

THE DIP PROJECT

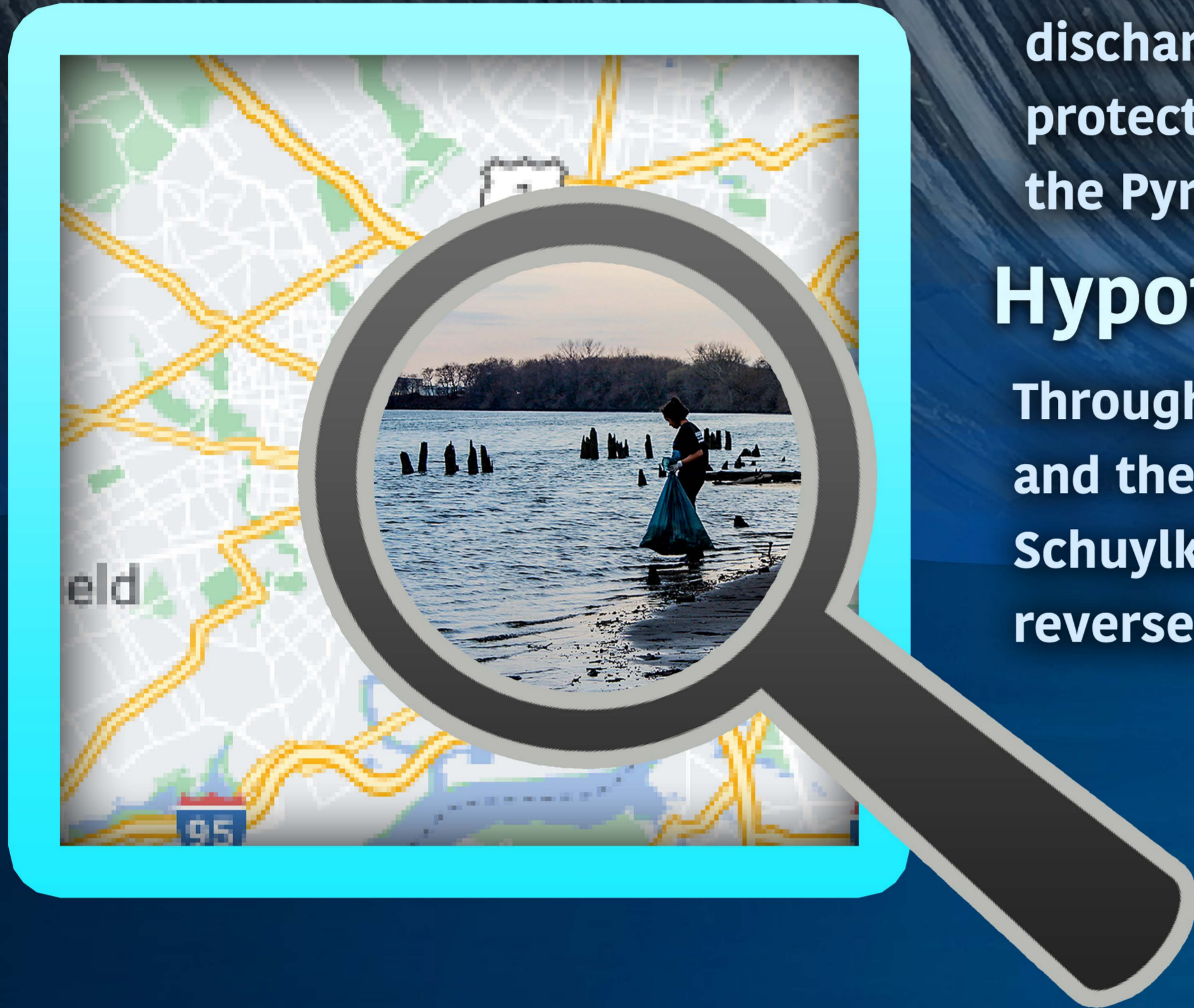
ABSTRACT

Overview and Selection

The Schuylkill River ranks as the third most polluted waterway in Pennsylvania. To counteract the accumulation of toxic discharges, promote dam inspection, and protect marine life, the DIP project employees the Pyramidal Prism (PMP) perch

Hypothesis

Through utilizing the three-pronged DIP project and the PMP Perch to clean and observe the Schuylkill, PolyNauts will reduce, and eventually reverse, the cumulative effects of pollution.



RESULTS & DISCUSSION

Lessons Learned

- We learned how to eliminate potential designs. many of our prototypes did not fit the needs for the DIP Project due to not being hydrodynamic or not passing the buoyancy test in Robocraft
- It is important to utilize multiple materials, as PVC is not always the most efficient



Experimentation

- Once we decided on the PMP as our final design, we tested different attachments to the front of the perch for pH testing and picking up trash in the river
- We decided to use a metal hook instead of PVC because it was lighter and more flexible. The optimal hook shape as determined through Hook Speed Experiments: Hook 2



Conclusion

- The DIP Project aims to Disinfect, Inspect, and Protect our local Schuylkill river.
- The PMP will: Clean the river of pollutants, protect marine life by monitoring pH, and inspect the 280 dams in the Schuylkill.
- Community Impact: The DIP project fostered awareness towards the condition of the Schuylkill River and the steps we must take collectively to counteract pollution.
- Any involvement holds the potential to reduce our ecological footprints.

As the DIP Project operates, a question of global use is raised. The PMP can be employed in other bodies of water such as the highly polluted Ganges River and make an immense impact on the world we live in in terms of pollution, safety, even new marine life yet to be discovered.

Next Steps

Why the DIP Project?

As neighbors to the Schuylkill River, PolyNauts laments the polluted river conditions.

- Over 40 species of fish call the Schuylkill home
- The river was once so polluted that it had a dead zone.
- Industrial waste, agricultural runoff, and discharge from abandoned mines pollute the waters.



PolyNauts hopes to further efforts such as the 1972 Clean Water Act to protect the vibrant Schuylkill

DIPing Our Toes Into Disinfecting, Inspecting, and Protecting Aquatic Ecosystems in Our Schuylkill

METHODOLOGY

