

**CRASC Technical Committee
Meeting Minutes
November 6, 2006**

1. Call to Order and Approval of Minutes from Previous Meeting

Chair Caleb Slater called the meeting to order at 10:05 am and adjourned at 12:45 pm.

Members of the Technical Committee reviewed the Minutes from the June 28, 2006 meeting. Mr. Steve Gephard motioned to approve the Minutes, Mr. Slater seconded the motion and the Minutes were approved with a couple of exceptions. First, Ms. Griswold was on $\frac{3}{4}$ time until July. It is also noted that the DSI dam in West Springfield is now to be referred to as the West Springfield dam.

Mr. Jay McMenemy circulated a sympathy card for the Fisher family. Mr. Warren Fisher recently passed away. It was noted that both Mr. and Mrs. Fisher have been enthusiastic and dedicated fry stocking volunteers who regularly attend CRASC meetings. Mr. Fisher will be missed.

The agenda was amended to permit a presentation on the genetics program prior to the Fish Culture Subcommittee update.

2. Genetics Research Update

Ms. Griswold provided an update on the use of genetically marked families as monitoring and management tools:

Sea-run returns are individually genotyped annually and currently mated to prevent loss of genetic variability. This is successfully taking place at the Richard Cronin NSS with support from USGS staff. Broodstock management is integral to a healthy Connecticut River stock of Atlantic salmon regardless of any other marking or management objectives. It is also the basis for the marking and monitoring management protocols discussed below.

Ms. Griswold provided some additional background on this project which was initiated by Mr. Ben Letcher and Mr. Tom King in 1997. That year, sea-run adult Atlantic salmon were fin clipped and genotyped. At spawning, 192 families were created and the eggs were transferred to the White River NFH for incubation. A 60-family subset was placed in trays and the hatchlings were subsequently sampled for weight and length, sub-samples were collected for future verification of families, PIT tagged, and moved to pools. Families were batched outside but remained distinct because of PIT tags. When the fish were sorted by sex at spawning time, the females were maintained in the pool while the males were shifted away to other pools to prevent F2 inbreeding. Ultimately each pool contained 10 female and 10 male families (20 families in total). In 1998, 90 families were created using similar

protocols. However, growth of juvenile progeny was accelerated such that both year classes could be released at the same time. About 65-70% of the released fry were marked genetically. Sampling of the 1997 genetically-marked outmigrating fry-origin smolts occurred at the Cabot Station in Turners Falls, MA. Identifying the grandparents of outmigrating smolts is predicated on known matings of the grandparents, and subsequent family matings for the F2 generation. This is accomplished by verifying the original sample ID, the PIT tag number inserted into the grandparent, documentation of spawning families, documentation of batched families, and genetic verification of original families. Once matings are verified, smolt may be identified to family using lots of highly variable DNA loci. This is a huge and laborious data crunch that depends on accurate data at multiple levels and among multiple agencies in multiple states. Yet, staff at the USGS-Conte Anadromous Fish Research Center are now reasonably confident that parents and families can be accurately identified for fish stocked 8 years ago. Staff have successfully verified the matings for F1 and F2 generations using genetic markers.

Emigrating smolts are captured at the Cabot Station in Turners Falls, MA (or in current time Cabot and the Holyoke bypass in Holyoke, MA) and then non-lethally genotyped. In 2004, 1,264 smolts were genotyped at 11 loci. The chance of identifying their parents was about 50%. Analysis is complete for 100 of these smolts. About 26% of the 100 smolts that have been assessed to date can be matched to their respective regional family batches (using 1997 year-of-return parents). Even with incomplete analyses, conclusions about highly productive habitat above the dam in Turners Falls, appear to be possible and will likely be forthcoming in the near future.

3. Fish Culture Subcommittee Update

Ms. Janice Rowan reported that 5.8M fry were stocked this past spring. Almost 70,000 smolts were released. Half of the smolts were stocked into the Farmington River and the remainder in the mainstem Connecticut River in Massachusetts.

The egg production projection for this year is 10.9 million green eggs. Staff at the Richard Cronin NSS have completed sea run spawning taking about 887,000 eggs. Domestic spawning is underway there. The Richard Cronin NSS purchased hormones costing about \$2,900. All of the sea runs were inoculated except for 22 ripe females and one late-returning male. The station subsequently provided hormones for use at the North Attleboro NFH and the White River NFH. Control fish and mature parr are ready for release below the West Springfield dam once spawning winds down.

Milt from 41 sea-run males was cryogenically preserved at the Richard Cronin NSS with help from the Northeast Fishery Center and materials from the Pittsford NFH. Motility ranged from 25-85%. This study will help to confirm protocols for milt preservation and provide incite into production level milt preservation. The study will also address kelt and domestic milt from the NANFH and the WRNFH as a comparison.

Mr. Rocco Cipriano, USGS-Leetown Science Center, and staff from the Western Massachusetts Center for Sustainable Aquaculture are continuing the antibiotics research on domestic salmon at the Richard Cronin NSS. This study compares the use of oxolinic acid, florfenicol, and oxytetracycline.

Domestic spawning is also underway at the White River NFH, the Roger Reed SFH, and the Kensington Salmon Station. Kelt spawning is underway at the North Attleboro NFH. Spawning is nearly complete at the RRSFH (~1.8M eggs). Only about 0.5M eggs were shipped to the WRNFH this year because both chiller and incubation capacity have been increased at this site. Incubation facilities at the KSSH (2M eggs) are full and future production will be shipped to the WRNFH.

A cadre of volunteers assisted the staff at the Pittsford NFH in vaccinating and marking pre-smolts. The fish were large, of consistent size, and appeared to be of high quality.

Mr. Bill Archambault reported that salmon production is underway at the Berkshire hatchery in Great Barrington, MA under the direction of a USFWS volunteer group. The production goal is 25,000 2-year smolts.

Mr. Gephard proposed a meeting of the Smolt Advisory Committee at the Berkshire hatchery to get updated on activities at Berkshire as well as Pittsford. It would also provide an opportunity for viewing the Berkshire operation. Mr. Steve McCormick offered to conduct baseline sampling at Berkshire so that smolt development there is clearly understood. Mr. Slater requested notification of any such meeting. Mr. Gephard agreed to work with Mr. Henry Bouchard to schedule a date.

4. Genetics Subcommittee Update

Mr. Gephard reported that the Subcommittee met on September 5, 2006. They agreed to manage the sea-run returns as a single population regardless of fry origin. Spawning plans for this season were reviewed holding pretty close to past protocols. There was some discussion about the genetics research that Ms. Griswold presented earlier in the meeting.

Mr. Jay McMenemy noted that only nine regional family batches were created for this year's fry stocking, thus eliminating the region above the high dams. Fry will still be stocked above the high dams, they just won't be genetically marked.

5. Salmon Studies Subcommittee Update

Mr. McMenemy reported that 14 sea-run Atlantic salmon were radio-tagged and released above the Holyoke dam as part of the annual Deerfield River Fish Passage Study. Two of these fish were never detected in any tributary. One salmon was located in the Mill River-Hatfield. Another seven salmon were documented in the

Deerfield River with five salmon reaching the #2 dam (which is the trigger for downstream fish passage). Four salmon passed the Vernon dam. Of these, three were found in the West River at the Townshend dam though none were successfully trapped. Another hovered around the Bellows Falls dam and fishway but ultimately made its way to the Cold River which is the first tributary downstream of that dam. It stayed there for 10 days and then left.

Mr. Bob Stira provided an update on the status of Northeast Generation Services projects including Turners Falls dam, Northfield Mountain Pumped Storage, Mt Tom and Shetucket River projects. As of last week, the company has a new owner, Energy Capital Partners out of New Jersey. The NGS equivalent is called NE Energy, Inc. and NE Energy Services, LLC. The new CEO is Curt Morgan. The decision has been made to retain most of the staff though the office and name may change. He indicated that management is aware of the fish passage activities. He expected to continue work according to previous schedules. He noted that HG&E had withdrawn most of their support for the smolt-recapture study in 2006, but, even so, expected that work to continue.

Mr. McMenemy reminded Technical Committee members that the U.S. Atlantic Salmon Assessment Committee meeting is scheduled for March 2007. He requested that all provide needed data to Ms. Rowan and narrative information to him.

The states reported preliminary index site assessment observations. In general, most sites looked okay with variability at some sites in each state likely related to high flows at or just after stocking. Vermont experienced reduced stock densities for 0+ salmon but good parr numbers and likely a good smolt estimate overall.

6. Fish Passage Subcommittee Update

Mr. John Warner provided the following fish passage highlights:

Holyoke – Connecticut R.

- Fish Passage Season ran well
- New crowder system & operation protocol at shad transport system worked well
- Downstream passage investigations ongoing – sturgeon tagging/lab testing

Discussion: CTDEP collected juvenile shad from Maine. Maine DMR reported that the adults they transferred looked bad. The condition of the fish may have been related to the timing of the transfer, late in the season.

The first Atlantic sturgeon ever lifted at Holyoke was documented on August 31, 2006.

The Holyoke license required HG&E to assess resident upstream fish passage. The facility passed 1,500 riverine species since April. Sampling continued after the migratory season for 2 days per week. Smallmouth bass, white sucker and American eels were among the species passed.

Another 2,000 fish passed downstream including eels, bluegill, channel catfish and spot tail shiners. The sampler was operated for resident species. However, there was a spike of shad passage in mid-October but because the sampler was on a limited run the majority of the emigrating shad were probably not counted. Past evaluations suggested shad passage at the facility was very good.

There are currently no plans to continue late season sampling next fall.

Turners – Connecticut R.

- Project sold by NU to Energy Capital Partners out of New Jersey
 - Staff to remain the same
- Plans for new Gatehouse entrance are in revision - due mid-November
- Construction is still set for 2007

Discussion: Mr. Slater indicated that the MAFW had no funds for fishway monitors at Cabot in 2007. Mr. Stira said that his company is considering use of Salmonsoft but in the mean time expects to maintain the status quo with video monitoring and human monitors during peak passage.

Fifteen Mile Falls – Connecticut R.

- Moore bypass sampler was modified and tested
- Modifications appear to have improved passage but smolt passage continued late
- Awaiting results report
- Further consultation needed on next steps needed with TransCanada

Woronoco – Westfield River

- Smolt bypass study report completed – not conclusive
- Study in 2008 coincident with similar study at Westfield Paper Dam
- Eelway supposedly under construction/installed

Deerfield River Project – Deerfield R.

- “Final” downstream fish passage under review
- Response/Meeting needed – hopefully resolve permanent measures
- Adult returns – Preliminary data showed 7 salmon entered the Deerfield and 5 salmon reached Deerfield #2s, exceeding the trigger requirement – further consultation with TransCanada after final report

Fiske Mill - Ashuelot R.

- Denil ladder under construction
- Construction going very slow – FERC has applied pressure
- Target for completion still spring but may be later

West Swanzey/Homestead Woolen Mill Dam – Ashuelot R.

- Owner actively pursuing removal

- Stabilization of historic covered bridge still being worked on
- Removal targeted for 2007 though could slip to 2008

Townshend – West R.

- 3 salmon made it to the Smith-Root electric barrier
- Attraction issues precluded salmon entry in the trap
- No salmon were passed above the dam this year
- Plans to improve attraction through some minor changes will be implemented for next season

Brockway Mills – Williams R.

- Temporary downstream passage is in place and working
- Permanent passage is planned with construction expected next summer
- Same owner as Fiske Mill dam on the Ashuelot River

Research – USGS-BRD-CAFRC

- Studies using a nature-like fishway were conducted in the flume
- These can pass shad with some accommodations
- Plan to test the fishway again in spring with shad, striped bass, suckers, and etc.

Bronson Brook Culvert Replacements – Worthington

- One culvert replacement is almost completed and the other has been initiated

Culvert Project – Mill River-Hatfield

- Additional funds have been provided for this project after it was determined that the E. Burke dam removal project was fully funded

Cold River Habitat Restoration – New Hampshire

- This stretch was badly damaged during the October floods in 2005
- Fourteen miles of stream have been surveyed with priorities identified
- Work will begin in the Warren Brook

Sandy Brook Culvert Project – FRWA

- Funded by USFWS
- Premier Atlantic salmon stream
- Project addressed shallow flow across a bridge apron and a downstream lip
- Flow directed to an 8 foot section of the apron, installed substrate on the apron reducing stream velocity, and backed water up to the lip with a rock ramp downstream to eliminate the jump

Rainbow Fishway Rehabilitation – Farmington River

- Engineering alternatives analysis nearly completed

- Next step is to choose the new design

Leesville Fishway – Salmon River

- Fishway closed this fall
- Issues with the upstream ice control structure have caused problems with the boards which may be tough to re-install next spring

Tower Brook Culvert – Cummington

- Culvert was rehabilitated 2 years ago
- October 2005 flood washed out some of the substrate
- MA Riverways trying to get contractor to replace the substrate which was guaranteed for a 100 year flood
- Temporary solution may be to use volunteers to place rubble in the frames
- Permanent solution may to grout the substrate

Ballou Dam Project – Yokum Brook

- Project stalled while funding was found to install fire suppression tanks – this has now been completed
- The rest of the project will follow now that the tanks are in place

Manhan Dam – Green River

- Effort to assess potential for dam removal is underway, as an alternative to a Denil fishway
- Problem is that a small fishway may still be required if the dam is removed
- No one has found any history of shad passage beyond this site

Mr. Archambault reported that the USFWS has hired Ms. Martha Naley to be the Aquatic Habitat Restoration Coordinator. She comes from the Washington Office. She will be supervised by Mr. Joe McKeon but located at the Coordinator's Office. Her efforts will focus on the Fish and Wildlife Partners Program in southern New England.

7. Shad Studies Subcommittee Update

About 1,400 shad were transferred in 2006. The CTDEP, NHFG, USFWS, MEDMR and USGS made intra- and interbasin transfers for restoration and research. Survival was generally good though loss in some loads was heavy possibly because of density in the lift and delays in loading. Quicker fishing intervals helped. Mr. Alex Haro offered to share scale loss and gross injury assessment protocols for shad. Mr. Slater noted that such observations could be documented when biological samples are taken from the shad at Holyoke.

Ms. Rowan thanked Mr. Steve Garabedian and Mr. Haro for their support in repairing the USFWS Ford shad truck. The USFWS supplied the parts and materials and Mr.

Phil Rocasah repaired the gate so that the truck would be ready to haul shad next season.

Dramatic declines in the blueback herring population in major New England rivers seemed to bode well for USGS/USFWS Science Support Project funding into baseline herring genetics. The Conte Anadromous Fish Research Center will receive almost \$70,000 over two years to study populations in the mainstem Connecticut River and compare them to populations in the Mowhawk River in NY and the Oyster River in NH.

The American Fisheries Society New England Division will host a meeting in Mystic, CT in 2007. One day will be devoted to river herring.

8. New England Joint Ventures Update

After observing that competition for Congressional funding among river programs was confusing and unproductive, the New England Salmon Restoration and Recovery Program directors have agreed to educate Congress in as a unified voice with respect to needs. Hatchery production, program evaluation and habitat restoration were identified as common needs. A subgroup (Gephard, Colligan, McKeon, and Keliher) is developing a five-year research plan to address hatchery production needs and program evaluation needs. Mr. Gephard is developing the Connecticut River-specific portion of this package. Since significant levels of funding are available for habitat restoration, this need was eliminated from the package. The expectation is that the group will reach consensus on the final needs package in mid-December with an eye for visiting Washington, DC on February 2007.

9. Status of Hiring and Budgets at State and Federal Facilities

The MAFW filled their hatchery vacancies last week. Facilities are fully staffed now. It is expected that seasonals will be hired in the spring. In addition there have been a number of upgrades at the Roger Reed SFH to increase egg incubation capacity.

Funding is stable in Connecticut.

Funding is tight but stable in Vermont with two positions recently filled in Roxbury and St Johnsbury, Vermont.

It is expected that the NHFG Director will request \$1.5M from the general fund to plug holes in that budget for another year. The shad truck which is shared among programs is up and running. Staff are looking forward to next year.

Staffing appears to be stable at the NMFS as well as the USFWS though 2007 budgets have not been allocated yet.

10. Biennial Research Forum

The last CRASC Research Forum was held in 2005. It was agreed that another would be scheduled in 2007 at the USFWS Regional Office on February 14 with a snow date of February 16. The event will be catered as in the past. The Coordinator will send confirmation on the dates as well as an announcement and call for papers as soon as possible.

11. Other Business

Refuge Re-Location

The staff from the Silvio Conte National Fish and Wildlife Refuge will be moving into the Coordinator's Office this month once remodeling is completed. They will occupy the first floor where the Sunderland FRO was once housed.

Scheduling Technical Committee Meeting Dates

It was agreed that the Coordinator would work with Technical Committee members to schedule Tech Committee Meeting dates 2-3 weeks in advance of the scheduled CRASC meetings once CRASC sets their schedule later this month.

Education Programs

A teacher training program is scheduled for November 8 at the Montshire Museum to accommodate teachers from NH and VT (once part of VINS). The program is being conducted cooperatively by the NHFG, VTFW, USFS, USFWS, Southern Vermont Natural History Museum, Connecticut River Salmon Association, and at least one volunteer formerly associated with VINS. The CRSA teacher training is scheduled for the following day. Their program has grown again. The ASERP in Western Massachusetts also expects to conduct an orientation in January at a date yet to be scheduled. The Technical Committee granted blanket approval for school-related egg requests.

Endangered and Threatened Species

As of October 17, NOAA revised the list of species of concern to include alewife and blueback herring. The list of candidate species now includes Atlantic sturgeon and Atlantic salmon populations in Maine outside the range of the listed DPS.

Fish Contaminants

The USEPA has completed and released its contaminants report: *Connecticut River Fish Tissue Contaminant Study (2000): Ecological and Human Health Risk Screening*. The report is available at:

www.epa.gov/ne/lab/reportsdocuments/ctriverfr2000/index/html

