

Dam Re-licensing Project

Friends of the Presumpscot River

***Mission:** Restore and protect the water quality, wildlife habitat, recreational opportunities, and shorelands of the Presumpscot River through ongoing stewardship and advocacy.*

I. Introduction and Summary

By all accounts, the Presumpscot River was once healthy, with thriving and robust populations of migratory and residential fish, which provided food, recreation and income to surrounding communities. Yet for almost all of the last century, two major forces combined to decimate this river and its fishery, and to cause the communities situated along the river to "turn their backs" on it. Water pollution and the presence of nine dams, with no fish passage or environmental restrictions, were the cause of the abandonment of the Presumpscot for nearly 100 years.

An intense concentration of dams -- situated from the very bottom to the very top of the Presumpscot -- effectively impounded almost every single portion of the river and functioned without fish passage devices. The operation of these nine dams, spread over just twenty-five miles of river, profoundly altered the ecology of the Presumpscot; eliminating the historic fisheries habitat and denying access to that which remained. A once fast-flowing, continuous and productive river system was divided into nine distinct, isolated and relatively unproductive sections.

But people did not give up on this river, and hopes for its recovery have been reborn. After twenty years of hard work, the waste discharge problems largely have been addressed. Operational changes and pollution control equipment required at the Sappi mill and for municipal discharges have resulted in dramatically improved water quality. While some water quality problems remain to be solved, the Presumpscot is poised to once again support a thriving anadromous and residential fishery.

Far, far less attention has been paid to mitigating the environmental impacts caused by the stem-to-stern damming of the Presumpscot. It is against this backdrop, and at this critical juncture in the Presumpscot's history, that S.D. Warren asks the Federal Energy regulatory Commission (FERC) to re-license five of their projects. These dams, that dominate the lower and middle one-half of the river are:

- Saccarappa Dam in Westbrook,
- Mallison Falls Dam in the Little Falls section of Gorham,
- Little Falls Dam in South Windham,
- Gambo Dam in Windham and
- Dundee Dam also in Windham.

Friends of the Presumpscot River (FOPR) is calling for the removal of Saccarappa, Mallison Falls and Little Falls dams. We have determined, through scientific studies of the fisheries and riverbed, that removal of these three dams would restore and enhance significant amounts of habitat for the Presumpscot's native species such as Atlantic salmon, American shad, alewife and blueback herring. These species are important for recreational and commercial fishing and for a healthy, diverse river ecosystem. Dam removal will open up more than 16 miles of the Presumpscot to sea run fish and return a large portion of the river to its rocky, fast moving, riffle and pool habitat that once was so vibrant and productive, all within 15 to 20 minutes of Greater Portland.

- **Cumberland Mills** is the first dam on the river since the removal of Smelt Hill dam in October of 2002. The habitat between Cumberland and Saccarappa dam is suitable for American shad and alewives and will be used as migration corridor for Atlantic salmon and other fish who must swim upstream to reach preferred habitat. FOPR documented sea run species bumping their noses up against this dam in the first migration season in May and June of 2003. We believe fish passage or some alternative should be installed here to allow for upstream migration immediately after the demolition of Smelt Hill is completed.
- **Saccarappa Dam** should be removed at the same time passage options are established for Cumberland Mills to create 5 miles of the rocky, swift moving riverine habitat that is suitable for coldwater fish such as Atlantic salmon, landlocked salmon, brown trout, alewives and blueback herring. Access to a major tributary, Little River, will also be important habitat for these species. American shad would thrive in this restored habitat.
- **Mallison Falls** and **Little Falls** should be removed together. There is only one half mile between each of these dams and the habitat provided would be minimal without both dams being removed. With their removal, an additional 2.2 miles of this fantastic riverine habitat would be revealed, adding to the newly created segment above Saccarappa. This portion of the river could be managed to create a significant coldwater fishery for brook trout, brown trout and Atlantic and landlocked salmon similar to the much-utilized segment near Eel Weir in No. Windham, as well as provide habitat for shad and other river herring.
- Fish passage at the next two dams, **Gambo** and **Dundee**, must be provided to allow access to additional spawning and nursery habitat in the main river and some of its tributaries, such as the Pleasant River. The Maine Department of Marine Resources estimates that the Presumpscot could support a population of approximately 67,000 American shad if access is provided upriver and over Dundee Dam. This potential would be more fully realized with dam removal than fish passage alone since several factors including the effects turbines have on migrating fish and the crowding that occurs at fish ladders lead to decreased population size. **But fish passage at all dams would allow the restoration of some species and provide diversity to the river once again.**

II. The FERC Process

The Federal Energy Regulatory Commission is charged with the duty of regulating dams that are used for hydropower on the nation's waterways. Licenses are issued for varying periods of time for twenty to fifty years, with the most common being a thirty-year license. S.D. Warren Company (Sappi) began the process of applying for renewal of the licenses of five of their dams on the Presumpscot in 1996. The application was formally filed in January 1999, after a long consultation and study process with State and Federal resource agencies and all interested parties. FOPR has participated in this process since it began and filed for the legal status of intervenor.

Today FERC must give equal consideration to, "the protection of recreational opportunities, and the preservation of other aspects of environmental quality. In a nutshell, as stated in FERC's Hydroelectric Project Relicensing Handbook, the Commission *"must evaluate and balance the various public interest issues to ensure optimum utilization of the waterway for beneficial public purposes."*

It is our contention that a balance must be achieved. The Presumpscot must not be treated differently than any other river in Maine that has been licensed in the past fifteen years, such as the Saco, the Kennebec, the Androscoggin or the Penobscot where fish passage has been ordered or dams have been removed. A **minimum** of fish passage must be installed to restore historic runs of fish and flows must be adjusted to provide adequate habitat for all the creatures, seen and not seen who live in the Presumpscot. FOPR sees maximum benefits to the river being achieved through a combination of selected dam removal and fish passage.

FOPR is participating in the process by hiring expert consultants in the fields of economics, fisheries biology and riverbed analysis to supplement the FERC record. A number of necessary steps have been completed and, including the Final Environmental Impact Statement and the State of Maine's 401 Clean Water Act Water Quality Certification. There was extensive public participation in the formal hearings conducted by FERC staff and public support for this project is evident. Today, we are waiting for the final licenses to be issued by FERC, which could be as soon as the fall of 2003.

When this process began in 1996, state and federal agencies saw few opportunities on the Presumpscot. With the dramatic changes in water quality since the closure of the pulp mill in Westbrook and the impending removal of Smelt Hill dam, the three state agencies and the US Fish and Wildlife Service (USFWS) have reviewed their goals for managing this river. The Department of Marine Resources, the Department of Inland Fisheries and Wildlife and the Maine Atlantic Salmon Commission have jointly issued Interim Management Goals that call for the restoration of anadromous (fish that live at sea and go to freshwater to spawn) and catadromous fish (fish that live in freshwater and go to sea to spawn) to their historic habitat in the Presumpscot Basin. The USFWS also commented to the Federal Energy Regulatory Commission calling for fish passage and study of dam removal alternatives. At a minimum, these agencies are calling for restored flows and fish passage.

III. Smelt Hill Dam

Smelt Hill dam was the first dam on the Presumpscot at head of tide. It was located in Falmouth approximately 2 miles above the estuary and was removed through cooperative efforts between the owner and the State of Maine in the fall of 2002. With this removal and the closure of the pulping operation at the Sappi mill in Westbrook, the Presumpscot is poised for restoration of its sea run fish. The Army Corps of Engineers provided 65% of the funding for the dam removal. The principal conservation organization spearheading the removal of Smelt Hill dam was Coastal Conservation Association, with several other partners contributing to the effort.

Stripers, smelt, tomcod and eels are just a few of the species that will benefit from the removal of Smelt Hill dam and an increased forage base. Alewives, Atlantic salmon and American shad and sea run trout are waiting for their opportunity to migrate upstream. When floods damaged Smelt Hill and the fish lift in 1996, alewives were transported upstream or given access by opening the gates at the dam to migrate into Highland Lake; but with the removal, free access will increase their numbers. Many species will benefit from the return of the river to its naturally aerated, rocky, riffle and pool character once the dam is gone.

Yet, it is the nature of these species to push their populations as far into the watershed as possible for increased spawning and nursery habitat, better survival rates and the natural instinct to increase their population numbers. This is the reason it is crucial to open the rest of the river above Cumberland Mills. We now have this tremendous once in our lifetime opportunity through this relicensing process.

IV. What you Can Do

You can help the Presumpscot by taking the following actions:

- Join FOPR. Donations and membership fees are an important means of support for us to continue to participate in the FERC process and provide data that defends our position.
- Write letters to the editor of your local and statewide papers in support of FOPR and river restoration.
- Speak with your legislative representatives and local town governments. Tell them about your support for dam removal and restoration efforts. These solutions are best accomplished with the support of the many branches of government.
- Spread the word. Talk with your friends, neighbors and colleagues about what is happening on the Presumpscot and ask them to join in, as well.
- Attend public meetings to support FOPR and our position.

V. People Who Support Our Effort

Friends of the Presumpscot River have many allies in the struggle to free the river. Our partners are:

- **American Rivers**
- **Trout Unlimited, Sebago Chapter**
- **Friends of Sebago Lake**
- **Maine Council Atlantic Salmon Federation**
- **Gorham Trails**

Maine Rivers, the Natural Resources Council of Maine, Coastal Conservation Association and the Saco River Salmon Club spoke in favor of FOPR's position at the public hearings and support our work. We are proud of the support we have received from the many local residents who are interested in seeing the revitalization and protection of the Presumpscot take place after so many years of neglect.

The Portland Press Herald has published editorials supporting the removal of the dams and the restoration of balance to the river.

Casco Bay Estuary Project recently completed a Presumpscot River Management Plan. This plan developed by a large group of stakeholders from around the watershed calls for the removal of several dams in order to restore native fisheries. It also makes recommendation on ways to protect open space and riparian (land along the banks of the river), as well as ways to reduce nonpoint source pollution and the impacts of development on the river.

VI. Most Frequently Asked Questions

Q. Who is Friends of the Presumpscot River?

A. FOPR is a local river protection organization with membership in all of the towns along the river active in river protection and advocacy efforts. We are working with other local and national organizations such as Sebago Trout Unlimited, Friends of Sebago Lake, Maine Council Atlantic Salmon Federation and American Rivers in this FERC relicensing process.

Q. What is FOPR's position?

A. FOPR is asking for the removal of Saccarappa Dam in Westbrook, Mallison and Little Falls in Gorham/South Windham and fish passage on Cumberland Mills, Gambo, and Dundee dams. Locations shown on the map on page 3.

Q. What would the river look like with the dams removed?

A. The River would be narrower, but keep in mind that the same amount of flow would still be coming down-river from Sebago Lake. Its level would drop, as seen on other rivers where dams were removed, but it would not disappear as it has during previous drawdowns that most people have experienced. These events actually stop flow from the lake or upper-river.

Q. Will there be unsightly mudflats after the water level drops?

A. The initial drop in water level will expose mudflats and accumulated silt and fines, but nature abhors a void and vegetation will quickly fill in the exposed banks. This has been shown

to happen in a matter of weeks on the Kennebec and other rivers. Changes in the flow patterns will wash away some accumulated silt and redeposit sand and gravel along the banks.

Q. What are the benefits to the communities along the river if these dams are removed?

A. A restored Presumpscot River, running through the most populated county in Maine, would bring innumerable aesthetic, recreational and economic benefits to all the communities surrounding it.

- The lower river features rocky sides that form a small gorge, its shoreline is relatively undeveloped and would provide nearly seven miles of **beautiful canoeing, kayaking, and fishing**, only 15 to 20 minutes from downtown Portland. While there are some small segments that flow through developed areas, the entire length of the river has many runs of natural shoreline that still exist, providing a mostly rural experience when on the river.
- Fishing opportunities would dramatically increase with the **repopulation of many historic species**, plus improved circumstances for the species that already exist in the Presumpscot. Along with this **increased diversity of fish life**, comes the **increased activity of other marine life, birds, and mammals that thrive with a healthy ecosystem**.
- **A coldwater fishery in the mid-river would bring anglers to the area** that presently fish the overcrowded one-mile segment of original riverbed at Eel Weir or drive North to find comparable fishing opportunities and spend their dollars.
- **The natural falls at Saccarappa, Mallison and Little Falls would again be a place where locals and tourists go to see runs of spawning fish migrate upriver.** In the river's midsection, near Little Falls and South Windham villages, an exciting coldwater fishery could be developed, similar to the already thriving one at Eel Weir By-Pass in North Windham, where nearly 7000 fisherman visits take place yearly. With this, considerable economic opportunities present themselves with the increased traffic to the area from fishermen and tourists.
- **Downtown Westbrook should see the return of sea run fish** migrating along side their newly developed boardwalk and revitalized business district. Without the dam in place, **Saccarappa Falls would present a challenge to daring whitewater kayakers** during spring flows and the possibilities are endless for natural resource based businesses benefiting from the renewed vitality of the Presumpscot.
- The shoreline of the river is mostly undeveloped, affording **opportunities for land protection, open space preservation and greenways** in Southern Maine where development pressures are quickly eroding the natural landscape.
- The **restoration of a coldwater free flowing river** is rare. We have ample opportunities to use warmwater lakes and ponds in Maine, but much fewer coldwater riverine segments, especially in Southern Maine.
- **Water quality would improve** in the Little Falls impoundment and Smelt Hill impoundment due to the natural re-aeration of the water and increased movement with a free flowing river.
- Warmwater species are not thriving now in the river due to the lack of good habitat and food base. Free flowing cold waters will replace some of these warm water fish with a **thriving population of sea run species and give resident species a chance of prospering by providing new food bases, better water quality and bottom habitat.**

Q. Will dam removal cause flooding downstream?

A. These dams are not flood-control dams. They were built solely for the purpose of power generation. Studies by the Army Corps of Engineers have shown that the removal of Smelt Hill dam, at head of tide, will bring flood stage river heights down to 10 -14 feet lower than with the dam in place.

Q. How much power do the dams produce?

A. Little Falls and Mallison Falls produce an infinitesimal amount of the overall power needs of the mill. Little Falls, Mallison and Saccarappa combined only have the capacity to generate 3.15MW. When seen in the regional power supply, this is just a drop in the bucket. Sappi's biomass generator has a capacity of 65MW and the soon to be operational, new gas-fired power plant in Westbrook will generate approximately 500MW of power.

Q. What are the potential negatives of dam removal?

A. There are few negatives to dam removal. People have concerns about:

- **Will there be an increased contribution to global warming from fossil fuels?** Sappi uses the power from these dams to supplement their needs at the mill in Westbrook and it is possible that they would have to replace this power by burning fossil fuels. They also produce a large amount of power from their biomass woodchip-burning facility and replacement could come from this renewable source or from the new natural gas facility currently ready to come on line in Westbrook.
- **What effect will this have on the mill?** The removal of three dams would slightly decrease the amount of power they have to sell from this biomass burner. The power from the three dams FOPR is slated for removal only constitutes 4% of all the power produced by Sappi. A balance of hydro and river restoration can be achieved, since 75% of the power generating capacity of the river will still be in tact and approximately 16 miles of a 25-mile long river will be restored for native species.
- **Will the river disappear or be too small to use?** The image that sticks in people's minds is the appearance of the river when it drawn down by the Sappi. This is a stoppage of flows from the lake or upstream, not what the river will be like with normal flows, but no dam. Landowners abutting the river will have lower water levels. Docks may need to be extended, but new land should be created to increase the amount of property a landowner has. A benefit of this lower river will be less flooding of property, especially in the Saccarappa impoundment where development is close to the river's edge and has been damaged during recent floods.
- **Will the property taxes be lost from the dams by the towns where they are located?** Increased natural resource based development, better quality of life for local residents and visitors and the aesthetic benefits of a rushing free river will offset the taxes lost to local towns. As redevelopment occurs in unimproved and underutilized areas, increasing property values will off set the losses to the tax base.

Q. What will happen to the ecosystem that is in the river now?

A. The ecosystem is not functioning properly. As it is now, the fish population is smaller than it should be, everywhere but Dundee Pond. The types of fish found are non-native or lake dwelling species; and the water reaches much too high a temperature in the summer to support a thriving populations of coldwater riverine species like trout and salmon. Biologically, these impoundments do not function as a lake or a river. There is too much movement (current) of the water for lake organisms to form as food for the fish and not enough movement for riverine creatures to have the bottom habitat they need to thrive. Some warm water fish would disappear

and be replaced with coldwater fish. An equilibrium would be reached on water levels, with fewer fluctuations and vegetation would fill in stream banks. Some mud dwelling creatures such as freshwater mussels would need to be placed back into the wetted areas of the river. Some wetlands would be drained around the old reservoir site, but new ones may replace them in the newly restored river reaches.

Q. Why should more than one dam be removed? Aren't the seven miles of river above Smelt Hill enough habitat for these species?

A. Natural selection of these species to migrate to the best spawning and nursery habitat drives them as high in the watershed as they can possibly go. The habitat above Smelt Hill is not as well suited for Atlantic salmon as the habitat above Saccarappa dam will be when dams are removed. Even with fish passage alone at Saccarappa, habitat in the bypasses and tributaries of the upper river is more suitable for the coldwater salmonids (American trout species that look like salmon). River herring need to spawn as far up into the watershed as possible to allow more time for their eggs to hatch and the young to grow before reaching the salt water of the lower river and estuary. This allows for survival of more of their species.

Q. How are the benefits of dams replaced after they are removed?

A. When dams are built for flood control, that function can often be replaced by restoring wetlands, maintaining riparian buffers, or moving people out of the flood plain. Hydropower generation can be replaced by cheaper and less environmentally harmful solutions like using existing energy efficient technologies. Just by switching 75,000 regular light bulbs to energy efficient bulbs, 3MW of power can be replaced.

Q. Who pays for dam removal?

A. This is a complex issue. In past cases, removal has been financed by the local dam owner, local, state and federal governments, and in some cases, agreements whereby multiple stakeholders contribute to cover the costs.