

**Minutes of CRASC Technical Committee Meeting
October 5, 2000
Conte Anadromous Fish Research Center
Turners Falls, Massachusetts**

Agenda Items

1. Call to Order and Approval of Minutes from the Meeting on June 14, 2000

Mr. Jay McMenemy, Technical Committee Chair, called the meeting to order at 10:19 a.m., and introduced new persons including Rick Jacobson, CTDEP, Christine Lipsky, RIFW, and Tom Menard, CRASC.

Mr. Steve Gephard motioned to approve the Minutes from the last meeting, Mr. Steve Roy seconded the motion. The minutes were approved.

2. Shad Studies Subcommittee Update

Dr. Alex Haro, USGS/BRD, summarized results of the Turners Falls fishway evaluation. Relatively high passage efficiency was observed in the modified sections of the Cabot ladder and in sections where the weirs were in-line rather than alternating. Low efficiency was observed in the Spillway ladder and significant delays were seen in the canal. The study will be repeated in 2001, expanding the study section into the lower third of the Cabot ladder and further assessing in-line weirs. The weirs are currently modeled in the hydraulic lab.

Mr. Ken Sprankle noted that there was a slight increase in shad returns at Holyoke this spring, as compared to last year. However, shad passage at Turners Falls and Vernon in 2000 was significantly below numbers observed in 1999.

Total in and out-of-basin shad transfers were on target with the exception of CTDEP. The CTDEP did not transfer their entire allotment of shad.

Blueback herring transfers from the Chicopee River area to the Ashuelot and Westfield Rivers went well. The Sunderland OFA electrofished by boat and hauled a maximum of about 400 fish/day. The MAFW did not evaluate juvenile production because the number of herring transferred to the Westfield River was low. However, limited evaluation efforts by NHFG did not demonstrate successful reproduction - perhaps because efforts were limited or because cool weather conditions and high flows prevailed after the transfer.

Mr. Sprankle proudly reported that the McGoldrick dam on the Ashuelot River was scheduled for removal on October 12. The project experienced a few false starts but the process has been improved and may facilitate future removals in NH. The project received 50:50 funding from state and federal cooperators including the EPA. This is the 2nd upstream dam on the Ashuelot River in Hinsdale, NH.

Mr. Sprankle said that this was his last day with NHFG. He has taken a position with the USFWS at the Laconia Office of Fisheries Assistance in Nashua, NH. His position will not be filled immediately because of budget constraints.

Mr. Sprankle nominated his replacement as Chair of the Shad Studies Subcommittee. Mr. Gephard moved to select Dr. Caleb Slater as Chair. Chair McMenemy seconded the motion, and all approved.

Chair McMenemy thanked Mr. Sprankle for his participation on the Technical Committee and for his efforts as Chair of the Shad Studies Subcommittee.

3. Smolt Advisory Committee Update

Mr. Doug Aloisi provided an update on the status of smolt production at the Pittsford NFH:

- Two-year smolts stocked this spring were furunculosis carriers.
- A total of 62,000 furunculosis-positive parr were moved out into uncovered raceways last spring. About 25% of these were lost to furunculosis while an additional 30-50% were lost to predation. The remaining 14,000 1+ parr are now exhibiting antibiotic resistance. The USFWS is recommending that these fish be destroyed.
- An additional 52,000 0+ parr have been treated for furunculosis and are currently being tested for antibiotic resistance.
- The USFWS has taken immediate emergency measures, initiating design of a water treatment and UV disinfection system with construction expected to be completed by the end of next summer.
- Pool covers are not addressed under the emergency construction allocation and remain an outstanding concern due to high predation mortality.
- To break the chain of infection, the USFWS plans to incubate eggs, hatch and feed fry, and maintain parr at the White River NFH until they reach appropriate size for vaccination next fall. Upon vaccination, the parr will be transferred to the Pittsford NFH for smolt production.

The Technical Committee agreed that the antibiotic resistant 1+ parr should be destroyed. They further agreed that, if the 0+ parr exhibit resistance, they should also be destroyed.

However, if the 0+ parr are not antibiotic resistant, it was recommended that future smolts be graded out and retained. Next spring, the one-year smolts can then be stocked on the lower mainstem Connecticut River. The smaller parr should be destroyed immediately since these fish remain at high risk and since retaining these fish would hinder effective station disinfection next fall. The reduction

in production would also facilitate protected production of fish in covered pools. [Mr. Doug Aloisi returned to Pittsford NFH after the meeting, and re-assessed 0+ parr size. The fish are too small to expect a meaningful contribution to smolt in the spring, consequently, it was concluded that all would be destroyed.]

4. Fish Culture Subcommittee Update

Mr. Mickey Novak reported the results of the pre-spawning meeting (table attached). Egg production is expected to exceed incubation capacity by 1.5 million eggs because we no longer have incubation facilities at the Warren SFH and incubation capacity at the White River NFH has been reduced to a manageable 10 million. The NH Coastal Program has an approved request for 400,000 eggs, leaving just over 1 million surplus eggs.

Dr. Brian Kennedy, Dartmouth College, has requested heads from all sea runs and kelts. The otoliths provide a time series for the isotopic signature during natal development. It is a tool that can be used to trace the hatchery of origin for fry stocked salmon. CWTs will be removed before the heads are shipped to Kennedy. He will recover scales and otoliths, one otolith for isotope testing and the other for archiving by Drs. Ben Letcher, USGS/BRD, and Keith Nislow, USFS. The study proposal was approved by the Technical Committee.

The Northeast Fishery Center initiated a light deprivation study on sea-run males at the Richard Cronin National Salmon Station. The males will be monitored through the spawning season to determine if light impacts milt production. The study may be repeated if results warrant additional testing. One additional test might include male kelts. An additional study testing thiamine levels in sea runs and kelts is also underway.

The male to female ratio among returning adult salmon is again skewed heavily toward females. Consequently, the VTFW electrofished 88 mature parr out of the Rock River for spawning with sea runs at the Richard Cronin NSS. The target number of parr desired is 125, so there will one additional attempt to collect more parr. The CTDEP has also collected 50 wild parr for spawning with sea runs at the Whittemore Salmon Station.

The Technical Committee discussed incubation capacity at great length. There is considerable frustration in having needed eggs without adequate incubation capacity. Though NHFG and CTDEP have an interest in making pre-spawn releases, it was decided that there would be no pre-spawning broodstock releases because of timing and concerns about maximizing effective production numbers. Instead, all fish will be retained and spawned, including 2+ PIT tagged and genetically marked broodstock at the White River NFH. If incubation space is exceeded, the eggs from the late-spawning 2+ broodstock will either be buried in local stream gravel for natural incubation or destroyed. These eggs were considered to be the most expendable because they will be small in size, produced late in the season, and likely exhibit lower eye-up rates than eggs from older broodstock.

Staffing concerns at the White River NFH may further exacerbate the incubation capacity issue because even fewer eggs will be incubated if vacancies are not filled. Mr. Ken Gillette said that

incubation capacity of the hatchery will be reduced from 10 million eggs to 8 million eggs if the Assistant Manager position is not filled upon Mr. Bruce Jenson's retirement in January 2001. The capacity will be reduced even further (down to 6.5 million eggs) if the hatchery's Animal Caretaker goes out on disability and is not replaced. These reductions will be made to ensure that remaining staff can handle the work load and produce quality fry. This management decision was discussed in at least one other forum previously. At that time, cooperators volunteered assistance with seasonal hires and volunteer time. Since that time, new budget concerns have precluded direct assistance in the form of seasonal hires (from NHFG, USFS, USGS). Mr. Gillette reiterated that this management decision will be implemented unless there is some clear assurance by November 1, 2000, that critical assistance, at least 3 seasonals estimated cost \$18,000, will be available from January through mid-April.

- Mr. Sprankle said that budget concerns in NHFG will preclude the State from filling his position immediately, and NHFG cannot help with a direct hire. However, he tentatively volunteered his Technician for 2 days/week (upon approval by Duncan McInnes).
- Mr. Steve Roy said that he could not commit funds for a direct hire until the Federal budget is passed but that, given expected allocations, he would fund a seasonal when funded. In the interim, he volunteered a USFS staffer 1 day/week.
- Chair McMenemy offered 2 people, 2 days/week from the Roxbury SFH (tentatively).
- Mr. Aloisi volunteered staff assistance 1 day/week.

These volunteers were encouraged to solidify their time commitments on a schedule with Mr. Gillette. Additionally, Mr. Tom Halavik suggested a Connecticut River/Long Island Sound Ecosystem Team flex funding proposal to fund one of the positions. Mr. Ken Bergstrom proposed raising the funds from the private sector.

Mr. Gillette indicated that there would be 3,135 surplus broodstock available 21 days post-spawning. The following requests were approved:

- Dr. Rocco Cipriano - 600 broodstock for Florfenicol research at Richard Cronin NSS
- CTDEP - 800 surplus broodstock for recreational fishery
- MAFW - 1,535 surplus broodstock for recreational fishery
- VTFW - 200 surplus broodstock for recreational fishery

Mr. Bergstrom, Western MA Center for Sustainable Aquaculture/Hampshire College, announced that the Berkshire NFH rehab was underway. Tents over the pools are being replaced. The leaky dam was repaired. Trout and salmon are under production. And, visitors are welcome.

He said that all of the surplus barren broodstock provided to the hatchery from the White River NFH last have survived. Since 12 females and four males are expected to spawn, Mr. Bergstrom requested milt to assure a 1:1 spawning ratio. Mr. Gephard volunteered milt from the nearby Whittemore Salmon Station.

Mr. Bergstrom also requested to help the Program by stocking the progeny as feeding fry or smolts. This proposal was met with some concern by Dr. Caleb Slater who suggested that Mr. Bergstrom clear any fish health concern with Dr. Ken Simmons, MAFW, before further stocking discussions occurred. Mr. Gephard pointed out that the fish could be stocked if fish health inspections are conducted. Mr. Bergstrom indicated that if there was a need, he would consider expanding his efforts toward assisting the Program. Mr. Bergstrom was encouraged to look into inspection options. Other uses briefly mentioned for these fish include genetic and other types of research.

5. Salmon Studies Update

Chair McMenemy reported that PG&E Gen/Normandeau Associates had radio-tagged and released ten salmon above the Holyoke dam. Two of the salmon disappeared after tagging; one salmon doubled back and swam up the Westfield River; four migrated into the Deerfield River but none of these made it to the #2 dam and one of these (code 25) was angled last weekend; two made it to the base of the Townshend dam on the West River; and, one migrated to the Black River.

Fall surveys throughout the basin show that stocked fry survival was variable and the 1+ parr seemed to be larger than expected. CTDEP reported that survival of DNA marked sea-run origin fry was low.

The Technical Committee agreed to provide a letter of endorsement/study proposal to USGS/BRD in support of a State Partnership proposal made by Dr. Rocco Cipriano. The objective of the proposal is to find a rapid detection tool for diagnosing ISA in returning salmon. The individual State agency representatives agreed to provide separate endorsements for the same proposal. [Letter mailed for the Technical Committee on October 10, 2000]

7. Fish Passage Subcommittee Update

Mr. John Warner provided an update on fish passage and hydro relicensing activities.

HYDRO LICENSING

Holyoke Project

- Negotiations between HWP and Mass DEP on 401 are continuing and should reach settlement on 401 disputes including minimum flow releases and fish passage soon.
- Negotiations with FWS and NMFS will be needed to modify fishway prescriptions.

Fifteen Mile Falls Project - Connecticut River - NH/VT

- Smolt radio-tagging study was conducted this spring. A few smolts were reported to pass downstream under very high flows. Initial review of results suggest good downstream movement through the reservoirs but poor passage.
- A Final Fish Mitigation plan that included discussion of fish passage issues was filed with the FERC and final comments and recommendations on the project have been submitted.

FISH PASSAGE ACTIVITIES

Upstream Passage

Turners Falls

- Evaluations of shad passage were undertaken by NU and Conte - Alex Haro. Initial review of results indicate that the modified weir section in the Cabot ladder improved passage. (See meeting summary) .
- The “flip lip” on Cabot bypass discharge was installed. We have asked to see it watered up and in operation.
- Passage totals at Gatehouse continue to be a concern. (See meeting summary).

Fall Passage at Mainstem Dams

- All upstream facilities (Turners, Vernon, Bellows and Wilder) will be operated on an as needed basis based on radiotelemetry monitoring at the facilities.

Deerfield River Passage Trigger

Of the salmon from Holyoke radiotagged and released for the Deerfield River study, no salmon have yet to be recorded at Deerfield Number 2. This likely means continued tagging and monitoring for at least two more years.

Dam Removals on the Ashuelot

McGoldrick Dam in Hinsdale (2nd dam on the river) should be coming out next week, after a two month delay to address historical preservation issues. Sediment samples were taken at the Winchester Dam (5th dam) yesterday for analysis.

Downstream Passage

Deerfield #2, #4 - Deerfield River - MA

Preliminary results of smolt bypass effectiveness studies this spring at Deerfield #2 and Deerfield #4 indicate disappointing results, especially at #2. A full report is due soon from PG&E. PG&E is already looking into working with Alden Lab or others on modeling of flow issues at the bypasses and intakes to assess possible modifications.

Gardners Falls - Deerfield River - MA

Smolt bypass effectiveness studies this spring indicate poor bypass efficiency at high generation flows although results at lower generation were far better. Complete review of the results report ongoing. Plunge pool modifications were tested and showed excellent survival of smolts using the bypass.

Cavendish - Black River - VT

The bypass with a flow inducer was re-evaluated this spring and bypass survival was tested. Results not yet received but survival of smolts using the bypass was reportedly far better than in past assessments.

Wells River/Boltonville - Wells River - VT

Curt Orvis, Len Gerardi (VDFW) and I met with the owner of the project in August. The owner is modifying the location of their minimum bypass flow release (5 cfs) to better serve fish passage than the current release location. The exemption for the project unfortunately does not provide for fish passage measures and therefore designing a standard bypass with a higher bypass flow is not possible.

Newbury Project - Wells River - VT

Curt Orvis, Len Gerardi (VDFW) and I met with the owner of the project in August. We discussed various configurations of a bypass sluice and discharge chute for the project. We are awaiting a conceptual design proposal from the owner.

8. Genetics Subcommittee Update

Dr. Ben Letcher proposed a 3:1 mating scheme to address the male:female imbalance and low return numbers. The scheme presents an incubation/space dilemma if the individual families are to be maintained separately. It would reduce incubation capacity by another 500,000 eggs. Since an additional reduction in capacity is not desired, the researchers (Drs. Letcher and Nislow) agreed to adapt the trays with divider rings prior to spawning.

Mr. Gephard expressed concern over poor survival of DNA marked 0+ parr in CT streams. This is the third season in which poor survival has been observed there. The same fry stocked at other locations in the basin have exhibited mixed or high survival. Mr. Gephard proposed that the Fish Culture Subcommittee review the history of these fish one more time, including reviewing early incubation temperatures and any impact this may have on subsequent sea-run fry size compared to the size of domestic or kelt fry which, as eggs, are incubated later and presumably at cooler temperatures.

Dr. Letcher said that this year's 3:1 spawning protocol will allow family differences to be assessed through the maternal genes and environmental differences to be assessed through the paternal genes. Moreover, most of the fish will be stocked in only one stream which will rule out a Lot or timing issue.

9. Other Business

Mr. Bruce Williams, USACE, gave a summary on the Townshend Dam Electric Fish Weir construction project. The project was delayed in the spring by funding issues but construction is

expected to be completed by October 26. The facility should be operational by November 8. Testing will be conducted using radio-tagged adult salmon and potentially using white suckers. There will be an opportunity to view the project on October 20 at 10 a.m.

Mr. Williams also addressed the Committee on a concern about white water release requests and best management responses for the Corps. The Technical Committee agreed to review any requests forwarded by the Corps, including a request provided as an example. Mr. Warner agreed that a general response could also be provided and that he and Chair McMenemy would draft this letter.

The next CRASC meeting is scheduled for November 15, 2000 at the USFWS Regional Office auditorium in Hadley, MA. The USFWS budget and Program needs are likely to be on the agenda with Congressmen invited as guests.

The following fish and egg requests were made:

- Alex Haro, USGS/BRD - 200 wild smolt for acoustic tag study
- Mufeed Odeh, USGS/BRD - 200 wild or hatchery smolts or large parr for shear study
- Steve McCormick, USGS/BRD - 2000 eggs for early development research
- Ben Letcher, USGS/BRD - 4000 fry & 100 smolt sized fish for genetic research
- Steve McCormick, USGS/BRD - 500 0+ parr for next fall
- PG&E - ? For Moore, Deerfield and Gardners passage studies [Mr. Warner indicated that he would check into fish passage study requirements for smolts. When this figure is known, allocations can be finalized based on availability]

Latest return figures are available in the Internet at <http://www.fws.gov/r5crc>.

A Research Forum has been scheduled for January 25, 2001 at the U.S. Fish and Wildlife Service Regional Office in Hadley, MA. Meeting participants were requested to send Forum "theme" ideas, topics of interest, specific research, and potential speakers to the Coordinator (Jan_Rowan@fws.gov) for circulation and discussion among Technical Committee members. These suggestions should be received no later than October 27, 2000.

CTDEP and MAFW were encouraged to get any revised stocking numbers to the Coordinator immediately so that the stocking report can be completed.

10. Next Meeting Date

The next Technical Committee meeting is scheduled for December 13, 2000, at 10 a.m. at the Conte Anadromous Fish Research Center in Turners Falls, MA.

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

Technical Committee Meeting Attendance

Janice Rowan	USFWS
Jay McMenemy	VTFW
Steve Gephard	CTDEP
Rick Jacobson	CTDEP
Ken Sprankle	NHFG
Darleen Cutting	USFWS
Caleb Slater	MAFW
Ben Letcher	USGS/BRD
John Warner	USFWS
Alex Haro	USGS/BRD
Bob Stira	Northeast Utilities Service Company
Phil Herzig	USFWS
Doug Aloisi	USFWS
Ken Gillette	USFWS
Curt Orvis	USFWS
Steve Roy	USFS
Keith Nislow	USFS
Gabe Gries	USGS/BRD
Bruce Williams	USACE
Christine Lipsky	RIFW
Tom Menard	CRASC - MA Public Sector Representative
Steve McCormick	USGS/BRD
John Krauss	Northeast Utilities Service Company
Ron Heun	Normandeau Associates
Don Pugh	USGS/BRD
Ken Bergstrom	Western MA Center for Sustainable Aquaculture
Mickey Novak	USFWS
Mike Parker	MAEOEA
Tom Halavik	USFWS
Paul Pajak	USFWS
Rose Fisher	
Warren Fisher	

**2000
CONNECTICUT RIVER
ATLANTIC SALMON EGG PROJECTION**

STATION NAME	SEA RUN		DOMESTIC		KELT		TOTAL		Incubation Capacity
	#Females: #Males	# Eggs	#Females: #Males	# Eggs	#Females: #Males	# Eggs	#Females : #Males	# Eggs	
ROGER REED SFH	N/A	N/A	300:300	2M	N/A	N/A	300:300	2M	1.2M
RRSFH is spawning on Tues. & Thurs. beginning Oct. 17; All eggs → WRNFH before Nov.; Receive eyed eggs back from WRNFH in January; Egg Transport arranged by MAFW; Require assistance of 1 USFWS employee; Will supply milt for NANFH and 1 employee to assist with spawning at RCNSS									
KENSINGTON SSH	N/A	N/A	337:337	1.85M	N/A	N/A	337:337	1.85M	1.9M
KSSH will begin spawning Oct. 17 and spawn through Nov. 1; Will hold males as a back-up milt supplier for NANFH									
WHITTEMORE SS	8:6	64K	N/A	N/A	69 females	621K	77:6	685K	30K egg bank + 400K eyed eggs at Hogback
WSS is spawning on Tues. and Fri. beginning Oct. 10; All production eggs → WRNFH; MAFW will haul eggs to WRNFH on Tues.; Will provide spawning assistance to RCNSS; LFHU will test sea runs for ISA on cell lines									
NORTH ATTLEBORO NFH	N/A	N/A	N/A	N/A	180 females	1.1M-1.2M	180:0	1.1M-1.2M	0
NANFH is spawning on Wed.; RCNSS will transport milt from RRSFH and assist in spawning									
ROXBURY FCS	N/A	N/A	~0	~0	N/A	N/A	~0	~0	600K
Eggs from WRNFH									
RICHARD CRONIN NSS	39:11	300K	~40:~20	100K	~12 females	160K	~90:31	560K	0

RCNSS is spawning on Mondays beginning Oct. 2; All eggs→WRNFH; NEFC light deprivation/milt production study underway; Require assistance from RRSFH & CTDEP; Ben Letcher will calculate number of wild smolts to import from VT & recommend spawning protocol for WSS and RCNSS in light of few number of sea run males; Will provide spawning assistance to RRSFH & NANFH									
WHITE RIVER NFH	N/A	N/A	1934:2270	10.3M	N/A	N/A	1934:2270	10.3M	10M Green 8.9M Eyed With Help
WRNFH is spawning from mid-Oct, through mid-Nov. with peak production expected around Oct. 30; WRNFH requires help managing eggs to maintain full production (70 hours/week for 2 months) otherwise incubation capacity is only 6-7M; 453-1998 females are PIT tagged & projected to produce 2M eggs - these will likely be surplus according to incubation capacity, since available late									
PITTSFORD NFH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	675K Green
GRAND TOTALS	47:17	364K	2611:2927	14.25	261 females	1.88M- 1.98M	2918: 2944	16.5- 16.6M	15.0M Green 13.2M Eyed

Egg production is expected to exceed incubation capacity by 1.5+M eggs. The NH Coastal Program requested 400K green eggs. This would leave 1.1+M surplus eggs. 453-1998 females are PIT tagged & projected to produce ~2M eggs at WRNFH - these will likely be surplus according to incubation capacity, since the eggs will be available late in the season. A few of the surplus eggs will be retained for a pilot genetic study (Letcher). The surplus eggs are available by request or they will be buried.

Brian Kennedy, Dartmouth College, has requested all heads from sea runs and kelts so that otoliths can be examined. Ben Letcher requested that Kennedy provide otoliths for archive and future analyses.

NEFC is conducting a light deprivation study at RCNSS and is cooperatively working on a thiamine study requiring egg samples from sea runs and kelts.

Ben Letcher will be continuing the photo/fecundity work again this year.