

## **New Construction Projects Nearly Complete at Craig Brook National Fish Hatchery**

### **New Penobscot Broodstock Holding pools**



Life for the Penobscot River Atlantic salmon broodstock is much easier at Craig Brook with the renovation of their temporary home away from home. The adult fish are captured during the summer at the Veazie trap and transported to Craig Brook in preparation for the fall spawning season. After spawning in November, they're returned to their native Penobscot.

While awaiting the arrival of the spawning season, the fish will be well-protected in the newly covered pools pictured above. The designers used the same concrete pools that have been in place since the 1960s— they're still in excellent shape, but now have a new fiberglass coating. The pools also have new roof coverings made completely of fiberglass— even the I-beams! They're just as strong as steel, but have a much longer lifespan.

The four covered pools (only two are pictured) effectively keep away predators, and the fiberglass pool coating is far easier on the fish— it all but eliminates skin abrasions and nose bump injuries while they're here.

The renovated pools assure the fish will be far healthier when they're released into their home Penobscot River after the November spawn.

Craig Brook National Fish Hatchery has been the scene of much construction activity since 2005. The facility, which supports endangered wild Atlantic salmon population recovery and rehabilitation programs in Maine, now sports some new buildings which greatly increase its efficiency. New buildings include four renovated Penobscot broodstock holding pools, a five-bay Penobscot disease screening building and a much needed fish waste water treatment plant. Read on!

### **The new Penobscot Disease Screening Building**



An essential part of maintaining fish in a hatchery is fish health. This new building is Craig Brook's Penobscot Disease Screening Building. Its five bays allow for fish coming in from the river to be screened for diseases they may have contracted in the wild. Blood samples are taken from every fish and sent to the U. S. Fish & Wildlife Service Fish Health Unit located in Lamar, Pennsylvania for analysis.

A particular disease warrants close scrutiny— Infectious Salmonoid Anemia. ISA is a fatal disease caused by a virus. The screening process reveals any infected individual.

Once determined healthy after a five-day incubation period, the fish are released into the main broodstock holding pools.

## The New Fish Waste Treatment Plant



The new Fish Waste Treatment Plant, shown above nearing completion, is a long-awaited addition to the Craig Brook facility. It's designed to remove solids from the waste water, reduce phosphorus content and disinfect with the use of ultraviolet light exposure.

The first stage of treatment involves the use of a five-part micro screen system to remove solids. The waste water is then mixed with alum (aluminum sulfate) and a polymer which produces a precipitate of the remaining solids. The micro screening process is then repeated, allowing the additional solids to settle out. The solids are collected in a storage tank which is emptied about every six months.

The waste water is finally exposed to ultraviolet light which kills bacteria, and then leaves the plant, flowing into a large pool and eventually into Alamoosook Lake. The installation of the plant will improve the quality of the hatchery's effluent considerably. **FCB**

## During Construction, A Piece of History Uncovered after 77 years !

During the excavation for the new waste water treatment plant in 2005, heavy equipment struck a very hard object just above Alamoosook Lake. As more dirt was removed, the object turned out to be two large round concrete fish holding pools built probably in the 1930s and used until they were covered with the construction of the raceways in the 1950s. The raceways served the facility from that time until the new hatchery was built in 1998-2000.

The two 18-foot-diameter pools were located just above the two settling ponds which prior to the new waste water plant's completion served to treat the facility's waste water by bacterial action.

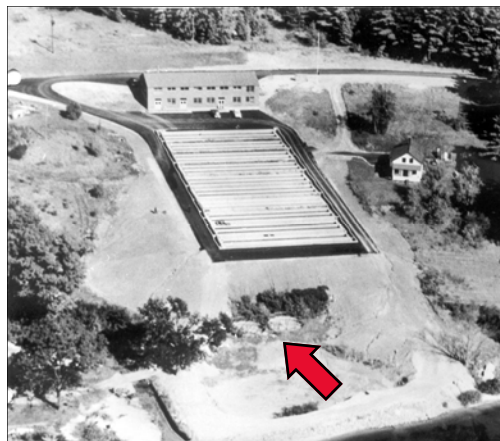


**Pools used at Craig Brook NFH ca. 1930-1953**

The old pools were used most likely for salmon or trout rearing, or both. Indeed the history of Craig Brook reveals that several species were raised and spawned here over the facility's long history.



To determine the age of the pools, we use two methods— researching the Atkins Archives for construction records, and second by using dating clues included in photographs. In the photo above the two pools uncovered during the recent construction are seen close together, and a third a short distance away. On the left is the “Lower Hatchery”, which was heavily damaged in a flood after the Craig Pond dam broke in March 1953. It was subsequently demolished. The “Upper Hatchery”, in the distant background, was constructed in 1906 and razed in 1957.



The old pools appear again in the picture above, taken ca. 1954, just after the construction of the raceways. The red arrow shows the two old pools still in place, and just before being covered for construction of the two settling ponds. **FCB**



## The Ice House Built ca. 1896

Amid all the construction activity over the past two years at Craig Brook, the Old Ice House still remains, and will remain. The ice house, built about 1896, now houses the Friends of Craig Brook National Fish Hatchery's Atlantic Salmon Museum. The Friends of Craig Brook organization has plans to add a new museum expansion adjacent the original ice house without changing its appearance. More to come on the museum expansion in the next issue!

The picture below shows the ice house as it appeared in 1950 from the Alamoosook Lake side with its tool shed, since removed. A picture caption from 1950 states "Gasoline was stored in brick part; tools in wood part." In the foreground is a water sluiceway which delivered water to the Lower Hatchery.



1950 states "Gasoline was stored in brick part; tools in wood part." In the foreground is a water sluiceway which delivered water to the Lower Hatchery.

Historically ice was harvested from Alamoosook Lake in the winter, and hauled by horse team to the ice house for storage.



Another picture shows the ice house on the right with its shed, the "Lower hatchery" on the left, and a small food preparation building, built in 1908, in the center. The 1953 flood caused major damage to the Lower Hatchery, prompting its razing. Only the ice house remains today, a testament to its sturdy construction over a century ago.

## Friends of Craig Brook Organization to build new museum addition



The Friends of Craig Brook have been very busy fund raising and making preparations for the construction of a new addition to the Atlantic Salmon Heritage Museum at Craig Brook NFH. Pictured above is the newly completed foundation and slab which will accommodate the 32 x 24-foot addition to the existing museum seen at far right. The new addition will increase the display capacity of the Heritage Museum by well over a hundred percent.



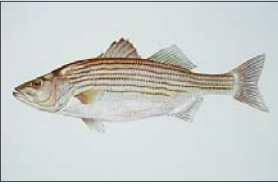
Machias River Atlantic salmon parr.

## *Wild Atlantic Salmon* *Listed under the protection of the Endangered* *Species Act December 2000*

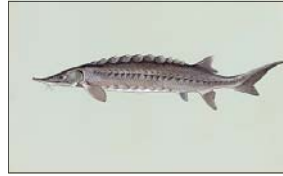
*Craig Brook National Fish Hatchery operates in support of Atlantic salmon population rehabilitation and restoration programs on seven Maine rivers: The Penobscot, the Dennys, the Machias, the East Machias, the Pleasant, the Narraguagus and the Sheepscot rivers. Absolutely critical to that task is the protection and restoration of healthy watershed habitats. That job falls to all of us who live in those watersheds.*

# Diadromous Fish of Maine Rivers

Sea-run Atlantic salmon are just one of the several fish species that migrate between fresh water and the ocean. Eleven others, all native to Maine, also use our rivers as highways of navigation. These fish migrate from rivers to the sea each year. In the case of one—the American eel—the trip is reversed; they spawn in the sea, and return to the rivers to spend their adult lives. Shown here are all eleven.



**Striped bass**  
*Morone saxatilis*



**Atlantic sturgeon**  
*Acipenser oxyrinchus*



**American eel**  
*Anguilla rostrata*

**Short-nosed sturgeon**  
*Acipenser brevirostrum*  
(also endangered under protection of the ESA)



**Sea-run Brook trout**  
*Salvelinus fontinalis*



**American shad**  
*Alosa sapidissima*

**The Friends of Craig Brook National Fish Hatchery, Inc.**

Clara Fish, President & Treasurer  
207-469-2073  
Charlene DiBiase, Secretary  
207-469-3569  
alamoosook@hotmail.com

Friends of Craig Brook Office  
207-469-6701 x215



**Alewife**  
*Alosa pseudoharengus*

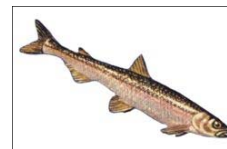
**Atlantic tomcod**  
*Microgadus tomcod*



**Blue-backed herring**  
*Alosa aestivalis*



**Sea Lamprey**  
*Petromyzon marinus*



**Rainbow smelt**  
*Osmerus mordax*

Friends of Craig Brook, Inc.  
P. O. Box 63  
East Orland, ME 04431  
207-469-2073