



HENRYS LAKE FOUNDATION NEWSLETTER

Spring, 2007

President's Message

2007 is projected to be a year of substantial membership growth! Director Phil Barker with the assistance of Director nominee Gail Eason are offering major rewards for those bringing in the most new members. In connection with this effort we will be installing foundation signs at the State Park campground and boat ramp, County boat ramp, Wildrose Ranch and the Fish and Game parking lot at the Hatchery. These signs will also have a supply of new membership applications.

The foundation's two latest projects are (1) funding radio transmitters for the Fish & Game to study fish movements for the next year and a half. (2) A joint project (\$15,000) with the US Wildlife Service and the Idaho Fish and Game to mend and enhance the spawning capacity of Kelly Springs and start a 2-3 year project to improve fish production on Duck Creek.

The water condition in the upper Henrys Fork basin is excellent this winter with the lake hovering about 92% full and an average snowpack. The lake should be full in early summer as well as some significant 'flushing' effect of accumulated nutrients being washed through with anticipated run-off.

The Summer Picnic and Auction is set for July 7th from 11:00 AM to 2 PM. I hope to see many of you there. Patron's dinner-Director Melody Taft is heading up a new Foundation event; a special dinner planned for mid-August. The function is planned for 50-60 couples to help raise additional funds as well as to increase life time memberships!

Thanks for all your support. Please ask a friend to join the Foundaton this year and make our membership drive a success! PS- I'm betting that Targhee Creek will produce 75,000 fingerlings this year!

Ron Slocum, President

Projects in Henrys Lake Basin

Let's examine aspects of the conservation projects that HLF has been involved in from a standpoint of the worth of the projects. Henrys Lake (HL) habitat is unique precisely because it is the upper most reach of the drainage system of the Henrys Fork River. Any problems that develop with excessive silt, human or bovine waste, lack of cattle fencing from streams or lake banks have a magnified effect because they trickle-down throughout the drainage. So, let's explore the fencing of Duck and Kelly Spring Creeks. Especially the lower parts of these streams are terribly silted in from cattle tromping down the banks and changing the nature of the plant life growing around the stream banks. The excess silt deposits as mud on the stream bottom and makes the area involved useless for spawning. Why? The fertilized eggs deposited in the redds need to be oxygenated under the pea sized gravel. With silt present mud blocks the flow of oxygen to the developing embryos. Each year some silt moves downstream and into HL. Year after year the silt moves further down the Henrys Fork causing its effects on spawning. Now consider the effects of cattle and/or human waste. That excess fertilizer gets into HL and stimulates algae to grow and then bloom leaving excess nutrients in the lake. Eventually these are flushed out by a heavy run-off and make their way into the upper river with similar effects on algae. The excess nutrients trickle down into Island Park Reservoir. Eventually, as the Reservoir is drawn down for irrigation in the summer, the Last Chance stretch of river gets excess nutrients from above plus the surrounding ranching and inhabited areas and, yes, algae is stimulated. These are the long strands of algae that we see throughout the Ranch and especially by the islands and Bonefish Flats. Sometimes it is so bad



“Cowed out” area of Duck Creek. Note broken down banks, lack of willows below fence.

in these areas that you can't wade through it by mid-summer.

Let's go back to HL... and Duck and Kelly Spring Creek. The unfenced stretches are what biologists call “cowed out”. Probably both streams were originally nearly covered by willow growth cooling the water temperature in the summer, providing habitats for all kinds of small mammals, birds and aquatic insects. The willows provide shade, protection for fish from avian predators, habitat and food for beavers. The beavers build dams and slow the water flow, allowing more water to soak down to the aquifer. Last year I saw a significant Bibio (a small Diptera) hatch on Duck Creek in May, but sadly no small trout to dine on them. There may be scores of types of other water insects like midges, mayflies and caddis flies that live in those streams just hoping for better



Water diversion with fish screen above on Duck Creek to be updated.

conditions to develop. These bugs are what grow trout. Now, with the restoration work HLF is doing in conjunction with NRCS, USF&WS, and F&G we can look forward to a new vibrant re-birth in both streams. This year will see increased activity on the Duck Creek and Kelly Springs restoration projects.

The photo shown (left) does not really do justice to the damage done over the years by having cattle in the stream and on the stream banks. It was taken last June with a great new growth of grass and before any cattle got to the area. Imagine it as all bare mud around the stream-its' appearance in August. This summer a new fence will be constructed making nearly all of the stream off limits to cows. The culvert shown in the below photo is also scheduled to be replaced to improve fish passage leaving Duck Creek unobstructed up to the road that leads from Henrys to Red Rock Reservoir. Originally we opted for an off site cattle watering area like a stock tank. But, the feeling is that we need something less labor-intense.



So, the plan is to have a small area of stream open for watering purposes. We believe the cattle damage will be mitigated by the fact that the grazing season is short there. Last year there were cutthroat fry seen in Kelly Spring Creek for the first time in a while. Years ago people spoke of adult spawning fish from bank to bank in that little brook. In addition there is a need to replace a fish screen at the nearby diversion above the junction between the two tributaries. Water is being diverted from Duck Creek at this location for some duck ponds in the area and it would be nice not to lose the fry down that irrigation channel.

To close I would like to run a little math past you that explains vividly what may happen in Targhee Creek now that the culverts are replaced by an open bridge. HL fish have unlimited access for spawning. The cutthroat adults run up Targhee Creek in the spring and lay their eggs in redds built in the gravel of the creek bottom. The eggs hatch after a few weeks and the fry begin to develop and grow, then migrate down to HL during the last half of summer. After about two years the fish reach maturity and are ready to spawn themselves. You may ask how important could it be that last season we saw only 11,000 (see next article) naturally spawned cutthroat fry leave Targhee

Creek. Last year spawning cutts were seen 5 miles up stream from Highway 87. The fry count increased for the first time in quite a few years which proves that a run of fish was enhanced before losing the adult reproducing fish to old age. If just 10% of those fry survive to reach maturity in 2009 and then return to spawn that is 1100 new wild spawners or 550 females producing say 2000 eggs each. That's 1,100,000 eggs and assuming 50% mortality; 550,000 new potential fry. If we expect a mortality rate of say 90% then we might predict 55,000 fry to return to the lake late summer 2009. Let's say that only 8% or 4,400 reach maturity in 2011. Now, we would then have roughly 2,200 breeding females spawning in Targhee Creek producing an estimated 4.4 million eggs, or 2.2 million fry (50% mortality). Following a 92% mortality there may be 176,000 adults in 2013 and a potential of 88,000 mature females returning to spawn with a whopping 176 million eggs produced. The producing capacity of Targhee Creek will plateau at some point in the future-maybe at a far lower level than depicted in this example. This little exercise ignores the fact that about 50% of spawning adults live to spawn at least one more time during their lives of 4 or 5 years. By following these simple numbers one may see why there is such enthusiasm over the completion of the Henrys Fish Passage Project. The other bonus in this increased spawning is that these naturally, wild bred fish are the healthiest fish in the lake. Genetically, behaviorally and in disease resistance they represent the successfully surviving product of the forces of natural selection specific to Henrys Lake. Now, ponder the potential effects on HL and drainage if the remaining partly fouled tributaries are cleaned up.

Bob Bartsch, Vice President

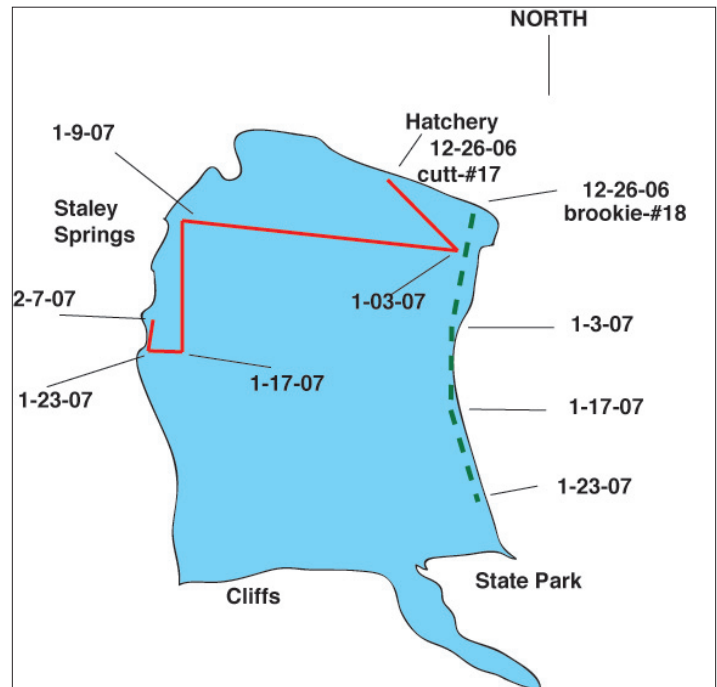
Idaho Fish & Game Report

Damon Keen, Assistant Hatchery Specialist

Telemetry Study

The radio telemetry project was started this winter, thanks to the partnership with the HLF and their financial contribution towards the purchase of radio tags. We currently have 43 fish tagged and have monitored those fish periodically throughout the winter, via snowmobile. Although it's far too early to draw any conclusions from these movements, the early indicators are interesting. We've marked fish throughout the lake with most of the recordings in close proximity to the shoreline. The best descriptor would be to say the fish are scattered, with some moving great distances quite often and others staying

"home". Just for fun the map, below, shows the meanderings of 2 fish, one a cutt and the other a brook trout. Stay tuned as we continue to monitor. Dan Garren, our regional biologist is heading up this interesting project. Dan will have the analysis at the conclusion of the project, forecast to end sometime in late fall or early winter (depending on tag life) 2007.



Tributary Surveys

We surveyed 8 tributaries during 2006 to assess natural fish production potential. We physically counted 152 adults on Targhee and 30 adults were counted in Howard creek. High water and murky conditions made visibility marginal. Therefore, more adult fish were certainly in the tributaries, but were not observed. The last adult observed in Targhee Creek was observed almost five miles above the former culvert obstruction on Targhee Creek!

To help us assess natural production, we monitor the natural fry production with fry traps in three of the tributaries on Henrys. After years of low flows, 2006 brought high flows, lots of debris, and poor trapping conditions. However, during the summer of 2006, approximately 14,000 fry were estimated to have been hatched in the Targhee, Howard, and Duck Creek tributaries with the bulk of the fry produced in Targhee creek (11,000). The numbers show an upswing in natural production on these tributaries compared to past years. And although the fry numbers indicate that natural production is only a small segment of the fish population in Henrys, it's always encouraging to see additional fish being produced. And, the culvert replacement projects on Targhee and Howard Creeks are integral parts in efforts to increase that natural production.

Spring Opener Membership Drive

Sign up the most new life members and win!!!

1st Place – a 5 wt Sage 586 SLT rod, a \$530 retail value.

2nd Place – a Super 4 Abel reel, a \$440 retail value.

3rd Place – a 5 wt Scientific Anglers Mastery Stillwater Taper Fly Line, a \$60 retail value.

Note: At least 3 new life members must be signed in order to qualify.

Sign up the most new annual members and win

1st Place – a 5 wt Sage 586-4 VT2 rod, a \$385 retail value.

2nd Place – an Abel Big Game Pt.5 reel, a \$330 retail value.

3rd Place – a 5 wt Scientific Anglers Mastery Uniform Sink Fly Line, a \$60 retail value.

Note: At least 5 new annual members must be signed in order to qualify.

In order for a new membership to be counted towards a prize, the new member's check or form should include your member name.

JOIN US.... AND HELP US IMPROVE HENRYS LAKE!!!



HENRYS LAKE
FOUNDATION
P.O.BOX 1389
WEST YELLOWSTONE,
MT. 59758

MEMBERSHIP FORMS AVAILABLE ON-LINE. FOLLOW HENRYS LAKE
NEWS ON OUR WEB-SITE; WWW.HENRYSLAKEFOUNDATION.COM

PLEASE PLAN TO ATTEND THE FOUNDATION PICNIC AND AUCTION
SATURDAY AFTERNOON
JULY 7, 2007