

# Thames River Basin Partnership Floating Workshop XVI





# Thames River Basin Partnership

The Thames River Basin Partnership is a voluntary, cooperative effort to share organizational resources and to develop a regional approach to natural resource protection. The partnership grew out of locally led workshops held by the region's Soil and Water Conservation Districts.

## Our Mission

- Protect the region's agricultural and natural areas being threatened by land use changes.
- Protect ground and surface water quantity and quality being threatened and degraded by contamination.
- Protect the region's biodiversity.
- Improve the coastal zone resource conditions.



# Who are the Thames River Basin Partners?



Government and non-profit organizations, educational institutions, industries and municipalities with a shared focus on natural resource conservation in the greater Thames River watershed basin.



This workshop was sponsored in part by Millennium Power through The Last Green Valley and in partnership with the Eastern Connecticut Conservation District.



# Floating Workshop XVI Planning Committee

- Jean Pillo
- Anne Roberts Pierson
- Joellen Anderson
- Penny Parsekian
- Chris Cox







Previous ways we have  
floated in the last 15 years



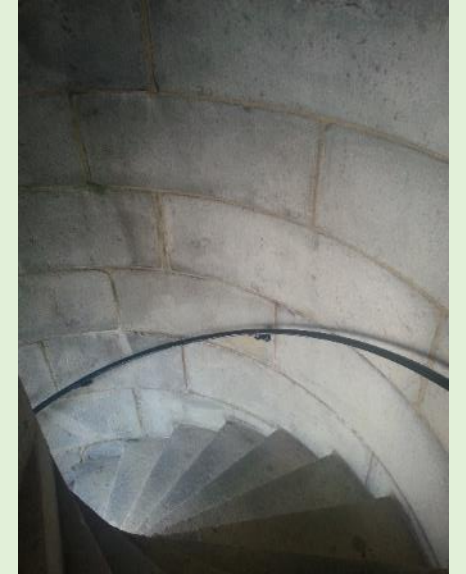
# Workshop Agenda

- 12:00 - Registration/lunch
- 12:15 - Welcome – TRBP Coordinator Jean Pillo
- 12:30 - Keynote address – Thames River Heritage Park, Chris Cox and Penny Parsekian
- 1:30 - Break – transition to boat dock
- 2 PM boats depart for New London City Pier – short walk to Custom House Maritime Museum
- 2:25 – Welcome to the Custom House Maritime Museum
  - US Navy – Environmental Stewardship in the Thames River - Mike Brown and Tracy McKenzie
  - New London waterfront district tour – Penny Parsekian
- 3:20 – boats depart for Fort Griswold stop, Groton
- 3:30 – Tour of City of Groton Pollution Abatement Facility or hike to Fort Griswold
- 4:40 – boats depart for Fort Trumbull
- 5:00 – end of workshop

# TRBP Floating Workshop XVI began at Fort Trumbull State Park in New London, CT.



**Workshop attendees were invited to tour the fort before the workshop officially started.**



**An early style of watershed protection perhaps???**



# TRBP Floating Workshop XVI began at Fort Trumbull State Park in New London, CT.

## Fort Trumbull State Park Conference Center



**Bill Reid demonstrates one of the smaller cookies available for our workshop participants.**

# TRBP Floating Workshop XVI began at Fort Trumbull State Park in New London, CT.



Jean Pillo, Thames River Basin Partnership Coordinator, welcomes the workshop participants and provides a brief history of the partnership and summary of previous Floating Workshops.



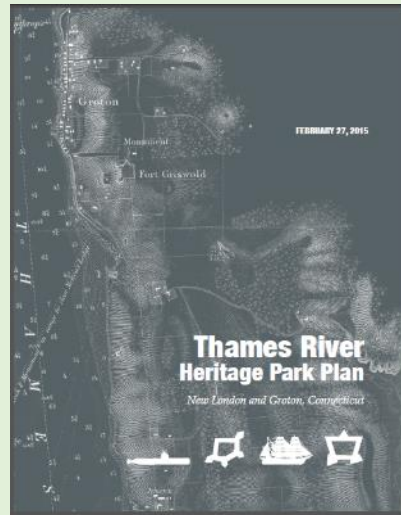
# TRBP Floating Workshop XVI began at Fort Trumbull State Park in New London, CT.



**Penny Parsekian**



**Chris Cox**



The Plan is the product of a Yale Urban Design Workshop

## Scope of Work and Purpose Goals

- Community building focused on the heritage sites within the park,
- To market the park with the water taxi program,
- Research and build an understanding of the region's heritage and the market for the Park experience,
- To support infrastructure within the park recommended in the Yale Plan, especially the Nautilus dock and the Coast Guard Museum downtown,
- To enable economic development activity in sustainable ways,
- Develop collaborative, capacity building history and culture projects to benefit students, residents, and visitors,
- To build wider online access to public libraries, museums, parks and historic sites, especially for young people,
- To develop an experimental learning environment that illuminates the character and history of the region, featuring where we live, who's lived here before us, and what is happening now.

# Thames River Heritage Park Sites and Other Attractions

## **Heritage sites:**

- Submarine Force Museum and USS Nautilus
- Fort Griswold Battlefield State Park
- Groton Monument and House Museum
- Fort Trumbull State Park
- Custom House Maritime Museum
- Shaw Mansion
- Nathan Hale School House
- Hempsted Houses
- US Coast Guard Academy Museum
- Lyman Allyn Art Museum
- Avery-Copp House
- Ebenezer Avery House
- Mother Bailey House
- Old Town Mill
- Monte Cristo Cottage

## **Other cultural attractions:**

- Groton Bank
- Bill Memorial Library
- Groton Congregational Church
- New London Historic Waterfront District
- Garde Arts Center
- Hygienic Art
- Whale Oil Row
- SUBVETS WWII National Memorial East
- The Gallery at Firehouse Square
- Ledge Lighthouse
- Mystic Whaler

Visit <http://www.thamesriverheritagepark.org> for more information about the Thames River Heritage Park

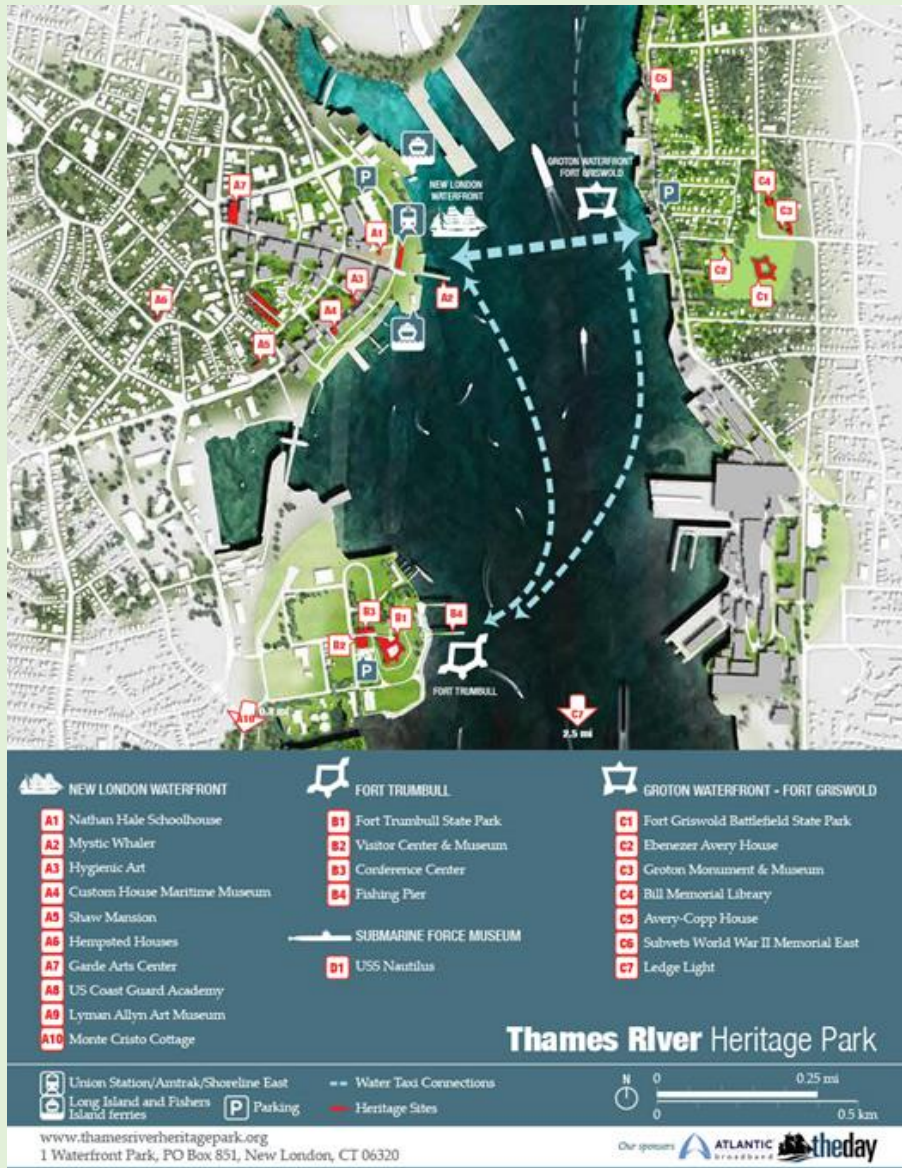


# Where the TRHP and TRBP Overlap

Each group shares a common goal: To improve access to the Thames River Waterfront



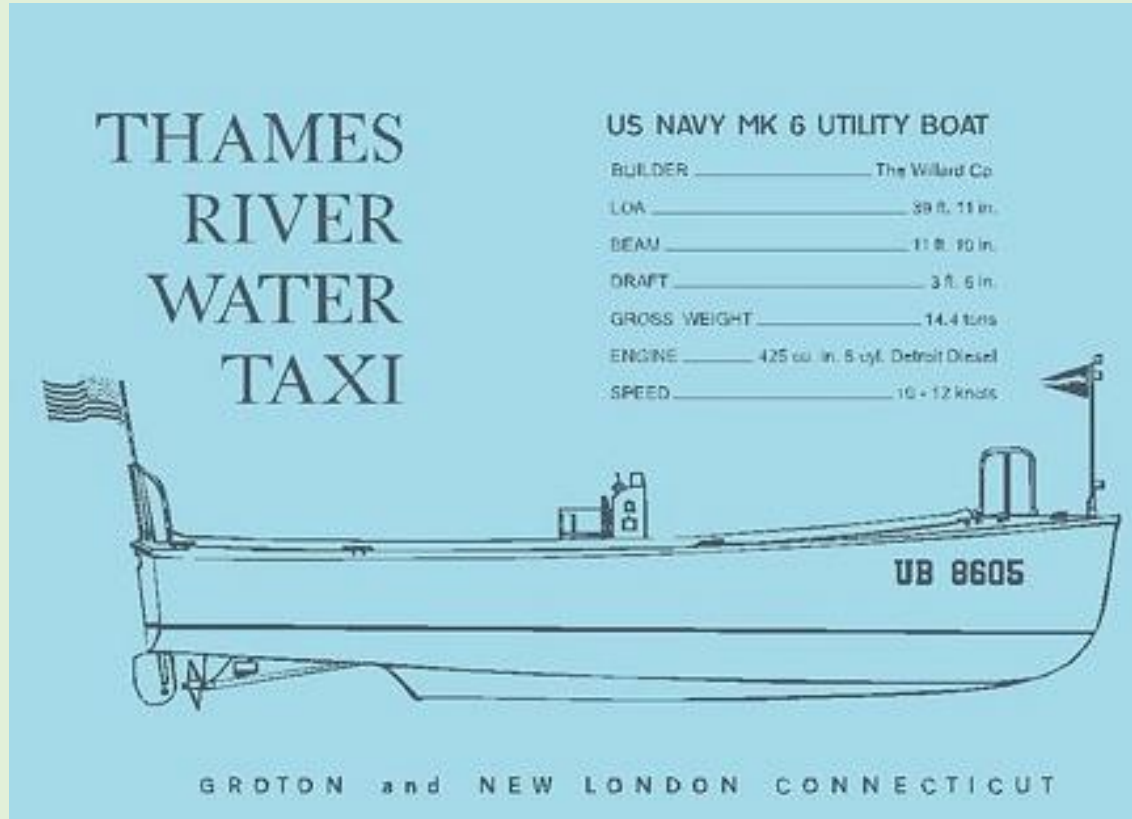
# Phase 1 of the Water Taxi Service



- Fort Trumbull State Park
- New London Waterfront Historic District
- Fort Griswold



# Connecting the sites using the Thames River Water Taxi



Two former US Navy utility vessels were donated to the Thames River Heritage Park for use as water taxis to link the major heritage sites. Due to unforeseen paperwork delays, the Thames River Water Taxi was not available in time for the TRBP Floating Workshop on June 17, 2016.



Through the power of the Thames River Basin Partnership, our Partners provided alternate boats so the workshop could go on as scheduled.

**US Fish and Wildlife Steward B.  
McKinney National Wildlife Refuge**



**Project Oceanology**





# First stop – the New London Historic Waterfront District

**This intermodal transportation hub links a deep water port, trains, ferries, buses, cars, pedestrians and now water taxis.**





Sites along the way  
to our next stop.





## At the Custom House Maritime Museum

Custom House Maritime Museum is the home of the New London Maritime Society and still is an active US Custom Office.

The building was designed by Robert Mills, architect of the Washington Monument and U.S. Treasury Building.

The Custom House was built in 1835 to facilitate growing overseas trade and tax collection of imported goods on the waterfront.



# At the Custom House Maritime Museum

**Bill LaRoue welcomed our workshop guests to the Museum.**



**Floating Workshop attendees at the Custom House Maritime Museum**

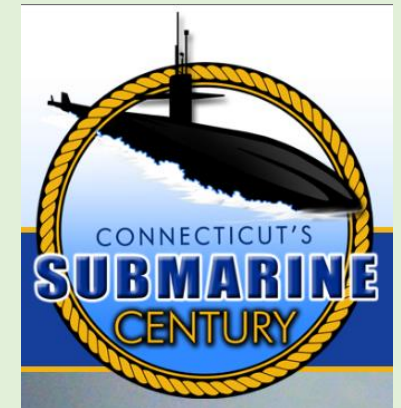




# At the Custom House Maritime Museum

Floating Workshop attendees got an overview of the US Navy Environmental Stewardship Programs at Naval Submarine Base in New London, given by Tracy McKenzie.

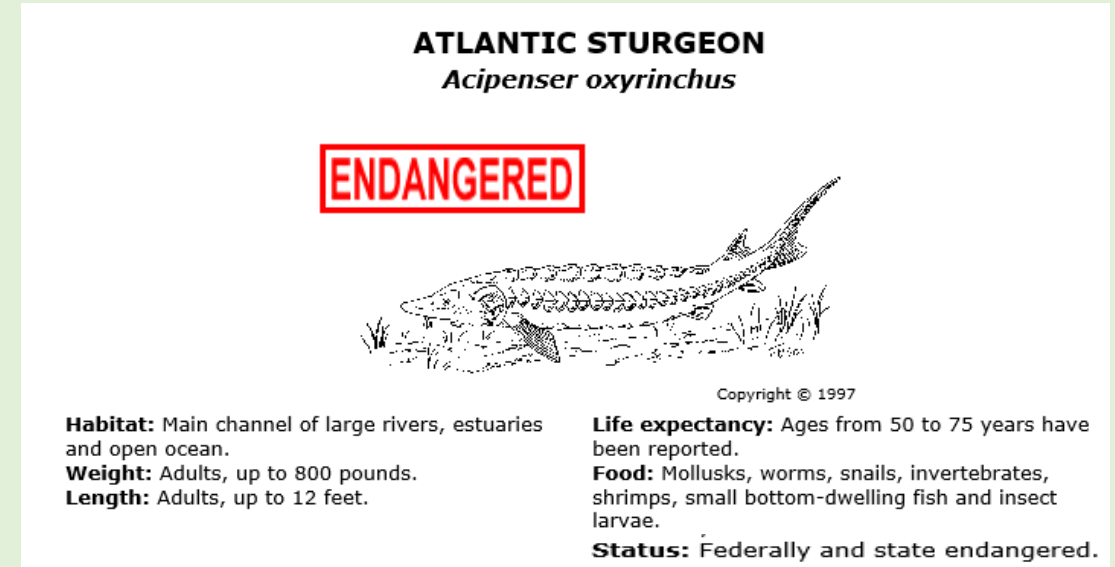
- We were updated on the status of their environmental clean up projects;
- We learned of the baseline monitoring for water quality, plant and animal species in the Thames River, necessary for their permitting requirements;
- Also, the US Navy is celebrating 100 years in New London, the Submarine Capital of the World!



1916 - 2016

# At the Custom House Maritime Museum

- Fish surveys using telemetry equipment conducted in 2015 detected an Atlantic Sturgeon in the Thames River.
- Atlantic Sturgeon have not been recorded in the Thames River since the 1980s.
- Follow up action will include placing telemetry sensors in the Thames River to learn more about how this species uses the habitat in the Thames River.



<http://www.ct.gov/deep/cwp/view.asp?A=2723&Q=325960>



Next stop on the tour -  
The Groton Wastewater Treatment Facility or Fort Griswold



# Groton Wastewater Treatment Facility

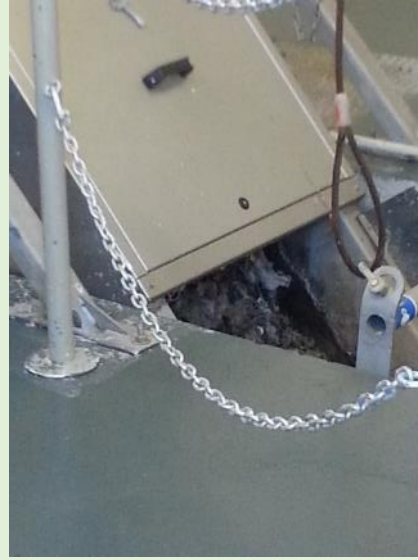
Josh -- Our tour guide



This treatment facility removes more nitrogen than required by their permit. The surplus becomes a credit that can be sold to other facilities that exceed their limit.



# Groton Wastewater Treatment Facility





# Fort Griswold Battlefield State Park

**163 stone steps to the top of the monument**



This is the historic site where, on September 6, 1781, British Forces, commanded by the infamous Benedict Arnold, captured the Fort and massacred 88 of the 165 defenders stationed there.



**Views from the top of the monument courtesy of Bill Reid.**



Before re-boarding the boats, the workshop participants got a quick overview of a nearby stormwater retrofit project at the Groton City Hall.



Jean Pillo of Eastern Connecticut Conservation District describes tree filters installed to reduce pollution in Baker Cove.



## Birch Plain Creek Tree Filters

**What is a Tree Filter?**  
A Tree Filter is a self-contained water treatment system that uses natural processes to help clean stormwater by filtering the water through a specially designed soil mix to remove pollutants. The tree filter is designed to capture at least the first one inch, or "first flush," of run-off from rainfall or snowmelt, which contains the highest amount of nonpoint source pollution, from the surrounding area. Each Tree Filter unit in this installation is customized to specific conditions at this site and is designed to treat run-off from an area approximately 1/4 to 1/2 acre in size.

**What is Nonpoint Source Pollution?**  
Nonpoint source pollution (NPS) is pollution that cannot be traced back to a specific, identifiable "point" such as a factory or sewer pipe. NPS pollution occurs when rainfall or snowmelt moves over and through the ground. As the runoff flows, it picks up and carries away natural and human-made pollutants, depositing them into lakes, rivers, wetlands, coastal and ground waters. In Connecticut, these pollutants ultimately end up in Long Island Sound, where they can harm fish, shellfish and other wildlife populations, kill native vegetation, promote the growth of nuisance algae, foul the water, and make recreational areas unsafe and unpleasant.

Pollutants contained in runoff can include:

- Sediment
- Oil, grease and toxic chemicals from motor vehicles
- Pesticides and fertilizers from lawns and gardens
- Viruses, bacteria and nutrients from pet waste, failing septic systems and sewer line leaks
- Road salts
- Heavy metals from roof shingles, motor vehicles and other sources
- Heated water from dark impervious surfaces such as parking lots, streets and rooftops
- Trash

**Why Have Tree Filters Been Installed Here?**  
The storm drain systems at the City Hall and Washington Park drain into Birch Plain Creek, a primary tributary to Baker Cove. Stormwater from the City Hall parking lot and Washington Park contains pollutants including sediment, nutrients, automotive chemicals and bacteria. Working in tandem with other stormwater management practices at this site, these tree filters intercept and treat stormwater before it is discharged to Birch Plain Creek (and ultimately Baker Cove). As a result, these tree filters reduce water pollution, improving habitat quality for the plants and animals that live in the Cove, and making it cleaner and safer for recreation.

**How Do Tree Filters Work?**  
Tree filters harness the power of nature to do their work. Tree filters are based on the natural process of bio-remediation. The soil in this tree filter is a specially engineered mix of sand, loam and compost. As stormwater from the driveway and parking areas flows through this soil mix, micro-organisms in the soil capture and break down pollutants, even oils and gasoline. The trees in these units also play a role, absorbing nutrients to help them grow, and neutralizing some pollutants by absorbing them into their tissues. Additionally, the engineered soil does not freeze, so the tree filters work year 'round, cleaning stormwater even in the winter.

**Selected Pollutant Reduction Rates for Bio-remediation and Tree Filter Systems:**

Pollutant	Reduction Rate
Total Suspended Solids	>85%
Total Nitrogen	>90%
Total Phosphorus	>90%
Total Soluble Metals	35% to 95%
Total Dissolved Solids	>85%
Oil and Grease	>90%
Bacteria	>90%

**For more information about tree filters, please visit:**

- [www.ConserveCT.org/Eastern](http://www.ConserveCT.org/Eastern)
- [www.ct.gov/deep](http://www.ct.gov/deep)
- [www.epa.gov/oaintmt/stormwater/best\\_practices.htm](http://www.epa.gov/oaintmt/stormwater/best_practices.htm)
- [www.greenstreetsystems.com](http://www.greenstreetsystems.com)

This project was funded in part by the Connecticut Department of Energy and Environmental Protection through the US EPA Clean Water Act Section 319 Non-Point Source Pollution Program Grant, and conforms with stormwater management recommendations in the Baker Cove Abbreviated Watershed-Based Plan (2011).

Sign at Groton City Hall explaining how tree filters installed there reduce NPS pollution.



The real water taxi was seen on the water fulfilling required crew training.



### 2016 Water Taxi Schedule

The Water Taxi will run hourly in a clockwise loop, starting and ending at Fort Trumbull.

**Operating Hours:** 10 AM to 9 PM

Friday , Saturday, Sunday

July 1 through Sept.18

Check back to confirm start date.

### Water Taxi Operator

The water taxi is operated by [Thames River Water Taxi LLC](http://www.thamesriverheritagepark.org/water-taxi).

### Fort Trumbull

10:00 AM

11:00 AM

12:00 PM

1:00 PM

2:00 PM

3:00 PM

4:00 PM

5:00 PM

6:00 PM

7:00 PM

8:00 PM

### City Pier, New London

10:20 AM

11:20 AM

12:20 PM

1:20 PM

2:20 PM

3:20 PM

4:20 PM

5:20 PM

6:20 PM

7:20 PM

8:20 PM

### Fort Griswold

10:40 AM

11:40 AM

12:40 PM

1:40 PM

2:40 PM

3:40 PM

4:40 PM

5:40 PM

6:40 PM

7:40 PM

8:40 PM

<http://www.thamesriverheritagepark.org/water-taxi>





# Candid shots from TRBP Floating Workshop XVI



# Thank you to our program sponsors and supporters!



- Millennium Power
- The Last Green Valley
- Eastern Connecticut Conservation District
- Thames River Heritage Park
- Custom House Maritime Museum
- CT DEEP
- City of Groton
- US Navy
- US Fish and Wildlife Service
- Project Oceanology

