What Do We Owe a River?

When economic development changes a river, what responsibility do people have for its long-term health?

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Historical Photograph of Milltown Dam This photograph, taken from upriver, shows the overflow gate of the Milltown Dam spillway, looking west. The dam was located approximately six miles upstream from Missoula, Montana.



EPA Video Detailing Superfund Cleanup This video documents the cleanup and restoration of the Milltown Dam Superfund site. As a source produced by the EPA, it provides the agency's perspective on the project and its outcomes.

Contextual Paragraph

Rivers have typically played a significant part in human settlement, transportation, industry, and agriculture. In Montana, the Clark Fork and Blackfoot Rivers supported communities and economic development, including the region's mining industry. Milltown Dam, initially constructed in 1908, provided hydroelectric power to surrounding communities.

That same year, a major flood carried huge quantities of mine waste from upstream mining operations into the Clark Fork River. The contaminated sediment accumulated behind Milltown Dam, and over time, the site generated serious environmental concerns. Locals worried about both arsenic contamination of groundwater as well as the presence of heavy metals such as copper, lead, mercury, and zinc in the sediment.

In 1983, the United States government added the Milltown Reservoir Sediments site to the federal Superfund list. When cleanup work began in 2006, it included removing contaminated sediment along with the dam; restoration of the river and floodplain followed. The project involved a range of voices–government agencies, tribal representatives, and local communities–and their collective interests focused on environmental health, recreation, economic development, and regional history.

The Milltown, Montana story illustrates a central challenge of conservation: decisions that provide economic or social benefits in the short term can have environmental consequences lasting for generations. Studying the dam and its eventual removal raises questions about who should be responsible for environmental damage, what successful restoration looks like, and how communities should weigh the benefits of development against its potential long-term costs.

Key Questions

1. What economic and social priorities might explain the construction of Milltown Dam and the development of Montana's rivers?
2. What do the historical Milltown photographs (including those in the video) reveal about human intervention in the river? What can the photographs tell us–and not tell us–about the river's environmental condition?
3. How does the EPA video present the cleanup and restoration project? What might the agency want viewers to understand about the project, and what additional evidence would help evaluate its claims?
4. How can mining waste and contaminated sediment affect water quality, aquatic food webs, fish habitat, and downstream ecosystems? What scientific evidence could help determine whether restoration has improved river health?
5. Who should bear responsibility for environmental damage when the economic benefits occurred decades before the consequences were fully understood? What factors should communities consider when making similar development decisions today?

Assessment

1. Using evidence from both sources and relevant environmental science, explain what the history of Milltown Dam suggests about the responsibilities communities have when economic development affects a river. In your response, consider both the benefits of development and its potential long-term environmental costs.
2. Imagine you are advising a local decision-making body considering a new development near the Clark Fork River. Recommend two measures that could

protect the river’s long-term health. Justify each recommendation using historical lessons from Milltown and relevant environmental science.