

Waterway Beautification

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Abstract

- Cleaning our oceans to protect our waterways with a garbage hook and water sample collection.
- Living in Wilmington, there is water access to the Atlantic ocean, Cape Fear River, and Intracoastal Waterway. Occasionally, people take the water and all it's beauty for granted. This is why it is important to keep it clean.
- The anticipated outcome of our project is the ability to clean trash in hard to reach areas, while also taking water samples for testing at the same time. This will allow for our waterways to become cleaner and researched.

Methodology

- We approached our project by modifying the seaperch we already compete with. This gave us a base model to start with. Our hook attachment allows us to pick up trash from the bottom of our waterways. This allows the ROV to grab trash from areas we can't reach. Then, we wanted to add an area to collect a sample of water. We added a spot for that on our 3D printed ROV. This water collection can be tested by crewmembers when the ROV makes it back to shore. This allows the water to be monitored for pollutants.
- We tested our hook in a smaller scale. We used it to pick up trash from a pool. This allowed us to see how well the hook worked. We used this information to change the angle of the hook to better collect trash.
- We used a metal hook that was added on an attachment to our ROV as seen in the image below.

Results & Discussion

- We found that we could actively beautify our waterways to better the quality of life in our city.

Conclusion

- Our project impacted our community by cleaning up the water that is beloved by community members and protecting the wildlife.

Background & Motivation



A dock in our city on a warm, summer day.

- We picked this project because we live near the water and it is an important part of our lives. Recently, they have found contaminants in our river
- Recently, they have found contaminants in our river and it is important to monitor the water quality for the sake of wildlife and drinking water.
- Anything that can help preserve our aquatic wildlife and the water we drink is important to the quality of life.

Next Steps

- We could find a way that tests the water right on the ROV so it doesn't have to be tested by crew members at the surface. A camera would help navigation to be easier as well.