



Oregon Department of Fish and Wildlife

“DRAFT”

Oregon Hatchery Research Center (OHRC) Monthly Progress Report

Month: May 2011

Author: Ryan Couture

Date: 6/2/11

Facility Issues

-A faulty float in the domestic water tank was replaced. The faulty float was causing the storage tank to overflow. Fortunately for me, and unfortunately for Joseph, he is the only one that fit in the opening of the tank!

-Fish Health Services held the first “guinea pig” Fish Health Workshop at OHRC this month. Staff from NW Region South Hatchery Group facilities attended the all day training. Tony Amandi and staff did an excellent job and the training should only improve.

-Ryan made a trip to Sheridan to pick up a river rock, rock panel that will serve as the base of the cabinet we’re building to hold our life-size fish display. The display project was funded by R&E and should be wrapped up in another 2-3 weeks.

Fish Handling/Research Projects

-Steelhead fry began to emerge this month in Christine May’s sediment experiment. The objective of this study is to quantify how the depth and composition of fill affects the emergence success of juvenile salmonids. The hypothesis is that increases in coarse sediment depth will result in a linear decrease in survival by entrapping juvenile salmonids in the subsurface environment. Also, fine sediment will exponentially decrease the depth at which mortality occurs. The combined effects of fill depth and composition on egg survival and juvenile fish emergence will be analyzed with regression analysis. The resulting regression equation can then be used to infer survival rates from field-based measurements of fill depths and fine sediment concentration, thereby providing a predictive tool that can be used for monitoring and assessment. This project is lead by Christine May from James Madison University in West Virginia.

-The OHRC Moist Air Incubation (MAI) experiment, using Alsea Winter Steelhead, reached the eyed stage. A couple of interesting things to note:

- o The mean loss in the MAI low, med and high groups (triplicates of each) was significantly lower than the Heath control groups.
- o The loss in the Heath control seems a bit high, not sure how to explain that, other than handling. Eggs shipped from Alsea green, then fertilized, water hardened and measured into respective groups.

- o Survival in the MAI seemed to be very density dependent (loss increases as density increases).
- o Survival in the Extra High density group was horrible. This group was a higher density than the heath high and represented a “Full” MAI tray. It looked like all the eggs on the bottom of the tray died and grew fungus resulting in the death of other eggs. The ~30% live eggs were all on the top of the tray.
- o Egg size will have a lot to do with loading density. Larger eggs have more surface area and should be able to load at a higher density. If that is true, we should see higher loss with trout eggs.
- o The total number of eggs in the MAI groups was quite low (1200, 1600 and 2200 respectively). The egg size was ~150 eggs/oz.
- o All of the MAI eggs had extremely soft shells. While picking egg loss, many viable eggs broke during very light handling. This is most likely due to lack of formalin treatments.
- o We kept 500 eyed eggs per group. We will monitor survival and days to hatching for each group, as well as early growth rate.

<u>GROUP</u>	<u>MEAN LOSS</u>
MAI LOW	9.04%
MAI MED	12.29%
MAI HIGH	16.62%
HEATH LOW	20.12%
HEATH MED	21.87%
HEATH HIGH	18.64%
MAI EXTRA H	70.35%

Miscellaneous

-A field sampling class from OSU spent part of a day at OHRC this month. The group electro-fished in the artificial streams practicing the mark recapture techniques they learned in class. They also used a PIT tag scanner to detect tags hidden in the streams.

-OHRC hosted a field day for the Oregon State University Fish and Wildlife Club this month. On Saturday the club members will electrofish in Carnes Creek, practice trailer loading and backing skills, learn basic welding techniques as well as work on net repair and knot tying.

-Thirty 6th graders from Newport spent part of a day at OHRC this month. The group dissected fish, examining the size of the heart and liver and comparing that to the sex of the fish. The group also collected and identified macro-invertebrates in Fall Creek.

-Ryan attended an “Age at Maturation” workshop in Portland this month. The workshop was hosted by USFWS and focus on the potential effects of hatcheries, selective fisheries, and other environmental factors on the age and size of maturation in (primarily Chinook) salmon.