



# R & E Grant Application 05-07 Biennium

Project #:  
05-102

## *Alsea Hatchery Incubation Effluent Diversion*

### ***Project Information***

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**R&E Project Request:** \$9,054.00  
**Match Funding:** \$2,620.00  
**Total Project:** \$11,674.00  
**Start Date:** 7/20/2006  
**End Date:** 6/30/2007  
**Project Email:** alseaofw@oregonvos.net  
**Project Biennium:** 05-07 Biennium  
**Organization:** ODFW - Alsea Hatchery

### ***Applicant Information***

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### ***Past Recommended or Completed Projects***

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This applicant has no previous projects that match criteria.

### ***Project Summary***

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This project is NOT part of ODFW's 25 Year Angling Plan.

**Activity Type:** Hatchery Maintenance - ODFW

**Summary:** This project will consist of installing pumps and plumbing to divert the incubation building effluent to the hatchery's existing abatement pond during cleaning and chemical treatment events.

**Objectives:** The objective of the project is to bring the operation of the incubation building up to date and enable the hatchery to more readily meet any current and future DEQ permit requirements and guidelines. The building was originally designed to have all outflowing water, fish waste, and chemical treatments flow directly back to the river. This project would rectify this undesirable situation.

During the treatment or cleaning of any or all of the 24 incubator stacks the effluent will be pumped through pvc pipe to an existing pipeline which empties into the abatement pond. This will better assure for the proper

dilution and dispersion of chemicals before flowing back to the river.

During the cleaning or treatment of 20 rearing tanks, the discharge will be pumped to the abatement pond through a series of PVC valves and pipes.

**Fishery Benefits:**

The ability to divert the incubation effluent would enable the hatchery crew to more effectively treat and clean the incubators and tanks. This would result in a healthier environment for the trout and steelhead eggs and fry reared at the hatchery. Alsea Hatchery currently provides the Central Oregon Coast area with vast fishing opportunities for Rainbow Trout released into numerous coastal lakes and for Winter Steelhead reared for the Alsea, Siletz, and Big Elk rivers.

Better fish health would result in greater fish survival and a healthier fish at time of release, which would benefit recreational fisheries and would bring more revenues to the local economy.

In addition, greater egg and fry survival is crucial to the wild brood stock program being promoted at Alsea Hatchery with eggs taken from captured wild adults from the Alsea and Siletz Rivers.

**Watershed Benefits:**

As addressed above, the original design of the facility does not allow for the abatement of wastes or chemicals from the incubation building.

Though the hatchery is meeting current criteria for chemical treatment dilution factors, any possible impact to the watershed could be vastly reduced further by routing the discharge through the existing abatement pond.

The current DEQ Waste Discharge Permit sets limits on Total Suspended Solids sent to the river from the facility. These requirements are currently being met during normal and cleaning operations of the rearing tanks, though only through the use of portable pumps and hoses to divert the water to the abatement pond. The proposed project would increase the cleaning capabilities of the rearing tanks while further reducing any concentrated discharge of solid waste into the river.

Therefore, this project directly addresses water quality discharge into the watershed.

**Current Situation:**

Alsea Hatchery rears rainbow trout and winter steelhead from eggs through release. The incubation building contains egg and fry incubator stacks and troughs and rearing tanks. The eggs are hatched in the incubators and the fry are fed for the first month(s) in the rearing tanks.

External fungus on fish eggs is a common problem in hatchery incubation systems. A solution of formalin or similar fungicide introduced into the water entering the incubators is an effective measure taken to reduce the growth of fungus on the eggs, vastly increasing egg survival. This is usually a flow through treatment for fifteen minutes performed every other day. There are dilution requirements for the treated water before entering the stream, which are currently met by increasing untreated water flows and manipulating the number of treatments done at one time. Though the requirements are currently being met, it is desirable to not only meet, but to exceed the dilution factors that are recommended. This would also provide

for any further restriction placed on water effluent in the future.

Historically, cleaning of the rearing tanks took place by simply pulling the outflow standpipe and allowing any waste material in the tanks to be withdrawn through suspension in the outflowing water directly to the river. This practice was halted a few years ago with the introduction of portable pumps and hoses to divert the water to the settling/abatement pond through an existing pipeline a considerable distance from the incubation building. Though this system works, it is only effective in a limited capacity. This has resulted in a greatly increased work load on the crew and a reduction in cleaning regularity. This may be detrimental to fish health as waste and silt in the tanks may harbor parasites, bacteria, fungus, and may otherwise promote disease.

**Alternatives:**

The methods for diverting water and diluting treated effluent as mentioned in the above "current situation" section have been used with limited degrees of success.

**Designer:** Hatchery Staff

**Methods:** A series of PVC pipe, pumps, check valves, and ball valves will be installed in the incubation building to divert the effluent from the rearing tanks and incubators to the hatchery abatement pond during cleaning and treatments. These will be of sufficient capacities as to handle a wide range of cleaning and treatment events.

**Inspector:** Hatchery Staff

**Funding Elements:** R&E funds will be used to purchase the materials which includes pipe, fittings and pumps, and all materials needed to install the system. Alsea Hatchery staff and Alsea Watershed Council volunteers will assemble and install the system.

**Partners:** Yes

Alsea Watershed Council will volunteer up to 60 hours labor to help with project installation.

**Existing Plan:** No

**Affected Contacted:** Yes

**Affected Supportive:** Yes

**Affected Comments:** Regional ODFW staff have given their approval for the project

***Project Schedule/Participants/Funding***

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This project has no Schedule/Participants/Funding.

**Affected Species:**

Rainbow Trout  
Steelhead

***Project Permits***

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This project has no permits.

***Project Monitoring***

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This project has no monitoring.

***Project Maintenance***

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This project has no maintenance plans.

### ***Project Match Funding***

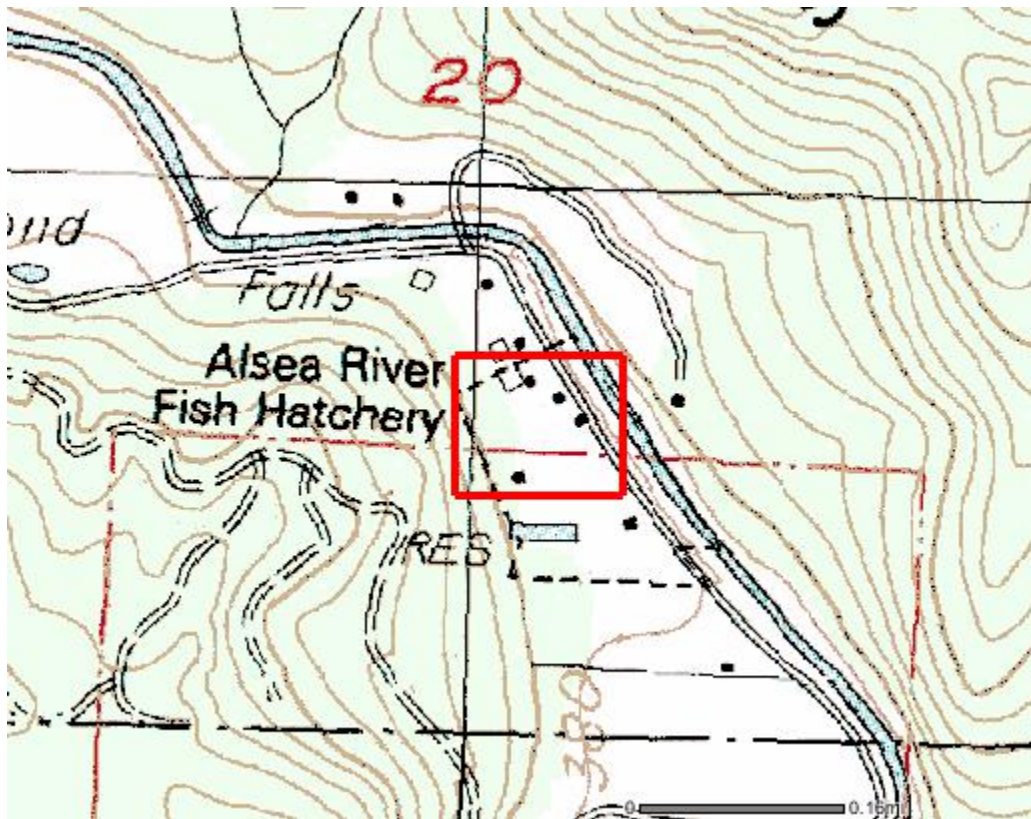
Funding Source	Cash	In-Kind	Other	Description	Total	Secured?	Conditions?	Comments
R&E Request	\$9,054.00	\$0.00	\$0.00		\$9,054.00	No	No	
ODFW	\$0.00	\$1,000.00	\$0.00	Labor and supplies to install system	\$1,000.00	Yes	No	
Alsea Water Shed Council	\$0.00	\$1,620.00	\$0.00	Labor to assist with installation of system	\$1,620.00	No	No	
				Total Match Funding:	\$11,674.00			

## Project Budget

Item	Item Type	Units	Unit Cost	R&E Funds	Match Funds	Total
Labor and Supplies to Install System	Personnel	1	\$1,000.00	\$0.00	\$1,000.00	\$1,000.00
Labor to Assist with Installation of System	Personnel	60	\$27.00	\$0.00	\$1,620.00	\$1,620.00
2" PVC Pipe, Vales, Fittings for Incubator Effluent	Supplies/Materials /Services	1	\$281.00	\$281.00	\$0.00	\$281.00
3" PVC Pipe, Valves and Fittings	Supplies/Materials /Services	1	\$4,786.00	\$4,786.00	\$0.00	\$4,786.00
Materials to Raise Incubators	Supplies/Materials /Services	1	\$250.00	\$250.00	\$0.00	\$250.00
Pump and Installation for Rearing Tank Effluent	Supplies/Materials /Services	1	\$2,685.00	\$2,685.00	\$0.00	\$2,685.00
Pumps and Installation for Incubator Effluent	Supplies/Materials /Services	1	\$1,052.00	\$1,052.00	\$0.00	\$1,052.00
					Total Budget:	\$11,674.00

**Project Map**

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## ***Additional Files***

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Click a link to view that particular file.

[Alsea Watershed Council Letter of Support](#)

[Incubation Detail Sketch](#)

[Incubation Overview Sketch](#)

[signature page](#)