

HENRY'S LAKE FOUNDATION NEWSLETTER

SPRING 2004

Project Report

By Bob Bartsch
Vice President

The big news this summer is **water**. May 20 there was a meeting of the Snake River Working Group, the name given the group of government people, irrigators and conservation-sport group people who meet to discuss the doling out of water in the rivers and reservoirs. This year is a crunch-year and here is what Mike Beus, Water Operations Manager of the Bureau of Reclamation said. As 2003 turned into 2004 the snow pack was just over 100% of normal but then the snowing dropped off. Lewis Lake Divide was 47% of normal now pack in 2001, 65% in 2002, 70% in 2003 and by March 2004 was only 80%. Then came the thaw starting at lower elevations in early March and then in the higher elevations by the third week. The forecast for run off was set at 53% but then it stopped. Much of the snow melted into the ground and did not "run off". The problem to overcome according to Beus "is the accumulative effects of the last three years". The plan as of now is to draw HL down to 35,000 acre feet(AF) which is the historic level prior to the dam being raised. Basically, the entire Snake River system is about 400,000 AF short of meeting all the irrigation, hydro-electric and Endangered Species Act(salmon flush) demands. The Bureau is expected to run nearly every reservoir in the system to near zero this summer. Island Park Reservoir is expected to bottom out at 6,000AF. Grassy Lake, Jackson Lake, and Palisades will be empty. The effects of the last several weeks have brought the Henry's Fork and Teton drainage to 94% of average accumulative precipitation and the South Fork of the Snake side to 85%. Henry's Lake received 5,000 AF from these storms and still has as much as 10,000 AF of run off to go if

the snow melts and fills the tributaries. With this welcome water there may be some relief in the predicted drawdown of HL, but we will have to wait and see. I think we can expect at least 20,000AF to be removed from HL in the weeks ahead. I hope that the fishing will be excellent from now until the water warms up in mid-July. By then the Lake level will be much lower and the water more susceptible to warming, nutrient and algae build-up. So, plan your fishing early.

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Last year Damon Keen and I noticed that there were at least 300 cutthroat milling around below the culverts on Targhee Creek at the Highway 87 crossing-they were not able to pass through and above the culverts. We planned and are now running a project of capturing trout at

the culvert obstruction and moving them above where there are 4 1/2 miles of great spawning habitat. With the help of Boy Scouts from Rexburg and Foundation volunteers we have been assisting the spawning trout on Wednesdays and Saturdays. We have petitioned U.S. Senator Mike Crapo(Idaho) for financial assistance and are at least hopeful that we can publicize the need for rebuilding these culverts. By the way, F&G biologists believe that the Yellowstone Cutts that spawn in the tributaries of HL are a wild trout population separate from the hatchery raised fish released in the Lake each year. The Foundation volunteers, Boy Scouts and F&G personnel have made a wonderful team effort and have learned a great deal from this project.

President's Message

This season began with great hope for HL and the Foundation. The Lake has filled to 85% full at this writing and the stocking program has gone exceptionally well. Well over 2 million fish have been stocked by the F&G(see Damon Keen's report). This is one of those good news, bad news types of year. The good news is that there is a huge population of 1 year old fish that are about 9 inches long and 2 year olds that are 14. The opening day's fishing was encouraging with creel reports of 10-20 fish not uncommon. The bad news is the water situation(see Bob Bartsch's report) which calls for a huge drawdown of HL.

The other good news is that the Foundation has an ongoing project to capture spawning cutthroat trout at the Targhee Creek culverts at Highway 87 which is progressing exceptionally well. This project coordinated by the Foundation, F&G and Boy Scout Troop 306 from Rexburg is to aid the spawning trout in reaching their spawning habitat above the obstructing culverts. The Foundation hopes to accelerate funding and repair of the culverts which block the most important tributary of HL.

Our annual picnic and fund raiser is planned for Saturday, July 3. I would like to encourage you to attend and bring items for donation and auctioning. Remember, these fund raisers are our life blood for obtaining funding to perform important conservation projects around the Lake. We are actively recruiting donations of fishing rods, reels, gear and apparel including hand made flies! Please call me at 558-9161 with questions or our secretary, Carolyn Keen at 558-7202. The picnic will be at my house on Staley Springs Road from 10:30 AM -2PM. We will have Damon Keen's popular F&G report and a report on water developments with time for discussion and questions. Bill Walker is retiring from the Board after many years of service to the Foundation. Our hats are off to Bill for his contributions.

I hope to see you all July 3. We are all praying for rain to help preserve the treasure we call Henry's Lake.

Ron Slocum, President

2003: Henry's Lake Fish Diet

By Bob Bartsch, Vice President

Last summer gill netting was done every few weeks to sample the fish population of Henry's Lake(HL). Studies are often performed by F&G biologists on the fish thus obtained. This past year an analysis of the stomach contents of the fish was performed with the goal to examine predation rates on the Utah chubs. "Why haven't they proliferated more in HL as in Hebgen and Island Park Reservoir"? Surprise, only one fish was identified in the 395 stomachs analyzed-a sculpin.

	Total #	%by#	Total Wt.	%by Wt.
Scuds	42616	67.9	1314	61.7
Chironomid	3388	5.4	234	11.0
Daphnia	14060	22.4	112	5.3
Damsel	663	1.1	108	5.1
Caddis	1252	2.0	101	4.7
Leech	222	0.4	91	4.3
Plant matrl.	128	0.2	56	2.6
Snail	125	0.2	44	2.1
Fish Egg	123	0.2	25	1.2
Clam	92	0.1	16	0.8
Mayfly	29	0.1	14	0.7
Other	38	0.1	11	0.5
Fish	1	0.0	2	0.1

Stomach Contents of Gill Netted Fish by Numbers and Weight

The stomach contents were identified as to insect or feed type, sorted, counted and weighed. Dan Garren, biologist with the F&G performed this study and I thank him for doing this smelly job and for permitting me to discuss his data(presented in the table).

When trying to make sense of the table I think it helps to compare the relative size of organisms-it took over 14,000 Daphnia to amount to only 5% of the total by weight. Daphnia are water-fleas - tiny critters. They can be seen in many lakes and look like little specks moving about. I don't know about you, but I'll quit fishing before I use a size 26 water flea!

Scuds are the hands down winner as trout food in HL. They represented 68% of the diet by numbers and 62% by weight. Each month but August they were the biggest menu item by weight. In case you are unfamiliar with these little guys they look like the sow-bugs that hide under rocks and sticks. Scuds in HL are typically dark olive green. They are prolific and grow fast. They have a chitinous shell over their backs and this can only expand slightly as they grow. So, they molt frequently, develop a new shell, when they can be tan or light pink. Plenty of tan and pink ones were found in the stomachs. If you tie your

own flies start with a tiny piece of plastic bag at the back of the hook to imitate the shell. Then add a very small hackle feather(same color as the body) tied in at the small end, then put some dubbing material on, wind or palmier the hackle feather, bring over the plastic bag shell and tie down the front using thread to match the body. I usually use 3906 OXL or 1XL hooks or the Tiemco caddis hooks in sizes 14, 16, and 18. Or, if you are real daring try some tiny wooly worm ties on the same hooks. Just leave the palmiered hackle 360 degrees around the hook; the fish don't care! You can tie these simple flies really fast!

Chironomid(pronounced kur-onomid) or midge pupae live in the muddy lake bottoms and become active in lower light levels generally early in the mornings about sunset, or on cloudy days just before a hatch begins. To hatch they wiggle their way to the surface stopping now and then to jig up and down. Right now, early June, there is a morning hatch virtually every day. On HL the fish leave the adults alone so we have to dredge the pupae which are size 12-14(again, either 3906 OXL or 1XL or the Tiemco caddis hooks). Try a dark green ribbed(black) or black body with silver rib and a thorax of a few winds of peacock herl. No patience to wait for the fly to sink, you say?

Tie some lead or copper wire onto the hook shank before you make the fly. I

like a short leader with 4X tippet-say 6 feet and either a 15 foot fast sink tip or #2 slime line. Let the fly get way down and bring it up slowly. That is just what the real pupae are doing-they also do a little jig-thing(up and down) so I just work the line in and out a few inches every now and then. This same midge hatch is occurring on Hebgen as well now. On Hebgen the fish take the adults on the surface-use a black bodied fly with CDC wings on a size 12 or 14 midge hook(or tie the CDC as a loop over the back of the fly to imitate an emerger. There are a number of species of midges in Henry's. The large red pupa(size 10, red body-dark ribbed, peacock thorax and head) was the prevalent midge type seen in the stomachs from August when they were the most preferred food item(36% by wt.). Fish 'em deep and bring 'em up slow!

I need more work on the caddis(5% by wt.). When they hatch they can be thick. And, the pupae move fast through the water to the surface. They hatch quick and fly away or if a fish chases them to the surface you may see a boil. I need to identify the caddis species that were found in the stomach contents and hone in on their hatching patterns. I'll do that and report on it in our next newsletter.

Speaking of boils, some of the more exciting times on lakes can be when the damsel flies are hatching (late June, early July). Fish go nuts on the nymphs swimming just below the surface and there may be boils all over the place during hatches mid to late mornings. Damsel fly nymphs were under-represented (1% by no. & 5% by wt.) in the gill netted fish stomachs, even in early July. Some fish caught in this time period were completely full of damsel nymphs, so certain fish really key in on them. Another consideration is that the nets are strung out in the evenings and pulled at first light. Any damsels eaten by noon of the netting day might have been digested by nightfall and might have become part of the black ooze found in stomachs.

In our next newsletter I'll put together some photos of the insects we have been discussing and provide some fly tying patterns and strategies that match them.



Damon Keen (right), Boy Scouts assisted by Foundation Volunteers capturing spawning cutthroat trout in Targhee Creek.

Speculation on the Proposed Drawdown and Management Challenges Ahead

By Tom Herron, Senior Water Quality Analyst
Dept. of Environmental Quality

The only benefit of bringing the Lake level down to 35,000AF may be that nutrients are flushed out of the lake, but only for that year. The nutrients are rapidly replaced the following year, and may exceed what was taken out. I think that may be why we saw such a dramatic increase in nitrogen last fall, a cumulative

effect of subsequent drawdowns.

Certainly the overall effect on the fishery will be negative because of reduced tributary access for spawning and poor refuge in the lake for migrating fry (if there actually is some spawning at those low conditions). This problem compounds next spring if the lake doesn't fill. Brook trout won't reach the tributaries to spawn this fall.

Also, the oxygen reserve will likely be lower next winter increasing the threat for winter kill. Combined with the potential for high wind and low water there may be some significant changes in substrate because wave action scours sediments that were previously inundated. This liberates many more nutrients and offsets the benefit of a nutrient flush. A final benefit may be that people might be able to find more arrow heads along the exposed ancient banks. Archeologists may rejoice. Hopefully, the effects of drawdown will be able to be anticipated and allow enough time for adaptive fisheries management to offset the negative impacts of to the fishery. The combined impact of successive drawdowns on Henry's Lake underscores the importance of adaptive fisheries management to maintain quality fishing.

Of the future management challenges cattle grazing still ranks high on the list. There have been plans to reduce the number of cattle and the areas they graze but changes have been slow to occur. Thanks to John Taft an area near Duck Creek has been set aside from grazing. The Foundation is hoping to fence out the cattle from lake access on the Idaho Public Lands property near the Cliffs. Private land areas of Hope Creek and Timber Creek still beg for grazing management. Dredging of marinas and wetland areas re-suspend nutrients that are locked into sediments. Marinas around the lake have increased in recent years and so has dredging. Sea walls to protect marinas and shoreline have also increased. Often these projects reduce the function of wetlands to purify water and reduce rearing habitat for fish. Some of these projects are un-permitted and violate laws to protect the shoreline and wetlands. Violations against the Lake Protection Act have been documented. The Idaho Department of Lands is charged with enforcement but has been slow to act. Wetland degradation is compounded when property owners build ponds around the



Boy Scout, Everett Evans, capturing cutthroat trout, note non-functional culvert, Targhee Creek.

edge of Henry's Lake and put fish in them. Often these ponds result from dredging wetlands that purify water. The ponds become nutrient factories. Remaining wetlands don't function as well to remove nutrients. Residential developments are increasing around the lake often in or around wetland areas. Wetland function always seems to suffer in these developments and so does water quality: grazing, ponds, culverts, rip-rap, lawn fertilizer, marinas, dredging, and runoff all take their toll.

The message is clear for Henry's Lake. When you combine the effects of drought, low water level, poor spawning conditions and poor land stewardship bad things can happen to the water and subsequently to the fishery. Henry's Lake is delicately balanced and easily tilted by management errors. The role of the Henry's Lake Foundation to work with landowners to find better ways of managing lands is more important than ever.



Volunteers removing translocated trout from tank for release into upper Targhee Creek.

Idaho Fish and Game Report

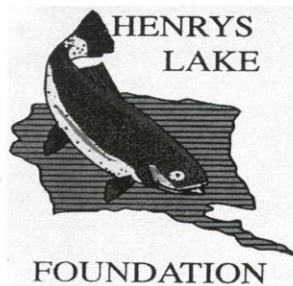
by Damon Keen, Hatchery Specialist

Another fishing season is upon us and many of you have called to find out the latest news on the lake. I'll break down my report in three sections: Spawning, gill netting trend data, and fishing reports to date.

Spawning-4403 cutthroat were trapped this season which was a significant increase over last season's 3599. A total of 4.7 million eggs were taken which in a normal season would have been more than enough to satisfy the egg request. Unfortunately, that's where the good news ended. Egg quality was poor and eyed egg survival reduced our number of eggs shipped to the Mackay facility. Poor egg quality was more than likely the result of reduced water quality during late February and early March. We do have a decent number of cutthroat fry available, but our hybrid plant will be less than requested this fall.

Gill Netting-Some very good news during this spring's gill netting. An exceptional number of 1 and 2 year old fish were caught indicating strong years classes in those categories. Overall, good numbers of trout were caught and average net catch was above our 10 year average. During May, we set out a total of 50 nets and our numbers should represent a high confidence level that our numbers are valid.

Fishing Reports-Again some pretty good news here. Fishing so far is much improved over last season and some exceptional catches have been reported. However, some slow reports continue and bank angling was especially slow. Most boats checked on the other hand are at least having some luck. Look for even more improvement as water temperatures improve and the midge hatch winds down.



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**PLEASE ATTEND THE JULY 3-PICNIC-FUND
RAISER-AUCTION! SATURDAY, THIRD OF JULY!
FOLLOW SIGNS, STALEYS SPRGS RD-10:30-2 PM!**