



Oregon Department of Fish and Wildlife

"DRAFT"

Oregon Hatchery Research Center (OHRC) Monthly Progress Report

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Facility Issues

-A new chiller was received and installed in our Moist Air Incubator (MAI). See notes below about the MAI experiment and issues with the chiller.

-We continue to work on our Life-size Fish Display project. This project was funded by R&E and will wrap up in June. The display will be nine life-size salmon and steelhead as well as juvenile salmon fry and smolts. The display will serve as both public education and staff training purposes.

Fish Handling/Research Projects

-Our Moist Air Incubation experiment created some head scratching this month. The eggs were near the eye stage so staff took a closer look at the eggs and they were ALL DEAD. We had a control group in heath trays that had ~90% eyed egg survival which ruled out any fertilization problems. Upon further discussion with the MAI supplier...it turns out they started using a new chiller. The new chiller has bare copper coils rather than powder coated copper coils as in the older models. We removed all the eggs from the experiment and started over with eggs from Alsea Hatchery. We got a copper test kit from Roaring River Hatchery and we will monitor the copper level in the MAI. After 48hrs of running the MAI, the copper level is 0.1ppm which some studies have shown to be lethal for long term exposure. Even if not lethal, copper exposure can lead to many other developmental and growth issues. We will work with the supplier to resolve this issue.

-Arimune Munakata, a professor and visiting scientist from Miyagi University in Japan, Spent most of the month at OHRC working on his research project. His two projects were:

-Experiment #1: Changes in body temperature during cooling and heating of rearing water.

Object: To know the difference of body temperature changes during water temperature fluctuation (-3.0C or +3.0C from ambient water temperature) in downstream migrants (steelhead) and residents (rainbow trout).

-Experiment #2: Effect of water temperature changes on plasma cortisol levels.

Object: To know the effects of water temperature decrease/increase ($\pm 1.5C$) on the changes of plasma cortisol levels in downstream migrants (steelhead) and residents (rainbow trout).

-OHRC Staff spawned four pairs of Hatchery and five pairs of Wild Siletz Stock Winter Steelhead. The fish were held and spawned at Alsea Hatchery. The embryos will be used for the Noakes, et al. temperature study. The project will determine the effects of temperature on growth, sexual development and sexual differentiation in Hatchery and Wild Steelhead.

-Neil Thompson, an OSU grad student was here this month starting his experiment. He will be collecting sperm from Siletz steelhead. The projects two research questions are: 1. Do artificially spawned male steelhead (*Oncorhynchus mykiss*) have reduced gametic fitness? 2. Does ovarian fluid from different females differentially alter sperm velocity of males in Pacific Northwest steelhead (*O. mykiss*)?

-We continue to operate the fish trap. To date, nine wild winter steelhead have been held and sent to the Alsea Hatchery for use in the Wild Broodstock Program.

-Adult trap numbers to date are:

	Chinook	Coho	Steelhead
2010-'11 (to date)	54	242	83 wild 6 hatchery
2009-'10 (season total)	55	414	97 wild 33 hatchery

Miscellaneous

-Samples were taken from 60 Rainbow Trout and sent to ODFW Fish Health for annual *Myxobolus cerebralis* (whirling disease) testing.

-Bryan Chambers, an Occupational Skills Training Program student, finished his eighteen month training program this month. Bryan has been a great asset to OHRC and plans to work for ODFW this summer in The Dalles.

-Ryan attended the NW Region Hatchery Managers meeting this month. He gave an update on the moist air incubation project at OHRC that has resulted in extremely high egg loss due to toxic levels of copper from the chiller coils.

-OHRC hosted the Alsea Watershed Council Meeting Thursday evening.

-Joseph gave a tour to Dale Edwards, retired Forest Service, and 15 retired educators. This group of teachers experienced Forest Camp at Fall Creek Hatchery back in the "good ole days."

-Diane Wenzell, who has volunteered as the water color teacher for the Fall Festival, donated 11 water and oil prints to OHRC. The prints are all on display in the research building.