

The Salmon Run



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A Publication of the Saco River Salmon Club, P.O. Box 115, Saco, Maine 04072, 207.282.6985

From the President's Corner Salmon Restoration in the Northwest *By Jack Parker*

Last week's mail brought a brief FYI note and a front-page story clip from the 'Sunday Tri-City Herald' of Richland, Washington. My wife's cousin of that Columbia River city is enticing us to visit his houseboat home with this euphoric tale of more than 78,000 returning Chinook salmon this year. The article reports that sport fishing is "one of the few bright spots in the economy", generating more than \$3 billion a year and 38,500 jobs for the Pacific Northwest.

Fishery restoration CAN work for the benefit of an entire region, as witnessed not only in that river, but also in many states bordering the great lakes, and with coastal salt-water species around the nation. These results should provide hope for those of us who strive to restore Atlantic salmon in Maine, and object lessons for all of us who seek remedies for a sagging regional economy.

Meanwhile, this year's Saco returns stand at forty-seven, reduced by the summer's drought from last year, but far better than 1991's zero. We'll be hatching 800,000 more eggs this winter to produce fry to stock in the spring. Won't you help us? The Saco River Salmon club story, newsletters, and how to contact us, appear on our website www.sacosalmon.org, recently redesigned by our director and webmeister, Tom Knobloch. Good job, Tom!

December 10 Meeting to Feature Slide Show *By RJ Mere*

Dan Bonville will present a slide show of the fishing trips of 2002 on our last meeting of the year. Bring friends and family for a pot-luck supper and to enjoy Dan's entertaining program, starting 6:00 PM at the Trinity Episcopal Church in Saco. The church is on the corner of Rt. 1 and Cleveland St., one block south of the traffic light in front of Thornton Academy.

Redd Counts *By Mark Woodruff*

November we had the opportunity to participate in a new activity that will extend our knowledge of the salmon life cycle. Dave Bean of the National Marine Fisheries Service and Paul Christman of the Maine Atlantic Salmon Commission led two trips to count adult salmon redds. A redd is carved by a female salmon as she thrashes her tail in the river bottom to create a

depression to deposits her eggs during fertilization.

The first trip was scheduled for the third week in November. This was an all day canoe trip down the Big Ossipee River from the dam in Kezar Falls to the Route 5 bridge in Cornish. The second trip is scheduled for the first week in December. Waders are required for a half-day of scouting in the Skelton Dam tail water.

Since weather and water flows are dicey at this time of year, firm dates and times will be determined as the month progresses.

To get on a call list, please contact Mark Woodruff by calling (207) 929-5300 or emailing markw@sacoriver.net. Once I know the date and time I will call or email you with details.

It is amazing to think that when the new hatchery opened in the winter of 1996, our salmon restoration program focused on raising fry for five months out of the year: January to May. Four years ago we expanded our effort by assisting with electrofishing studies in the early fall. Two years ago the Habitat Survey Project began using summer's low water conditions to locate fry habitat.

November and December redd counts will also provide a unique opportunity.

Atlantic Salmon Restoration in New England: Fish Passage Challenges and Solutions *By Ed Baum*

I was fortunate to be able to present a paper by the above title at the 4th Conference of the Atlantic Salmon in the Iberian Peninsula, which was held from October 23-25 in Pamplona, Spain. My co-author was Ben Rizzo of the US Fish & Wildlife Service, and we received additional input from Steve Rideout and Alex Haro of the Conte Anadromous Fish Laboratory, and Mary Colligan of the National Marine Fisheries Service. Below are a few of the highlights from the paper. The PowerPoint presentation is well-illustrated with examples of upstream and downstream fish passage facilities throughout New England. For example, I used a couple photos of the new Skelton Dam fish lift on the Saco River.

A few interesting "bullets" from the fish passage design portion of the paper now follow.

- There are approximately 425 operating hydroelectric projects at various dams on New England rivers.
- More than 220 barriers to upstream migrants have been provided with upstream fish passage facilities.
- Atlantic salmon are among the target species at 55% of these projects. Other species include river herring, striped

bass, American shad, rainbow smelt, eel, sturgeon, etc.

- The types of upstream fish passage facilities in New England include: 34 steep-pass Denil fishways (primarily at barriers (10 feet high); 90 standard Denil fishways; 14 vertical slot fishways; 5 large pool-type fishways; 67 small pool-type fishways (most constructed prior to 1960); 9 fish elevators; and 3 trapping and trucking facilities.

General Design Criteria For Upstream Fish Passage Facilities in New England

- Upstream fishways are normally sized to pass "peak day" (PD) and "peak hourly" (PH) anadromous species during migration periods.
- A peak day is estimated to be approximately 10% of the annual run and a peak hour is estimated to be approximately 15% of a peak day.
- Using these criteria, estimates of fish passage capacity for various types of fishways have been calculated. For example, the capacity of 4-foot wide Denil fishway is about 12,000 Atlantic salmon, or 20,000 American shad, or 200,000 river herring.

Existing Downstream Fish Passage Facilities in New England

- Various types of downstream migrant facilities (primarily surface bypasses with or without fish guidance screens or racks) have been constructed at 74 hydropower dams.
- The most successful with respect to Atlantic salmon smolt passage (75-97% efficiency) are on the mainstem of the Connecticut River (at five main stem hydropower dams).
- Significantly lower salmon smolt passage efficiencies (30%) have been recorded at hydropower dams at other sites in New England (e.g., Penobscot River). These sites require upgrading to improve target passage efficiencies.

General Design Criteria For Downstream Fish Passage Facilities in New England

- Facilities are normally designed to provide a minimum of 90% survival of downstream migrants at each hydroelectric project, under all operating conditions.
- To minimize entrainment and to guide migrants to fish bypasses, downstream facilities are usually designed with removable overlay screens, close-spaced bar racks (maximum clear opening no greater than 1 inch), or angled bar racks or louvers in the upper 12 feet of the water column at hydropower plant intakes.
- In New England, there has been limited success with various behavioral barriers such as strobe lights, hydroacoustics, etc., on diadromous or riverine species.

Submit your short article for "The Salmon Run."

General interest stories, recipes for fly tying or foods, comments and suggestions are welcomed. The editors reserve the right to edit all materials. Send to RJ Mere, 9 York St., Kennebunk, ME, 04043 or email to rjmere@gwi.net

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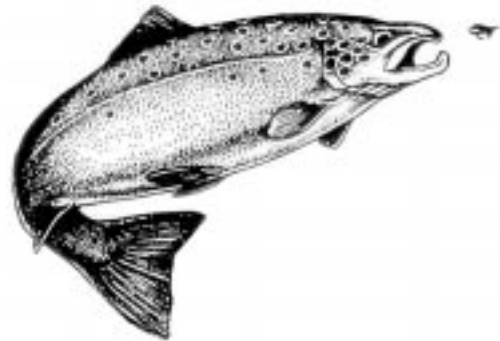
The complete paper includes an overview of 22 Atlantic salmon rivers in New England, and contains a thorough discussion of recent approaches to fish passage challenges such as dam removals, new types of facilities, public education programs, and research projects undertaken or funded by the Conte Anadromous Fish Research Lab.

If anyone is interested in the full text of the paper, I'd be happy to e-mail a copy to them.

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