



## Transcript

### Science on the St. Johns: *Vibrio* bacteria in oysters and water from Sisters Creek

<http://thescienceof.ju.edu/science-on-the-st-johns-vibrio-in-oysters-and-water/>

**Janel Palomo:** I am working under a graduate student here at Jacksonville University. I'm helping her with her research in identifying pathogenic bacteria in Sisters Creek, which is a tributary of the St. Johns River. This is *Vibrio parahaemolyticus* and it can cause gastrointestinal infections. You could get diarrhea, vomiting, fevers from this, dehydration - severe dehydration from it. This is *Vibrio vulnificus*. It could also cause gastrointestinal infections, but if it gets into your blood stream, which it can if you go into waterways with open cuts or wounds, it can cause blood poisoning and people have had to get amputations because it has gotten so severe.

**Shelby O'Brien:** I'm looking at identifying *Vibrio* bacteria in oyster tissue and water samples from Sisters Creek, which is part of the old Duval County shellfish harvesting area. I go out to an oyster reef out in Sisters Creek and I collect oysters from this oyster bed here, and then what I do is I take these samples back and I grind up the oyster tissue. I add it to these tubes of alkaline peptone water, and then I let them grow overnight. Once they've grown overnight, I then take a sample of each of these tubes that has had bacteria grow up in it and I streak it out onto a plate. The yellow colonies are bacteria that are able to ferment sucrose and the green colonies are bacteria that can't ferment sucrose. So using our mass spectrometer, we're able to identify our different species of *Vibrio* looking at the similarities and differences.

One of the interesting results that I have found so far is that in March when the temperatures were cooler we had about 150 *Vibrio parahaemolyticus* per gram of oyster tissue, and then . In June, when the temperatures were warmer, we had over 200,000 per gram of oyster tissue. These results seem to fit with our hypothesis that as temperatures increase we are seeing an increase in our *Vibrio* species, especially with *Vibrio parahaemolyticus*, and when the temperatures are cooler we are seeing a decrease or a lower number of them. Basically, this project is if we were to go out today and go take an oyster and eat it raw - What are the chances that we could potentially get infected with a harmful bacteria?

**Narrator:** Observing colonies of *Vibrio* growing in Petri dishes and learning about how these young scientists are hunting for the bacteria in local waters and oysters were just a couple of the many opportunities on hand at *Science on the St. Johns*.