Progress Report - 3b2 TRH Steelhead Residualism Study
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This document serves as a progress report for annual reporting requirements to be met by study 3b2, Trinity River Hatchery (TRH) Steelhead Residualism Study. Several changes have been made to study protocol since the proposal was submitted. The study will continue as planned except where noted. The official sampling start date is planned for March 15, 2001.

Several measures have been taken in preparation for the implementation of this study. S-RAMP personnel have been floating the upper 4.4 miles of river to familiarize themselves with river morphology and to begin the selection of sampling sites. All launches have been identified and will continue to be evaluated for winter/spring use. Site selection within the study area is being changed to the sampling of 5 -10 manageable sites within previously proposed upper 4.4 mile study area**.** The entire upper 4.4 mile study area will not be electrofished. Selected sites will be located around launch sites and be selected based on access, river run-ability and suitable habitat. Four launch sites are available in the upper 4.4 miles (upstream of Rush Creek).

#1 - Rush Creek Boat Launch - R.M. 107.5. Boat must be launched at 15 degree angle upriver; special attention must be paid to woody debris. Launch is fairly steep, with a reinforced gabien structure on lower launch area. From this launch the boat could access approximately 0.2 miles of river downstream to the mouth of Rush Creek, and 0.5 miles upstream.

#2 - Old Lewiston Bridge - R.M. 109.5. This is the easiest place to launch a boat on the upper river. From this launch the boat could access approximately 300 feet downstream and 0.4 miles upstream.

#3 - Old Weir Site - R.M. 110.7. This site has a steep gravel launch, where special attention should be paid to the narrow launch area. This site accesses the large pool and alcove below the old weir. There is approximately 0.2 miles of electrofishable habitat.

#4 - Mary Smith Campground - R.M. 111.3. This site has several launches with the best (flattest) at the downstream access road. This site accesses approximately 0.2 miles of the river immediately below TRH up to Lewiston Dam.

The electrofishing boat has been operated by Weaverville project personnel while assisting District Biologist Larry Preston on Ruth Lake. More training is planned for the crew after the boat is moved to Weaverville from Eureka in late January.

Several changes have/are being made to the protocol in order to more closely tailor the project to the Trinity River, and also to prevent unnecessary use of tagging equipment and stress to fish.

Several previously proposed habitat measurements will not be taken. This data seems unnecessary to collect in Trinity River and is much more appropriate where original proposed on the Klamath. In order to minimize time spent collecting extraneous data, dissolved oxygen, turbidity, and pH readings

will not be taken unless found to be necessary. Conductivity and temperature measurements will still be taken in accordance with NMFS electrofishing policy.

Changes have been made to sampling timing. Boat electrofishing will be conducted at night. This decision was made after talking with several Department biologists with large river electrofishing experience (Personal communication, Zuspan and Wallace, 2000). Project staff also accompanied the EPA EMAP crew while raft electrofishing was conducted on the Trinity River below Del Loma. Electrofishing during the day appeared to be ineffective, as fish were deep and did not exhibit positive galvanotaxis in response to electrofishing. In the infrequent event that the electrofishing raft did turn fish, they were hard to see due to glare on the water and lack of contrast. Evening electrofishing periods will be standardized once suitable sampling periods are determined.

The upper temperature limit for termination of electrofishing has been changed from 20 degrees Celsius to 18 degrees Celsius. Electrofishing will terminate if temperature exceeds or is expected to exceed 18 degrees Celsius during any time of day of which electrofishing is planned.

Tagging for mark-recapture estimates will not be conducted until sample sizes and recapture rates are deemed feasible. I feel it is naive to propose use of a mark/recapture model before preliminary sampling has been completed. Preliminary sampling will use a catch per unit effort model, where standardized site length and times will be used to compare catch rates over time. If residualism of hatchery steelhead is occurring at a measureable level, then an appropriate method of estimation can then be selected. Consequently, the hatchery tagging retention component of this study is cancelled until tagging is deemed feasible and necessary. If and when a mark/recapture model is implemented, the hatchery tag retention component will be reimplemented.