

Oyster Restoration in Jamaica Bay- What's Next?



Gregg J. Rivara

Cornell Cooperative Extension of Suffolk County



Cornell University
Cooperative Extension of Suffolk County



Biohabitats

HydroQual

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year

1921

Sewage led to the bay's earliest environmental setback. In 1904, oysters caught off Inwood were linked to 21 cases of typhoid, followed 11 years later by another 27 cases from Canarsie oysters. By 1917, when this illustration was published, 50 million gallons of sewage flowed into the bay each day. Health officials closed the shellfish beds in 1921, and the practice remains banned to this day. (Courtesy Queens Magazine.)

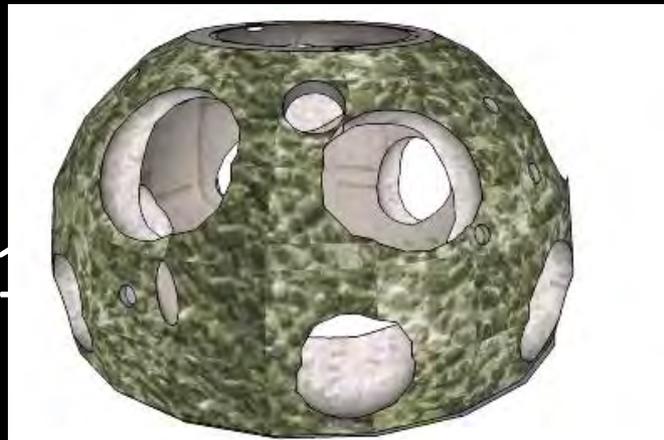
Pilot Scale Oyster Reefs

- ▣ Reef: 10' x 10' x 10'
- Veneer



clam shell
shell

- ▣ Reef Balls: 12

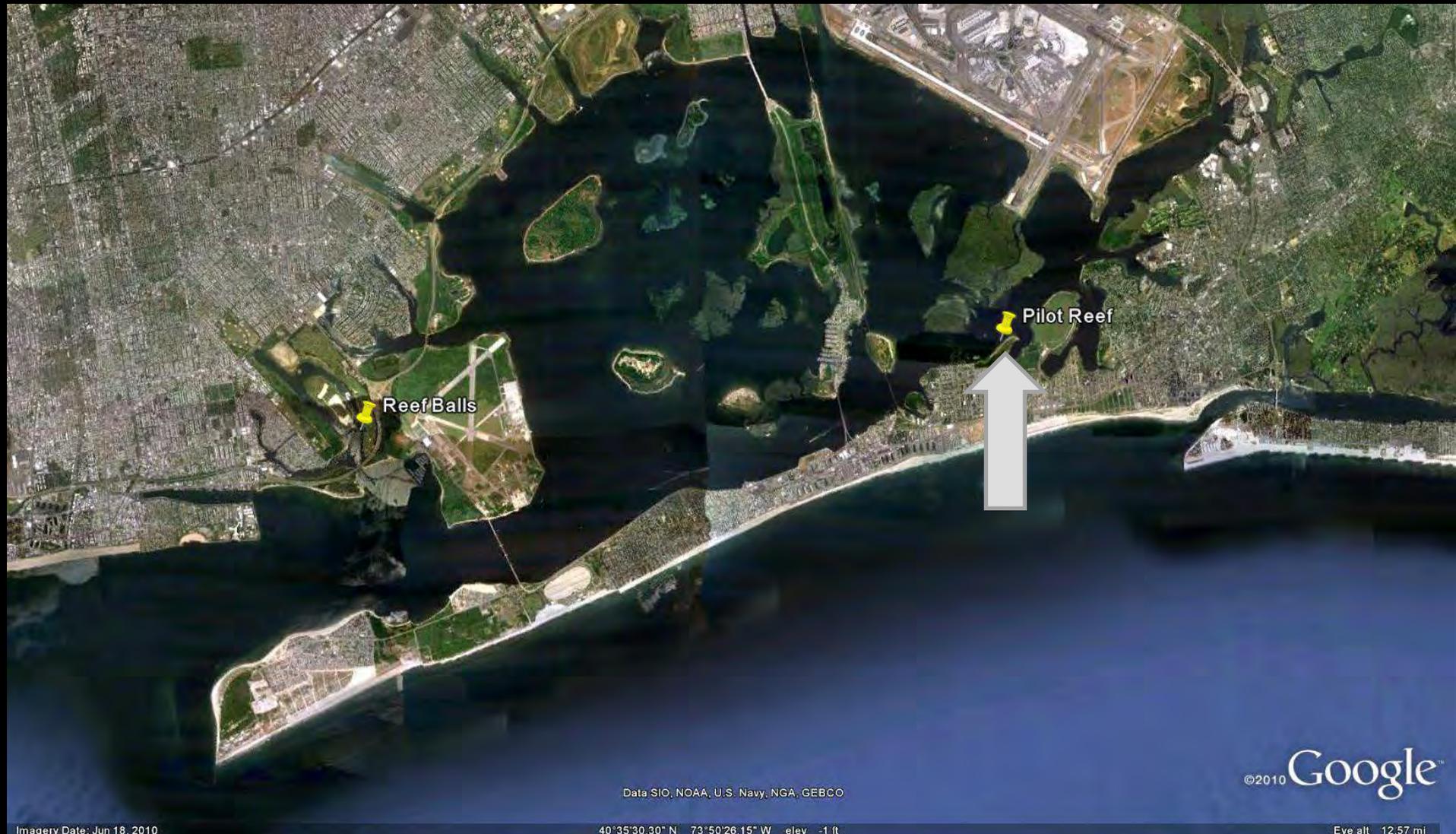


10 lbs, 12 total









Reef Balls

Pilot Reef

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

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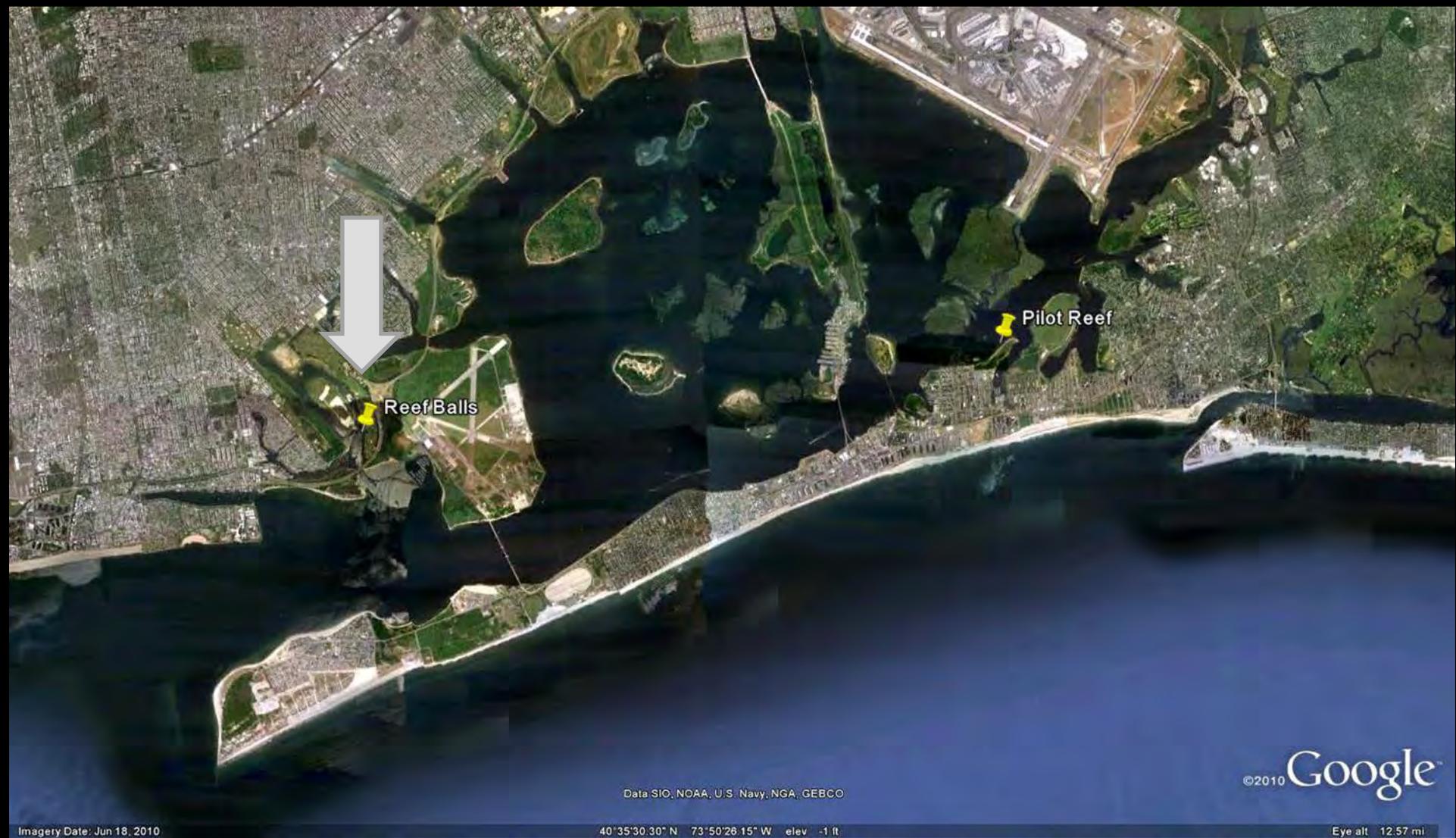
Imagery Date: Jun 18, 2010

40°35'30.30" N 73°50'26.15" W elev -1 ft

Eye alt 12.57 mi







Reef Balls

Pilot Reef

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Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Imagery Date: Jun 18, 2010

40°35'30.30" N 73°50'28.15" W elev -1 ft

Eye alt 12.57 mi





Oyster Growth and Survival



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Current Status

- Dubos Reef has few to no living oysters; significantly flattened due to wave/wake action
- Sampling artifact?
- Mortality at Dubos primarily by siltation and predation
- Water quality not suspected as an issue
- Gerritsen Reef Balls still have live, growing oysters
- Low prevalence of Dermo, no MSX
- No poaching or vandalism seen

Next Steps

- Look at low energy sites
- Use concrete (reef balls, Oyster Castles[®]) as cultch
- Larger shell reef?
- Shell could be used for “receiver” beds
- Predator protection?
- Continue scouting for “wild” set
- Balance biology with food safety
- Ease spat on shell transport issues

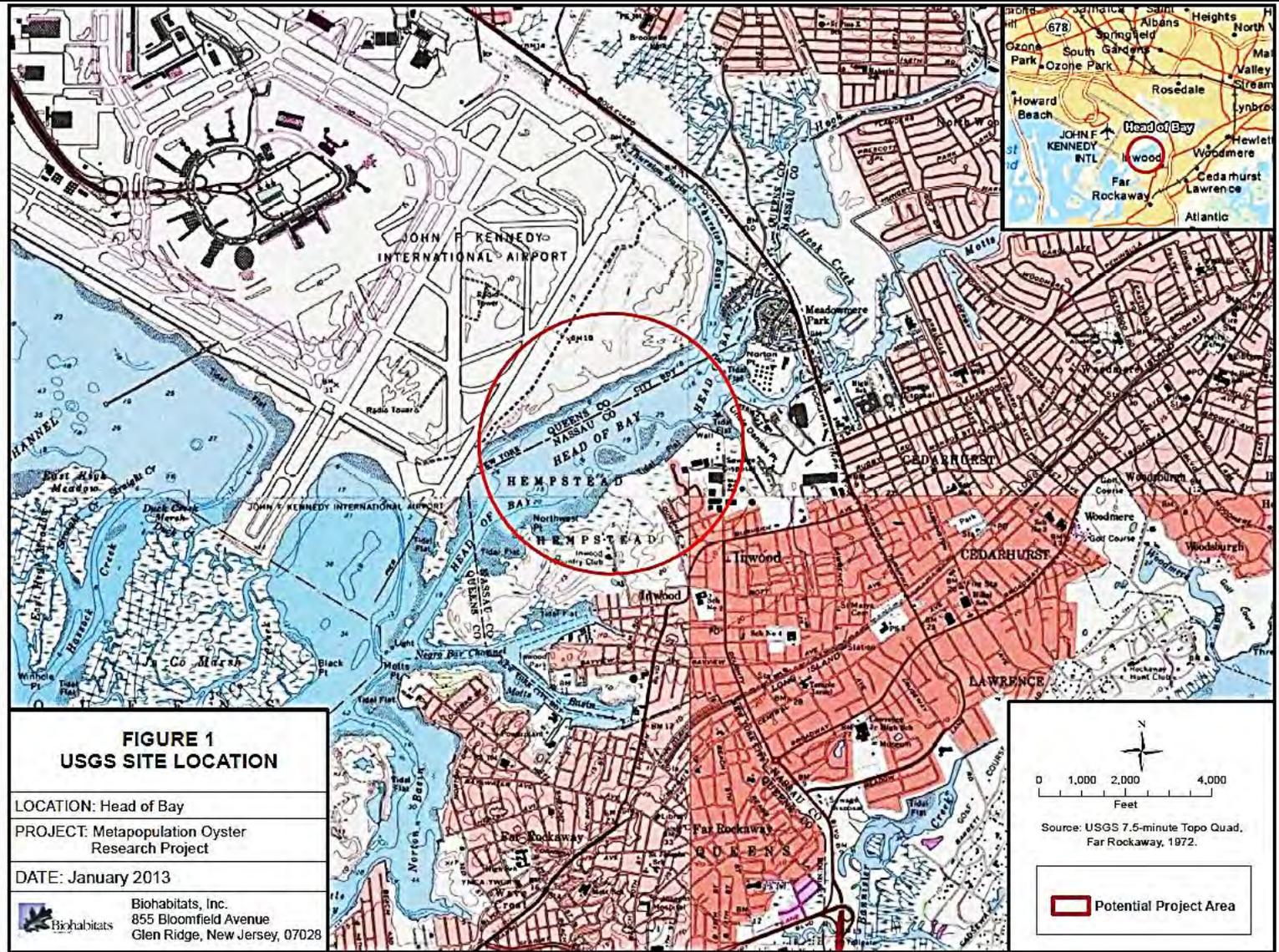


FIGURE 1
USGS SITE LOCATION

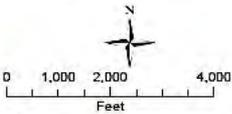
LOCATION: Head of Bay

PROJECT: Metapopulation Oyster
Research Project

DATE: January 2013



Biohabitats, Inc.
855 Bloomfield Avenue
Glen Ridge, New Jersey, 07028



Source: USGS 7.5-minute Topo Quad,
Far Rockaway, 1972.



In-Situ Setting

Mark II Turbidity Barrier

ASTM Universal Quick Connector

5/16" Galvanized Cable

6" Square Styrofoam Float

F.D.O.T. Type II

18 oz. or 22 oz.
PVC Coated Fabric

3/8" Polypropylene Rope
Sealed in Fabric Ends

5/16" Galvanized Chain Balast





Pine Island Sound, FL Scallops

Partnership to Restore Bay Scallop
Populations in Pine Island Sound, FL:
Strategies, Accomplishments and
Current Activities

Jay Laverone, Stephen Geiger,
Jamie Braxwell, Curt Henning and
Liz Arnold



Oyster Gardening

- Use secure sites around bay
- Culture in hidden, large, lockable non-floating cages
- Involve schools and non-profits; educational component
- Year-old oysters can be placed on reefs or left to spawn in place

Acknowledgements

Mike Patricio, Jeff Chagnon, John McLaughlin, Bob Will, Steve Zahn, Susan Maresca, Terry Doss, Michael Spina, Bill Leo, Dave Yozzo, Kim Tetrault, Kris Mielenhausen, Corey Humphrey, Nick Krupski, Kevin Cahill, Josh Clauss, Dale Leavitt, Don Meritt, Don Webster, Karin Tammi, Nick Rivara, Rocky Silva, Steve Ceilatka, Justin Bowers, Chris Pickerell, Frank M. Flower and Sons



GJR3@cornell.edu

631-852-8660 ext. 35