Day in the Life of the Hudson River 10/16/14 Data 9AM-2PM
(Salt Front RM 65.9)
RIVER MILE 98
Bard College Site, South Tivoli Bay (in/around the Bard Field Station between the mouth of the Sawkill Creek and Blithewood Manor)
Debbie Beam, Red Hook High School 11th/12th grade IB Biology
Tom O'Dowd, Bard College – Environmental and Urban Studies (EUS) students
45 students and 2 adults

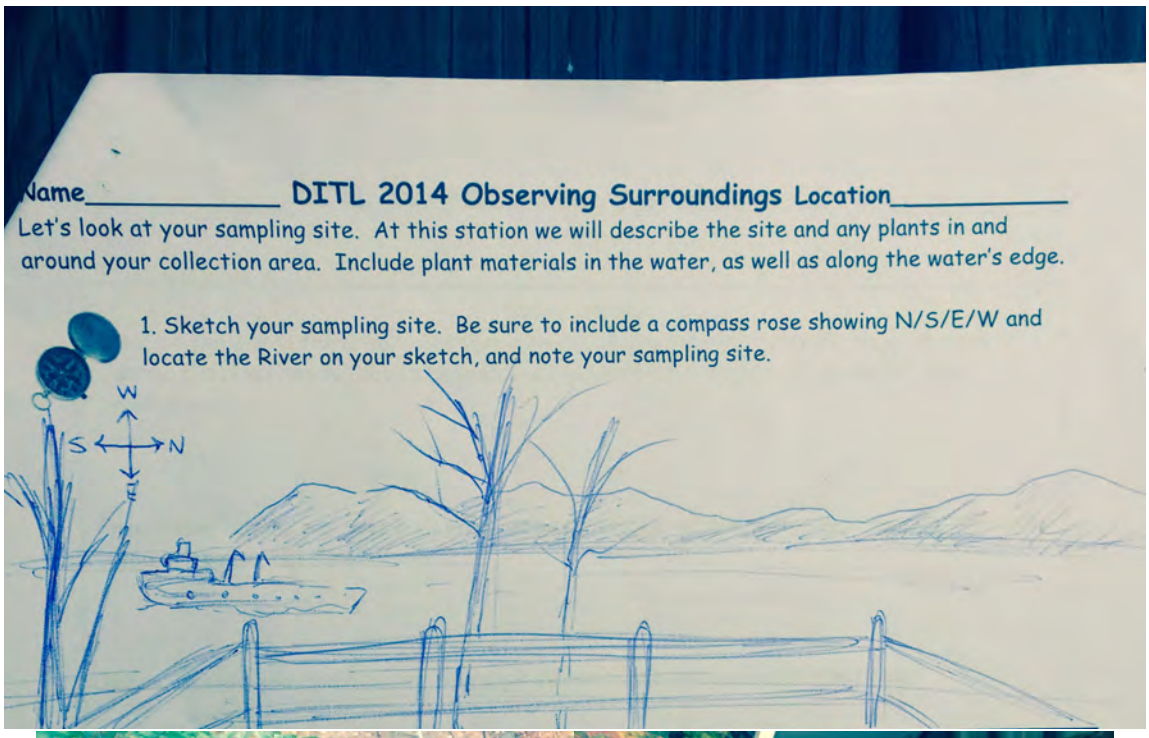
Above: RHHS and Bard students prep to sample fish & Macro-invertebrates (prep at Field Station; seine and sample at the mouth of the Sawkill Creek)

Below: A little song/dance to get us started in the morning (in front of Blithwood Mansion)

Photos on this page by Tom O'Dowd.

Observing Surroundings

1. Photos of student artwork and students observing their surroundings.
   (photos by Bard student Anna Linden)



2. Forested
3. Boating, Picnics, Fishing, Jogging
4. 10% residential, 90% forested
5. Muddy and Rocky and Covered in Vegetation.
6. Bottom muddy and rocky.
7. Water Calm
8. 50% Water Chestnuts (dying--it's 90% during the summer). Some "Devil's Heads".

Environment:

Air temperature – 64.4 degrees F → 71.5 degrees F (~10AM → ~1PM)
18 degrees C → 22 degrees C

Wind Speed
The wind was consistently still throughout the day, with the very rare gust. One such gust recorded at ~12:30pm measured at 1.2 fpm (feet per minute).

Cloud Cover
~75% all day (but still beautiful!)

Chemical Description

Time	Dissolved Oxygen	Water Temp	D.O. Saturation	pH
10:05	9ppm	20° C	100%	7.9
10:40	8ppm	20 °C	85%	7.9
11:10	8ppm	20 °C	85%	8
12:03	9ppm	20 °C	95%	8
12:40	9ppm	20 °C	95%	8

Note: Sun blocked by trees/clouds in morning; just by clouds in the afternoon.

Physical Description

Salinity:

Quantabs Units:	1.6
NaCl:	.007
Cl-:	43 ppm
Total Salinity	78 ppm

Temperature:
Water temperature – 68 °F - 20°C

Water elevation:
Note: High rain the night before lead to higher water levels than expected.

~10am:	18 inches	Ebb
~11am:	15 inches	Ebb
~12 noon:	12 inches	Ebb
~12:40pm:	8 inches	Ebb
~1p:	5.5 inches	Ebb

Fish and Macro-invertebrates

Catch of the day:

	Blue Gill Sunfish	Pumpkinseed Sunfish	Atlantic Silverside	Black Crappie	Spottail Shiner	Tessellated Darter	Banded Killifish	Stickleback	Northern Kingfish	Blueback Herring	Small Mouth Bass	Large Mouth Bass	White Catfish
10 AM	5	5	1	2	0	0	0	0	0	0	0	0	0
1030 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11 AM	0	0	0	0	1	1	2	1	1	1	0	0	0
12 PM	0	1	0	1	0	0	0	1	0	0	2	1	1
1230 PM	0	0	0	0	0	0	0	7	0	0	4	0	1
Total	5	6	1	2	1	1	2	9	1	1	6	1	2
	Blue Gill Sunfish	Pumpkinseed Sunfish	Atlantic Silverside	Black Crappie	Spottail Shiner	Tessellated Darter	Banded Killifish	Stickleback	Northern Kingfish	Blueback Herring	Small Mouth Bass	Large Mouth Bass	White Catfish

Macro-invertebrates: 1 dobsonfly larva (a “hellgrammite”)

Photos by DITL Runner Lisa DiMarzo (thanks Lisa!)

Turbidity

Long Sight Reading: 45 cm

Observations: the water is relatively calm and relatively easy to see through, though muck is easily stirred up, clouding the water.

Sediment Log

H2S Smell -- Yes

Oil -- No

Oxidized Top -- Yes

Clay -- Absent

Mud -- Common

Sand -- Common

Gravel -- Rare

Pebbles -- Rare

Leaves -- Rare

Wood -- Rare

Shells/Oysters -- Absent

Freshwater Mussel -- Absent

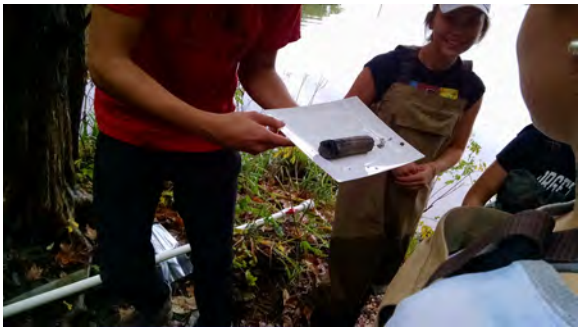
Zebra Mussels -- Absent

Macro-invertebrates -- Absent

Brick -- Absent

Coal -- Absent

Slag -- Absent



Living Vegetation -- Absent

Length of Core -- 10cm

Blog from the MUCK CITY Station:

Other Observations: Birds seen: Bald Eagle, Belted Kingfisher, Great Blue Heron, Tufted Titmouse, Downy Woodpecker, White-breasted Nuthatch, American Crow, Blue Jay

Shipping: 9:20 AM. Container ship. Blue with red beneath. Northbound. Light.

Other Transit: 9:25 AM. Amtrak. Silver. Northbound.

12:00 PM. Amtrak. Silver. Southbound.

Funny Quotes/Observations

"Muck City!!!"

Nick = Brent

"Don't let the groups mix—the river's an estuary, not the groups!"

Bardian Marina got "fully immersed" in the South Tivoli Bay (oops!)

"Can I get a Beam buck for this?!"

Photos on this page by DITL Runner Lisa DiMarzo (thanks Lisa!)

EUS Practicum: Environmental Education

Day in the Life: Reflections from the “Muck City”

On October sixteenth, across the Hudson River Watershed, eager educators from all backgrounds gathered together to teach students from all over New York State. This day is called A Day in the Life of the Hudson River. Beginning in 2003, DITL has been on a mission to encourage students of younger generations to get outside and appreciate one of the most important estuaries of our nation, the Hudson River. In 2013, DITL reached over three-thousand students and, each year, strives to get more students and teachers involved to further the cause.

(https://eus305environmentaleducation.files.wordpress.com/2014/10/ditl-muck-city-turbidity.jpg)
STEP ONE: Retrieve Sediment Core Sample

A group of Bard College students, myself included, all in an environmental education course taught by Tom O'Dowd, saw DITL as a great opportunity to turn theoretical jibber-jabber, into a wonderfully practical way to get out of the classroom and actually do what we have set out to do– teach about the environment. We prepared for what felt like an eternity, but was actually only a couple of weeks. All of us were divide up into several groups, or stations, that were dedicated to teaching about specific aspects of the river. One of these groups was the Muck Station.

STEP TWO: Remove Sediment Core Sample from Sampling Tube

The Muck Station went by various names, but, in the end, it was iconically termed Muck City and was most memorably incorporated in a remix of Kendrick Lamar's hit song, M.A.A.D. City. This remix was developed by some of the high school students who came to Bard College for DITL. This was the kind of energy that was facilitated by the commanding authority of the Muck Station– the honorable Alexander Graf, the righteous Natalie Marshall and the elegant Noah Keyishian, all Bard College undergraduate students. As leaders of the station, we wanted to spark a curiosity in the students, while maintaining a fun-loving environment, and, after we had a chance to teach the first couple of groups of high schoolers, we found a nice balance between the two.

STEP THREE: Analyze the Core Sample (view, measure, smell, then send off to the lab for heavy metals analysis)

Actually preparing for DITL was quite stressful. Before learning what we had to teach, the very prospect of teaching kids, let alone high school students, was mildly terrifying. But we were determined, and went to Norrie Point, a formal educational organization, to participate in a training program for the event. There, we learned some terminology, some teaching techniques, and some of the more standard science based knowledge that we had to know. In order to teach the Muck Station,

we learned about turbidity, sediment build up over time, detritus, and coring. From then on, we practiced. What really made us develop our strategies for teaching was Tom O'Dowd's relentless demand for us to practice by "teaching" the rest of the class. In fact, I would go out on a limb to say that we taught each other more than we taught the high schoolers because we prepared for them to be pretty hard to teach, which they were not. While incorporating what we learned and other things that we wanted to draw upon, we ended up constructing a super organized presentation of information regarding muck, and tried to do so with as much charisma and chemistry as possible.

In the end, DITL was all that we wanted it to be. Us Bard students got to leave the classroom, which is always a win, and actually taught high schoolers about the environment. Muck City was a fun time for all, and, while we tried to have as much fun as possible, we stressed the importance of understanding the complexity of a river. While some may say that water is what primarily makes a river, Muck City had the difficult task of showing how mud, dirt, and bits of organic matter are important to the greater system. We can only hope that the high schoolers enjoyed learning about muck as much as we did.

Noah Keyishian

Posted in Uncategorized on October 28, 2014 by tkoutloud. Leave a comment

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Day in the Life: Reflections from the LIFE station

Melissa Guevara
The Life Station

(https://eus305environmentaleducation.files.wordpress.com/2014/10/ditl-fish-bucket.jpg)

The Day in the Life gives students from all over the Hudson Estuary a chance to participate and to interact with the Hudson River. I am a local resident of the Hudson Valley and have grown up in Yonkers, NY; many times the Hudson is some far off place that is never to be accessed. I was raised with those thoughts that the Hudson River was an ugly, dirty thing that was only separating us from the rest of the country. In grade school we were continuously told to never to enter the Hudson River because, rumor had it that, the water would give you a third arm. Many residents of the Hudson Valley still believe this to be true and never think about the life that exists in the river.

The Day in the Life gave students a new look on the Hudson River. Some of the students did know that the Hudson River was still alive but others were amazed by what we were catching from the river. We caught catfish, small mouth bass, and sticklebacks, as well as other species of fish and macro-invertebrates. It was amazing to see the Red Hook high school students run to the net and to search for the fish among the leaves and debris. This was a teaching opportunity for me but it also made me realize that opening students to new horizons can be so rewarding. That is the way that DITL changed me.

(https://eus305environmentaleducation.files.wordpress.com/2014/10/ditl-seining.jpg)

Posted in Uncategorized on October 28, 2014 by tkoutloud. Leave a comment

EUS Practicum: Environmental Education

Day in the Life: Reflections from the Physical Conditions Station

I awoke the morning of October 16, 2014 unsure whether the Day in the Life of the Hudson module would go over as planned. Mist clung to the Hudson Valley; rain and thunder storms were anticipated with 80-some-percent certainty. Regardless of weather, the South Tivoli Bay area would offer both Red Hook High School and Bard students a novel day of exploration. But heavy rains and thunder could encumber the Day in the Life module. (I would hazard a guess that the Red Hook High School delegation felt similarly uncertain – the Bard crew was certainly biting nails.)

Luckily Annandale-on-Hudson was spared after the storm surge bifurcated north of us. Heavy cloud cover lingered, but not even grey skies could fog up the activities we, at the Physical Conditions station, had planned for Red Hook High School students!

At Physical Conditions we worked to complement the four other stations (Life, Muck, Water Quality and Observations) by tying together their disparate elements into a cohesive snapshot of our corner of the Hudson River and South Tivoli Bay. We collected a suite of data: salinity, turbidity, river temperature, air temperature and tide height. After a particularly rainy night, the latter was astonishing – a 12.5 inch drop between the hours of 10am and 1pm. Fascinating as the data are, our most engaged moments with the students were in group discussions in the field; RHHS students' astute observations sparked spirited discourse. These conversations covered myriad realms; by the end of the day we'd spoken about (non) point pollution, 18th century seafaring, the existential fate of foliage, and skimmed the surface on a few of the Hudson's many idiosyncrasies (amongst other things).

I (Josh Gachette) speak for my fellows (Cason Hall, Sophie D'Anieri) in saying that it was an absolute pleasure spending a picturesquely dreary day on the Hudson with witty, engaged students from Red Hook High School.

Posted in Uncategorized on October 28, 2014 by tkoutloud. Leave a comment

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Day in the Life: Reflections from the Observation Station

The observation station of the Day In the Life of the Hudson required a great deal of creativity on the part of the group to which it was assigned. While other the stations had a substantial amount of data to collect for the Day in the Life packet, such as pH levels, biodiversity counts and core samples, the observation group was more responsible for collecting information less easily quantified. We had the sometimes difficult task of restoring the often lost quality of childlike wonder in our participant and ,at first, some of them seemed surprised that there was a whole station dedicated to asking them to engage their senses for the sake of engaging their senses for the "mere" sake of engaging their senses (I put the word mere in quotations because I believe there is nothing insignificant about the task we asked of our students.)

We started off our lesson inside the Bard College Field station because a on and off thunderstorm made it difficult to predict safety levels for our participants. We went around the table and did introductions, finding out that almost all of the Red Hook High School students were interested in pursuing a career in science, which was exciting to hear for the program we had created for them! We then asked them briefly about their relationship to the Hudson River. They all seemed extremely proud to live near the river, and had many stories of how they engaged with the place. Some said they regularly went boating on the river and even fishing (although we were sure to pull out our handy "Fishing in the Hudson" pamphlet to make sure they weren't eating fish that were unsafe). Everyone seemed to hold a happy memory of the Hudson, which firmly reminded me of mu status as a newcomer to the area. I'd say I love the Hudson an inordinate amount, but I will never have the connection these students have to the river. They grew up along its banks, seen it on their way to school every morning, knew the most beautiful spots, and were proud. Although I feel such a connection to the River, these Red Hook High Schoolers have a unique kinship. Seeing this Hudson River pride in our students gave me great hope that local involvements in Hudson River programs have such great potential. Hudson River Valley residents have already taken intellectual ownership in the river, and when provided with outlets to work with the river, participation won't be hard to find.

As a class of mostly outsiders from the Hudson River (with a few exceptions), I think we brought new perspectives and insights into the study of the river, which I believe is an important part of any place based project.

The observation station was very necessary in the Day In the Life of the Hudson program because it allowed students to focus on a full picture of the river and reflect on how they see the river every day. The physical conditions station, the muck station, and the Life station were exciting and provided a lot of educational merit, but I think the observation station had the potential to instill a greater appreciation for the river as a place. We took time to look through binoculars and see birds nests, we attempted to identify some trees we saw. We discussed the history of the Hudson as well as for what it is being used today. We allowed time for the river to inspire participants artistically, and spoke about the rich artistic history for which the river is so famous. Although we didn't collect data in numbers, we collected descriptions, sketches, and anecdotes that showed the deep appreciation of the river. The observation station was necessary in taking a step back from the quantitative, and focusing on one the main reasons this river is so widely studied. That reason is the overwhelming appreciation for the natural resource that touches so many people with its presence. The most rewarding part of teaching the observation station was watching students realize how much of a presence this river has had on their lives, and watching them celebrate it through their senses.

Lissy Darnell

Posted in Uncategorized on October 28, 2014 by tkoutloud. Leave a comment

EUS Practicum: Environmental Education

Day in the Life: Reflections from the Water Quality station

Leif Anderson
October 27, 2014

I have been in the Hudson Valley, living close to the Hudson River, for only the past two years. In that short period of time, the river has firmly asserted itself as a central component to my life here. From season to season I have walked down through the paths along the Tivoli Bays, watching the river move, sit and change. Most of my Environmental and Urban Studies classes at Bard College have briefly discussed or even focused on the Hudson River itself. Driving across the Kingston/Rhinecliff bridge in winter, I have seen barges deftly navigating the channel of water freed up earlier by icebreakers. I have learned that the river starts way up at Lake Tear of the Clouds, but haven't been there, not yet.

Last week, as part of my Environmental Education class at Bard College, I had the opportunity to interact with the river in another way. Our class, led by Professor Tom O'Dowd, participated in the Day in the Life of the Hudson River event. We led a group of Red Hook High School students through the various stations, teaching each group how and why to collect different kinds of data pertaining to the general health of the river. Our class had spent what felt like, and probably was, weeks preparing for the DITL event. Together, we prepared for each station, before breaking into smaller groups a week or so before the day and focusing our final energy on that topic. I, along with two other Bard students, directed the chemistry or, as we preferred to call it, water quality station. We collected the necessary materials, rehearsed our dissolved oxygen and pH tests and prepared a spot for our station right on the edge of the Hudson.

When the day finally came, it started with an early morning email. Due to the wet conditions, we would be setting up and directing the water quality station inside, at the ecology field station right down on the Tivoli Bays. I was disappointed at first, having been excited to teach and be outside all day, instead of in a hot, stuffy lab. I've always been more excited by being out in and around things

than in studying them with neat scientific tools. But, as the day progressed and I began to feel more and more comfortable with teaching each group of students, I began to see that this way of looking at and talking about the Hudson is incredibly valuable and engaging. Talking about and measuring the dissolved oxygen content and saturation of water directly from the Hudson required a kind of intense focus similar to that I find while walking along the Tivoli Bays, watching intensely as great blue herons glide down to stalk among the water chestnuts.

At the end of the day, we came together to share our results and reflect on the experience. Looking around the circle of high schoolers, fellow college students and our respective teachers, I noticed that no one looked bored. Despite the thin drizzle that had persisted throughout the day, I heard no complaints. A kind of energy and contentment seemed to buzz through the group, as if by dedicating our collective day to it, the river had filled each one of us up with warmth and respect.

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