

## CLASSROOM ACTIVITY

# Bronx River Restoration

In the 1600's, New York City's Bronx River was a drinking-water source and a haven for beaver, oysters, and herring. It became blighted as urbanization progressed, reincarnating as an industrial power source, an open sewer, and a garbage dump. Today, landscape ecologists are reconstructing the waterway's ecological history as a reference point for its restoration effort. Watch conservation teams coax new life into the Bronx River as they restock it with native fish, lay down oyster beds, and remove invasive species along its shores.

## CLASS DISCUSSION

### Establish Prior Knowledge

Ask students to brainstorm the impacts of urbanization on a river ecosystem. (Impacts include: pollution, species loss, riverbank erosion, and introduction of invasive species.) Ask students to consider the following questions:

- How could people restore such an ecosystem?  
*(Answers may include: removing trash, planting along the banks, removing invasive species, introduce fish and other native organisms.)*
- What would you need to know before you started?  
*(Answers may include: What the area was like before it became polluted, what plants and trees grew there, what animals lived there.)*
- How would you gather that information?  
*(Answers may include: Talk to naturalists, find out about the history of the area.)*
- What steps would you take?  
*(Answer may include: Get a group together and look at what needs to be done. Make a plan to clean the area and address pollution sources.)*

Tell students that in the video they are about to see, scientists and community members are working to restore a river that has been severely impacted by human activity.

### Exploration

Ask students to take notes while they are watching the video about the different ways people are working to restore the Bronx River ecosystem. After students watch the video, use the following questions to guide a class discussion:

- What is the goal of the project?  
*(Answer: To restore the Bronx River ecosystem)*
- What background work did the conservationists do to guide their efforts? Why is this important?  
*(Answer: Conservationists researched the ecosystems and biological communities that existed in the past. Old maps show where marshes and other environments were located and this will guide where and how the river will be restored.)*
- What changes to the river and its organisms have the conservationists used to gauge the success of their work?  
*(Answer: wildlife, such as muskrat, beaver, and fish have returned to the river, the river water and banks are cleaner.)*
- One of the scientists in the video says that it might take centuries to restore the Bronx River ecosystem. Why might this be?  
*(Answers may include: A river that has become so polluted over several hundred years cannot be restored overnight. Ecosystems have many interacting elements and it's a slow process to restore them.)*

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# Bronx River Restoration (continued)

**Wrap-Up**

Use the following questions to wrap up your discussion.

- How might conservationists continue to monitor the condition of the river?  
*(Answers may include: They can monitor the cleanliness of the water, the condition of the banks that have been replanted with native species, and wildlife populations in the area.)*
- What data should they continue to collect?  
*(Answers may include: They should collect data on the success of the many projects to restore the river: shoring up the banks, oyster reefs, return of alewife, etc...)*