Ipswich Mills Dam Removal Feasibility Study

What is this study?

- An **investigation** of various aspects of the town owned Ipswich Mills Dam and its surroundings to analyze the feasibility, cost, and effects of removing the dam. The study will provide information that the Town of Ipswich can use in considering the short and long term future of the dam.
- **This study will not by itself result in any changes to the dam or its operation and the Town has made no decision whether to keep or remove the dam.**
- The results will be publicly available and will be valuable to the residents of Ipswich whether or not the dam is eventually removed. The Town has no obligation to pursue removal at the completion of the study.
- If the Town eventually decides that removal of the dam seems feasible and appropriate, the dam removal process would unfold over a period of years involving extensive analysis, design and permitting with ample opportunity for community input.

What will the study tell us?

The study will help to answer the following questions about the current status of the Ipswich River and how the river would change if the Ipswich Mills Dam were removed. The study will not make a recommendation on whether to remove or keep the dam; the focus of the study is on information-gathering.

- What is the history of the dam and how does it fit into the history of Ipswich?
- What is the current ecology of the Ipswich River? What fish and wildlife use the river? How might the ecology of the river change following dam removal?
- How does the dam affect flooding in the downtown area? How would water levels change following dam removal for summer flows, annual high flows, and floods?
- How would removing the dam affect infrastructure such as the EBSCO building, bridges, and retaining walls? If there are impacts, how can those impacts be mitigated?
- What will the river look like without the dam? Can changes be shown in concept plans and renderings?
- How much would it cost to remove the dam and mitigate any impacts to infrastructure?

What to expect during the study

During the summer of 2016 some survey work will be taking place to support the project. This work will include:

- In-river surveys of the channel and potentially vulnerable infrastructure from the dam downstream to the Choate Bridge.
- Temporary lowering of water level in the impoundment (dam pond) to allow for inspection of the dam and the EBSCO building (8/15-8/31). The pond will not be fully drained.
    - This will include regular monitoring of water levels by technical team members and IRWA volunteers, photo documentation of dam, and a volunteer cleanup effort for the area upstream of the dam.
- Exploratory test pits in the river bed near the EBSCO building to be dug by professional divers (8/22-8/26).
- Test soil borings on town property on either side of the dam to understand the type of soil under the dam and EBSCO building (early August).

The dam's low flow gate will be closed by the end of August and the pond will begin to fill back to regular summer levels at a rate that will depend upon rain and river flow. Future public meetings will be scheduled for late 2016 – early 2017 as results are available.

Who is conducting the study?

The study is being conducted by the Town of Ipswich with funding from the National Fish and Wildlife Federation (NFWF) and MA Division of Ecological Restoration (DER). The project is guided by a technical team appointed by the Town Manager with support from the Ipswich River Watershed Association. DER holds contracts with the consulting team led by the Horsley Witten Group.

Why Study Removal?

Dams have profound impacts on river and ecosystem function. Dams are also pieces of infrastructure that have limited life spans, require maintenance and incur cost and risk to operate. It is becoming increasingly common for dam owners to remove dams that have outlived their commercial purpose in efforts to remove cost/liability of dam ownership and restore river ecosystem function.

The potential benefits of removal include:

- Elimination of ongoing maintenance and inspection costs;
- Elimination of dam owner liability;
- Reduction of upstream flooding and downstream failure risk;
- Enhanced recreational opportunities such as fishing and boating;
- Restoration of habitat access for resident and sea-run migratory fish; and
- Restoration of river chemistry and the natural movement of sediment to the downstream estuary.

While there are clear ecological and long-term cost/liability benefits of removing unneeded dams, there are many important considerations that can influence the cost and value of a project like this. Important considerations including impacts on other infrastructure, historical/social value and changes to existing ecological communities can greatly influence project cost and/or a final decision on whether or not a restoration project is viable. Dam removal feasibility studies can help to assess the relative costs and benefits associated with a dam removal project and **help a dam owner decide** whether or not to pursue removal.

About the Dam

The Ipswich Mills Dam is a former mill dam located at the head of tide on the Ipswich River in downtown Ipswich. The Ipswich Mills Dam was originally built to power industry in Ipswich. It no longer serves any commercial function and ownership was transferred from Sylvania to the Town in the 1980s. As owner of the dam, the Town is responsible for the ongoing costs and liability associated with owning and maintaining it.

It is the farthest downstream of three dams on the mainstem of the Ipswich River and serves as the first barrier to migratory fish as they move from the ocean into the Ipswich River. The dam was retrofitted with a replacement fish ladder in 1995, but the ladder does not provide adequate passage to all important species. Rainbow smelt and American shad are two important migratory fish species that were historically abundant in the Ipswich River and remain blocked from upstream access by the dam.

Learn More

Please contact Ethan Parsons (Ipswich Senior Planner) for more information about the project or to be added to the project email distribution list.

More information on the study is also available on the Ipswich Planning Department website: http://www.ipswichma.gov/721/Current-Projects

Prepared 8/2/16