

White Island Pond Phosphorus Inactivation Treatment

Background

The [Department of Marine & Environmental Affairs](#) has been awarded a competitive s.319 grant for the White Island Pond Phosphorus Inactivation Project. White Island Pond, a Great Pond under Massachusetts Law, is a shallow lake listed in category 4a of the 2012 Massachusetts Integrated List of Waters with a Total Maximum Daily Load (TMDL) for phosphorus. Previous rounds of s.319 and 604b funding have supported a strategy to control watershed phosphorus inputs. High anthropogenic inputs of phosphorus have settled into the sediments over many years. The internal sediment is a major contributor of the total phosphorus budget and an alum treatment or similar phosphorus control is needed to remove phosphorus from the water column and sequester the phosphorus in the lake sediment. Project Partners include two bog owners and the [White Island Pond Conservation Alliance](#).

Funding

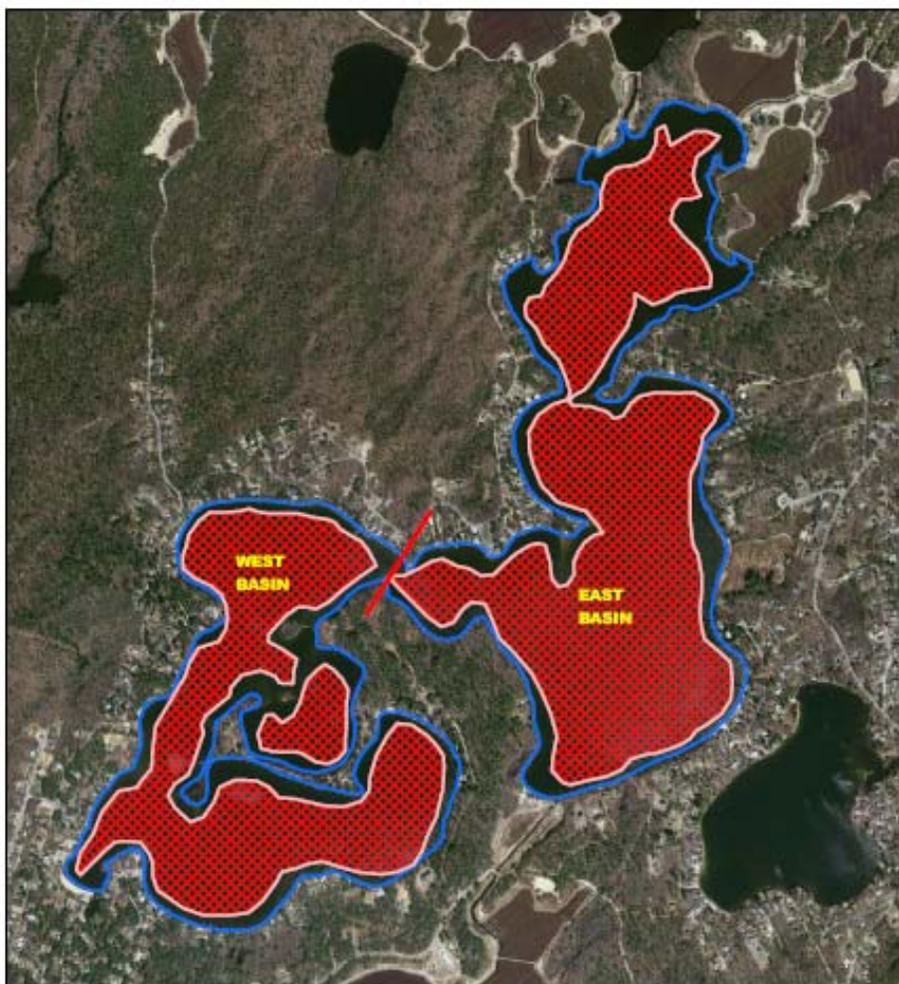
| | |
|----------------|--|
| \$173,539.50 | Cranberry Bog Owners & Homeowners (1st Treatment – Completed Spring 2013) |
| \$260,232 | s.319 Grant DEP (2nd Treatment) |
| <u>\$3,240</u> | Town In-Kind Match – Env Technician |
| \$437,011.50 | Total Project Cost |

This project has been financed with Federal Funds from the Environmental Protection Agency (EPA) to the Massachusetts Department of Environmental Protection (the Department) under an s.319 competitive grant. The contents do not necessarily reflect the views and policies of EPA or the Department, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

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Schedule (2014)

| | |
|-----------------|------------------|
| Mobilization | March 27 |
| Pilot Treatment | March 28 |
| Monitoring | March 29 |
| East Basin | March 31-April 5 |
| West Basin | April 5-April 9 |



| | | | | | |
|---|------------------------|---------------------|--|---|--|
| White Island Pond PlymouthWareham, MA Treatment Areas | | | Legend: |  0 320 640 1,280 1,920 2,560 Feet |  |
| FIGURE: 1 | SURVEY DATE: 3/2014 | MAP DATE: 3/2014 |  | | |

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Algae Blooms in White Island Pond



Photo Credit: MassDEP



Photo Credit: Jim Sullivan

What is an algae bloom?

Algae blooms form in fresh water when cyanobacteria (blue-green algae) grow quickly and form scums or mats in the water. Some, but not all, blooms can produce toxins harmful to people and animals. These are called harmful algae blooms.

What does an algae bloom look like?

The pictures above show what an algae bloom may look like. The water will resemble pea soup or thick paint. Algae blooms are usually green but could be brown or red.

Who do I contact when I see an algae bloom?

Contact your local Board of Health and the [MA Department of Public Health](#) (617-624-5757).

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From MDPH Website

What causes algae blooms?

Certain environmental conditions, such as

- warm weather
- sunlight
- excess nutrients in the water help blue-green algae grow faster
- Excess levels of nutrients in water bodies can come from human-related sources
- Phosphorus and nitrogen are two important nutrients used by blue-green algae in their growth. They are found in fertilizers and human and animal waste.
- Examples of sources that can input large amounts of nutrients to water bodies are leaking septic or sewer systems, stormwater runoff, lawn fertilizers, pet and wildlife waste, and agricultural activities.

What are the possible health concerns of harmful algae blooms?

Health concerns from harmful algae blooms and their toxins vary depending on the type of exposure, and the amounts and types of toxin present.

- Contact with these algae can cause skin and eye irritation.
- Ingesting small amounts can cause gastrointestinal symptoms. Ingesting large amounts of toxins may cause liver or neurological damage.
- Inhaling water spray with algae in it can cause asthma-like symptoms.
- Small children and pets are more susceptible to the effects of toxins than adults.

Livestock and pet deaths from ingesting algal toxins have occurred. If you see water that appears to have an algae bloom, do not come into contact with or ingest the water. Treating water by boiling does not get rid of any toxins present. Prevent contact and ingestion by kids and pets. Dogs can get very ill and even die from licking algae off of their fur. Rinse dogs off immediately if they come into contact with an algae bloom.

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Five things YOU can do to make a difference

1. MAINTAIN YOUR SEPTIC SYSTEM

Septic systems require regular maintenance. They need to be pumped and inspected every three to five years, depending on usage.

2. PICK UP PET WASTE

Clean up after your pets for your health and the health of our water. When left on streets or lawns, pet waste can wash into a pond, directly or through a storm drain.

3. DO NOT FEED WATERFOWL

Please do NOT feed waterfowl (ducks, geese, swans) as the droppings include nutrients and bacteria that can be harmful to water quality and human health.

4. LIMIT FERTILIZER USE

Limit use of fertilizers, herbicides and pesticides near shore lines and especially before a rain storm. Use organic and/or phosphate-free fertilizer. Have your soil tested to see what nutrients it needs.

5. USE A RAIN BARREL

Collect rainwater from rooftops to use on lawn or garden areas. This will help to reduce stormwater runoff as well as reduce your water bill.

