

## Bronx River Restoration

Can an urban waterway reclaim its historical ecological health?

Recall the Ecology Disrupted curriculum learning goals:

- Human daily life can disrupt ecological function leading to environmental issues.
- Scientists can collect data to investigate human impact local ecology.

Students watch additional Science Bulletins videos to learn about how human daily life can affect ecological function, and to pull out the ecological principles. An introduction to the video and background information are provided below.

While watching the Bulletins they will complete a graphic organizer with the following questions:

1. What abiotic factor(s) have people changed and what is the impact on the biotic factors in the ecosystem?
2. What is the evidence/data for your conclusion?
3. How has daily life contributed to this change and how is it affected?
4. What are possible solutions?

### Introduction

"Have any of you been to the Bronx River? It is the river than runs through the Bronx Zoo. Before the arrival of European settlers it used to be a spectacular home for wildlife. Not surprisingly, building this enormous city has damaged the River, but the good news is that people are working to restore it. People are also trying to restore other water bodies in the City, like Newtown Creek between Brooklyn and Queens and the Gowanus Canal. The Bronx River restoration is the furthest along and the most inspiring. This time we are going to watch a *Science Bulletin* video about this story, and cheer up because this story is upbeat. Get ready to fill out your graphic organizers."

### Background

The Bronx River has a high level of pollution that has impacted the native species of the river like oysters and fish. It became polluted during the 19<sup>th</sup> and 20<sup>th</sup> centuries because it was used as a natural sewer to dispose of industrial wastes like fertilizers (nitrogen and phosphorous), PCB's, and oil. At this time there was also a loss of the vegetation around the river, which led to the Bronx River ecosystem being severely disrupted. Many of the original species like freshwater plants and fish are no longer found in the River due to the pollution. The River is in the process of being restored by scientists, students, and environmental activists by removing invasive species and pollutants and re-introducing native species into the river.