

# Monitoring the Hudson River Benthic Sediment for Benthic Organisms



Prepared by: Gabriel Bates

Urban Assembly New York Harbor School

Marine Biology Research Project

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What can the benthos tell us about the Hudson River? To understand this we must first understand what the benthos is. The benthic layer is the sediment at the bottom of any body of water while the benthos is the organisms living on top and within of that sediment. Consisting of a vast amount of microorganisms which are affected by even the slightest change in the environment, these benthic organisms can potentially be used to determine the health of the Hudson River. The benthic organisms of the Hudson River will be observed by taking sediment samples from the benthic sediment with use of the Ekman grab.

How is the health of the Hudson River represented through the appearance of benthic organisms? The benthic organisms in the Hudson River, can potentially determine the quality of the water. This study will correlate the organisms found to their living standards to represent the health of the Hudson. In the future it can be hypothesized which organisms are to stay, appear, reappear, or perhaps disappear over time. Since the implementation of the oyster reefs in the Hudson River it can be hypothesized that benthic organisms will appear signaling good health.

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Item	Quantity	Function
Ekman grab	1	Used to collect sample
Dissection kit	1	Used to sort through sieves
Stereoscope	1	Used to observe microorganisms
Bucket	1	Used to store sample
Rope with snap shackle	1	To attach to bucket
Squirt bottle	1	To clear sieves layers
Sieve (Large,Medium,Small)	3	To sort through organisms through size
Sample bottles (Big)	1	Used to store sediment samples or organisms
Petri dish (plastic)	1	Used to lay organisms on
Tray	1	Used to lay organisms on
Ppe equipment	1	Used to protect yourself

## Data Collection:

### Collecting samples

- Place items from the material list onto the testing cart
- Take the cart to peer 101
- Take a bucket along with the Ekman grab down to the raft
- Remove Ekman grab from its case and prepare it over water
- Release Ekman grab into the water
- Release messenger after Ekman grab reaches bottom
- Pull up Ekman grab from the water with rope
- Place sample in a bucket and return it to the lab
- Once in the lab take the sample and place it in a large Ziploc bag and freeze it

### Sifting through samples

- Fill a bucket with hot water
- Take out sample from the freezer
- Place frozen sample in the bucket to thaw it
- Stack 3 sieves in size order
- Take out sample once thawed and place on top of the sieve

Benthic Organisms		
Date	Samples taken	Organisms
3/26/2015	1	—
4/2/2015	3	—

Complications with the Ekman grab

-broken messenger: replaced spring

-malfunctioning clasp

Complications with the Ekman grab led to poor sediment samples which lacked organisms

Major references:

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