

A Day in the Life of a Long Island Ecosystem

2017



Partnership Program:

*Brookhaven National Lab
Central Pine Barrens Commission
NYS Department of Conservation
SCWA*

Table of Contents

- Page 3 2017 Statistics
- Page 4 2017 Locations & Dates
- Page 5-7 Mission & Goals
- Page 8-9 Data Collected
- Page 10-20 Maps and Sites
- Page 21-22 Website
- Page 23 Social Media
- Page 24-29 A Day in the Life Curriculum Development
- Page 30 2017 Partners
- Page 31 2017 Schools
- Page 32 What we provide
- Page 33 Photos

2017 A Day in the Life of the

**Carmans River/ Peconic Estuary/Nissequogue River/
Connetquot River/Carlls River/Green's Creek/Massapequa Park Preserve/Gardiner County
Park/Mill River/Forge River and
Fire Island**

	Ecosystem	Students	Teachers	Schools	Experts
1	Carmans River	*(399)	*(21)	*(9)	*(29)
2	Greens Creek	35	2	1	2
3	Gardiner County Park	43	2	1	3
4	Massapequa Preserve	44	5	2	5
5	Fire Island	77	9	3	15
6	Nissequogue River	365	27	10	19
7	Carlls River	128	8	3	7
8	Forge River	106	11	3	8
9	Peconic Estuary	844	31	16	36
10	Connetquot River	105	8	2	10
11	Mill River	118	10	3	11
	Total	2,264	134	53	145

*Cancelled due to weather

Day in the Life ~

6th year of the program- **Started with the Carmans River in 2012**

Now 11 aquatic ecosystems

1. **Carmans-** September 20
2. **Green's Creek-**September 22
3. **Gardiner's County Park –** September 22
4. **Massapequa Park Preserve-** September 29
5. **Fire Island –** September 29
6. **Nissequogue-** October 6
7. **Carlls** (Seatuck Environmental Assoc.) – October 13
8. **Forge River** (Peconic Baykeeper) – October 13
9. **Peconic Estuary-** October 20
10. **Connetquot-** October 27
11. **Mill River** (Seatuck Environmental Assoc.) – November 3

A Day in the Life~

- Students collect scientific information to create snapshots of the river at locations along the river, then share their data using our *Portal to Discovery* website so they can better understand how their piece of the river fits into the entire ecosystem.

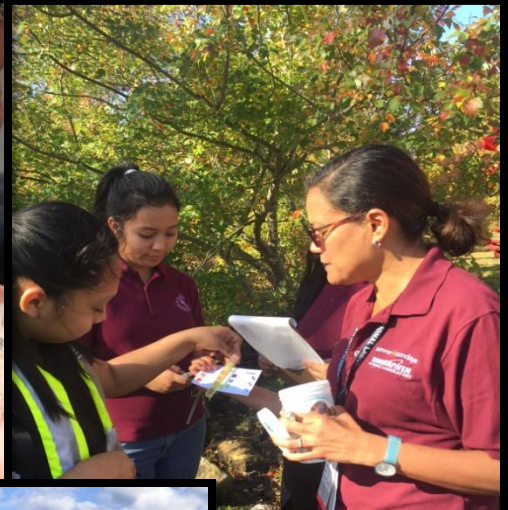
www.portaltodiscovery.org/aday



- A goal is to connect Long Islander's to nature. To help prepare students to become stewards of the river's water quality and natural resources.

A Day in the Life~

- Students use hands-on field techniques to describe their sites, catch fish in nets, collect water and invertebrate samples, and examine water chemistry parameters.



Goals of A Day in the Life~

- ***Using the Environment Integrated Context for Learning-*** At each location, teams of students and environmental educators used seine nets and lab equipment to investigate aquatic life, biodiversity, water chemistry and quality, tides, weather and other parameters.
 - Teacher Guide
- ***Citizen Science-*** Results for all locations and groups need to be posted on our A Day in the Life Website to be used by land use decision makers, civic groups, research students and the general public.
 - Website & Equipment
- ***Creating Environmental Stewards-*** Students are our future decision makers; our goal is to give them the inspiration and knowledge to make informed decisions for environmental health.
 - Research

A Day in the Life~

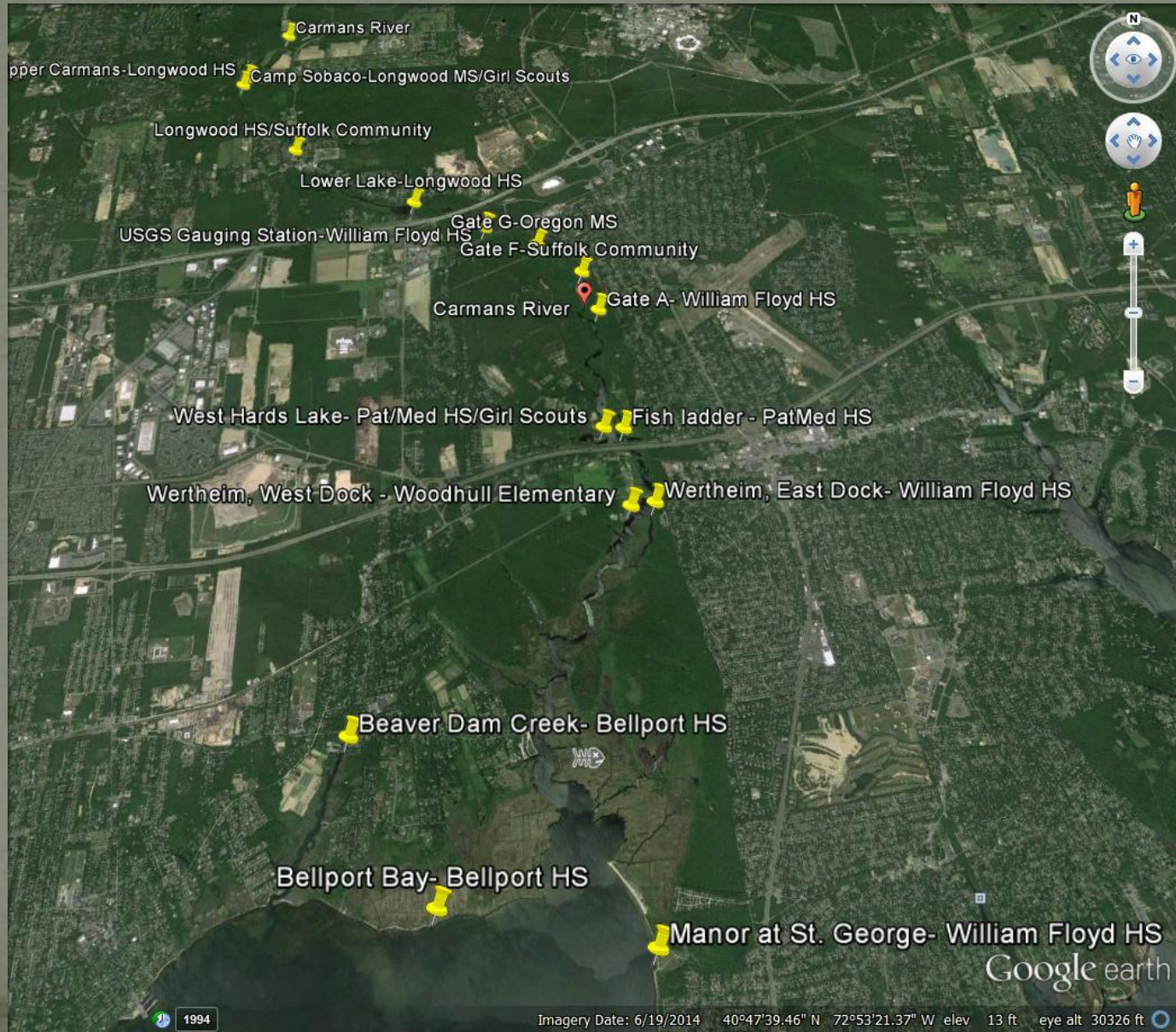
- Group 1 - PHYSICAL DATA
 - Tasks and Measurements to Accomplish:
 - Tide Measurement
 - Current Direction and Speed
 - Cloud Cover and Air Temperature
 - Wind Direction and Speed
- Group 2 - SITE DESCRIPTION
 - Tasks and Measurements to Accomplish:
 - Physical Characteristics of the Site
 - Map of Site
 - Sediment Sample of Shoreline, Site Bottom

A Day in the Life ~

- Group 3 - BIOLOGICAL SAMPLING
- Tasks and Measurements to Accomplish:
- Aquatic Biological Survey
- Biodiversity Inventory Survey
- Habitat Association Survey

- Group 4 - CHEMICAL ANALYSIS
- Tasks and Measurements to Accomplish:
- Water Temperature
- Turbidity
- Water pH
- Salinity
- Dissolved Oxygen

Carmans River Sites



Peconic Estuary Sites



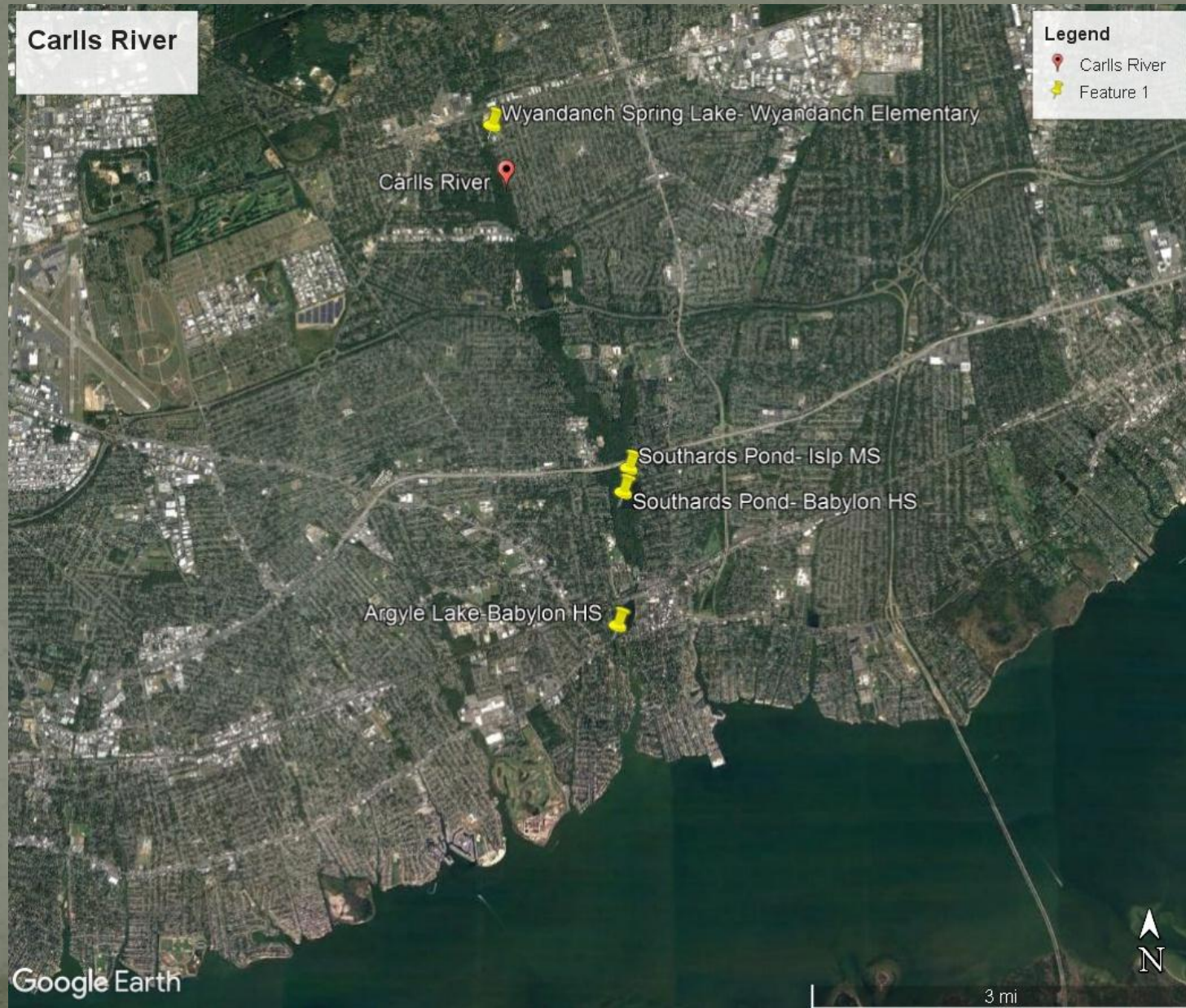
Nissequogue River Sites



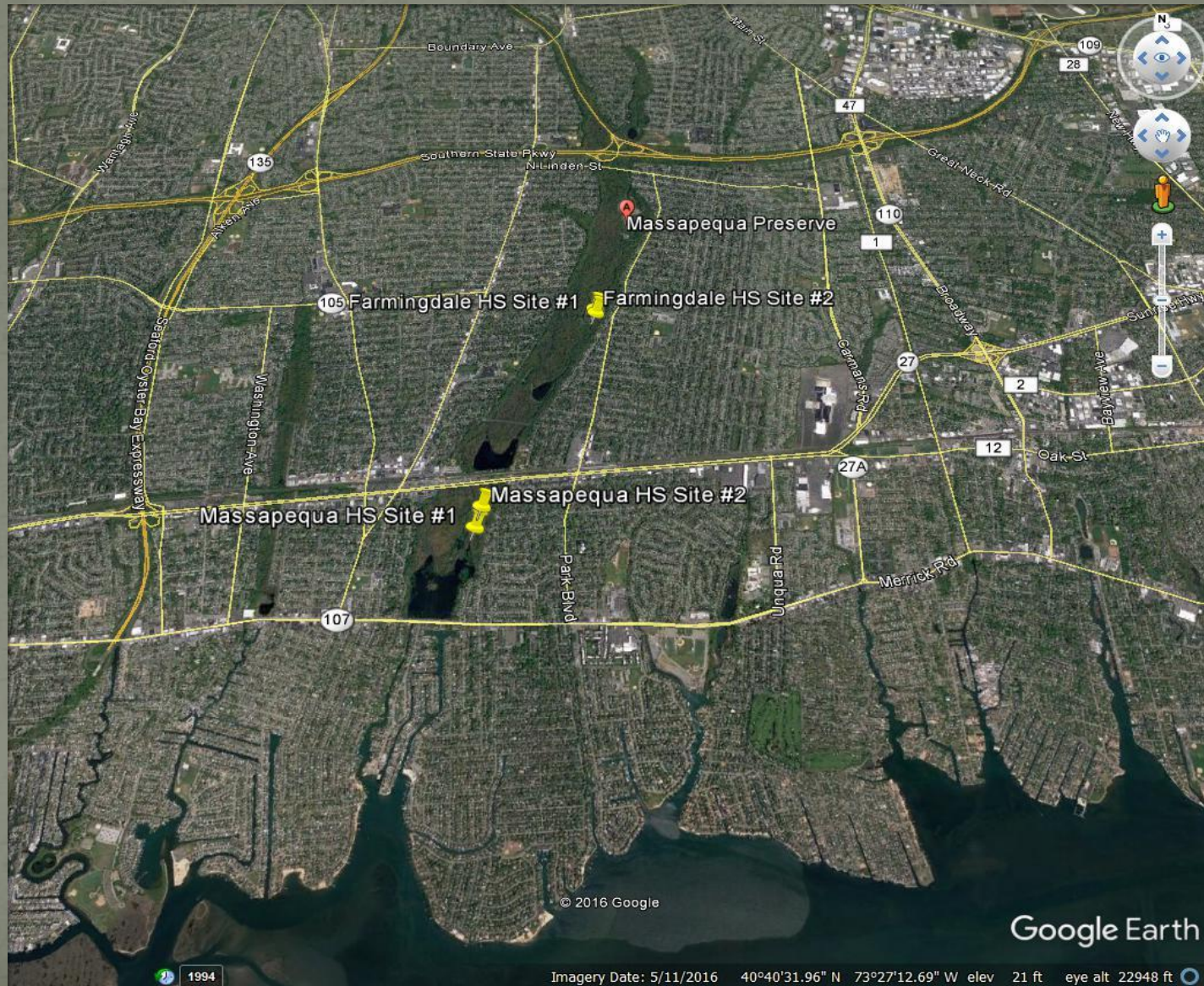
Connetquot River Sties



Carlls River Sites



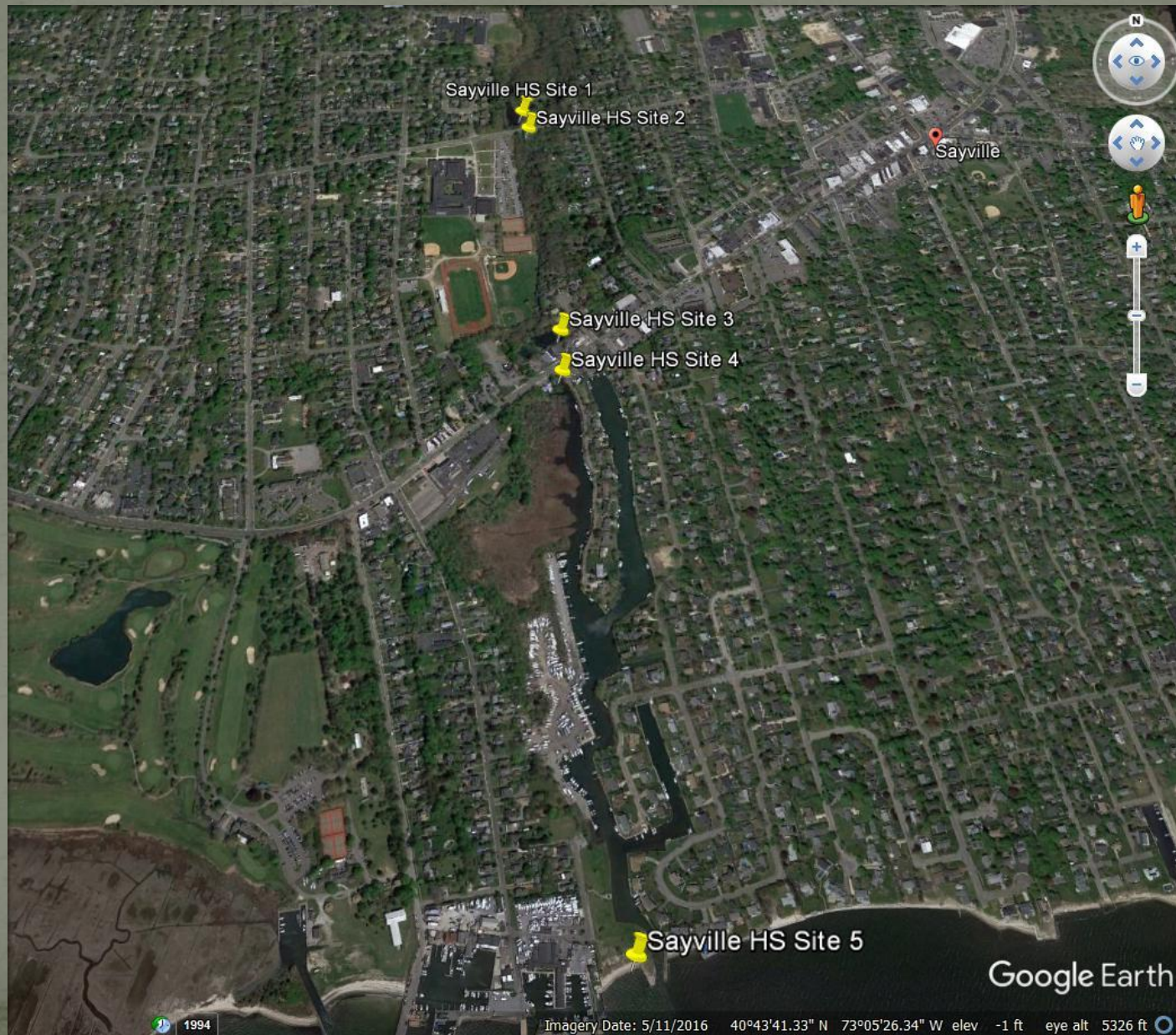
Massapequa Park Preserve



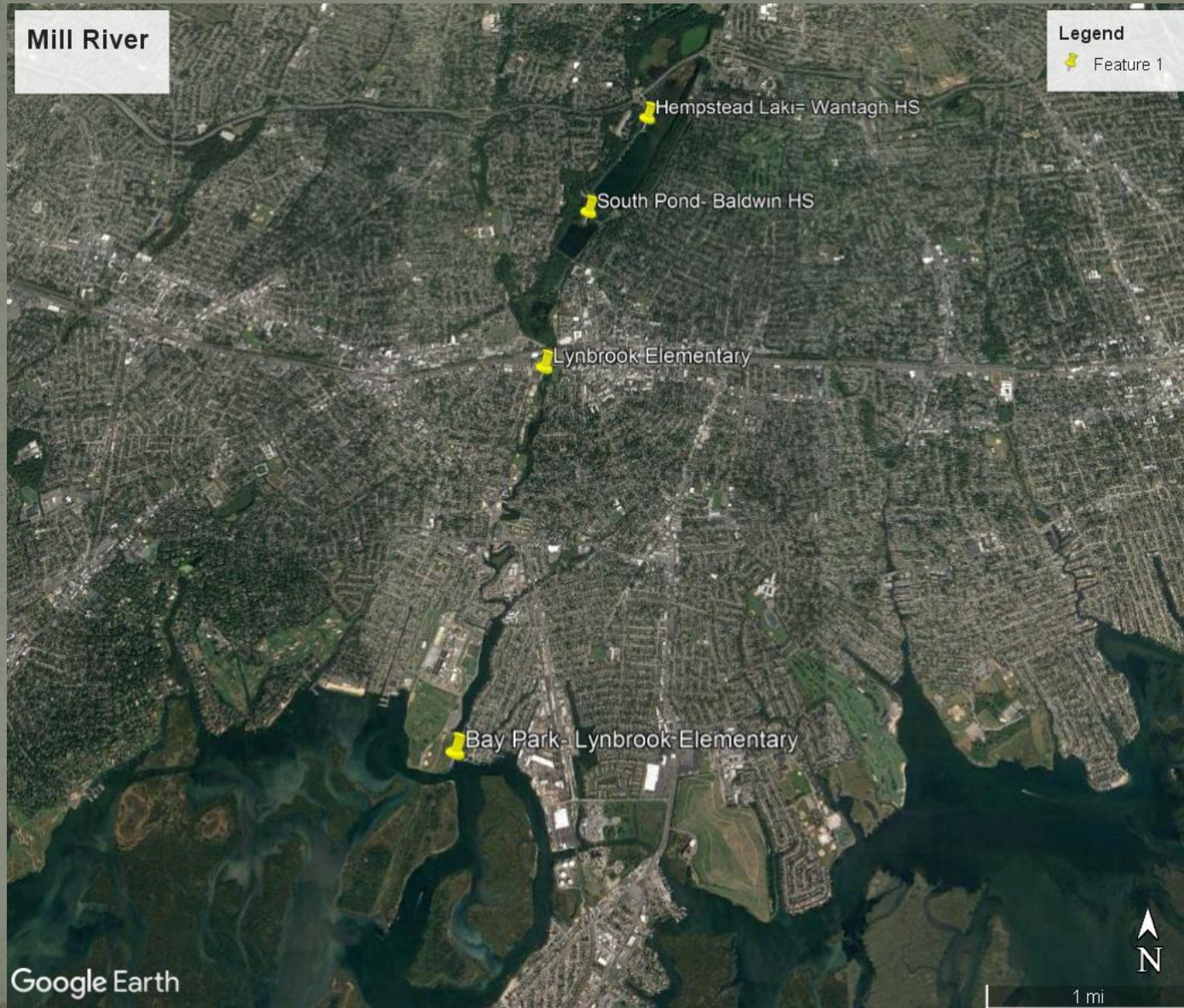
Gardiner County Park



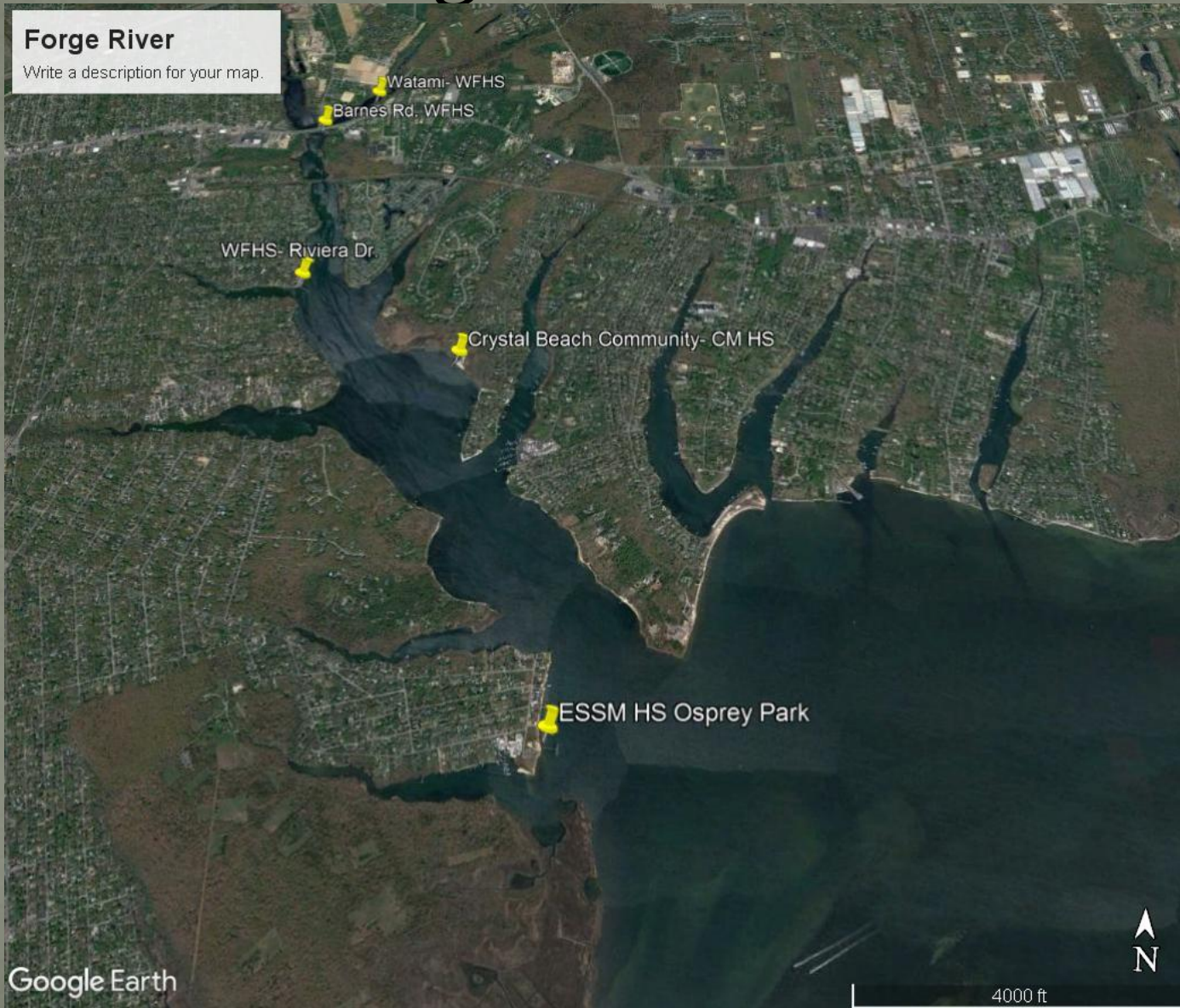
Green's Creek



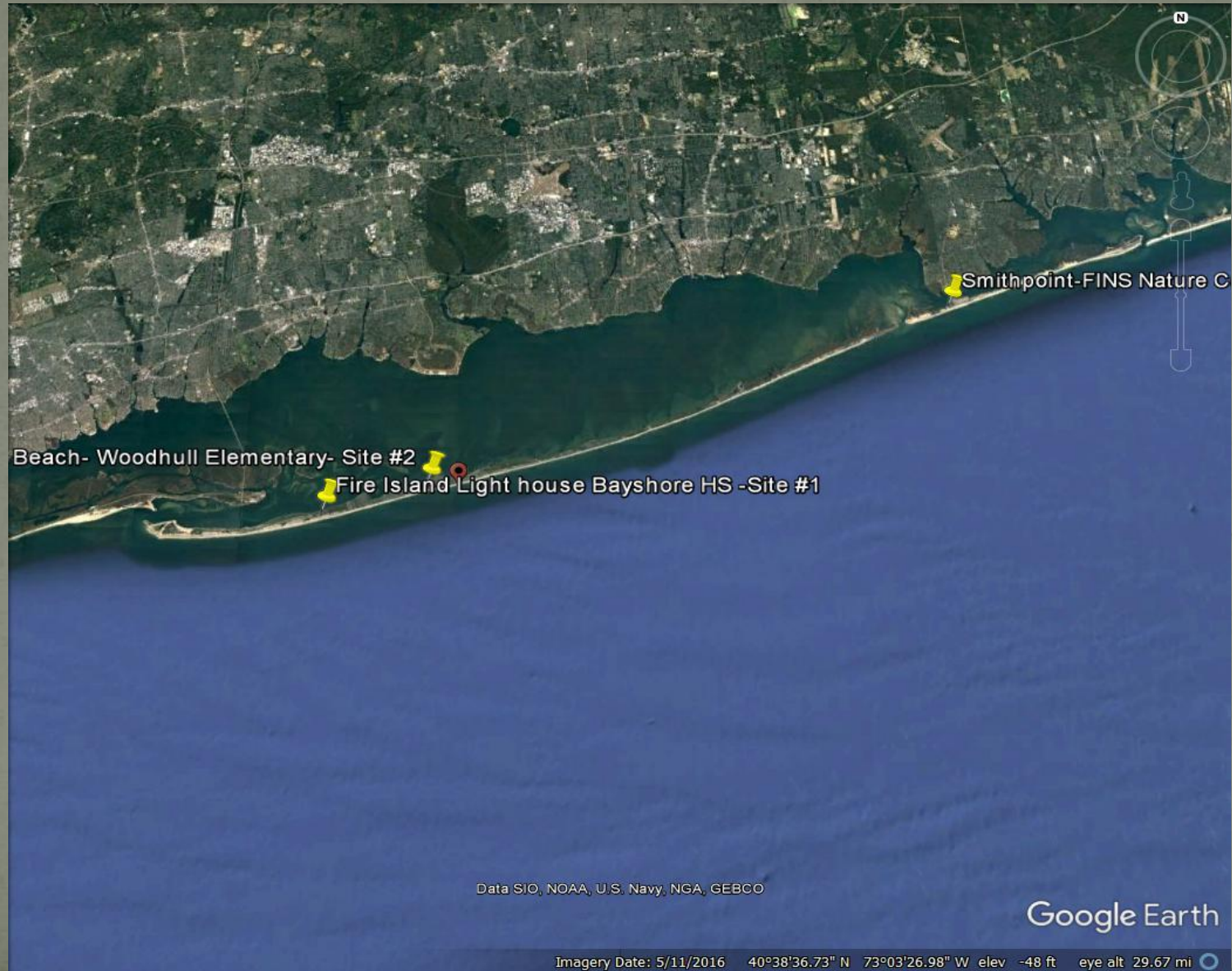
Mill River Sites



Forge River Sites



Fire Island Sites

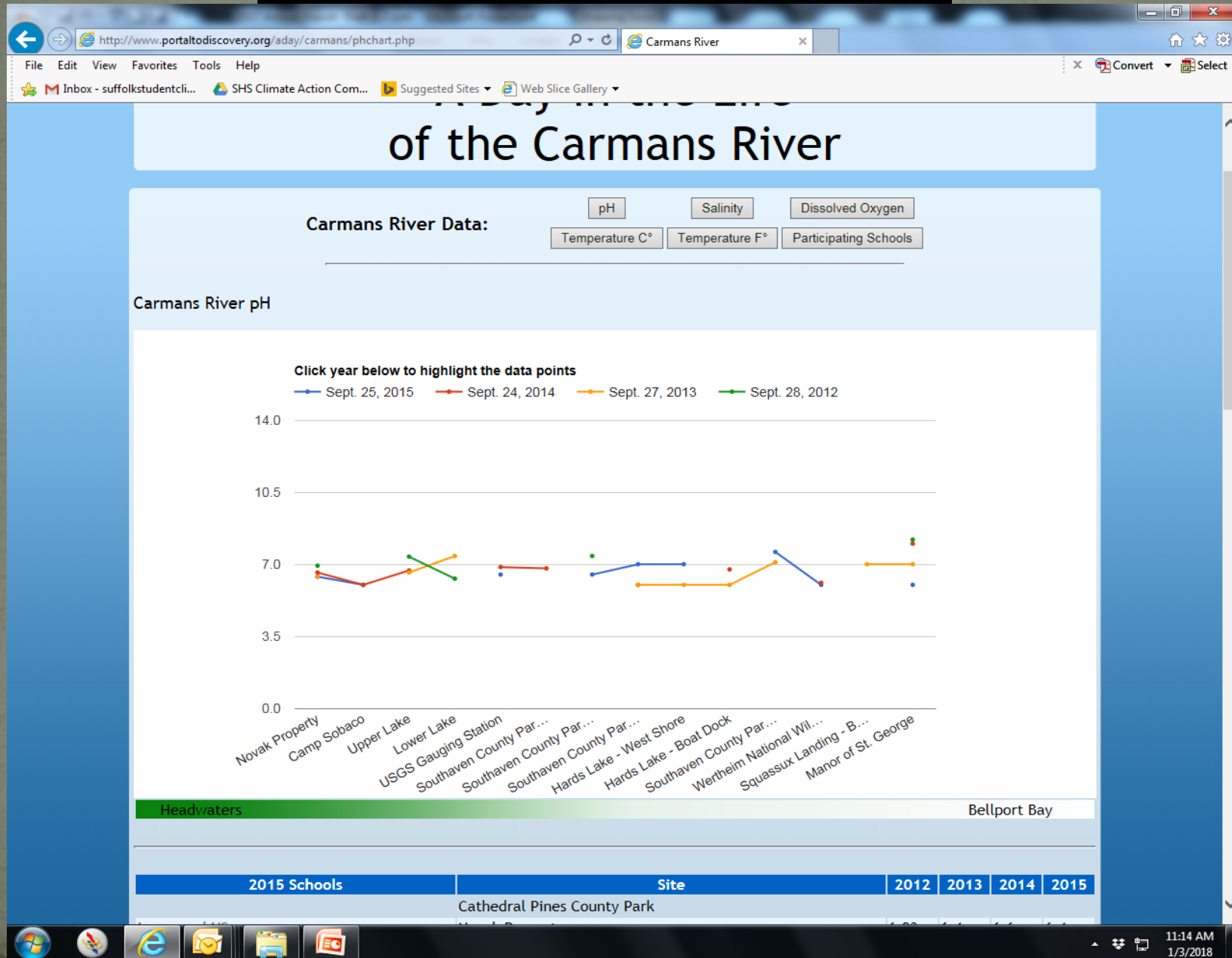


Portal to Discovery hosted website

<http://www.portaltodiscovery.org/aday/>



Data Graphing



Social Media

The screenshot shows a Facebook page for 'A Day in the Life' (@adayinthelifeofariver). The page has a blue header with the name and a search bar. Below the header, there are tabs for 'Page', 'Messages', 'Notifications', 'Insights', 'Publishing Tools', 'Settings', and 'Help'. The main content area features a post from 'A Day in the Life' shared on November 7, 2016, titled 'Thank you NYS Department of Environmental Conservation'. The post includes a photo of four people sitting on a sandy beach, looking at something in their hands. Below the photo, there is a caption from the 'NYS Department of Environmental Conservation' dated November 7, 2016, stating: 'On Friday, DEC's Education staff from our region 1 office (Long Island) teamed up with other natural resource experts to work with over one hundred high school...'. The page also has a sidebar with links to 'Home', 'About', 'Photos', 'Events', 'Likes', 'Videos', 'Posts', and 'Manage Tabs'. At the bottom, there is a taskbar with various application icons.

The screenshot shows a Twitter profile for 'Central Pine Barrens' (@pinebarrensLI). The profile has 342 tweets, 318 following, 73 followers, 34 likes, 0 lists, and 0 moments. The bio states: 'Central Pine Barrens LI - 2 Nov 2016 Young Island citizen scientists explore Coeclis Harbor #education #featuredstory'. The profile picture is a landscape photo of a body of water with reeds. The timeline shows two tweets. The first tweet is from 'Central Pine Barrens' (@pinebarrensLI) dated 2 Nov 2016, with the text: 'Young Island citizen scientists explore Coeclis Harbor - Shelter Island... Some young Shelter Island citizen scientists agreed a field trip Friday to Ram's Island gave them a better understanding of... Read More shelterislandreporter.timesreview.com'. The second tweet is from 'Central Pine Barrens' (@pinebarrensLI) dated 1 Nov 2016, with the text: 'A Day in the Life of the Connetquot River, Friday Nov. 4th! #citizenscience #adayinthelifeofariver @BayShoreHS @connetquotHS @BrentwoodHS'. The profile also has a 'youtube.com' link. At the bottom, there is a taskbar with various application icons.

Teachers implement the A Day in the Life (ADITL) Data into their STEM and other interdisciplinary curriculum

- GIS Online
- Research projects
- Science
- Math
- Social Studies
- Art
- Media

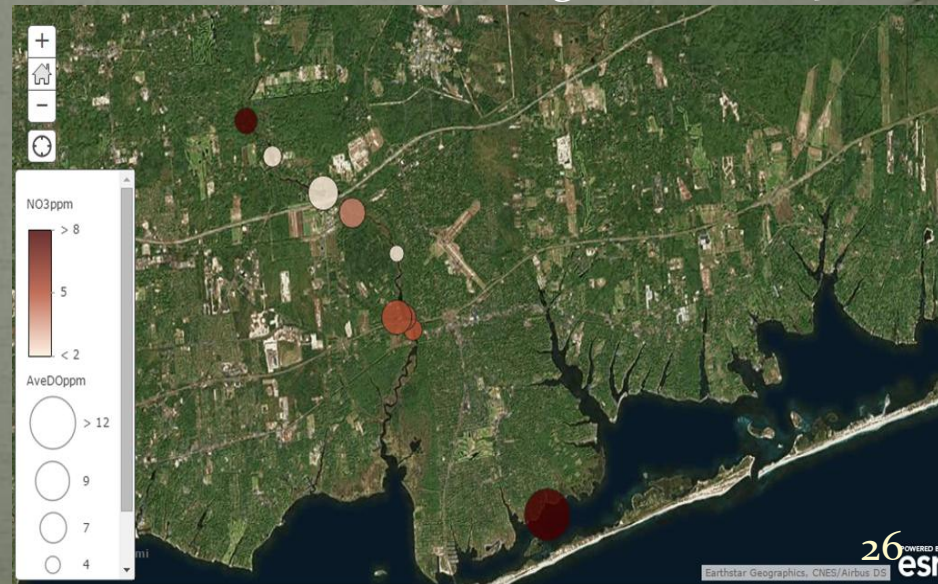
The Central Pine Barrens Commission worked directly with the Sayville School District to train students on using the ADITL data with GIS Online

- Sayville District Elementary Family STEM Learning Symposium



3 Elementary Schools
25 Students with
Parents!
8 Teachers



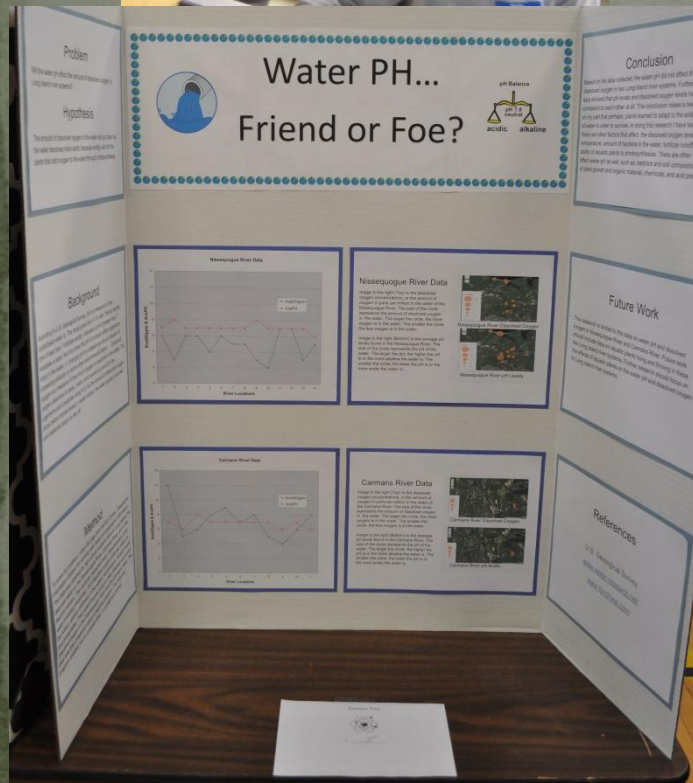
[illegible]

Using ADITL Data

Sayville 5th Grader- Adam Burghardt's project



Carmans River Average DO



•Poster accepted into ESRI International User Conference – Map Gallery June (2016) San Diego, California

Award : 2nd Place Elementary Division



Mastic Beach, NY - November 7, 2016 William Floyd High School student researchers recently discovered an unpublished invertebrate DNA sequence and were the first to use an established primer set through the Barcode Long Island Program that can be used to successfully identify various species of aquatic vegetation. These findings are set to be published in GenBank, a comprehensive genetics database containing publicly available nucleotide sequences for more than 240,000 named organisms obtained primarily through submissions from individual laboratories and batch submissions from large-scale sequencing projects. This research project was a joint collaboration between Cold Spring Harbor Laboratory DNA Learning Center's Barcode Long Island student research program, Stony Brook University and the William Floyd High School Research program.

Massimo Saputo and Taylor Bombaci, both seniors, have been working for several years on a project titled, **"Using DNA Barcoding to Analyze the Biodiversity of Dermaptera on Long Island,"** in which they collected 20 samples of earwigs from two distinct locations, a coastal region at the Manor of St. George along the Carmans River estuary in [Mastic](#) and a more inland location of Southaven Park in [Yaphank](#).



A Day in the Life of the Carmans River 2015 Liberty Partnerships Program (LPP) at Suffolk County Community College



Project Goals of 9/25/15:

- Record physical data
- Make a site description
- Obtain biological samples
- Document the findings



Students took tide measurements, calculated current direction and speed, and observed air temperature, cloud cover, and the wind.

- Air temperature was recorded at 82.4°F
- Cloud cover was estimated between 25-50% or partially cloudy
- Wind direction was observed to be from the southeast
- Wind speed was recorded to be 5.8 mph and a 2 on the Beaufort Scale

The process of making a site description involved observing physical characteristics of the site, producing a map of the site, and taking sediment samples from the shoreline and site bottom.

- The site was described as sandy and muddy with slight vegetation
- A map of the site was made



The students collected 7 Banded Killifish ranging in size from 6-8 cm.



While documenting their findings the students photographed the site, all interesting plants and animals found, and fellow group members in action.



Special thanks to:

- Dr. Melvin Morris - Open Space Stewardship Program
Brookhaven National Laboratory
- Melissa Griffiths Parrott - Central Pine Barrens Joint Planning and Policy Commission



2017 Partners:

1. Brookhaven National Lab
2. Central Pine Barrens Commission
3. NYS Department of Environmental Conservation
4. SCWA
5. Cornell Cooperative Extension, Suffolk County
6. Trout Unlimited
7. Wertheim National Wildlife Refuge
8. Town of Brookhaven
9. US Geological Survey
10. Foundation for Ecological Research in the Northeast (FERN)
11. Brookhaven Science Associates (BSA)
12. Suffolk County Parks
13. Suffolk Community College
14. Post Morrow Foundation
15. Manor of St. George
16. Peconic Estuary Program
17. Yaphank Civic Association
18. Girl Scouts of Suffolk County
19. Sweetbriar Nature Center
20. NY State Parks
21. NY Sea Grant
22. 4 Harbors Audubon
23. Avalon Park and Preserve
24. The Nature Conservancy
25. LI Sound Study
26. The Group for the East End
27. South Fork Natural History Center
28. East Hampton Town Shellfish Hatchery
29. LI Science Center
30. Chris Paparo
31. SUNY Southampton
32. Cold Spring Harbor DNA learning Center
33. Sayville HS
34. Seatuck Environmental Association
35. Eastern Suffolk BOCES
36. Peconic Bay Keeper
37. LI Aquarium
38. National Park Service/ Fire Island National Seashore
39. Fire Island Light House Preservation Society
40. Adelphi University

*Managing partnerships

A Day in the Life

2017 Schools/Organizations:

- | | | | |
|-----|-------------------------------------|-----|----------------------------|
| 1. | William Floyd High School District | 24. | Sayville SD |
| 2. | Suffolk Community College | 25. | Brentwood SD |
| 3. | Patchogue-Medford SD | 26. | Connetquot SD |
| 4. | Longwood SD | 27. | Massapequa SD |
| 5. | South Country SD | 28. | Farmingdale SD |
| 6. | Girl Scouts of Suffolk County, Inc. | 29. | Baldwin SD |
| 7. | Shelter Island SD | 30. | Lynbrook SD |
| 8. | Southold SD | 31. | Sachem SD |
| 9. | Oysterponds SD | 32. | Harbor Country Day |
| 10. | Springs SD | 33. | Northport SD |
| 11. | Lindenhurst SD | 34. | The Stony Brook School |
| 12. | Riverhead SD | 35. | Smithtown SD |
| 13. | Fire Island SD | 36. | Kings Park SD |
| 14. | Hampton Bays SD | 37. | Three Village SD |
| 15. | Eastport/S. Manor SD | 38. | Avalon Park and Preserve |
| 16. | Riverhead Charter School | 39. | Smithtown Christian School |
| 17. | Shoreham Wading River SD | 40. | Lynbrook School District |
| 18. | Greenport SD | 41. | Wantagh School District |
| 19. | Westhampton SD | 42. | Wyandanch School District |
| 20. | Babylon SD | 43. | Center Moriches SD |
| 21. | Islip SD | | |
| 22. | N. Babylon SD | | |
| 23. | Bayshore SD | | |

What we provide:

- Professional support
- Teacher trainings
- Photo Release forms
- Natural History expert at site
- Assistance with coordination
- Assistance with acquiring permits
- Curriculum Development & Training
- La Motte Water Quality test kits
- STEM hub web site dedicated to A Day in the Life of the Carmans River: www.portaltodiscovery.org/aday
- Facebook Page: <https://www.facebook.com/adayinthelifeofariver/>
- Annual Culminating Event-
OSSP Student Celebration @ BNL



