



# Garrison Dam National Fish Hatchery Complex

## *Restoring America's Fisheries*

*"We work with our partners and engage the public, using a science-based approach, to conserve, restore and enhance fish and other aquatic resources for the continuing benefit of the American people."*

February 2019

### *Burbot Propagation*

Burbot eggs incubation had been progressing through the end of February. Hatch on the earliest spawn was in progress when the reverser on our filter failed and water flows to the system slowed. As a result, the temperature of the incubation water increased to 47°F inducing premature hatch and eventual death to the larvae. The filtration unit had been purchased 20 years ago for the pallid sturgeon recovery efforts and had operated flawlessly. Unfortunately the timing for it to fail came at a critical time in the developmental process for the larval burbot. Our alarm system on monitoring water to the isolation room where the eggs were incubating is in the attic of the building on the degassing tank. The float valve apparently had frozen and separated the electrical connection which prevented the system from alarming. Protocols will be put into place to replace the reverser and monitor for wear. The float valve was replaced on the alarm system.



Filter reverser (above new) with worn grooves shown below

### *Fish Culture*

Trout and salmon culture activities are keeping staff busy. Rainbow trout fry from Ennis hatched off are on feed. The fingerlings were moved from the fry tanks to growout tanks and inventoried. Chinook salmon were moved from hatching troughs to tanks in both the Salmonid Building and Sturgeon Building. The brown trout are rebounding from cold water disease and *Chilodonella*. Mortality is still occurring but at chronic low levels. This disease outbreak has been the most severe we have seen in years resulting in a loss of over 6,000 ten inch fish since the outbreak in November.

### *Upcoming Activities*

- Upper Basin Pallid Workgroup Meeting, Billings, MT
- North Dakota Game and Fish Department Divisional Meeting, Harvey, ND
- Fish health survey
- Development of SOP's for fish culture and maintenance activities
- Installation of visitor center aquarium at Garrison Dam NFH
- Installation of filtration system and Isolation building renovation at Valley City NFH
- Investigate water quality monitoring systems specifically to monitor dissolved gasses at Garrison Dam NFH in conjunction with recently installed vacuum degassing towers
- Potential flooding concerns in the Sheyenne River could impact the hatchery

## *Partnerships*

A coordination call was held to review the status of the Lake Sturgeon in the Red River Basin with the Minnesota DNR, Region 3 FWS (Lacrosse FWMAO, Genoa NFH) and White Earth Band. Results of the past year's monitoring efforts were presented as well as spawning and stocking efforts. Discussion ensued on collecting fin clips from all broodstocks and recaptures for genetic evaluation and potential future use in identifying hatchery released fish as the current CWT marks aren't proving reliable. Several adult hatchery origin fish will be radio tagged this year to evaluate movements in the system and potentially lead to preferred habitat types. The restoration workgroup is interested in moving away from CWT marking and into PIT tags. Discussion focused on the labor and cost of the PIT tags and with no funding source was tabled for this year. This year also marks a milestone in the restoration efforts with 20 years of hatchery stockings in the system. Region 3 FWS is planning a celebration highlighting the event.

## *Employee Development*

Staff attended the Dakota Chapter AFS meeting in Spearfish, SD.

## *Public Use*

The new aquarium for the hatchery's visitor center was picked up and put into place in the visitor center, which was no little task. The tank and stand is eight foot in length and weighs a half ton. The unit had to be maneuvered through the visitor center door with only an inch or so of clearance. The work now begins on creating a surround for the tank, plumbing in water, air and filtration as well as constructing a backdrop for the tank. We anticipate the tank will be up and running by the Spring and provide an additional attraction for visitors. The Recovery Plan for the pallid sturgeon identifies a need to increase public awareness of the pallid sturgeon. The plan calls for having surplus pallid sturgeon displayed in aquaria where there is public viewing.



Visitor Center Aquarium

## *Maintenance*



Maintenance continues at Valley City NFH with staff installing a larger capacity filter in the Baldhill Culture Building to more effectively filter water. The presence of zebra mussels in the hatchery water supply in 2019 prompted the change. The existing filter was undersized for the smaller 25 micron screens that were needed to filter out veligers. With limited space available for the new filter an almost complete redesign of the water and filtration setup in the building will be taking place.



Staff also continued work on the Isolation Building at Valley City installing a new filtration setup. Old plumbing was removed from the attic to make room for new plumbing to be run to the headbox and biological filters. Staff is also working on installing an oxygen back up system in the event filters need to be manually cleaned and water flows suspended.

### *Hatchery Quarters*

The vacant residence at Valley City got a bathroom make over. The old cast iron tub and surround were removed and updated as well as repairing and updating the plumbing in the bathroom. New windows are ordered and being shipped which will replace the older single pane windows that are currently in the house.



Newly installed shower and tub

## ***Hatchery Production Summary (Intensive Culture)***

<b>Station:</b>	<b><i>Period Covered:</i></b>					<b><i>October 1, 2019</i></b>			<b><i>January 31, 2019</i></b>			
<b>Species/Strain and Lot Number</b>	<b><i>Fish on Hand the Last Day of the Period</i></b>					<b><i>To Date This Fiscal Year</i></b>						<b>Survival from 1<sup>st</sup></b>
	<b>Number</b>	<b>Weight</b>	<b>Length</b>	<b>D.I.</b>	<b>F.I.</b>	<b>Weight</b>	<b>Feed Expended</b>		<b>Fish Shipped</b>		<b>Conversion</b>	<b>Inventory</b>
						<b>Gain</b>	<b>Pounds</b>	<b>Cost</b>	<b>Number</b>	<b>Weight</b>		
RBT-SSD-19-ENN	56,209	28,246	11.28	0.42	1.11	14,634	18,030	\$10,998			1.23	99.8
RBT-SSD-20-ENN												
BNT-PRD-18-SAR*	11,856	4,560	9.88	0.28	1.05	469	4,650	\$5,159			9.91	62.6
BNT-PRD-19-SAR	20,154	53	1.87	0.17	1.14	47	43	\$55			0.91	99.2
RBT-HCD-18-WY	14,400	7,024	11.15	0.39	1.23	3,067	4,650	\$2,837			1.52	92.2
FCS-LSW-19-FR	479,269	1,470	2.17	0.24	1.51	1,322	966	\$1,814			0.73	97.0
<b>Totals/Averages</b>	<b>581,888</b>	<b>41,353</b>				<b>19,539</b>	<b>28,339</b>	<b>\$20,862</b>	<b>0</b>	<b>0</b>	<b>1.45</b>	

### ***Hatchery Complex Personnel***

<b><i>Employee</i></b>	<b><i>Functional Title</i></b>	<b><i>Grade</i></b>
<i>Robert Holm</i>	<i>Project Leader</i>	<i>GS-13</i>
<i>Jerry Tishmack</i>	<i>Fishery Biologist</i>	<i>GS-11</i>
<i>Sean Henderson</i>	<i>Fishery Biologist</i>	<i>GS-11</i>
<i>Shawn Cole</i>	<i>Fishery Biologist</i>	<i>GS-7</i>
<i>Toni Ganje</i>	<i>Administrative Support</i>	<i>GS-7</i>
<i>Ben Oldenburg</i>	<i>Fisheries Technician</i>	<i>NDGF</i>
<i>Aaron Von Eschen</i>	<i>Assistant Project Leader</i>	<i>GS-12</i>
<i>Vacant</i>	<i>Biological Technician</i>	<i>GS-5</i>
<i>Paul Drabus</i>	<i>Maintenance Worker</i>	<i>GS-7</i>

No personnel changes this month. Waiting to fill vacant biological technician positions at Valley City NFH and Garrison Dam NFH.