



**CRASC Technical Committee  
Meeting Minutes/Notes  
June 27, 2016**

**Agenda Item**

**1) Call to order, approval of Minutes (Caleb Slater)**

Chair Caleb Slater started the meeting at 10:10 a.m. Dan McKinley (USFS) was unable to participate and Ben Gahagan called and was on a speaker line. Minutes of the November 3, 2015 meeting were reviewed and approved by vote with some minor edits noted for correction.

**2) Coordinator's Report (Ken Sprankle)**

Mr. Sprankle referred the group to a handout report for this item. The status of current fishway counts was reviewed among main stem and tributary facilities in a new report format that was requested at the previous meeting, essentially replicating Steve Gephard's report format for his State of Connecticut fishways. Passage numbers for American shad are relatively high compared to this data time series for this date at Holyoke. Holyoke reported a record number of nearly 55,000 shad passed on one day, which while a record, was not that much higher than daily peak counts into the 40,000s that have occurred in the past, including the previous single date high of 53,000 (in 1983). One of the most interesting observation at Holyoke Lift this year has been the record number of shortnose sturgeon (SNS) being trapped, processed and released back downstream. Following completion of modifications at Holyoke that largely addressed downstream passage concerns for fish, related modifications included anticipated improvements for the spillway lift entrance. The SNS number captured and released downstream was 40 at the time of the meeting, greatly exceeding the previous single year total of 16, with much of the passage year remaining. NOAA has not yet approved the release of SNS that are being captured as an evaluation plan for SNS that would be passed remains to be approved.

The change by VTDFW to contract fishway counts of digital images to Greenfield Community College, which has also been handling the FirstLight Power Turners Falls Project fishway counts, encountered some early season challenges with start-up of student counting. The data reporting of counts has been recently catching up to the current date.

Mr. Karl Meyer questioned why the count data is not reported at a more current and frequent interval so the anglers and public know what is going with the shad run? Dr. Slater responded that live human counters are very expensive and that the agencies and other parties have been switching to digital imaging software. The images are more efficiently reviewed but still require time and quality control and in every case we have in the basin, require some delay in reporting, but we get the counts as soon as we believe the numbers are accurate for release.

Ken asked Micah Kieffer (USGS Conte) to speak on two SNS injuries at Holyoke over the past weekend, one being a mortality and the other being held. He was planning on picking up the mortality for inspection for NOAA the next day and will determine the extent of the second fish's injury, to provide guidance on its fate. He suspects that fish will be released. Steve Leach (Normandeau Inc) which supervises the Lift operations provided his verbal assessment of potential causes suggesting the

“drop” gate which partitions fish into the hopper bucket may have been responsible. Mr. Bill Hyatt asked if this had ever occurred in the past. Caleb replied first time he is aware of. Mr. Steve Gephard asked if this design may impact other species. What do we know about this gate and fish in that entry flume? Steve Leach replied he did not think it was common issue, but noted depending on a variety of factors the gate may impacts some fish. Caleb stated that for shad, there are typically such large numbers, that some fish spill out of the hopper, maybe gate impact, it is a negligible percentage for that species relative to total number of fish. He continued that for SNS, the numbers had been so low in the past that, if not a substantial issue, may never have been observed. Steve Leach noted that the mort, was clearly cut by the gate. The source of the caudal fin cut on the injured fish that is being held is not clear but it may be from the same mechanism. John Warner noted we need to look at the rates the gate is dropped and the hopper is raised, he recalls these action are not very fast. Dr. Ted Castro-Santos commented that he believed the injury rates for shad may have increased since 2005 in his observation. He suggested studying the issue. Steve Gephard seconded that studying the matter would be good. It was noted the bucket size was increased in 2005 and that the hopper bucket was modified to dump directly as opposed to angled (in the previous design) seen as an improvement for the fish.

Figures on fish passage time series data were reviewed including with shad at Holyoke in relation to temperature and river discharge. Other regional fishway counts were reviewed in detail with Steve Gephard and Ben Gahagan providing their agency’s reports. Steve discussed his concern that the Atlantic herring fishery operated off of southern New England in the winter is disproportionately impacting the Long Island Sound alewife runs which were very low this year. He noted these declines occur even as more habitat is being opened and other restoration efforts have been ongoing. Ben spoke that Dr. Gary Nelson (MADMF) has not seen the relationships in the data he has been examining, but more refined genetic work, will help better define the stocks in the bycatch that are fairly large aggregates at this time. Ken reviewed a summary of the USFWS CTR river herring assessment program in 2016, which had the highest level of sampling effort in the past 4 years. Relative abundance levels were “relatively” low (4 years of study data), but due to the additional effort, large sample sizes for both blueback and alewife were obtained in the aggregate for age structure and other data. It was noted that very few bluebacks were sampled at the MA sites compared to past years. Some summary analyses were presented and discussed including the fact that 2016 has shown the largest size bluebacks to date in the Farmington River, that significant differences can be detected from among years. The USFWS captures and restoration transfers of blueback herring with the assistance of CTDEEP were reviewed. Lastly activities of the Atlantic States Marine Fisheries Commission’s Shad and River Herring Technical Committee were reviewed, and included the participation of many Tech members.

### **3) Fish Passage Subcommittee (John Warner)**

Mr. John Warner provided a handout that summarized activities starting with Holyoke Dam. The fish passage modifications were completed and operational for the start of this season. Adult shad evaluations for both downstream and upstream were in progress as planned. To date things appear to be performing as planned. SNS remain to have a defined study plan approved for upstream passage by NOAA and as a result fish are not being released due to NOAA concern of fates of any passed fish (both short and longer term). Ted asked if the Gatehouse had a receiver and whether there was a PIT reader in the bypass pipe from the canal. Steve Leach replied yes. Ted said will be good to look at those data for the topic of delay. The SNS Study Plan was being discussed at the same time as this meeting between Holyoke Gas and Electric and NOAA.

John reviewed the complex status of the Connecticut River relicensings which is in year 3 of a 5 year process. Most studies have been completed but not all have been released, including the more complex ones such as those dealing with fish passage and movement. TransCanada discontinued its 15 Mile Falls Smolt Capture/Transfer Program following direction from CRASC.

Steve Gephard reported that design work has progressed on a new fish lift for the Rainbow Dam (Farmington River). Curt Orvis (USFWS) had been reviewing the design development for the USFWS but has now retired and someone else will assume that role. Caleb reported the eel trap at West Springfield had improvements completed and is operational. At Fisk Mill Hydro, Ashuelot River NH, the fish lift was operational and a site visit was made by Brett Towler (USFWS) and Gabe Gries (NHFG), no fish have been reported passing this facility since its installation. Brett identified a number of concerns with the design and operation that will need to be addressed including issues with attraction flow to the single lift entrance location.

Dr. Brett Towler reported he had completed fishway inspections on the main stem dams. Draft inspection reports have been sent out for initial review and he expects to get the final reports out soon. Those inspections had identified a small number of issues that required the attention and fixes by the operators this spring – which were all addressed in a timely manner. In addition, Brett was a co-author on the Federal Interagency Manual on Nature-like Fishway Designs that was released this spring. The manual contains design criteria based on the most current information available and has been widely distributed in its electronic format. A second, USFWS Fish Passage Design Manual, was also developed by Brett and is intended for use by the Service to apply a more consistent approach across river basins/geographic areas, using the most recently available information, specifically for technical fishways.

#### **4) Shad Subcommittee (Sprinkle)**

Mr. Sprinkle introduced Mr. Shane Hanlon, the new Project Leader for the North Attleboro National Fish Hatchery (NANFH) which continued its shad culture activities this spring with fish obtained from HFL. This spring NANFH noted increased rates of mortality and upon investigation, determined that the shad had a high level of mussel glochidia occurrence on their gills. The USFWS Lamar Fish Health Center noted that the rate was a high level and the stresses of capture, transfer, holding and spawning may all have been contributing factors. Shane shared images of the gills, glochidia and noted the species appeared to be the alewife floater, which shad had not been determined to be a host. He noted that shad from the Merrimack did not show any glochidia and did not experience the high mortality rates. Shad that were moved later in the season, in June, had good survival and did not have any glochidia. The very low water level conditions in the mid spring, with high passage counts, was suspected as possibly contributing to the high glochidia levels, but it remains unknown. Next year there is interest in monitoring glochidia levels on the shad that are sacrificed daily for biological data. A study design will be developed with the FWS Richard Cronin Station being a good candidate for the monitoring given the focus on freshwater mussels at that facility. The Conte Lab has been retaining shad for spawning studies and has not observed the same levels of mortality but had not looked at the gills. They have frozen samples that can be examined.

Bill McDavitt asked if there may be any population level effects from this. Caleb responded that it is not clear what the population effects are given that so little data exists. There had been no reported fish kills reported in any of the states with shad. Ted Castro-Santos commented that there may be effects but it needs to be studied.

Dr. Shannon Bayse reported on the second year of the USGS Conte Shad Study on Spawning and Physiology. They obtained 976 shad from the lower, mid and upper river reaches for fat content analyses. They also ran spawning studies under different temperature regimes ranging from 12 to 27C. In addition, burst flume swimming performance studies were also completed, under different temp and seasonal timing conditions. Shannon noted that the respirometer tank had issues with study fish for metabolic studies.

Dr. Ted Castro-Santos provided an update on Dr. Kevin Mulligan's studies in the flume building on different fishway entrance weir designs using shad. Brett Towler went on to explain the standard weir crest was compared with weirs with different angles and differences in passage rates were observed, some of which were only detected early season as opposed to late season.

#### **5) Salmon Subcommittee (Steve Gephard)**

Mr. Steve Gephard provided a handout report. Highlights included a review of observed poor eye-up rates for CTDEEP Atlantic salmon resulting in only 64,000 fry being stocked in both the Farmington and Salmon rivers (total). Smolts were observed outmigrating in the Farmington and Salmon rivers. Steve noted that to date a total of 5 adult salmon have returned to the basin, compared with 22 total in 2015. Dr. Castro-Santos provided a verbal report on his studies with the three adult salmon brought to the Conte Lab temporarily. He described swim performance tests that have been run that add to last year's data/trials. All salmon were released below the lab and he would like to repeat the study in 2017. He noted that all three salmon had varying degrees of head injuries that he thought may have been part of the lift process but he could not be certain.

#### **6) Sturgeon Subcommittee (Micah Kieffer)**

Mr. Micah Kieffer noted that sturgeon captures at Holyoke remains a topic of great interest but they have yet to be approved by NOAA for passage upstream at that facility. He asked Bill McDavitt to speak on the status of NOAA passage approval at Holyoke. Bill replied that the lead NOAA biologist was on a call this morning with HGE on this matter and that they are looking to set-up a short-term plan that can allow passage as well as a longer term, more comprehensive evaluation. Andrea Donlon asked why are they not being passed. Bill replied that NOAA wants to have an ability to determine if they are passed upstream do they continue, or do they drop back (if so where, when) or have some other movement pattern that may require a re-assessment of the situation.

Micah reported that the juvenile Atlantic sturgeon that had been captured by CTDEEP in the lower river and Sound have been shown to be genetically distinct from nearby rivers and may be most closely aligned with populations well south. A paper on this topic is in review so no data was available at this time pending publication. Andrea asked if there were any Atlantic sturgeon observed at Holyoke. Micah replied that not in several years, just one single known observation in 2007. He noted that of the 43 shortnose sturgeon that has been trapped, 6-8 have been repeats. He noted that the studies NOAA is

interested in can be broken into short and longer term evaluations. Staff at the Conte lab are interested in exploring more in-depth research questions that would benefit the species. In recent years they have held and tested shortnose sturgeon in different fish entrance conditions. Dr. Castro-Santos noted that his trials of swim performance with shortnose showed a marked difference in performance based on time of day. Greater swim performance (faster rates) was documented in the evening as opposed to daylight trials. Micah was working in development of study proposals using USFWS programs, “Quick Response Program” and the “Conservation Recovery Initiative”.

### **7) Sea Lamprey Subcommittee**

Ms. Lael Will told the Tech about her agency’s concern for the Army Corps Flood Control plan to conduct whitewater boating releases in September from Ball Mountain Flood Control Dam which also then flows into Townshend Dam (downstream) in the West River. She informed the group that in the past signed agreements were developed by VTDFW, USFWS and ACOE on water flow regulations to align things better based on environmental concerns. She discussed that the new approach by the ACOE is to increase ramping rates outside of VTDFW recommendations and does not take into account water storage (flow reductions) to build up water levels for these releases. This activity is planned for September and was also conducted last year. VTANR has written ACOE on their concerns and the deviations from agreements to work together on operations outside of flood control periods. John Warner noted that ACOE agreed to work together in the past, not sure why the deviation. Caleb asked if a letter from CRASC on the flow manipulations would be in order and the group determined to put this to the CRASC at their meeting.

### **8) American Eel Subcommittee**

Mr. Steve Gephard provided a handout report. Items covered included CTDEEP glass eel trap monitoring in Old Saybrook, CT that began in early April. As of June 14, they had trapped 6,810 glass eels which is down from 8,741 counted in 2015. Glass eel counts in other parts of CT were also down from last year and Steve reported this trend was consistent among other states as well for this season. At Leesville Dam (Salmon River) repair to the eelpass at that dam were made prior to wave of elvers that arrived in late-May. Caleb reported that the new eel ramp at West Springfield Fishway/Dam (Westfield River, MA) was operational. He also noted that the South Hadley (Holyoke Dam) eel ramp was installed about one week ago, while the other three ramps had been operating for approximately one month.

### **9) Habitat**

Mr. Steve Gephard provided a handout report. The Ed Bills Pond Dam removal (The Nature Conservancy as lead with many partners) was completed last late fall (Eightmile River, CT). That removal fully opened 8 miles of habitat and the formerly impounded habitat was shown from snorkeling to contain the native suite of fluvial species like longnose dace. CTDEEP had also worked with CTDOT on an eel pass under a road crossing in the Mattabesset River basin. The CT River Watershed Council (CRWC) had many projects in the basin including restoration instream and riparian on the North River (MA); the Bagatelle Dam removal (Dummerston VT); Greer Dam removal (West Fairlee VT); PVL Dam removal (Ompomponoosuc, East Burke, VT); riparian tree plantings on several large scale sites; and Bissell Brook culvert replacement (Haverhill, NH) as some examples. The CRWC has other planned

dam removals (6) and (8-10) instream/riparian planting work also planned in MA, NH, and VT. Mr. Gephard also noted that the Springborn Dam (CTDEEP owned) is scheduled for removal in July and was being done with project Sandy Funding. Bill McDavitt reported that the FirstLight Power report on Shoreline Erosion in their project area (a relicensing study) is expected to be released in the summer.

## **10) Other Business**

Brett Towler and Ted Castro-Santos commented that the recently held 6<sup>th</sup> International Fish Passage Conference at UMASS Amherst was a great success. Attendees and presenters came from around the world with many CRASC members being able to attend.

Mr. Bill Hyatt asked the Tech members what the status of the Species Status reports were, since the Shad report was approved last spring. Caleb answered that work has been stalled but progress is expected first with Sea Lamprey. That species is actually positioned to first issue the management plan as draft work had largely been completed before “status” reports were requested. Bill noted that the reports were not intended to be a demanding exercise that the Tech should seek to make progress. Caleb noted that work could also be done on a status report for American eel. These items were agreed to be worked on by the Tech.

Motion to adjourn made, seconded, all were in favor.