Issues to Consider Prior to Removing a Lowhead Dam

Basic Information:

Where is the Dam Located?
City/Village:
Township:
County:
x-y (Latitude/Longitude):

River or Stream Name:
Type of Structure:

When was the dam constructed?
Why was the dam constructed?

Who currently owns the dam?

Company or individual
Address
Telephone
What is the Basic Purpose/Reason for considering the dam for removal?
What group is coordinating the efforts to remove the dam?
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?

The following should be addressed as part of the decision-making process when considering a dam removal:

[Note: Look at all questions to expand answers past yes or no. Answers should address short term and long term benefits and drawbacks. Items listed in the framework that are not applicable should be answered as to why they are not a factor in this particular situation]

Safety and Security Issues

Identify safety and security issues associated with keeping or removing the existing structure. Questions to address include the following:

Does the dam fall under the Ohio Dam Safety Program?
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?
Description of current condition
What are the major deficencies?
Is the dam vulnerable to acts of terrorism?
Are people safe around the dam?
Boating safety - hydraulics, roller,
Playing on dam (broken concrete, slipping off, etc.)
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?
Description of how dam removal will enhance the recovery of the species?
What species may need to be reintroduced to the exposed mudflats/ bank areas after dam removal?
What species?
What costs would be associated with this effort?
Will removal of the structure lead to changes in unwanted invasive species?
What invasive species?
Description of how the removal of this dam would lead to increasing invasive species concerns.
Are there likely to be problems associated with contaminated sediments currently contained behind the dam if the dam is removed?
What contaminated sediments are of concern?
What data has been collected on contaminated sediments? By whom?
What analysis has been completed on contaminated sediments?
What are the cost estimates associated with removing, sampling, testing and disposal of the sediments?

Will removing the dam cause sediment to move downstream to help build beaches?
Are there other potential beneficial uses for the removed sediments?
What is the stream?s/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?
Have so many other changes occurred in addition to the dam that removal of the dam will not achieve the desired ecosystem restoration goals?
How will new lands created by the dam removal be used?
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.

Legal and Administrative Issues

Evaluate concerns and needs from a legal and process perspective. Questions that might be addressed include the following:

Are there current existing or potential conflicts with laws and regulations designed to protect natural systems? (e.g., Clean Water Act, Endangered Species Act, National Flood Insurance Program, FERC, Navigation ? Section 10 Rivers and Harbors Act, COE 404) [Note: break up into environmental, energy, navigation etc to make clearer]
Are there current existing or potential conflicts with laws and regulations designed to protect social, historical, or cultural values? (e.g., National Historic Preservation Act, tribal water rights)
Are there existing contracts for water supply and delivery that would be affected by dam removal?
Are there 6f or 4f conversion issues might be a factor if certain Federal $ were used?

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?

How many recreational boaters, anglers, or other recreational users be impacted?
Is the impact positive or negative?
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?
Does the dam honor someone in particular?
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?
Have all costs and benefits been identified?
Are there accurate cost and time estimates for the project?
Have risks and uncertainties been thoroughly explored and identified?
Who is financially responsible for the dam and for any damage that might occur if the dam were breached (intentionally breached or breached during a flood event)? What are the potential costs (estimates) of repair and annual maintenance of the existing facility?
What is the status of the repayment on the debt for the project? Has it met the financial criteria defined in its authorization language if it was a public project?
Are there financial criteria that must be met or maintained if the project is funded with international or public funds?
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?
What are the costs to provide additional security measures if necessary?
How will property values be affected?
How do the owners of the dam perceive the alternatives and their potential liability?
How do the owners of the dam perceive any conflicts over removal?

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?
Do the operations fit into a broader context of river basin control?
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?
Public Involvement and Decision Making
Identify the public involvement issues and planning associated with the dam removal project. Examples of questions to be addressed include the following:
What plans have been made to involve stakeholders in the discussion?
Who are the major stakeholders?
What are the stakeholders opinions about dam removal?
What plans have been made to involve the public?
Has the public been notified?
What is the general public opinion?
What political issues have been identified?
Who are the primary local, regional, state and federal political stakeholders?
How will information on the project be communicated to all interested parties?
How will the final decision be made?
What are the main factors in the decision making process?

Next Steps

From this series of questions, a suite of potentially contentious issues can be identified. This will help the decision makers and the public assess whether the dam should be considered for removal, what alternatives exist, and whether the process should move to further study.

This framework was developed using a number of publications and resources including:

The Heniz Center publication entitled: Dam Removal: Science and Decision Making, 2002 (pages 84 ? 88)

The Aspen Institute publication entitled: Dam Removal ? A New Option For a New Century, 2002

The Ohio Department of Natural Resources Dam Removal Workgroup