

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 71-10973
Exam Date: 08/28/2019

1. Current Owner:
STATE OF IDAHO
DEPT OF FISH & GAME
PO BOX 25
BOISE ID 83707
2. Accompanied by: Eric Johnson, IDFG
Phone No: 208-596-0200
Address:
Relationship to permit Holder: IDFG Employee

3. **SOURCE:** REDFISH LAKE CREEK **Tributary** SALMON RIVER

Method of Determination: Stood on bank of Redfish Lake Creek, looked at water from creek flowing through POD.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point-of-diversion: None

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

REDFISH LAKE CREEK NW¼ SW¼, Sec. 35, Twp 10N, Rge 13E, B.M. CUSTER County

Method of Determination: Site visit and ArcMap aerial imagery

PLACE OF USE: FISH PROPAGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
10N	13E	35										X							

Method of Determination: Site visit and ArcMap aerial imagery

3.
 - ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
 - ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
 - ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
 - ☒ Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
NA					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: As the water enters the facility, it flows over a 4.333' wide rectangular suppressed weir. I measured the head over the weir, which was 0.34'. The formula for calculating flow through such a weir is: $Q = 3.33Lh_1^{1.5}$, and in this case, $L = 4.333'$ and $h_1 = 0.34'$, so $Q = 2.9$ cfs, which is sufficient to supply the permitted **1.5 cfs**.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method:

$$Q = 3.33 \times 4.333 \times 0.34^{1.5} = 2.9 \text{ cfs.}$$

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: NA

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$$

2. Volume Calculations for Other Uses: Mr. Johnson indicated that the permitted 1.5 cfs flow is run from July 1 through October 31, all day, every day. The volume calculation is: Diversion rate x days of use x 1.9835 AF/day, so $V = 1.5 \times 123 \times 1.9835 = \mathbf{366.0 \text{ AF}}$.

G. NARRATIVE/REMARKS/COMMENTS

The field exam for permit 71-10973 was completed on August 28, 2019 with IDFG employee Eric Johnson in attendance. The facility is in place as a holding pool for adult salmon, so that they can be collected and sent to another facility in Boise where their eggs are removed and sent to a third facility in Springfield, Idaho, where the eggs are hatched. The juvenile salmon are then brought back to Redfish Lake Creek and released. This is a simple non-consumptive, flow-through concrete tank, sitting below the level of the creek, and the flow is controlled by aluminum check boards in a check/weir at the inlet, as well as a screw gate at the outlet. The flow is monitored by IDFG on a daily basis to maintain the 1.5 cfs flow through the tank, which measures approximately 5' x 25'.

On the day of the exam the flow was measured at 2.9 cfs, which was sufficient for licensing at the permitted rate of 1.5 cfs. Mr. Johnson indicated that the flow is used from July 1 through October 31, every day, for 24 hours a day, so the volume was calculated as such at 366.0 AF.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
FISH PROPAGATION	07/01 to 10/31	1.50 CFS	366.0 AF
<u>Totals:</u>		1.50 CFS	366.0 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION

Field Examiner's Name


Jim Bitzenburg - Senior Water Resource Agent

Date

8-30-19

Reviewer

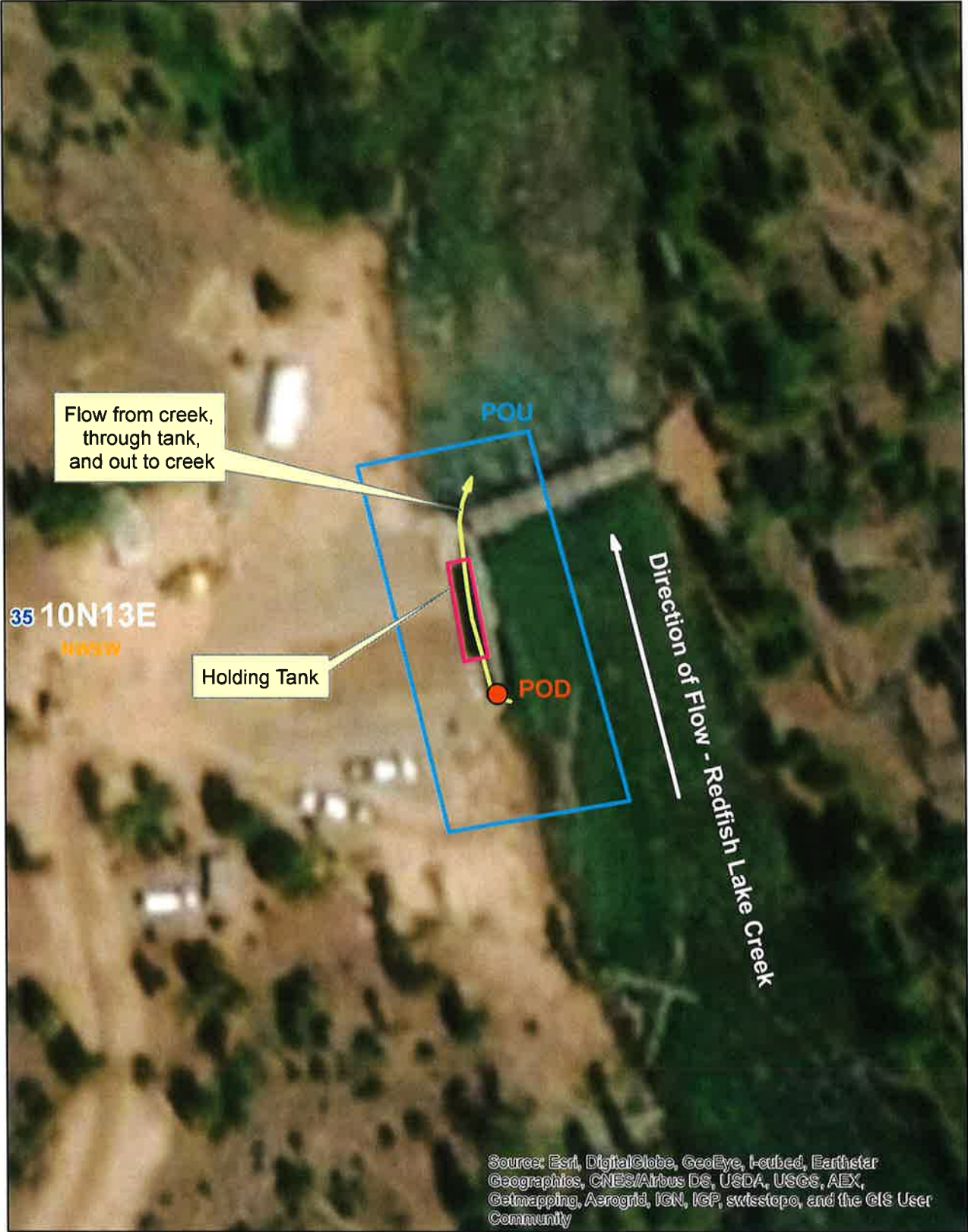
Date



Point of Diversion

Place of Use

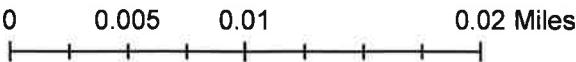




Legend

- Township/Range
- Sections
- QQ

System Diagram and POU, POD Map



Trap Measurements															
Date	Water Temp °C		Velocity (Entrance)		Average Velocity (Ft./Sec.)	Trap Exit 1.5 Cu.Ft. Average (CFS)	Estimated Gallons/Day	Head Over Intake Dambards (inches)		Water Gauge Height					
										Upstream		Holding Pond		Downstream	
	AM	PM	AM	PM				AM	PM	AM	PM	AM	PM	AM	PM
22-Jul		20		1.02	1.02	1.53	987,034			1.86					1.28
23-Jul	18	19.5	0.98	0.93	0.955	1.4325	924,134			1.85	1.82			1.26	1.24
24-Jul	18			1.01	1.01	1.515	977,357			1.86					1.22
25-Jul	17	21			#DIV/0!	#DIV/0!	#DIV/0!			1.84	1.8			1.19	1.18
26-Jul	18	19	0.8	0.85	0.825	1.2375	798,336			1.74	1.8			1.15	1.16
27-Jul	17.5	20.5	0.76	0.69	0.725	1.0875	701,568			1.78	1.76			1.16	1.12
28-Jul	18	22	0.58	0.62	0.6	0.9	580,608			1.72	1.72			1.12	1.1
29-Jul	18.5	20	0.5	0.96	0.73	1.095	706,406			1.7	1.82			1.09	1.08
30-Jul	18.5	21.5	1.01	0.97	0.99	1.485	958,003			1.84	1.84			1.08	1.08
31-Jul	18	21	0.96	0.99	0.975	1.4625	943,488			1.82	1.85			1.04	1.05
1-Aug	18	21.5	0.94	0.98	0.96	1.44	928,973			1.87	1.85			1.03	1.07
2-Aug	18.4	22	0.95	0.81	0.88	1.32	851,558		3.75	1.81	1.8		1.15	1.02	1.03
3-Aug	18	22	0.74	0.71	0.725	1.0875	701,568	3.1	3	1.76	1.76	1.1	1.09	1.01	1.01
4-Aug	18.8	21.5	0.67	1.04	0.855	1.2825	827,366	2.9	4.75	1.73	1.86	1.06	1.14	1	0.96
5-Aug	18.5	22.5	1.01	0.97	0.99	1.485	958,003	4.75	5.25	1.86	1.38	1.14	1.09	0.96	0.96
6-Aug	19	19	0.95	0.9	0.925	1.3875	895,104	4.75	4.75	1.31	1.34	1.09	1.06	0.96	0.92
7-Aug	16	20.5	0.91	1.03	0.97	1.455	938,650	4.75	6	1.32	1.42	1.04	1.1	0.92	0.9
8-Aug	18	19	1.12	1.1	1.11	1.665	1,074,125	6	6	1.42	1.42	1.1	1.1	0.9	0.9
9-Aug	18	19	1.17	1.12	1.145	1.7175	1,107,994	6	6	1.42	1.42	1.1	1.1	0.9	0.9
10-Aug	18	19	1.13	1.1	1.115	1.6725	1,078,963	6	6	1.4	1.4	1.1	1.1	0.9	0.9
11-Aug	17	20	1.13	1.16	1.145	1.7175	1,107,994	6	4.75	1.4	1.41	1.1	1.1	0.9	0.89
12-Aug	17	21	1.15	1.11	1.13	1.695	1,093,478	4.75	3.5	1.41	1.39	1.07	1.08	0.87	0.88
13-Aug	17.5	21	1.13	1.01	1.07	1.605	1,035,418	4.75	4.75	1.35	1.35	1.04	1.4	0.87	0.85
14-Aug	15.5	22	1.07	1.06	1.065	1.5975	1,030,579	4.5	5.25	1.32	1.36	1.4	1.02	0.89	0.84
15-Aug	17	20.5	1.01	1.01	1.01	1.515	977,357	5	5	1.34	1.34	0.99	0.99	0.82	0.82
16-Aug	17.5	21.5	0.96	1.01	0.985	1.4775	953,165	5	4.9	1.34	1.34	0.96	0.96	0.82	0.82
17-Aug	17.2	21	0.96	0.95	0.955	1.4325	924,134	4.75	4.75	1.32	1.32	0.94	0.94	0.8	0.8
18-Aug	17.5	21.5	0.91	0.89	0.9	1.35	870,912	4.5	4.5	1.3	1.3	0.9	0.9	0.78	0.78
19-Aug	17.5	22	1.06	1.06	1.06	1.59	1,025,741	4.15	5.125	1.36	1.35	0.99	0.94	0.77	0.78
20-Aug	18	20.5	1.04	1.03	1.035	1.5525	1,001,549	5	4.875	1.29	1.34	0.92	0.9	0.76	0.76
21-Aug	18	20.5	1.01	1.04	1.025	1.5375	991,872	4.875	4.9	1.34	1.33	0.88	0.91	0.76	0.76
22-Aug	18	20.2			#DIV/0!	#DIV/0!	#DIV/0!			1.195	1.4	0.73	0.75	0.7	0.63

71-10973

FLOW DATA FROM IDFG 2019

23-Aug	18	20		1.02	1.02	1.53	987,034		4.5	1.319	1.3	0.69	0.87	0.6	0.72
24-Aug	16	21.5	0.985	1.11	1.0475	1.57125	1,013,645	5.25	5.25	1.32	1.38	0.89	0.92	0.72	0.72
25-Aug	17.5		1.02		1.02	1.53	987,034	5.125		1.36		0.88		0.7	
26-Aug															
27-Aug															
28-Aug															
29-Aug															

Water Right Use Window
7/1 - 10/31