

Dam Removal Mini-Assignment – A virtual field trip/case study

Note: This mini-assignment is for those who don't go on either the 4/14 or 4/20 field trips. If you went on 1 field trip, you've already earned the credit. This mini-assignment is *due 4/30/2013*.

The Ohio Department of Natural Resources has a “Lowhead Dam Removal Framework for Decision Making” with issues to consider prior to removing a dam. This framework was adapted from a number of other resources, and can be found at http://www.dnr.state.oh.us/water/dsafety/lowhead_dams/framework/tabid/3359/Default.aspx.

The following questions are selected from the ODNR framework. Pick a dam in Ohio or elsewhere that either has been removed or has been considered for removal and answer as many of the following questions about as you can find information for. For full credit on the mini-assignment, you should be able to find all of the basic information and either be able to (1) answer most of the questions on one of the subheadings below or (2) answer at least 1-2 questions from most of the subheadings below.

Basic Information:

Where is the Dam Located (City/Village/Township, County, and State)? What is the River or Stream Name? When was the dam constructed? Why was the dam constructed? Who currently owns the dam? What is the Basic Purpose/Reason for considering the dam for removal? Who are the major stakeholders involved in the discussion? What are the past, current and future potential uses of the dam and its pool? What are the future potential uses of the stream/river if the dam is removed?

Safety and Security Issues

Identify safety and security issues associated with keeping or removing the existing structure. For example: Does the dam currently meet dam safety standards? Is there a significant potential for loss of life, injury, and/or property damage if the dam should fail or be removed? Is the dam vulnerable to failure because of either aging or inadequate maintenance? Are people safe around the dam? (boating safety, playing on the dam, safe portages) Have there been any injuries or death caused by the presence or condition of the dam? Would safety be improved if the dam is removed?

Environmental Issues

Identify environmental issues associated with keeping or removing the existing structure. Depending on the site, questions to address include the following: Will removal of the structure help to enhance the recovery of threatened or endangered species? What species may need to be reintroduced to the exposed mudflats/bank

areas after dam removal? Will removal of the structure lead to changes in unwanted invasive species? Are there likely to be problems associated with contaminated sediments currently contained behind the dam if the dam is removed? What is the river's natural ability to carry sediments and how does this relate to the sediments currently deposited behind the dam? Will dam removal lead to a net gain or loss in wetland area? What is the relationship of the dam and its removal to other parts of the watershed? How will drinking water supplies be affected? How will groundwater tables be affected? What time of year would be ideal for the dam removal? Consider safety, weather, environmental issues such as fish spawning, flooding, etc.

Social Issues

Identify social issues associated with the existing dam as well as those associated with its removal. Examples of questions that might be addressed include the following: Are there changes in the types of, and access to, recreational opportunities? Are there effects on local and regional populations in terms of economics or economic stability (or lack thereof), displacement, water supply, and or loss of access to traditional use areas? Are there direct and indirect effects on the cultural relationships of the peoples to the landscape? Are there direct and indirect impacts related to any necessary service that was provided by the dam, and how will this service be replaced? How will dam removal affect aesthetic values in the area for individual property owners or the area in general? Are there historical values associated with the dam or the pool it creates?

Economic Issues

Identify economic issues associated with the dam removal project. Examples of questions to be asked include the following: What are the long-term and short-term costs of maintaining the dam versus the cost of removing the dam? Is the dam providing a service that will need to be replaced by some alternative, and what is its cost? What are the costs of alternative measures to mitigate project impacts? How will property values be affected?

Management Issues

Identify the management issues associated with the dam and water control. Examples of questions to be addressed include the following: How does the existing structure fit into the overall management plan for the river system? Is it a critical element to meeting any legal agreements and providing a service to the local economy such as flood control, water supply, power production, irrigation, fire protection, or recreation? Will flood control alternatives need to be formulated once the dam is removed? Will modification need to be made to structures upstream or downstream of the dam such as bridges, road culverts or other dams? What are the sources of funding that have been identified for removal or restoration efforts?