

Commercial

Shoals Marine Laboratory

Appledore Island, Kittery, ME

Profile

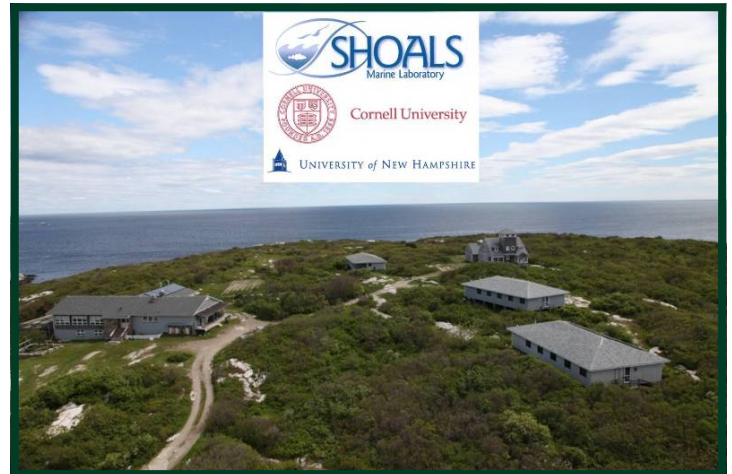
- Ecologically sensitive site
- Operated jointly by Cornell University and the University of New Hampshire
- Over 100 students stationed for 4 months studying ecology, marine biology, and sustainability
- Very little fresh water available
- Diesel powered pumps transport fresh water and wastewater around the island
- Wastewater treated with high doses of chlorine, which is ferried to the island, is pumped out to the surrounding ocean
- State of Maine ceased issuing overboard discharge permits
- Costly desalination process used to create fresh water
- Pumper trucks ferried to the island every 2-3 years to empty septic tanks

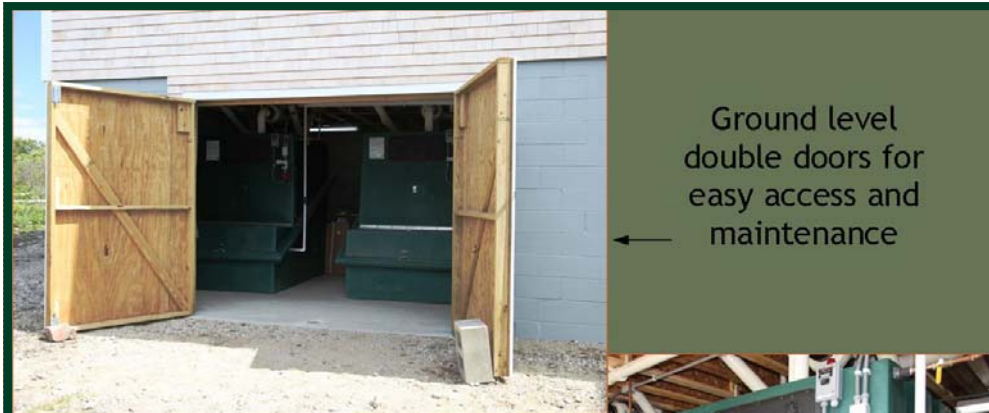
Challenge

- Reduce costs
- Conserve fresh water and fuel
- Reduce air pollution from diesel usage
- Eliminate polluting discharge from traditional toilet system
- Reduce solid waste from toilet usage
- Minimize/eliminate impact on natural habitats

Solution

- Added "water conservation" building to student center
- Installed Clivus composters with Nepon foam-flush toilets
- Drastically reduced fresh water usage in toilets by 97%
- Reduced wastewater and the cost of its treatment
- Reduced solid waste from toilets by 95%
- Extended length of time between septic pump-outs
- Fewer trips between mainland and island for waste treatment purposes
- Lowered expenditures on diesel fuel, its usage, and the pollution it produces
- Maintained or improved the integrity of natural habitats





Ground level double doors for easy access and maintenance



Composters in basement directly below restrooms



Men's composter with 2 foam-flush toilet pipes, 2 urinal lines, and vent pipe

Women's composter with four 4" foam-flush toilet pipes and 4" vent pipe

Please CONSERVE WATER
Flush only when necessary!

SIGN IN BATHROOM STALL with TRADITIONAL FLUSH TOILET ↑
SIGN ON DOOR OF FORMER RESTROOM ↓

These toilets are no longer functional. Please use the compostable ones.

Traditional toilets were replaced with Nepon 3-ounce foam-flush toilets on Clivus composters. Students can now conserve fresh water without a second thought!

