# THE CONNECTICUT RIVER SALMON ASSOCIATION N·E·W·S·L·E·T·T·E·R

PUBLISHED BY THE CONNECTICUT RIVER SALMON ASSOCIATION — WINTER 2004-2005


## Annual Dinner Set for January 29

The Hawthorne Inn, 2421 Wilbur Cross Highway (Rte 15) Berlin, Connecticut will again host the CRSA Annual Dinner and Auction. This year's event will feature guest speaker Jack Noon, who describes himself as a historian, writer and fisherman. He is a life-long resident of New Hampshire and now resides in Sutton. He has written a book about bass fishing in New Hampshire and a number of novels. His most recent work is entitled *Fishing in New Hampshire - A History*. In this book, he describes the fate of the huge brook trout that historically inhabited many of New Hampshire's lakes. Of special interest to CRSA members is his description of the extirpation of Atlantic salmon and other anadromous fish from the Connecticut as well as the Merrimack and Piscataqua Rivers.


***Guests at the 2004 CRSA Annual Dinner browse silent auction items. For a complete list of donors to last year's dinner, see page 7.***

A social hour and auction and raffle item review will take place from 5:00 to 6:30; dinner will be served at 6:30. Dinner choices will include Hawthorne Inn's famous prime rib, salmon with citrus sauce and chicken piccata. There will be a diversified silent auction, a select bucket raffle and door prizes. Raffle and auction items include fresh and salt water tackle and equipment, limited edition and original art work, guided trips and items of interest to fishing enthusiasts and spouses alike. Some of the items to be auctioned this year include: original water colors by noted artist Luther Hall; a limited edition print of a rainbow trout by Alderson Magee; R.L. Winston's most popular rod — a Boron IIx nine-foot, four-piece, five-weight; and a Bauer new MacKenzie Z wide arbor reel for 8/9 weight line. A special grand prize will consist of a Paul Just custom nine-foot, four-weight, four-piece fly rod on a T&T blank with REC fittings and hardware, and a Ross Evolution reel with extra spool and two Cortland lines. The public is invited. Tickets are $35.00 per person. For advance reservations, call Ed Ruestow at (860) 521-1426 or Jim Carroll at (860) 236-5181. ◆

## Update on Federal Funding for Atlantic Salmon Restoration

*By Robert A. Jones*
*President, CRSA*

In the last issue of this Newsletter, I described the continued lack of adequate federal funding and the potential impact of reduced funding levels in the Northeast Region (Region 5) of the US Fish and Wildlife Service (USFWS) for the Connecticut River Anadromous Fisheries Restoration Program. The recently signed omnibus spending package was not kind to fisheries programs on a national level and a request for funds for the Connecticut River Atlantic Salmon Commission (CRASC) at the level made available for 2004 was rejected. Due to a prioritization of programs funded by the USFWS, which placed the Connecticut and Merrimack River programs at the bottom of the list, it appeared that a serious situation was at hand.

The USFWS announced plans to close the Pittsford National Fish Hatchery in the spring and to cease production of smolts for the Connecticut River. Pittsford would not incubate eggs for fry stocking in the Connecticut River as they have in the past. Eighty thousand parr scheduled for 2006 smolts would be stocked early. Staff at Pittsford would be transferred to White River as would landlocked salmon production for Lake Champlain and lake sturgeon production for New York.

(See Funding, page 2)

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## Funding *(continued from page 1)*

The USFWS also announced that only 1.5 million fry would be produced at White River National Fish Hatchery starting next spring and therefore that only 2.1 million eggs would be incubated there this fall. This would have resulted in the discarding of about 5 million eggs and 10,000 current and future broodstock. The reduction in production at White River also affected the program in Connecticut. It appeared that a portion of the eggs produced at Connecticut's Kensington State Salmon Hatchery, normally shipped to White River for incubation, would no longer be accepted at White River. (See "*DEP Incubates Salmon Eggs in Streams," page 5 of this issue.)*

As the impacts of this funding shortfall became clearer, CRASC's Technical Committee began to investigate means to at least hold the line so that years of effort would not be lost. The hatchery manager at White River indicated that an additional $15,000 would be needed to maintain full egg incubation for this year and that $17,000 more would cover maintaining the broodstock through the year. The US Forest USFWS/Green Mountain National Forest offered the USFWS the $32,000, through a cooperative agreement, so that egg production and future broodstock production could continue. Although the USFWS has not yet accepted the offer, eggs were shipped to White River for incubation and, as of this writing, they have about 8.6 million on hand.

At their November meeting, CRASC commissioners learned that funding had been made available on a national level to the USFWS to cover operational shortfalls and that funds designated for deferred maintenance were also available for distribution. By unanimous vote (with an abstention by the USFWS representative), the Commission agreed to send a letter to Fish and Wildlife Service Director Steve Williams requesting that a portion of these funds be allocated to the Northeast Region to cover the defined deficits. The Commission wrote, "In light of the tremendous effort and resources expended by all parties over the past two decades we are hopeful that you will approve funding to address the operational shortages, identified by Region 5, at a level that will allow ongoing restoration efforts to continue until the overall budget picture for fisheries programs improves."

At this writing, insufficient time has passed to have received a reply. Clearly there is a means by which the program can be maintained at least at a caretaker level until such time as the Congress recognizes the need for adequate funding for fisheries programs. ◆

**THE CONNECTICUT RIVER SALMON ASSOCIATION**

The Connecticut River Salmon Association (CRSA) is a nonstock, nonprofit Connecticut corporation. Our mission is to support the effort to restore Atlantic salmon in the Connecticut River basin, a joint undertaking by the states of Vermont, New Hampshire, Massachusetts and Connecticut, together with the US Fish and Wildlife Service of the National Marine Fisheries Service, pursuant to an act of Congress in 1983.



Funding for The Connecticut River Salmon Association is received from membership dues, donations, grants, and special events. Membership dues, comments, and letters to the editor may be mailed to:

CRSA
76 Deming Street
South Windsor, CT 06074
(860) 644-0159
email: info@ctriversalmon.org

**www.ctriversalmon.org**

## In Memoriam

### *Henry Lyman*

Henry Lyman, publisher emeritus of the *Salt Water Sportsman* magazine, author and internationally known authority on marine fisheries, died this past August after a brief illness. He was 88. Hal was a longtime member of CRSA and the Atlantic Salmon Federation. Although best known for his writings on marine angling and marine fisheries and as editor and then publisher of the *Salt Water Sportsman*, he was an active friend of Atlantic salmon. His activities were dedicated to the need for conservation and responsible fisheries management. He served on the National Coalition of Marine Conservation, the National Wildlife Federation, The International Commission of Atlantic Tuna, the New England Fishery Management Council and the Marine Fisheries Advisory Committee of the US Department of Commerce.◆

## Salmon Research Board *(continued from page 7)*

among NASCO parties and researchers is essential. The research inventory is a resource for researchers wishing to collaborate, helps identify the gaps in the ongoing research program, and helps set priorities for future research.

For more information on the Board and its activities, visit the Board's website at www.salmonatsea.com, or contact Pat Scida, Endangered Species Coordinator, NOAA Fisheries, Northeast Regional Office, One Blackburn Drive, Gloucester, MA 01930, (978) 281-9208 or pasquale.scida@noaa.gov. ◆

## The Connecticut River Salmon Association
## Donors and Contributors

*Without the support of the following organizations and individuals, our fund raising dinner and many of our activities would not be possible. Our thanks to each for their contribution and their support of Atlantic salmon restoration.*

**Abel Products**
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**Wild Birds Unlimited**

# The International Atlantic Salmon Research Board

*By Pat Scida, Endangered Species Coordinator, NOAA Fisheries, Northeast Regional Office, Gloucester, MA*

*Most salmon biologists believe that certain phenomena in the marine environment are at least partially responsible for the present worldwide low returns of Atlantic salmon. Consequently the North Atlantic Salmon Conservation Organization (NASCO) has established a process to investigate such phenomena. The following is a brief review of that process. — Robert A. Jones*

In 2001, NASCO established the International Atlantic Salmon Research Board to promote collaboration and cooperation on research into the causes of marine mortality of Atlantic salmon and the opportunities to counteract this mortality. The function of the Board is to establish and administer an international Atlantic salmon research program investigating the causes of marine mortality of Atlantic salmon and opportunities to counteract this mortality. The Board's Terms of Reference are to: maintain an inventory of relevant research projects which are ongoing or planned and for which budgets have been confirmed; identify research needs; evaluate the inventory against research needs; identify gaps in the inventory of research and set priorities for further research; provide a forum for coordination of relevant research efforts by the Contracting Parties of NASCO; develop administrative mechanisms to accept financial contributions to an International Atlantic Salmon Research Fund; solicit and accept financial contributions and manage the Fund; establish terms and conditions for soliciting, evaluating, approving and funding relevant research projects; fund approved projects and review results in relation to the objectives of the program.

Each NASCO party is represented on the Board, which also includes representation from the numerous non-Government organizations affiliated with NASCO. The Board also has a Scientific Advisory Group, whose purpose is to review the inventory of ongoing research, to identify gaps in the research and research priorities, and to develop recommendations for enhanced coordination of existing research. The Scientific Advisory Group will also evaluate and advise the Board on proposals to conduct research. Pat Scida from NOAA Fisheries' Northeast Regional Office is the US representative on the Board, and Tim Sheehan is the US representative on the Scientific Advisory Group.

Since its inception, the Board has compiled an inventory of ongoing research related to the marine mortality of salmon, developed promotional materials and a website (www.salmonatsea.com), and recently sponsored an international workshop, attended by scientists from North America and Europe, to develop a compressive, coordinated program of research to investigate the mortality of salmon at sea. The results of the workshop, held in Dublin, Ireland in October 2004, will be used to help identify the research to be undertaken and the methods to be deployed, but also the technological advances needed to facilitate this research.

The current research inventory includes over 40 ongoing projects, with expenditures on these projects totaling nearly $5 million. This shows the significant efforts NASCO parties and others are making in investigating salmon mortality at sea. As much of this research is very expensive, coordination and cooperation

(See Salmon Research Board, page 2)

# The CRSA School Program

## CIGNA Hosts CRSA Teachers' Orientation

*By Jim Carroll, CRSA Secretary*

On November 8, 2004, the new class of CRSA School Program teachers met at the CIGNA Corporation offices in Bloomfield for the 9th annual one-day session. The meeting was held there thanks to the community support by CIGNA, Woody Wright and Barbara Steadman.

This orientation is required of new teachers to the CRSA program, either those at new schools or those at past schools who are new to the program. The orientation is jointly prepared and presented by the CRSA and Connecticut Department of Environmental Protection (DEP) Fisheries Division. Some years, Education Chairman Richard Bell suggests any and all teachers attend — which can bring as many as sixty to the session for a refresher! This year was designed for new teachers only.

The orientation gives the teacher a background in the life cycle of Atlantic salmon, the history of the restoration program in the Connecticut River Basin, a summary and schedule of the events in the annual CRSA program, and information on how to use the management of the tank water temperature to predict the date when the fry will be ready to be released. It provides training on how and where to stock out the fry in the spring.

Explaining how they use the salmon egg incubation program as an interdisciplinary science-teaching tool, experienced teachers also make key presentations. Finally, a tank is set up with the necessary insulation and a chiller and controls so the teachers can actually see how to prepare and set up their classroom system.

Chairman Bell assembled a teaching team of CRSA president Robert Jones; CT DEP Supervising Biologist Steve Gephard; Tom Halligan, a retired South Windsor teacher and experienced program instructor; Gary Bogli, a retired teacher from South Windsor; Stephanie Hall, an experienced teacher at Tyl Middle School in Oakdale; and Bill Hankinson, a retired teacher from South Windsor.

Dick Bell said, "The CRSA School Program continues to grow. We will have some 65 schools and 88 tanks set up in Connecticut this school year, with nearly 90 teachers involved. I estimate that the CRSA has provided academic-based science training about Atlantic salmon for nearly 150 teachers in Connecticut alone since the program began in 1996, and these teachers have brought the Atlantic Salmon and the Connecticut River Restoration Program into the lives of over 10,000 Connecticut schoolchildren.." ◆

## Seven New Schools Join CRSA's School Program for 2004-2005

| Town | School | Lead Teacher |
|---|---|---|
| Bolton | Bolton Center School | Nancy Muller |
| Ellington | Ellington Middle School | Roy Gurnon |
| Greenwich | Greenwich High School | Ray Hamilton |
| Norwich | Norwich Free Academy | Heather Botelle |
| Salem | Salem School | Pamela Cavanagh |
| West Hartford | Montessori School of Greater Hartford | Marcia Smith |
| Woodbridge | Amity Regional High School | Valerie Cournoyer |


*The following is reprinted, with permission, from the Kingswood-Oxford School website: (www.kingswood-oxford.org).*

Kingswood-Oxford's Upper Prep class traveled to People's State Forest in Barkhamsted this spring to release 90 young salmon (called *fry*) into the Farmington River. The trip was the culmination of a five-month long project as a participant in the Connecticut River Salmon Association's School Program.

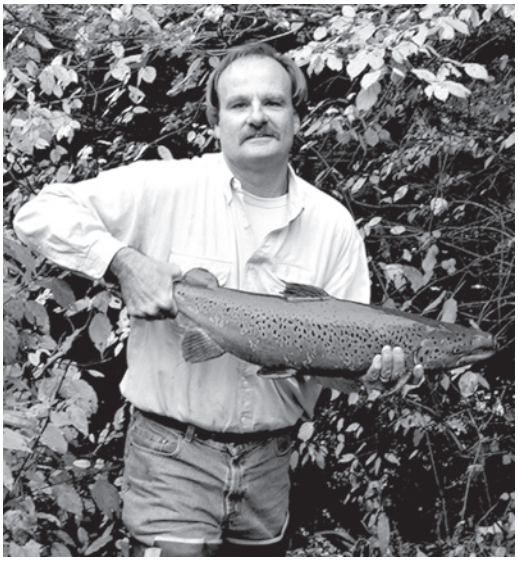
In early January, Upper Prep Life Science classes received 100 eggs from program liaison Dick Reynolds, who served as the School's advisor throughout the process of egg development, hatching and release into the wild. Three months later, the fry had depleted most of the resources in their nutrient-rich yolk sacs, and it was time to release them into the wild where they would have to find food on their own, and, ultimately, come to call the Farmington River home.

During the winter and early spring, the salmon occupied a 20-gallon aquarium in the Life Science classroom. Students observed the eggs frequently, on one occasion under the microscope where the developing anatomy of the salmon could easily be seen. Class time also was spent learning about how the daily tank temperatures affect salmon development and how scientists keep track of the growth of the eggs using the developmental index, also known as the D.I. Warmer temperatures speed up development, while colder temperatures slow development. Tank temperatures ranged between 2 to 6 degrees Celsius during the three-month period. The D.I. was calculated daily using the temperatures the class recorded. Progress was tracked using an Excel spreadsheet

(See Kingswood-Oxford, page 5)

# DEP Incubates Salmon Eggs in Streams

*By Steve Gephard, Supervising Fisheries Biologist, Inland Fisheries Division, CT DEP*



*Steve Gephard with a pre-spawned salmon.*

Generally, all Atlantic salmon returning to the Connecticut River are captured and spawned in captivity to maximize the number of eggs available for subsequent years' stockings. This year dozens of salmon spawned in streams as a result of a management decision by the Connecticut DEP. The salmon were not wild sea-returns but nevertheless there are more salmon eggs incubating in streambed gravel now than at any time during the past 100 years.

The fish were domestic broodstock raised at the Kensington State Salmon Hatchery in Berlin, CT. The fish are progeny of salmon that returned to the Connecticut River from the sea and were raised to maturity to provide much needed eggs for fry to be stocked in suitable habitat. Each fall, the Kensington hatchery typically produces nearly 3 million eggs from these fish but since it has the capacity to incubate only 1.9 million eggs, the balance is shipped to the White River National Fish Hatchery in Bethel, VT for incubation. The resultant fry are stocked throughout the watershed. This summer, however, the US Fish & Wildlife Service (USFWS), which operates the White River hatchery, announced that due to federal budget cuts it would have to drastically reduce the number of eggs that could be incubated at White River and it could not accept any eggs from other hatcheries, such as Kensington. This set off a frantic effort to find a 'home' for these eggs. Given the current low returns of salmon, the last thing we want to do is discard millions of good salmon eggs.

Therefore, in mid-October, 111 adult salmon were taken from the Kensington hatchery and stocked into Connecticut streams before the fish were spawned. The plan was for them to spawn in the streams where the eggs would incubate naturally and reduce the number of eggs at Kensington that would have to be discarded. The fish were distributed as follows: Farmington River (between Rt. 167 and the lower Collinsville Dam): 51; Salmon River (above Leesville Dam): 26; Blackledge River (below Rt. 66): 16; Jeremy River (below Rt. 149): 6; Eightmile River (between Moulson Pond and Devils Hopyard): 12. The sites were chosen on a basis of where suitable spawning gravel existed, and what areas may not receive fry next spring if the number of fry available is reduced. A DEP press release warned anglers of the fish, reminding them it is illegal to take Atlantic salmon in the Connecticut River basin. Anglers wishing to fish for salmon were directed to the Naugatuck and Shetucket rivers where similar fish have been stocked — only after they were spawned.

Inland Fisheries Division staff conducted limited redd surveys of the stocked streams and as of Thanksgiving, 17 redds had been documented on the Salmon, Blackledge, and Jeremy rivers. Six redds were counted on the Farmington River and, so far, none have been seen on the Eightmile River. Redds are hard to see in dark, leaf-filled streams by biologists who have to wade in the cold rivers fighting glare off the water. The count on the Farmington River, in particular, is believed to be a fraction of the actual number. It is likely that a quarter of a million eggs were deposited in stream gravel by these fish.

After these fish were stocked, the USFWS relented and accepted additional eggs, including nearly a million from Kensington, at the White River hatchery. This issue has been — and continues to be — the subject of intense discussions between the Service and the other State and federal agencies that are partners in the Connecticut River Atlantic Salmon Commission. There are still concerns that if the federal budget does not provide adequate funding for the Service's hatcheries, the Service may announce that it will discard eggs incubating at White River. Commission partners will continue to do what they can to avoid that action. In the meantime, CT DEP biologists also buried 36,000 salmon eggs in artificial redds in the Jeremy River north of Rt. 149. These techniques are not the most effective way of producing wild parr for our streams. The best way is through the stocking of fry. However, while the State and federal agencies struggle with budget constraints, stocking pre-spawned salmon and hand-burying eggs in streams are two methods biologists can do to maintain wild salmon parr in the watershed.◆

## Kingswood-Oxford *(continued from page 4)*

The goal was 100 percent D.I., which meant the young salmon had hatched and grown to sizes that made them ready to be released into the wild. When the fry were ready, they were transferred to small coolers for the ride to the release site. Each student got to take a small cup containing one or more salmon fry and gently pour the fish into the Farmington River. Students were able to see firsthand the new surroundings and potential hazards that the fry encountered, giving students and teachers a chance to marvel at the fact that any of these small fry might survive and return to this very spot as spawning adults. Ultimately, the goal of the Connecticut River Salmon Association is to restore salmon to the Farmington and other rivers where salmon historically lived. The School hopes that through participation in the program, K-O students will learn about and appreciate the natural history of salmon as well as the ongoing effort to maintain species diversity in Connecticut and throughout the world.

When the work was done, the group enjoyed a picnic lunch before heading back to K-O and the now-empty aquarium. The tank will sit vacant for only a brief time, however, as the School plans to fill it again next January for another year's adventure.◆

## "Meet the Scientists"

*In "Meet the Scientists," we profile the fisheries scientists and managers who constitute the Connecticut River Atlantic Salmon Commission Technical Committee. Members of the Technical Committee are assigned by their respective state and federal agencies that make up the Commission. The Committee's charge is to provide sound scientific and management advice to the Commission and to develop, update and implement a management plan for the restoration effort as approved by the Commission. Each member of the Technical Committee conducts work on the Committee in addition to regular duties assigned by his or her own agency.*

### Jay McMenemy, Vermont Department of Fish and Wildlife

Jay McMenemy has been a fisheries biologist for the Vermont Department of Fish and Wildlife in Springfield, Vermont since 1986. He is a member of the American Fisheries Society. He lives in Weathersfield, VT, with his wife Nancy and their dog Rosalita.

Jay received a BS in Fisheries Biology from the University of Massachusetts at Amherst in 1983. In 1986 he also received a Master of Science from UMass. His thesis was, "Evaluation of inclined plane traps for sampling Atlantic salmon smolts"

Jay has served on the Technical Committee for the Connecticut River Atlantic Salmon Commission since 1990, and has been chair since 1998. He also chairs the Technical Committee's Salmon Studies Workgroup, and is a member of the Shad Studies, Genetics, and Fish Passage workgroups.

In addition to serving on the Technical Committee, Jay is involved in many activities related to anadromous fish restoration in the Connecticut River basin. He stocks salmon fry with the assistance of a dedicated cadre of volunteers in southeastern Vermont rivers, including the West, Saxtons, Williams, and the Black. Jay samples juvenile salmon populations by electrofishing at about 45 sites annually in these watersheds. He is responsible for operating and monitoring fishways at Vernon, Bellows Falls, and Wilder. He tracks radio-tagged adult salmon in the upper part of the basin. Jay is also Vermont's representative to the US Atlantic Salmon Assessment Committee.

Jay is also involved in aquatic habitat protection, lake trout management, and wild trout monitoring. Among other activities, he enjoys scuba diving and fishing. ◆

## CRASC Technical Committee *(continued from page 3)*

stocking. The first returns from Pittsford smolts that had spent two winters at sea are not expected until next year. Production of smolts from fry stocking as estimated from index station electro fishing surveys and the mark-recapture estimate at Cabot and Holyoke continues to be high but marine and/or estuarine survival continues to be much lower than previous years.

Six of the salmon captured at Holyoke were fitted with radio tags and released. One tag immediately failed after the salmon was released. One salmon passed back downstream of Holyoke and was captured at DSI on the Westfield. It was released to the upper Westfield. Three entered the Deerfield River. One salmon migrated from below Turners Falls to the mouth of the White River in five days passing four fishways and swimming approximately 100 miles in the process. It then passed Wilder fishway and was tracked as far upstream as the vicinity of the Wells and Ammonoosuc Rivers.

Similar to last year, the NU/GCC mark and recapture estimate of smolts at Cabot and Holyoke resulted in a high estimate (78,000) but wide confidence intervals because of relatively low numbers of smolts marked and recaptured due to high flows. The index station data also showed high production in the habitat prior to migration.

Index site data for fry stocking evaluation collected this summer and fall have not been completely analyzed. MA Division of Fish and Wildlife was able to do index station assessments this year with CRASC funded seasonals after not conducting any last year. It appears that densities/survival of both young of the year and yearling parr are in the normal range throughout the basin and size/growth is above average due to the wet summer.

### Shad Studies Workgroup

A total of 192,000 shad was counted at Holyoke, down about 100,000 from last year but just below the ten-year average. Only 2,092 shad passed Turners Falls and 647 passed Vernon. Shad passage also remained low at Rainbow (116) and again declined at DSI (1,700 to 913) from last year. Blueback herring counts were very low again; only 151 passed Holyoke.

A total of 352 shad was trucked above Vernon and 410 were trucked to the Ashuelot, both down from last year due to the demise of NHFG's shad truck and shad trapping conditions. Despite low shad passage and limited numbers trucked, shad reproduction was documented in the Vernon pool. Blueback herring (227) were trucked to the Ashuelot River but none were available on the day scheduled for blueback transport to the Westfield. The departure of Phil Herzig of the Sunderland Office of Fisheries Assistance for a new job will make shad and blueback trucking even more difficult next year. However, the new shad trucking facility at Holyoke should greatly reduce shad trapping constraints. ◆

# 2004 Annual Report of the CRASC Technical Committee

*Prepared by Jay McMenemy, Vermont Department of Fish and Wildlife and CRASC Technical Committee Chair*

## Fish Culture Workgroup

### *Stocking/Spawning/Egg Production/Egg Incubation*

A total of 7.7 million salmon fry was stocked last spring into habitat in the four basin states. This is up about 700,000 from last year, but still short of our 10 million goal and the 9.6 million stocked in 2001. Agency staffs were again assisted by hundreds of volunteers.

A total of 95,000 smolts were stocked from the Pittsford National Fish Hatchery last spring into the Connecticut River mainstem and the Farmington River. Smolts were transported by several cooperators. Pittsford has 75,000 smolts on hand for stocking in the spring. Thanks to CRASC funding for vaccine and a large cooperative effort from many sources adipose fins were clipped and the fish were vaccinated against Vibrio and furunculosis in October. These presmolts are in good condition with much improved fin condition from prior years. They appear to be the highest quality smolts the program has produced in many years.

Joe Ravita of CTDEP, funded by CRASC, developed the spawning plan and coordinated spawning activities for the program. Spawning at all facilities was again a cooperative effort of program partners. Sea-run and some kelt broodstock were again treated with hormones (purchased by CRASC) to synchronize spawning for the egg bank for future broodstock. Mature parr were collected from the Williams River in Vermont to supplement sea-run males to maximize genetic diversity and increase effective population size.

A preliminary total of 12.4 million eggs were taken this year which is similar to last year but short of our 15 million goal. Egg production is low due to low sea-run returns this year, the reduction of kelts and elimination of domestic production at North Attleboro NFH, and the loss of domestic production from the closure of Whittemore Salmon Station. However, domestic egg production at White River NFH is up due to better care of the fish because of the CRASC funded seasonals that aided hatchery staff this year.

Warren SFH (NHFG) produced 214,000 fed fry last spring from 500,000 eggs. High incubation temperatures at Warren require fry to be fed for an extended period prior to stocking. Fry did not feed well and extensive mortality required early stocking of the fry, which were in very poor condition. Future fry production at Warren will require a chiller to control incubation temperatures. Efforts are underway to procure a surplus chiller from the Nashua National Fish Hatchery.

Domestic broodstock which are surplus to program needs were allocated to the states for use in sport fisheries outside the Connecticut River.

Staffing and budgetary concerns continue to be a major problem at several program facilities.

## Genetics Workgroup

Genetically-based broodstock management continued in cooperation with Conte Lab. Sea-run fish were genetically typed and matings planned to avoid breeding closely related fish. Much of the egg production of domestic broodstock at White River NFH was genetically "marked" and the resulting fry stocked in ten "regions" made up of one or more tributaries. Smolts and adults produced from marked fry will be able to be identified to tributary of origin (or group of tributaries) by analyzing a small tissue sample (i.e. partial fin clip). The 2004 smolt run was the first with "marked" domestics contributing. Partial fin clips were collected from 1,300 smolts sampled at Cabot and CRASC funding to the Conte Lab will allow the samples to be analyzed. Results are expected this winter.

Sea-run fry were stocked in the Williams River watershed for mature parr production and possible genetic research.

## Fish Passage Workgroup

### *Hydro Licensing*

Construction of the fish passage changes at Holyoke as a result of the new license are underway and on schedule for completion in advance of the 2005 spring fish passage season. A full depth canal louver array has been completed. Ongoing construction includes installing two new lift towers, redesigning the spillway entrance gallery, an expanded exit flume, a second counting window and trapping facility, and a new shad/herring trucking facility. Future actions include eelway construction and downstream fish passage improvements at the main powerhouse.

### *Upstream Passage*

Continued evaluations of the Turners Falls fishways were done in 2004 to address the severe problems with shad passage. An experimental entrance for the gatehouse fishway was evaluated that passed about 50% of the shad compared with 10% for the old entrance. Efforts will be made next year to improve this further and if successful the gatehouse ladder entrance will be modified the following year.

### *Downstream Passage*

PG&E installed a smolt sampler at Moore Dam to collect data on seasonal and diurnal timing of smolt migration to facilitate passage facility development. The facility was not operational until the smolt migration was already underway, but it captured many wild smolts, which were trucked below McIndoes for release. However, passage efficiency for hatchery smolts was very low. Further evaluation is needed and planned for next spring.

## Salmon Studies Workgroup

A total of 69 adult salmon was counted at fishways this year, up from 43 last year. All of the returns were from fry

(See CRASC Technical Committee, page 6)

## Not a Member Yet?

If you are receiving this Newsletter and are not a member of CRSA, please consider joining our organization. In this way, you will be supporting our School Program, our web site and this Newsletter. You will also be adding your name to the list of individuals dedicated to the health and welfare of the Connecticut River and the restoration of Atlantic salmon and other fisheries resources.

## Application for CRSA Membership

NAME _____

ADDRESS _____

_____

CITY _____ STATE _____ ZIP _____

TELEPHONE _____

PLEASE MAKE CHECKS PAYABLE TO CRSA, AND MAIL THEM TO:

**CRSA**
**76 DEMING STREET**
**SOUTH WINDSOR, CT 06074**

PATRON: $500 ❑

LIFE: $250 ❑

SUSTAINING: $100 ❑

SPONSORING: $50 ❑

CONTRIBUTING: $25 ❑

FAMILY: $25 ❑

REGULAR: $20 ❑

**THE CONNECTICUT RIVER SALMON ASSOCIATION**
76 Deming Street
South Windsor, CT 06074

*Visit us at www.ctriversalmon.org*