

Having a Native Spawn in Pine Creek VS Having a Lake for them to Come Home to

By Valerie Aubrey, Eagle Lake Fishing, Eagle Lake Guardians

In short, results of the CRMP meeting at LNF on 10-27-16 and our concerns, and statements at the meeting

Not only are we all concerned about restoration of a native spawn, but the restoration of our watershed. Many people attended the CRMP annual meeting on 10-27, not only to hear about the updates regarding the restoration of a native spawn progress from LNF, DFW, Trout Unlimited, Pine Creek CRMP and Susanville Indian Rancheria, but to voice their concerns about the water levels, launching and accesses. Which was said that the meeting, the meeting wasn't about the lake. Hello??? It all works together as one, apparently unbeknownst to the scientists.

At one time a major 1979 Hydrology Study called the Vail Report (online), concluded from data collection and flow rates that around 50% of Eagle Lake water came from Pine Creek at the lowest amount on a drought and somewhere between 75%-85% on a good water year. As per Lassen National Forest, restoring the flow to Pine Creek won't help the lake elevations rise as it now only constitutes around 14% of the flow to Eagle Lake and the rest of our water now comes from local precipitation. Although, surface water flow data as well as ground water flow data over several months and over the last many years could not be produced to back that statement. Valerie Aubrey, asked LNF how that was determined if no surface flow data was produced or conducted. We have requested the information and continue to wait for a response. So, where is the historic flow? Even on a year that we only get six inches of water in the lake, that would still be 3 inches coming from Pine Creek. On a good year of water that we may see 4 to 5 ft. or more of water, that would still be a few feet of water that historically could have come from Pine Creek. The flow data for the last many decades should be compared with the data in 1979 since that data actually exists. Surface flow from point A to point B would go a long way to determining what seeps into ground water. Evaporation rates could also be calculated. As we see this, the fact that there appears to be zero documentation doesn't support the statements made by Lassen National Forest or CRMP. Eagle Lake, Eagle Lake Rainbow trout and Pine Creek seem obviously dependent on their entirety as one whole being. This is the part that has been lost to the scientists by separating the three main things that make this whole area one. It's been cut up into pieces which has left Eagle Lake's environment fractured. Humpty Dumpty?

Grazing and impounding an uncalculated amount of surface water over 6 months for around 4000 cattle is more important. Just to make the figures look better, let's use 10,000 cattle...over twice as many since births occur during grazing season. At less than \$2 per cow/calf pair (calculated at \$1 per animal) selling out Eagle Lake inflow for less than \$10,000 for 5+ months of flow being lost. Costing millions \$\$ in lost income for Lassen County and destroying property values in the region. The benefit for the one, over the benefit of the many, the economy, the trout and the health of the lake.

Teresa Pustejovsky renowned fish biologist specializing in Pine Creek, now working with Susanville Indian Rancheria, has been studying the migration of the trout released upstream from the fish trap in Spalding using transmitters that are surgically implanted in the fish and receivers and antennas in several locations up Pine Creek to track progress. This has been studied over many, many years. Eagle Lake Guardians assisted the transmitter studies by purchasing quickly needed solar panels and materials to build the stands in 2011/2012. Out of all the duration of years the transmitter studies have been conducted, only one male trout had made it just above highway 44, all the others remained below highway 44 near Bogard Creek confluence. There has been some spawning below highway 44 since 2011. There is evidence that the trout DFW artificially trucked up to Stevens Meadows have also spawned. Basically, the transmitted trout freely traveling from the lake upstream haven't naturally or actually wanted to go above highway 44 to spawn. Perhaps they lost their natural instinct of where to go from decades of artificial spawning and as per science based theory on the assumption that historically, the trout only spawned at the headwaters and only in year round water. Or, perhaps the trout actually do know what they are doing and have been successfully spawning where they think is best, where their instinct tells them to, near the confluence of Bogard Creek in lower Pine Creek which has seen more spawning activity than in other locations below 44. I caught the transmitted fish in the lake several years ago and gave one transmitter to her to decode. Others transmitters have been found near or around the creek when dry. A couple

anglers reported to me finding the tiny transmitters under the skin after taking time home and cooking them. No health issues seem to be associated with that. The fish from our transmitter had actually returned to the lake the same year it had been well upstream from the lake with all the others. We caught it at Shrimp Island area on July 1 as indicated in her report from info we submitted with it. Teresa sent me the data but maybe forgot who caught the fish and gave her the transmitter but we still have the email. As long as flow continues to the lake for a while, it appears that the trout can return in the same year. When flow is backed up in the valley and stops flowing to the lake, the trout would have to migrate upstream to the perineal water to survive until the following year as would any trout minnows that survived. But would they?

Maybe science needs to learn more from the fish rather than trying to manipulate them upstream from where the trout want to spawn, to a place where scientists want them to spawn or think that they should spawn ...at the headwaters 20 miles or so upstream from the trout's current chosen location. Perhaps this is an agenda to keep water impounded on Pine Creek? Again, without flow data, it doesn't seem possible to determine that the trout or even the seasons trout minnows could not return to the lake in the same year. The eggs need 50 days to hatch. The first three weeks or so, water temps need to be below 60F (preferably low 50F's) before they can take higher water temps and hatch. Would restoring flow to the lake for 5-6 months, which appears to have the first water right to Pine Creek watershed, not only benefit the native spawn by longer sustained surface flows, but also benefit the lake? The snow pack still drains into Pine Creek, rains in spring assist flow. Flow has begun as early as January and ended in June and on a good year ending early July...which is well over the 50-day period to hatch and a few more months to grow and flow downstream to the lake. Previous years before the drought we often saw flow in early to mid-February. There is no doubt that both upper and lower Pine Creek can be critical habitat for a native spawn, but who is listening to the fish? Who is listening to the Lake?

Note as well, that the fish trap at Spalding still needs to be opened by humans before any trout can head upstream. It was 1 ½ days after the creek began flowing as per DFW last year. But it took a couple weeks of flow before the creek actually broke through the packed wave terrace at the mouth of the creek before the fresh water hit the lake water due to the low elevation of the lake.

Trout Unlimited is about restoring the native spawn, not necessarily the health of the lake. They have been very attentive and helpful in keeping agencies on track, but nothing about the lake involves their services. CRMP, Coordinated Resource Management Plan has done a few restoration projects but none involve sending the water downstream to the lake. Restoring sagebrush land to marshes and meadows that may or may not have existed in the first place rather than Eagle Lake, the main terminal beneficiary of the watershed by right doesn't make sense. I believe it was also CRMP that applied for and received the grant to drill the well for LNF and DOT Rest Area at Bogard in the mid 1990's since Bogard Spring was a main source for water in Pine Creek, but never insured it was properly used for the intended project 20 years ago. LNF didn't bother either. The well was finally drilled after Eagle Lake Guardians pointed that out to USFWS in 2012/2013. Disgraceful? Deceptive? You make the call. Would restoring Bogard Spring back into the system 20 years ago help Pine Creek and Eagle Lake? No data, no problem?

One question that has come in is that "if there isn't any Eagle Lake for the trout to come home to, what is the point of establishing a native spawn?" The Pine Creek Estuary from the fish trap is a long, open, shallow and exposed channel to the lake that is loaded with pelicans feasting on the migrating trout every spring, be it heading upstream or back down to the lake. 200 pelicans can easily devastate 400 trout in a day and thousands in a week...it's a long way to the lake now, only a foot deep in some places before reaching the lake where 2 to 3 ft of water is still a mile away. The pelicans know it's a free for all feeding frenzy all day long and they don't move from the food source. On the other hand of flow, can upper Pine Creek food supply and dissolved oxygen support several hundred of spawn size trout and 10's of thousands of trout minnow's year round that don't make it back to the lake? As long as flows are manipulated, impounded and backed up into new man made meadows rather than flowing to the lake, we may see a native spawn, but Eagle Lake may not see the benefits.

The loss of recreation due to historically low water levels at Eagle Lake has cost Lassen County a lot of tax revenue since launching dried up in the north basins...millions of \$. Stones Landing, once considered the nicest RV resort, restaurant/lounge, store and some of the only actual private "lake front" properties (Bucks Bay had lake front property too) has been high and dry longer than Spalding. The Stones Landing resort still stands; vacant. The launch ramp and parking area showing its neglect, water only visible in the distance unless a good south wind is blowing. It's a 45-minute drive to launching at the south end so why should visitors drive that far when the USFS has campgrounds with full RV hook ups and a low water ramp? Spalding's marina was built as a "low water" launching facility in one of two of the shallowest basins of the lake that ran out of water as the lake elevations dropped. One RV park remains open during the season...prices indicate the struggle to stay open. The General Store closed up, Lakeview Inn has been closed since 2003, properties going cheap if anyone wants to chance a losing proposition as it will depend on getting the lake water back before anything improves in the north basins which were once 2/3rds of the lake's surface acres as well as critical habitat.

The USFS and Boating and Waterways installed a new single lane low water ramp down south at the Marina several years ago, and there is currently 3-4 ft. of cement left in the water. There are no plans to improve the only launch ramp to serve the entire lake for the 2017 season as per Lassen National Forest. Still awaiting a press release. Accesses to the swimming beaches, maintenance of hazardous existing trails and handicap accesses to the new recreational use of the lake and courtesy dock at the ramp are not a priority either. Now that we have to depend on local rainfall rather than that of the Pine Creek watershed as historically indicated in several Hydrology Studies, it appears that Eagle Lake is in some serious trouble.

Of the 86 water projects, diversions and impounds that are on Pine Creek watershed, only 9 areas were considered for restoration into meadows. LIDAR study indicated that the natural streambed was the lowest elevation and that a higher man made channel south of Shoestring and Burgess Impounds needed to be filled in by taking 10's of thousands of cubic yards of material from the surrounding area and completely filling it to form a meadow so flow would at some point return to the lower elevation channel which appears to be the historic streambed where "confluence meadows" is now a priority. That's the Harvey and Little Harvey Creek area that historically flowed into Pine Creek but much of which was diverted to Shoestring and Burgess water impounds for grazing. What happened to that 60% + of the watershed that historically flowed into Eagle Lake? No data, No problem. However, that doesn't mean that the data may not be required by law, it has simply seemed to have been neglected so no one can legitimately say that restoring that flow will help the trout as well as helping the lake. Are you confused yet? Yep, restoring 60% of the earned water back to the creek won't help the lake but it seems that no one at Lassen National Forest has any proof of any flow rates that indicate they are right about restoring flow to our main watershed of Pine Creek won't help the lake. Just another fractured piece of Eagle Lake.

Pine Creek watershed and Eagle Lake go hand in hand and restoring the flows removed to benefit grazing, artificial riparian habitat and manmade theorized meadows has assisted in leaving the lake in the condition it is now. Lost with the lake: 50+ miles of tule habitat for all the birds, trout and tui chub spawning for only a handful of birds using the artificially created habitat. For what? A few thousand bucks? The drought is only half the problem.... weather manipulation could have something to do with that too. The trout have evolved to live longer than other strains of rainbows. Eagle Lake trout live 11-12 years, compared to around 8 years for other rainbows. This appears to be due to normal drought cycles. But there is nothing normal now. Pine Creek is the livelihood of Eagle Lake trout as well as Eagle Lake. This is what has been neglected by the agencies single focus of profiting off water diverted from Eagle Lake. The meager profit can in no way make up for the loss of the lake water on the economy. It's now easy to see Eagle Lake becoming the likes of the Salton Sea.

DFW is now marking ALL the fish planted by the hatchery program with a freeze brand and all marked the same. Historically, 15-20% were freeze branded for creel study. This is to determine hatchery fish from any native fish in the future. This could be that in the future we may only be able to keep hatchery fish rather than the "new" natives. I only see a potential problem when it comes to having to release a native trout during summer months when water

temperatures and dissolved oxygen levels are inadequate or when damaged, gilled by a hook or swallowed bait or lures. This scenario seems highly possible and if we aren't allowed to keep a damaged/dying native trout take note that releasing a dead or dying trout is also illegal. Which one will we be cited for if things go that way?

TU Truckee Chapter director David Lass stated that the organism studies in Pine Creek were continuing at UNR and that we saved a lot of time and money getting the university on board. Eagle Lake Guardians helped fund these studies. This needed to be done along with environmental protection studies before any chemical treatment for the non-native brook trout could be brought up for public comment. Will the state and federal environmental protection reports and statements extend to Eagle Lake and its environment where the trout actually live? Probably not since the Lake environment and watersheds are fractured into little pieces and not treated as a whole natural system working as one. Perhaps that's the main part of the problem. Electro-shocking has only brought down the numbers of brook trout temporarily, it has not eliminated them. Regardless, any chemical treatment would also kill any Eagle Lake rainbow trout in the system too but when/if done, would take place in late summer when flows were at minimum and not flowing below highway 44. Catch 22 but at least most of the ELRT haven't naturally gotten there, they have been artificially placed there. Robert Muller, of North State Guide Service, in attendance of the 10-27 meeting, was against any chemical treatment. Using Rotenone such as what was used on Lake Davis to kill the northern pike would be the chemical used but would have to go through public input before being used.

As seen from the outside, removing the non-native brook trout who are ravenous minnow eaters is a no brainer if the Eagle Lake trout minnows find perineal water. I'm sure the Eagle Lake trout that remain in the creek would also find them a tasty treat for survival and easy prey. How many minnows would be left to flush downstream the following year? Probably not enough to worry about.

So, it appears that it's easy to restore a native spawn and create meadows now, but getting the trout back to the lake may be a problem. Be it in the same year as they spawn, or the following year if they find perineal water several miles above highway 44. Getting them back to the lake in the same season they spawned upstream appears to be the way the trout see it. I'm not sure how many made it back from the 40-mile truck deposit upstream, but sounds like the 17 mile natural swimmers and spawners can if they had a little more time of flow. They know the way back; the trucked trout can't drive themselves back if they don't know how they got there in the first place...how can they smell their way home if they didn't smell their way there. Perhaps the human assumption of what the fish did before man diverted the water is the second biggest barrier to restoring the creek flow back to its rightful owner.... Eagle Lake and the Eagle Lake rainbow trout. Eagle Lake Guardians are not standing idly by; we are actively working on the issues that affect Eagle Lake in its entirety. Entirety needs to be restored back in the scientific equation before all can be right again, if not, seems to me we are in serious trouble.