

**Minutes of CRASC Technical Committee Meeting  
October 28, 1999  
Conte Anadromous Fish Research Center  
Turners Falls, Massachusetts**

**Agenda Items**

**1. Call to Order and Approval of Minutes from the Meeting on April 15, 1999**

Mr. Jay McMenemy, Technical Committee Chair, called the meeting to order at 10:20 a.m.

Mr. Steve Gephard motioned to approve the Minutes from the last meeting with one correction, Dan Call represents the *Westfield River* Watershed Association (page 5, last paragraph). The minutes were then approved.

**2. USFS Coop Appointment**

Dr. Dick DeGraaf, Leader of the USFS Wildlife Research Unit at UMASS introduced Dr. Keith Nislow, the Coop's new fisheries researcher. Nislow will remain located at Dartmouth College until summer. Dr. Nislow provided a presentation on the Unit, pointing out that it will continue to cooperatively fund habitat studies and will also engage in primary research and support including data and trends analyses (attached).

**3. Western Massachusetts Center for Sustainable Aquaculture**

Mr. Ken Bergstrom, Executive Director of the Western Massachusetts Center for Sustainable Aquaculture at Hampshire College, explained that there are three Aquaculture Centers in Massachusetts. The Western Center focuses on freshwater aquaculture, the other two are coastal Centers. They are all funded by Seaport Bond Funds. The Western Center also receives funds from the Massachusetts Department of Food and Agriculture, the Massachusetts Society for Promotion of Agriculture, and in-kind assistance from Hampshire College. Hatchery security and grounds maintenance will be supplied by Gould Farm, a neighboring residential treatment facility. The Center is establishing *Friends of the Berkshire hatchery*, a non-profit support group to generate additional funding.

The Center, through Hampshire College, signed an agreement to operate and maintain the Berkshire National Fish Hatchery in September. A grand re-opening occurred October 16. Pools buildings and grounds have been cleaned up. The hatchery is to be used an education facility for aquaculture and anadromous fisheries management. Twenty adult Atlantic salmon are on display for educational purposed along with 3,000 fingerling brook, brown and rainbow trout. Mr. Bergstrom indicated that the Center looked forward to being an active partner in the salmon restoration program.

#### **4. Action Plan Update**

Ms. Janice Rowan reported the Action Plan has been revised based on input from Commissioners. The Technical Committee envisions it lasting as long as 5 years before the next revision (attached).

The much shorter summary table is five pages long. It summarizes planned actions, deadlines, and accountability measures (attached).

It was agreed that Technical Committee Advisors would receive a copy of the Action Plan and summary. Both the Committee and Advisors will make necessary corrections and comments through E-mail to the Coordinator and get the final versions to Commissioners to ensure agency commitment to the Action Items before the next CRASC meeting (which is scheduled for November 18).

#### **5. Fish Culturist Subcommittee Update**

Mr. Mickey Novak and Mr. Ken Gillette, Co-Chairs of the Subcommittee, provided Minutes of the September 7 meeting (attached). They were unable to attend because they were spawning salmon. The Subcommittee agreed to include fish culturists outside the Connecticut River basin as advisors to the Subcommittee in order to enhance communication and collaboration.

Mr. Steve Gephard expressed concern that the Subcommittee place top priority on meeting direct CRASC and Technical Committee charges rather than on other less focused objectives like workshops or seminars.

The Technical Committee, for example, charged the Subcommittee with addressing the temperature incubation/fry survival issue. The issue was tabled at the 1<sup>st</sup> meeting last winter until evidence from the index site assessments indicate whether there is any universal problem or whether the survival issue is one-time or geographic specific. The Technical Committee agreed that this work should proceed regardless of the index site results since there is no clear guidance, for example, to indicate when a manager is bound to provide chilled water for incubation. The Technical Committee requested that a researcher (at Wellsboro or Lamar FTC) be identified to conduct this research.

#### **6. Atlantic Salmon & Shad Studies Update**

**Lamprey Study** - Michael Twohey, USFWS Marquette Biological Stations, is proposing to conduct a 4 year study on lampreys in order to find a suitable donor stock for the Great Lakes lamprey sterilization project (attached). The FY2000-2002 plan is to develop a disease profile (120 lamprey samples will be taken from Holyoke and Rainbow), develop a population estimate, determine the sex ratio, and scope out the logistics and efficiency of trapping here (without interfering with salmon and shad passage and trapping). Ultimately, they want to see if it is feasible to remove up to 10,000 lampreys annually. Last year's total at Holyoke was only about 22,000.

The Technical Committee agreed to have Twohey collect preliminary data including removal of 120 lampreys for fish health assessments. Lampreys can be removed from the walls of the fishway at the Rainbow Dam. There was some concern that removal of large numbers of lamprey from the lift at Holyoke would interrupt salmon and shad work. Alternative collection sites or methods need to be identified. The Cabot ladder at Turners Falls might be a source though Mr. Bob Stira considered that unacceptable because of safety concerns. The remaining option is to net the lamprey directly out of the river. This element of the proposal was referred back to Mr. Twohey, through the Coordinator, for alternative development.

**Funding Request for Vaccine Study** - A USGS Quick Response funding proposal (attached) was submitted for Dr. Rocco Cipriano to investigate adhesions and fecundity in broodstock vaccinated for furunculosis at WRNFH.

**Funding Request for DNA Work** - A USGS State Partnership Funding Pre-proposal (attached) was submitted for Dr. Ben Letcher to continue the broodstock DNA monitoring study. The work is designed to help evaluate habitat and to determine the value of environment vs. genetics in survival. [The Pre-proposal was one of ten selected for full proposal submission.]

**Smolt Physiology & Movement** - Dr. Steve McCormick monitored gill Na<sup>+</sup> & K<sup>+</sup> ATPase in Pittsford NFH one-year smolts from January through release. Seasonal changes and size dependency were key in the results with higher readings seen after the fish were moved to the holding ponds at Rainbow where the water temperature was significantly warmer.

Dr. McCormick investigated smolt recruitment with PIT tagged parr demonstrating that about 20% are moving out as smolts (this accounts for size and over-winter mortality).

Dr. McCormick also investigated migration timing and bypass efficiency. Salmon smolts tagged at the East Barnet Dam on the Passumpsic River at the end of May took 10-12 days to reach Cabot Station moving at a rate of 23.4-27.6 km or ~16 miles/day.

Dr. Alex Haro reported that smolts further downstream were clocked at 80 km or 50 miles/day, which is really fast and active downstream migration.

The East Barnet Dam downstream bypass on the Passumpsic River was not effective in passing smolts this season based on observations at the dam in May. This concern was referred to Mr. John Warner for further action.

McCormick's plans for the coming season include tagging fish in the Passumpsic River and Smith Brook. The wild smolt movement will be compared to movement of stocked smolts from Pittsford NFH. Haro's plans include releasing smolts further upstream so that migration speed can be monitored in reaches with dams. There is a trade-off in terms of data because mortalities will also increase for every dam included and tags cost about \$300 each. The tag readers in the river and active monitoring in the estuary have worked well so it is possible to track smolts south of the I-95

bridge, at least to the end of the breakwater. Technical Committee members are encouraged to provide feedback on these ideas to McCormick and Haro while the study plans are under development.

**Turners Falls Shad Passage Study** - Dr. Alex Haro and Mr. Bob Stira provided preliminary information of research conducted this past spring (attached). About 40% of the shad tagged at Holyoke made it to the Turners Falls fishway complex. Shad passage efficiency was only 18% at the Cabot ladder, and a little worse at spillway ladder. Passage at Gatehouse was not a problem with 88% efficiency. More fish choose spillway if river flows are high. Efficiency seems to improve once fish are higher in the fishway which may reflect motivation of the shad more than fishway performance.

Northeast Utilities is already talking about how they will improve passage immediately and any proposed changes will be referred to the Fish passage Subcommittee for consideration prior to implementation.

**Smolt Outmigration Estimate** - Mr. Bob Stira indicated that the number of smolts outmigrating from the basin above Holyoke dam was estimated at 60,712 +/- 14,054 smolts this past spring. This is close to last year's estimate. This study is conducted cooperatively with cash and in-kind assistance provide by NUSCO, Greenfield Community College, Sunderland OFA, and the Silvio Conte National Fish and Wildlife Refuge. It costs about \$25,000/year.

## **7. Fish Passage & Hydro Update**

Mr. John Warner provided the following summary of hydro/passage issues:

### **HYDRO LICENSING**

**Holyoke Project** - License issued in August 1999 to Holyoke Water Power Company (Northeast Utilities) and the City of Holyoke's proposal was denied. The license generally includes recommended and mandated conditions relative to fish passage and habitat. The new license includes provisions for:

- improvements to upstream passage facilities for salmon, shad and herring including improved entrance gallery, increased lift capacity and increased flume capacity
- provisions for increased bypass flows to provide a zone-of-passage through the bypassed reach to the spillway lift
- new shad trap and transport facilities
- new salmon trapping facilities
- upstream fishways for American eel
- upstream passage operations fro shortnose sturgeon (once downstream passage facilities are in place)
- new fish screening structure and bypass for Hadley Falls Station intake
- "flyover" structure at bascule gate for improving upstream and downstream passage

The license has been appealed by the Service, NMFS, TU, the City of Holyoke, Holyoke Water Power and others. The City is appealing their failure to get the license and the lack of economic development mitigation. The Service and NMFS are appealing FERC's modifications to and deletions of some aspects of our fishway prescriptions. NMFS is also appealing the failure to properly handle endangered species consultation on shortnose sturgeon. Holyoke Water Power is appealing a number of fish passage and non-passage environmental measures required in the license. HWP is also appealing the Massachusetts 401 Water Quality Certificate which requires more extensive environmental measures than FERC would have required in its absence.

The appeals are pending. HWP is complying with the license and consultation on implementing the license provisions has begun.

**Woronoco Project - Westfield River - MA** - The license application has been filed with FERC. Final comments and recommendations should be requested soon. Generally all issues have been resolved including bypass flows. The existing downstream passage system will be evaluated and modified if needed, the owner will contribute to the state's trap and truck operation for adult salmon, and eel passage will be implemented.

**Fifteen Mile Falls Project - Connecticut River - NH/VT** - The license application and Applicant-prepared Environmental Assessment have been filed with FERC. Final comments are due at the end of November but VT and the Service have requested an extension of time to resolve remaining outstanding issues relative to habitat plans and mercury levels in reservoir fish. The Settlement agreement for the project requires the implementation of improved downstream passage at McIndoes, assessment of smolt passage through Moore and Comerford and upstream passage when needed. The smolt assessment will be repeated in 2000.

## **FISH PASSAGE ACTIVITIES**

### **Upstream Passage**

**Townshend Dam - West River - VT** - Mr. Jay McMenemy and Mr. Bruce Williams reported that the USACOE has had an electric weir designed by Smith Root to guide fish to the Townshend Fish trap in any flow. Design is 90% complete. Construction should be completed by May 15, 2000. Then the system will be tested and tuned. The system should require less maintenance, it should be less vulnerable to floods, and it should be more effective at guiding adults without negative impact to outmigrating smolts. It is the first of this type of barrier in New England. The old fence will be maintained as an emergency back up.

**Knightville Dam - Westfield River - MA** - Mr. Bruce Williams reported that the USACOE was assessing the potential for upstream passage at the Knightville Dam. He said that the project is feasible. A meeting is scheduled for November 8 to discuss what needs to be done. Downstream passage of smolts can be accommodated by more easily by dumping the pool earlier in the spring though this presents a use-conflict with recreational boaters.

**Rainbow Dam Rehab - Farmington River, CT** - Mr. Steve Gephard reported that the Rainbow Dam fishway was built in 1976 (Holyoke was the 1<sup>st</sup> fishway but Rainbow was the 1<sup>st</sup> fishway for shad on the East coast). Repairs over the years have been phased and include OSHA compliance improvements, construction of downstream bypass sampler completed this fall, and changes to the upstream fishway. Plans for the latter (attached) include replacing the existing vertical slot with a denil system and adding an eelway in the leftover space. With any luck, the fishway improvements will be designed in 2000, out to bid in 2001, and constructed in time for the 2002 season.

### **Downstream Passage**

**Deerfield #2, #3, #4 - Deerfield River - MA** - PGE Gen/Normandeau Associates have completed a draft report (attached) on the efficiency of smolt bypass facilities constructed on the Deerfield River. The #2 dam posed a significant hazard to the outmigrating fish with somewhat better passage at the dams upstream. PGE Gen is looking for comments by November 30.

**Gardners Falls - Deerfield River - MA** - Smolt bypass effectiveness studies were conducted in 1999. Results were promising but not fully effective. Changes to be made and re-test in 2000. Plunge pool modifications are needed.

**Lower Robertson - Ashuelot River - NH** - A new fish bypass was installed this fall.

**Lower Village/Lafayette Street - Sugar River - NH** - The bypass was evaluated in 1999, with generally good results but low river flow during testing necessitates re-evaluation in 2000.

**Cavendish - Black River - VT** - The bypass with flow inducer was evaluated in 1999. The results are not yet available.

**Gilman - Black River - VT** - Design plans for a new bypass have been reviewed and comments provided. Consultation on designs is ongoing.

**Wells River/Boltonville and Newbury Project - Wells River - VT** - The USFWS notified owners of a need for passage in September. A site visit planned for late November.

### **Related News**

- Northeast Utilities has agreed to a buyout/merger by Consolidated Edison of New York. Con Ed previously had purchased former Western Mass. Electric-NU hydro units on the Chicopee River and Gardners Falls as well as the Springfield Fossil Generation plant. This buyout also follows the sale of the Northfield and Turners Falls projects by Connecticut Power and Light-NU to a new NU subsidiary - Northeast Energy. With the acquisition, all parts of NU's hydros are back under one owner.

- Consolidated Edison, Con Ed, is proposing to redevelop the West Springfield Generating Station - CRASC has requested state environmental review especially related to anadromous fish.

- Brockaways Mill dam on the Williams River a long-defunct hydro project has been sold to new investors who intend to redevelop the site. Downstream passage facilities are needed .

- The US Army Corps of Engineers is developing revised Environmental Assessments of their flood control projects in the Connecticut River basin. Mr. Bruce Williams reported that the process is expected to take 18 months. The Corps hopes to address basin issues collectively in one EA and then step down concerns to specific projects. The first step was to update natural and cultural resource base-line inventories, the second step was to meet with federal partners to identify operation and maintenance issues. The next step is to collect O&M input from state agencies and state interest groups. Finally the Corps will draft an EA for comment before finalizing the plan. Public and agency input will hopefully identify collective and specific impacts to the watershed including impacts to areas up and downstream of the reservoirs, impacts from water level regulation and timing, optimal flows for downstream aquatic needs, and competing needs and interests.

## **8. Genetics Subcommittee Update**

Mr. Steve Gephard reported that the Genetic Subcommittee needs to meet to consider Dr. Ben Letcher's proposal to study rapid evolution of Atlantic salmon smolts. Some elements of this study have already been implemented including specific fecundity work where all eggs are weighed and enumerated for each spawned sea run. Additionally, sea run morphology is being analyzed based on photographs taken of each sea run.

## **9. November 18 CRASC Meeting Agenda Items**

- The Technical Committee Chair will summarize Subcommittee activities - so, Subcommittee Chairs need to get info to Jay before the CRASC meeting.

- Action Plan & Summary table discussion

## **10. Other Business**

**Thanks** - The Coordinator thanked both Mr. Steve Gephard, CTDEP, and Dr. Caleb Slater, MAFW, for donating a total of 1,351 volunteer hours (CT-871 hrs and MA-480 hrs) as a match for the USFWS Challenge Grant used to hire the seasonal biological technician at the Sunderland OFA this past year. They've pledged time again against a current funding request for next year. The Sunderland OFA couldn't have provided the assistance in stocking and stock assessment and other field activities without this donation.

**Process** - Mr. Steve Gephard asked the Coordinator to double check the procedure for allocating excess broodstock - does final approval rest with the Technical Committee or CRASC? The Minutes will be consulted to confirm the correct answer. [*The Technical Committee has the authority to allocate excess domestic broodstock according to the policy described in the Strategic Plan. However, exceptions to the policy must be referred to CRASC. See: CRASC Minutes from 10/4/1996*]

**Pittsford Smolt Source** - Pittsford NFH requires about 200,000 green eggs or 120-150,000 eyed eggs in four batches with similar DIs to produce 100,000 two-year smolts. The egg bank requires 30-40,000 eggs for domestic broodstock production. The sea runs are expected to produce 624-720,000 green eggs. This leaves 300-490,000 eggs for a DNA study. Eggs for Pittsford will come from Cronin's takes on 10/18 & 10/25 and depending on logistics either 10/12 or 11/8. Dr. Ben Letcher and Mr. Ken Gillette will work out the logistics to maximize the number of females but minimize the developmental spread.

**Marking Smolts** - Pittsford NFH needs help clipping fins on 40,000 smolts to be marked on November 15th and maybe 16<sup>th</sup>. CTDEP offered 6 people, USFS - 2-3 people, VTFW- 1-2 people, NHFG - 1-2 people and CRC/SOFA/RCNSS - 1-3 people.

**Fall Sea Run** - CTDEP captured a male sea run in October at the Leesville Fishway. A salmon was also reported below the Holyoke dam in September though it was never captured.

**Connecticut River Joint Commissions Update** - Ms. Janice Rowan reported that the November informational forum to address needs identified by the CRJC Fish, Wildlife and Habitat Action Team was canceled. A new date is planned for some time next March.

The CRJC Action Team has met with PGE Gen staff to update exhibits at four of their five fishway visitor centers: Wilder, Moore, Bellows & Vernon. Another meeting yet to be scheduled is planned for the Deerfield Project. Mr. Caleb Slater indicated an interest in participating in this meeting.

**Pawcatuck River Salmon Program** - Mr. Steve Gephard said that excess milt from sea-run males at Whittemore SS was provided to RIFW to fertilize salmon eggs. Rhode Island had eleven sea runs return this year. At spawning time nine remain, and eight are females.

**North River Sulfuric Acid Spill** - Mr. Caleb Slater said 700 gallons of sulfuric acid were spilled into the North River in Colrain, MA. The spill killed everything in a 2.6 mile stretch downstream to the confluence of the Deerfield River. A response team neutralized the acid with baking soda. The MAFW draft report indicates the estimated value of fish killed at \$200,000. MADEP will request additional fines for clean-up and other environmental damages. The State is also working with the USFWS to file a joint Natural Resource Damage Assessment Claim. Subsequent weather prevented the MAFW from doing any on-site assessments of loss.

**Fish Health Policy** - Mr. Caleb Slater suggested a meeting to discuss application of the Fish Health Policy with respect to importations in Massachusetts. [Mature 1+ male parr have been collected in MA streams by SOFA for spawning with sea runs this year. MAFW importation requirements precluded collection in VT without fish health work completed in advance. The enforcement of the fish health policy remains a concern because it means that a sea run escapee at Holyoke cannot be picked up at Vernon and returned to Cronin.] A Technical Committee meeting was scheduled for January 12, 1999 for this purpose.

**Steve DeStefano** is the new Unit Leader at the USGS Massachusetts Cooperative Fish and Wildlife Research Unit. Before this, he was the assistant unit leader at the Coop Unit in Tuscon, AZ.

**Seal** - There was a young female harbor seal below the Holyoke dam in South Hadley during the 1<sup>st</sup> week of September. Seems to have left with Hurricane Floyd. It was a rehabilitated pup released last fall in Chatham, MA by the Boston Aquarium. This is the furthest upstream that a seal has been documented in the CT River.

**NASCO** - Malcom Windsor and Peter Hutchinson, the Secretary and Assistant Secretary of the North Atlantic Salmon Conservation Organization, toured the New England Salmon Programs and aquaculture facilities last week. They visited the Conte Lab, Rainbow Fishway and Whittemore Salmon Station. Subsequently, the Connecticut River Atlantic Salmon Association hosted a dinner in their honor at the Farmington Country Club.

### **Fish and Egg Requests:**

#### **Available WRNFH Broodstock:**

121 barren - 1995 year class (10 lbs/fish) in October

1,108 post-spawn - 1995 year class in Late Nov/Dec

1,721 barren - 1996 year class (4.5 lbs/fish) in Nov

1,474 post-spawn - 1996 year class in Late Nov/Dec

**MAFW Request** any or all of the 1996 year class; prefer barren and can move in November  
The plan is to stock 18 lakes in MA

**VTFW Request** 200 1996 year class.  
The plan is to stock Seymour and Willoughby Lakes for ice fishing.

**CTDEP Request** 400 post-spawning broodstock; 200 earlier and 200 later  
The plan is to stock the Shetucket and Naugatuck Rivers for fly fishing only with a creel of 1 per day

Rocco Cipriano has requested 2-400 WRNFH broodstock (transferred to RCNSS) to conduct a furunculosis drug study looking for an alternative to oxolinic acid. This would reduce the total available for MAFW.

Additionally, Rocco has proposed a study utilizing about 100 shortnose sturgeon in the Cronin raceways to determine their susceptibility to furunculosis. The sturgeon were grown in hatcheries and can not be released into the wild. Previous work has shown that Atlantic sturgeon are very susceptible to furunculosis.

### **Smolts/parr Requests for Spring 2000: (4,000 WRNFH smolts available)**

PGE Gen needs 200 smolts → \*15 Mile Falls & Deerfield studies

Con Ed needs ? → if Gardners Falls study needs to be repeated

Jon Truebe needs \*300 smolts → repeat downstream bypass study at Lower Village on Sugar River  
also some for Cavendish on the Black River ??

Steve McCormick needs 100-200 wild smolts for Passumpsic study & 500 PNFH smolts for West and Passumpsic River releases

Mufeed Odeh needs 50 wild & 100 PNFH smolts

Alex Haro needs 200+ wild smolts from Cabot for acoustic telemetry work

Rocco Cipriano needs 2,000 parr

\* WRNFH source; others may request wild smolts from Cabot?

**Stocking** - Ms. Michelle Babione provided draft spring stocking numbers to the states for review and comment (attached). Additionally, stocking sheets were provided in case any changes are needed. Ms. Babione offered to automate the stocking sheets if any of the agencies were interested in entering the data directly. Nearly seven million fish were stocked in 1999.

The meeting was adjourned at 2:20 p.m.

## Technical Committee Meeting Attendance

Janice Rowan	USFWS
Steve Gephard	CTDEP/Fisheries
Jay McMenemy	VTFW
Ken Sprankle	NHFG
Steve Roy	USFS
Steve McCormick	USGS/BRD
Adam Goncalves	USFWS
Curt Orvis	USFWS
Steve Rideout	USGS/BRD
Caleb Slater	MAFW
Ben Letcher	USGS/BRD
Don Pugh	UMASS
Jon Truebe	Lakeside Engineering
Michelle Babione	USFWS
John Warner	USFWS
Alex Haro	USGS/BRD
Ken Bergstrom	W. MA Center for Sustainable Aquaculture
Dick DeGraaf	USFS
Keith Nislow	USFS
Bruce Williams	USACOE
Bob Stira	Northeast Utilities Service Company
Lynn DeWald	Normandeau Associates
Ron Huen	Normandeau Associates
David Perkins	USFWS
Dave Sherman	Dodge Falls Hydro Essex Group
Jocelyn Forbush	Quebec Labrador Foundation
Mufeed Odeh	USGS/BRD
Richie Davis	The Recorder