

Agency: Commerce, Community and Economic Development**Grants to Named Recipients (AS 37.05.316)****Grant Recipient: Northern Southeast Regional Aquaculture Assoc****Federal Tax ID: 92-0062550****Project Title:****Project Type: Maintenance and Repairs**

Northern Southeast Regional Aquaculture Association - Hidden Falls Hatchery Maintenance and Upgrade

State Funding Requested: \$2,281,000
One-Time Need**House District: Southeast Region (1-5)****Brief Project Description:**

Hidden Falls Hatchery is a State-owned hatchery built in 1979. This project will fund weatherization and energy efficiency, hydropower, water system, and boat dock upgrades.

Funding Plan:

Total Project Cost:	\$3,607,000
Funding Already Secured:	(\$1,326,000)
FY2012 State Funding Request:	<u>(\$2,281,000)</u>
Project Deficit:	\$0

Funding Details:

<i>NSRAA will provide the administrative costs associated with this project. Dollar value estimated at 10% of total project cost. \$700,000 was appropriated for this project in the FY11 State of Alaska capital budget.</i>

Detailed Project Description and Justification:

Hidden Falls Hatchery is a State-owned salmon hatchery located remotely in Kasnyku Bay on Baranof Island in Chatham Strait, approximately 20 miles northeast of Sitka. The facility was built in 1979 and has many deferred maintenance needs. This project will provide for water supply system improvements, replacement of hydroelectric system components, weatherization and energy efficiency upgrades, boat dock replacement, and site grounds re-leveling.
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Project Timeline:

Improvements will be made during the 2011 and 2012 summer construction months.
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Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Northern Southeast Regional Aquaculture Association

Grant Recipient Contact Information:

Name:	Steve Reifentuhl
Title:	General Manager
Address:	1308 Sawmill Creek Road Sitka, Alaska 99835
Phone Number:	(907)747-6850
Email:	steve_reifentuhl@nsraa.org

Has this project been through a public review process at the local level and is it a community priority? Yes No

Hidden Falls Hatchery – State of Alaska Major Maintenance as of Fall 2010



Hatchery Penstock and Valve condition assessment - \$55,000

The Hidden Falls Hatchery is presently ~30 years old. The original penstock and control valves have not had a thorough inspection and evaluation since the early 1990's. NSRAA staff has encountered problems with corrosion in other process water piping and fittings throughout the facility and has had one section of penstock fail (the penstock from the "valve coral" to the turbine house). This section of penstock was found to have holes corroded in it wherever the protective coating of the thin-walled pipe was exposed. NSRAA staff has had difficulty shutting completely the large butterfly valves in the valve coral. We are interested in having the two main penstocks inspected, evaluated for corrosion and some evaluation of the service life and condition of the present valves controlling the penstocks.

- Extent of corrosion damage to pipeline/valves/flange bolts.
- structural integrity of cement piers/thrust blocks on hillside
- recommended valve/operator servicing/replacement schedule
- ROV/Diver to inspect B line intake

- Replacement of insulating cover on the penstock
- Remote and or automated valve control in the case of a pipeline brake

Dock/Pier Replacement - \$1,150,000



The present marine docking facilities at Hidden Falls Hatchery are in need of repair or replacement. Presently the existing pier has wood pilings that are rotting. The current concrete float that the tide ramp rests on is in good repair but too small to adequately serve the facility needs. The existing adjacent dolphins are in extremely poor repair and not usable by barges serving the facility. In fact, no ramp-barge now exists to serve the facility and nearly all freight is delivered by vessels such as a fish tender or a large landing craft. NSRAA is interested in looking at the option and cost of installing a tide bridge and floating dock capable of handling freight at the dock and utilizing an all terrain forklift to move that freight to shore. The most common freight items tend to be pallets of fish food (~2,200 lbs) and full totes of salmon carcasses (~1,500 lbs). The operating weight without a load of the Caterpillar Telehandler is ~20,500 lbs. The floating dock itself should be designed to hold at least 100,000 to 150,000 lbs. This dock will also serve to handle the weekly floatplane flights providing support to the facility. The aircraft used normally include a Cessna 185 and DeHavilland Beaver on floats.

Hydropower turbine & generator replacement - \$750,000

The current turbine and generator has been running continuously for nearly 30 years. NSRAA will be working with the turbine manufacturer directly to evaluate the condition of the turbine and the necessity for any major repair and/or replacement of components. NSRAA has been informed by the turbine manufacturer that a replacement generator for this system is a custom order item that would come from



Germany. Lead time for receiving a replacement is 1 year.

Front Round Pond Field Re-leveling - \$350,000

Many of the 20ft diameter round ponds installed in the 1989 Chinook Expansion project are experiencing some severe settling problems. This has led to problems with both process water and drain connections coming apart at the pond, pond bottoms developing large dips and uneven surfaces, and distortion of the ponds to such a degree that there is a significant loss of useable volume. NSRAA wishes to develop and implement a plan for repair.

- feasibility of repairing round pond settling versus replacing with new round ponds or raceways
- fry transfer line repair/replacement



- Possibility of covering/enclosing round ponds – Is this even a practical consideration? This could help address issues of bird predation and snow management.

Solid waste Incinerator Replacement - \$50,000

The solid waste incinerator currently on site is at the end of its useful life. Incinerator controls and parts are antiquated and increasingly harder to find. It is increasingly more difficult to get the incinerator to work at top performance and efficiently and successfully incinerate solid waste generated at the facility.



PRV replacement/Modulating Valve - \$75,000

NSRAA staff has continued to work hard to increase the efficiency and reliability of Hidden Falls water system. As part of that, we have wondered if the addition of a modulating valve and replacement of the existing PRV would benefit the facility's water management. The basic line of thought here is that a modulating valve in conjunction with a level control indicator in the turbine sump might replace the current PRV and be useful in maintaining the proper weir spill level at the turbine which feeds most of the facilities' low pressure water demand. In addition, by adding a second PRV installed solely on the High Pressure line serving the front round pond field, this delivery pressure could be reduced to a more moderate pressure and assure a safer, more reliable water service to these ponds.



- Replace current 10" PRV on low pressure supply to incubation/front round pond field with 10" Modulating valve with float control to maintain weir level at hydro.
- Install 10" PRV on 10" High Pressure supply to front round ponds.
- larger vault needed to run both pipes/valves through
- this is highest priority for winter water conservation

Lagoon dam repairs - \$100,000

In 2004 some repairs and modifications were made to the lagoon that sits just above high tide and serves the base of the fish ladder to the adult raceways. Fabric was laid along the face of this dam and is held in place with both rock and concrete. A concrete top was constructed along the dam and a gate structure was added to regulated fish entry to the lagoon. Since these improvements were made the dam has become increasingly more pervious. An assessment as to whether any repairs or modifications could be made that would improve its ability to retain water is necessary.

One additional idea to be considered would be the feasibility of moving the adult raceway complex and eggtake facility to the lagoon dam location and extending a new fish ladder directly to saltwater thus eliminating the need for the lagoon.



Old Fuel Tank Removal - \$35,000

Two abandoned 10,000 gallon fuel storage tanks remain on-site and need to be removed. The tanks have not been used in nearly 20 years and are remnants of the old diesel powered generation system. While the tanks have been drained and are constantly monitored, they present both an environmental and safety hazard.

Penstock control valves - \$80,000

The myriad of large, cast iron butterfly valves used to control and operate the two penstocks serving the facility will be evaluated during the penstock assessment process mentioned in item #1. Several valves are difficult or impossible to close completely and may need to be replaced. This line item addresses those potential replacements or repairs.

Electrical service vault Repair/replacement - \$30,000

At least two of the major buried electrical service vaults suffer from poor construction and are prone to flooding. Flooding of an electrical vault handling 480 volt power is extremely dangerous. Repair and/or replacement of these vaults and associated electrical wiring and drainage needs to be addressed.

Sewage Lift Station Replacement - \$35,000

The main sewage lift station serving the bunkhouse, hatchery building, apartments, and duplex is at the end of its useful life and need to be replaced.

Incubation Building Joint Repair - \$10,000

The incubation building is constructed of precast concrete panels that were erected and joined. A growing number of these joints are leaking water and some sort of remedy is needed.

Incubation/Warehouse Lighting - \$20,000

The lighting fixtures in the incubation building are antiquated, difficult to maintain, and inefficient. Advancements in lighting would provide much improved light quality and coverage providing for greater safety. In addition, increased lighting efficiencies would be greatly advantageous during periods of water conservation where power consumption needs to be limited.

Housing weatherization/energy savings upgrades - \$241,000

Most of the residences at the facility were constructed in the early 1980's. Advancements in windows, doors, and insulation would make significant improvements in thermal efficiency for the residences if installed. Reduced electric heating demand would provide greater flexibility during periods of water conservation by reducing hydropower consumption. Further, should the facility have to operate on stand-by diesel generation, significant savings in fuel could be realized. Most of the residence, while in good shape, are now nearing 30 years of age and are due for some major maintenance, such as siding replacement, roofing, and doors. NSRAA has replaced many of the old, original windows with new vinyl clad windows.

Current NSRAA Request:

In FY2011, the 26th Alaska legislature and the governor approved the allocation of \$700,000 to NSRAA for the express purpose of addressing some of the deferred maintenance issues. Those funds are just now being distributed (Fall 2010) and NSRAA staff will be determining which maintenance items to tackle. This proposal details a total of \$2.981 million in maintenance projects to be addressed. That total less the \$700,000 obtained in FY2011 would result in \$2.281 million still needed to accomplish the list of issues presented here.

Hidden Falls State deferred Maintenance List

Priority	Project	Estimated Cost
1	Main hatchery penstock condition assesment This would consist of an evaluation of the penstock integrity, condition and longevity of the control valves, and condition of the concrete thrust blocks	\$ 55,000
2	Dock & tidebridge replacement concrete float (40' X 80') rebuild bulkhead pilings tide bridge	\$ 1,150,000 250000 300000 100000 500000
3	Hydro-turbine replacement/restoration includes new alternator, bearing replacement, runner rebuild, governor upgrade	\$ 750,000
4	Front Round Pond Field Releveling/Replacement necessary work to remove level, rebed and reinstall up to 15 of the 20 ft round ponds	\$ 350,000
5	Solid waste Incinerator Replacement	\$ 50,000
6	PRV replacement & Modulating Valve provides low pressure water bypass when hydro is not operating	\$ 75,000
7	Lagoon dam repairs this would repair and maintain the lagoon dam that provides and controls access to the fish ladder	\$ 100,000
8	Old Fuel Tank Removal removes the two remaining above ground fuel tanks left by the state and no longer used	\$ 35,000
9	Penstock control valves provides penstock control	\$ 80,000
10	Electrical service vault replacement current electrical service vaults are disfunctional and permit groundwater and surface water infiltration	\$ 30,000
11	Sewage Lift Station Replacement	\$ 35,000
12	Incubation Bldg Joint Replacement	\$ 10,000
13	Incubation/Warehouse Lighting replace the failing and energy inefficient lighting in the warehouse and incubation building	\$ 20,000
14	Housing weatherization/energy savings upgrades Siding replacement & insulation (5 residences) duplex window replacement roof replacement & insulation (4 residences) door replacements	\$ 241,000 125000 12000 100000 4000

Total \$ 2,981,000
FY2011 Capital Budget allocation \$ 700,000

Remaining Request \$ 2,281,000



UNITED FISHERMEN OF ALASKA

211 Fourth Street, Suite 110
Juneau, Alaska 99801-1172
(907) 586-2820
(907) 463-2545 Fax
E-Mail: ufa@ufa-fish.org
www.ufa-fish.org

Resolution 2010-1

A RESOLUTION OF THE UNITED FISHERMEN OF ALASKA SUPPORT FUNDING THE DEFERRED MAINTENANCE PROJECTS AT THE STATE-OWNED SALMON HATCHERIES

WHEREAS, the Alaska Department of Fish and Game Division of Fisheries Rehabilitation, Enhancement, and Development was formed in the 1970's to develop policies, regulations, and hatchery practices to responsibly rebuild and utilize Alaska's renewable and sustainable salmon natural resources; and

WHEREAS, the State of Alaska currently owns 11 salmon enhancement hatcheries operated by regional and non-regional private non-profit aquaculture associations via professional services agreements at no cost to the state; and

WHEREAS, these state-owned salmon hatcheries are 30 to 40 years old and are need of significant deferred maintenance to address basic infrastructure problems beyond the normal annual maintenance provided by the private non-profit aquaculture associations at no cost to the state; and


WHEREAS, these diverse salmon enhancement programs contribute significantly to the Alaska common property fisheries (commercial, sport, subsistence, and personal use) in many areas of the state and are helping to sustain the Alaska salmon fisheries and domestic and international Alaska salmon markets; and


WHEREAS, salmon produced by the Alaska salmon enhancement program have fetched hundreds of millions of dollars in ex-vessel value and billions of dollars in total economic output; and

WHEREAS, the economic impact from the Alaska salmon enhancement program is significant and vital to the Alaska salmon industry in creating jobs and wealth within the rural and urban communities that would not otherwise be present;

THEREFORE BE IT RESOLVED, that the United Fishermen of Alaska support funding for the deferred maintenance projects at the state-owned salmon hatcheries throughout Alaska.

By UFA Board of Directors, September 29, 2010:


Arni Thomson, UFA President


Attest: Mark D. Vinsel, UFA Executive Director