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My Journey through River Quest

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The River Quest field trip on the Vista Star and at the DECC really taught me a lot about how we interact with the water around us. On one hand, Lake Superior and the St. Louis River provides an efficient way to transport goods around the world; on the other hand, human activities, such as releasing pet fish into the lakes, or discharging household water into sewers, will significantly affect the quality of the water. This whole River Quest journey consisted of a variety of learning stations that offered us engaging, exciting learning experience.

Our trip started inside the DECC. We first went to the rip current station where I found out that rip currents could drag you out so far out into the ocean or lake! Rip currents can be faster than an Olympic swimmer, so never try to swim against the current. It will just make you weak and tired. My favorite part is where our whole group tried to act like a rip current pushing one other person out into the water. Rip currents are very narrow, so you could just swim out from the left or right side and then swim back to shore.

Next, we learned about oil in nature. Oil doesn't mix with water, so there is a layer of it on top of the water. It surprises me that oil can just sit on top of water like a coating or shield and not mix with the water. Luckily, there is a special type of paper that soaks up the oil from the water. That way animals cannot get coated in oil. Although there is a way to clean up spilled oil, people should make efforts to avoid spilling oil into water in order to keep it clean and safe.

SNA Invaders introduced the Minnesota Point Pine Forest SNA (Scientific & Natural Areas). Storms from the lake eroded away the sand at Minnesota Point, exposing roots and toppling pine trees on the shore. We saw pictures of the shoreline after a storm, showing fallen trees and roots hanging out of the soil. We learned that we shouldn't step on dune grass because the grass helps to reduce erosion on the beach, and we should protect the dune grass. I enjoyed the demonstration of erosion with an interactive model, which showed us what erosion was like from our own eyes.

As a boat nerd, my favorite station is the Great Lakes Cargo Capital! Through readings and years' boat watching experience, I honestly know all the information shared with us at this station, but I still enjoyed the experience of visiting the station with my peers. We learned how the twin ports carries bulk cargos and ships them around the world. There are two different types of ships, Lakers and Salties. Lakers sail only in the lakes, but Salties are oceangoing vessels that can travel everywhere. Salties must navigate through 16 locks from the Twin Ports to the ocean! That's a lot! The longest Laker ship is the "Paul R. Tregurtha" at 1,013 feet long!

Next, we went to the Stream Table station. This station taught us how human activity can create sediment along streams, blocking the river and limiting food sources to other animals. There was a model that demonstrated how it happens. From the model, I actually got a very good picture of how we cause the problem and what we should do to avoid it. While I felt a bit hot by this time, the next hypothermia station surely made us you feel chilly!

We boarded the Vista Star after the Stream Table station. I was a little dizzy from the boat rocking back and forth slightly, but I was fascinated by the amazing views of the water from the windows. We started with a station where we learned about hypothermia. Two volunteers stuck their hands into a bucket of ice water to simulate hypothermia. Their hands turned pink! Moderate hypothermia makes you sluggish and dizzy, but if severe hypothermia hits you, your body will shut down. No one would like to be in that cold waters!

It sort of makes sense when we visited the Life Jackets station after learning about hypothermia. This station showed us how it was very important to wear your life jacket. I was absolutely shocked that every day, 10 people drown in the U.S. and 88 percent of those deaths were from people not wearing life jackets. Shocking, right? Wear your life jacket!

"What is the Es-chew-air-ee?" Funny title! A freshwater estuary is a place where two different bodies of water mix together. Estuaries are really important for animals and plants, while serving as a special place for people and industries. Here in Duluth, we have the St. Louis River estuary! Industrial activities can greatly affect the health of the estuary. This reminds me of my elder brother, who worked with NRRI scientists to examine the effects of sediment from a contaminated area and how it affects plants in St. Louis River estuary.

The next station answered my questions about where our waste water goes! This station explained the sanitary sewers and storm sewers. Waste water from the sanitary sewer goes to WLSSD to get filtered, cleaned and then discharged into the lake. Storm sewers just collect rainfall runoff and directly go to the lakes and rivers. We got a chance to see actual bacteria under a microscope at the WLSSD station! In the past, the St. Louis River had sludge that killed fish. It was a disaster, until WLSSD started up! Water from the drains goes to WLSSD, where workers clean the water for only 8-10 hours. That's very fast! The cleaned up water then goes back into the St. Louis River! I couldn't imagine what will happen if the sewage from the sanitary sewer is not properly filtered and cleaned before being discharged into the lake.

"Get Habitattitude!" Whew, that was quite the tongue twister! This station shared information about AIS (or *Aquatic Invasive Species*) that get into our waters. If AIS is introduced to new places, it could take over native species, eliminating them and disrupting the food chain. To prevent AIS, we can donate our pet to a zoo, a school, or to a lab to study. Some examples of recent releases in Minnesota are piranha (which surprises and scares me a lot), yellow iris, water lettuce, koi, and goldfish. I am surprised that people would release piranhas into Minnesota waters! That's crazy. The last place is where I had the most fun!

The final station was the observation station. My group went up to the top floor of the Vista Star. What a fun, great view! We used binoculars to look around the harbor. We saw how the Vista docked, which was interesting. I saw a navy ship (named USS Minneapolis-St. Paul) about to be christened, the Saltie ship "Federal Ruhr" at a loading dock, and seagulls flying around. It made me so proud that I had gone on the Vista Star and looked through the Duluth/Superior harbor!

Now, this concludes my journey on River Quest. I especially like the interactive models to gain knowledge first hand. Getting onboard the Vista Star was exciting. I only disliked the slight rocking around on the Vista Star, which made it hard to stand up! But the whole trip was a very exciting and educational experience. I have gained an awareness of the significance of Lake Superior and the St. Louis River ecosystem, and how our activities may affect the health of the water in our harbor and what we can do to keep the water around us clean, safe and healthy.