnegat Bay. Since students take their lessons home, we believe students can initiate changes to family behavior that will help improve the bay. A pilot program, *Shellfish in the Classroom*, still offers great promise, but is resource dependent and we are limited.

2015 Report

The primary goal of the RCTB/BBSRP program is to help people better understand the bay, water quality and things they can do to improve Barnegat Bay. As part of that effort we keep growth records that stimulate questions about nutrition and water quality. We have kept growth records relating supplier to upweller and, upweller to location. This year we are not providing data because we experienced several major equipment failures that caused three problems. 1) Growth was diminished due to restricted water flow, so growth patterns were interrupted until equipment was repaired. 2) Some stock had to be relocated and that altered the ration of food to animals (increased the number of mouths to feed) at the recipient upweller. 3) When stock was moved it had to be mingled with other supplier stock and we were unable to maintain batch to upweller relationships.

Clams - Planting – Recovery - Distribution. The number of seeds planted is based on the *yield*, which is the estimated number of clams received from the hatchery minus runts and corrections to the estimates. Yield is always lower than the estimated number purchased. This lower number is the result of “cull”, the very small clams that are not growing well, that are taken out of the system. Because of the equipment problems and the cull, the yield data for 2015 are skewed so they are not reported. In 2015, a total of 620,000 seed clams were planted: 300,000 were planted at Waretown and 320,000 at Sedge Island. RCTB took up 44,400 from earlier years and they were distributed at sites selected by the upweller captains.

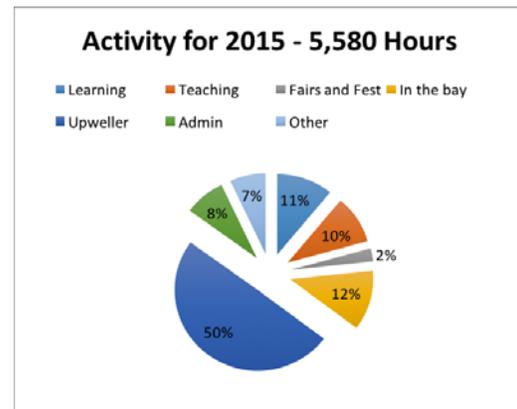
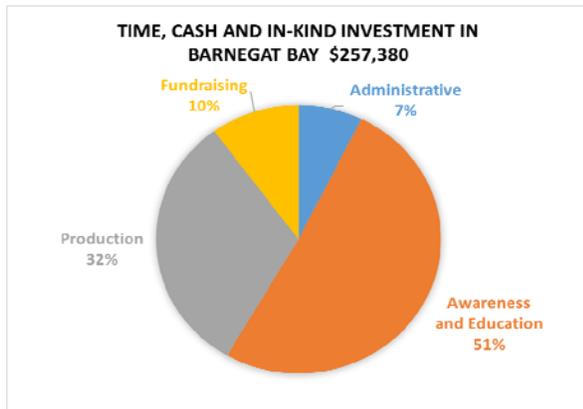
Oysters – *Spat* is the industry term for baby oysters. RCTB grew oysters using two techniques: traditional upwellers and *spat on shell*. About 100,000 were grown in the traditional upwellers. The upwellers were located at Cattus Island, Mantoloking, Barnegat Light, Surf City, Brant Beach and Beach Haven. Growth is not being reported in 2015 due to the problems identified earlier.

Oysters are also grown using a technique called *spat on shell*. In this technique, eyed larvae (a particular time in their development, just prior to “set”) were introduced to a mixing tank. In time many “set” on large pieces of surf clam shell placed in the mixing tank. A piece of shell will have a colony of from 75 to 100 spat. The advantage is that the large shells provide a habitat and predators tend not to attack the juveniles. This year about 14% of the 2.7 million eyed larvae did “set.” 2015 we approached the industry average of 15%. In past years we have experienced, about 8%. RCTB is studying ways to increase the yield and will experiment at two sites in 2016.

Planting - RCTB divided the oyster planting between the oyster reef and Good Luck Point at Toms River and a shoreline restoration project at Mordecai Island in Beach Haven. We retained a small quantity, (grown in open water at Sedge Island lease) in order to have some live specimens for Shellfish in the Classroom and other teaching events.

Recovery – RCTB does not recover oysters that have been released.

Investment in the Barnegat Bay Estuary – RCTB investments come from a variety of sources. Grants and In Kind Services \$118,000, and Volunteer Time - \$139,500 (5,580 hours), result is an investment of \$257,380 in the future of The Barnegat Bay Estuary.



Members – RCTB members are really environmental stewards. They lead by example and care for our environment while, at the same time, teach others how to take responsibility and, change the bay for the better. RCTB attracts several classes of volunteers. One group is Certified Shellfish Gardeners. In 2015, thirteen new people graduated from the BBSRP class.

Our strength comes from Resident Volunteers (59 from earlier years and about 8 new ones) who participate in everything from administrative functions, to upweller captains, construction, education and project management. RCTB also relies on about 50 Practical Volunteers who are kids and adults who help with upweller cleaning, supporting our educators, attend fairs and festivals and hand the many little things that come up while raising about 1 million shellfish and reaching over 10,000 people each year. RCTB is especially pleased with our 3 interns from schools and colleges, and about 24 local and vacationing children who assist the teams that maintain the upwellers. The total of about 115 volunteers devoted 5,580 hours of service.



Looking to the future – 2016 will see a continuation of the efforts to 1) Educate, 2) Raise awareness 3) Grow shellfish, 4) Learn more about scallops and ribbed mussels and 5) Learn more about the bay as a habitat so we can better monitor and improve conditions. We will also be working closely with the Mordecai Island Land Trust to use shellfish to construct a “living shoreline” to stabilize the Mordecai Island located just off Beach Haven. RCTB can point proudly to the number of people that we reach and teach throughout the year, but in 2016 the emphasis will be on ACTIVE Stewardship.

- Our School programs will have *Take Home* activities so students will report back about things that they did after school to help.
- Presentations to municipalities and civic organizations will present actionable challenges with feedback mechanisms to identify what people did with the new knowledge that RCTB provided.
- Presentations to the general public at fairs, festivals, museums and parks will include



actions that people can accomplish and report back through www.reclamthebay.org

- We will be working with local, state and federal officials to enlist their aid in encouraging and supporting citizen involvement.
- We will continue to build relationships with other organizations to link the culture, heritage and the environment to instill pride and stewardship out of a feeling of understanding and ownership.

Outreach 2016

RCTB is reaching more deeply into the community in two different geographical areas Traders Cove in Mantoloking and the Nature Trail and Field Station at the Long Beach Island Foundation of the Arts and Sciences in Loveladies on LBI. RCTB will also participate in two different shellfish studies. One will be the continuation of a program started in 2015 to better understand bay scallops and new study to better understand ribbed mussels.

On land, authorized by Brick Township at their park at Traders Cove, placed, with funding from a grant, RCTB is establishing an interpretive center around an upweller. This center will extend the reach of RCTB to the northern most portion of Barnegat Bay, now completely surrounding the body of water we hope to protect. Traders Cove Park / Marina will be a busy location because of its marina and location next to an adjoining County Park. The projected building of a restaurant at the location will further enhance visitor traffic to the teaching facility, making this one of the most frequently visited RCTB locations.

The bay scallop study deals with a species of shellfish, which has all but disappeared from the Barnegat Bay system, bay scallops. Why scallops? Well they are little different...They swim and they have blue "eyes"! And another thing, scallops are very dependent on eelgrass and eelgrass is important to the health of our ecosystem. So, teaching people about scallops will also teach them about the loss of scallop habitat (eelgrass). Where has all the eelgrass gone? The culprit again is too much nitrogen. Eelgrass needs sunlight and, because of turbidity resulting from nitrogen spiked algae blooms, the sun cannot penetrate the water to reach the sun-starved eelgrass. So, teaching people about scallops will also teach them about the problems with the bay and what they must do to correct it.

Ribbed mussels are very interesting creatures because they can thrive even higher on the marsh edge than oysters. This is important because they stabilize the shore line and are specifically adapted to deal with sea level rise. However, there is very little known about how to cultivate them for use. RCTB is joining with Mordecai Island Land Trust and LBI Foundation of the Arts and Sciences, (who have a Field Station and 22 acres of marsh) to study the mussels to better understand their life cycle especially in Barnegat Bay.