

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 74-16174
Exam Date: 6/26/2019

1. Current Owner:
STATE OF IDAHO
DEPT OF FISH AND GAME
PO BOX 25
BOISE, ID 83707-0025
2. Accompanied by: MIKE DEMICK
Phone No: 208-756-6022
Address: 97 HIGHWAY 93 NORTH
SALMON, ID 83467
Relationship to permit Holder: IDFG Easement Specialist

3. **SOURCE:**
HAWLEY CREEK

Tributary
EIGHTEENMILE CREEK

Method of Determination: Field exam and GIS

B. OVERLAP REVIEW

1. Other water rights with the same place of use:

Water Right No.	Source	Purpose of Use	Basis
74-14372	Hawley Creek	Stockwater	Decreed

Comments: POU for this right is within a portion of the POU for the water right listed above.

2. Other water rights with the same point-of-diversion:

Water Right No.	Source	Purpose of Use	Basis
74-11	Hawley Creek	Irrigation	Decreed
74-12	Hawley Creek	Irrigation	Decreed
74-16	Hawley Creek	Irrigation	Decreed
74-29	Hawley Creek	Irrigation	Decreed
74-30	Hawley Creek	Irrigation	Decreed

Comments: The purpose of this fish propagation right is to allow IDFG to provide a screened diversion with fish bypass to satisfy the water rights listed above.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**

HAWLEY CREEK SW¼ NE¼, Sec. 2, Twp 15N, Rge 27E, B.M. LEMHI County

Method of Determination: Field exam and GIS

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	
15N	27E	2			X														

Method of Determination: Field exam and GIS

D. FLOW MEASUREMENTS

1. Measurements: None taken. The configuration of this diversion does not allow for the direct measurement of only the Fish Propagation portion of the water being diverted.

E. FLOW CALCULATIONS

Measured Method:

_____ Additional Computation Sheets Attached

The following equation has been used historically by IDWR for similar IDFG fish bypass structures:

$$Q = C_d A_o \sqrt{(2gh)}$$

Where:

Q = flowrate (cfs)

 C_d = coefficient of discharge A_o = Area of orifice opening (ft²)g = gravitational acceleration $\left(32.2 \frac{\text{ft}}{\text{s}^2}\right)$

h = Measured head above center of orifice opening (ft)

The orifice diameter for this structure is 6 inches, which results in $A_o = 0.2 \text{ ft}^2$.

The measured height of water above the orifice center at the time of the field exam was 1.7 ft.

The standard coefficient of discharge used by IDWR for similar IDFG diversion structures is 0.67.

$$Q = 1.4 \text{ cfs}$$

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses: $0.8 \text{ cfs} \times 1.9835 \text{ AF/cfs/day} \times 246 \text{ days/season} = 390 \text{ AF/season}$

G. NARRATIVE/REMARKS/COMMENTS

This diversion structure is similar to many other diversions built by Fish & Game throughout the Lemhi and Salmon River basins to protect fish from entering the irrigating works. The calculated flowrate for the structure exceeds the permitted rate.

Have conditions of permit approval been met? x 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	03/15 to 11/15	0.80 CFS	390 AF

Totals: 0.80 CFS

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above x None

____ Change P.U. as reflected above ____ Add P.U. as reflected above x None

I. AUTHENTICATION

Brian Normandeau - Engineer-in-Training

Field Examiner's Name: Brian Normandeau & Jeff Nield

Date: 1/29/2020

Reviewer James Cefalo Date 2/5/20

Water Permit 74-16174 Beneficial Use Exam Map



Legend

- Water Permit POD
- ▨ Water Permit POU
- ▭ Township/Range
- ▭ Sections
- ▭ QQ

0 135 270 540 Feet

1 inch = 282 feet





Photo 1: Diversion on Hawley Creek



Photo 2: Overview of fish screen structure

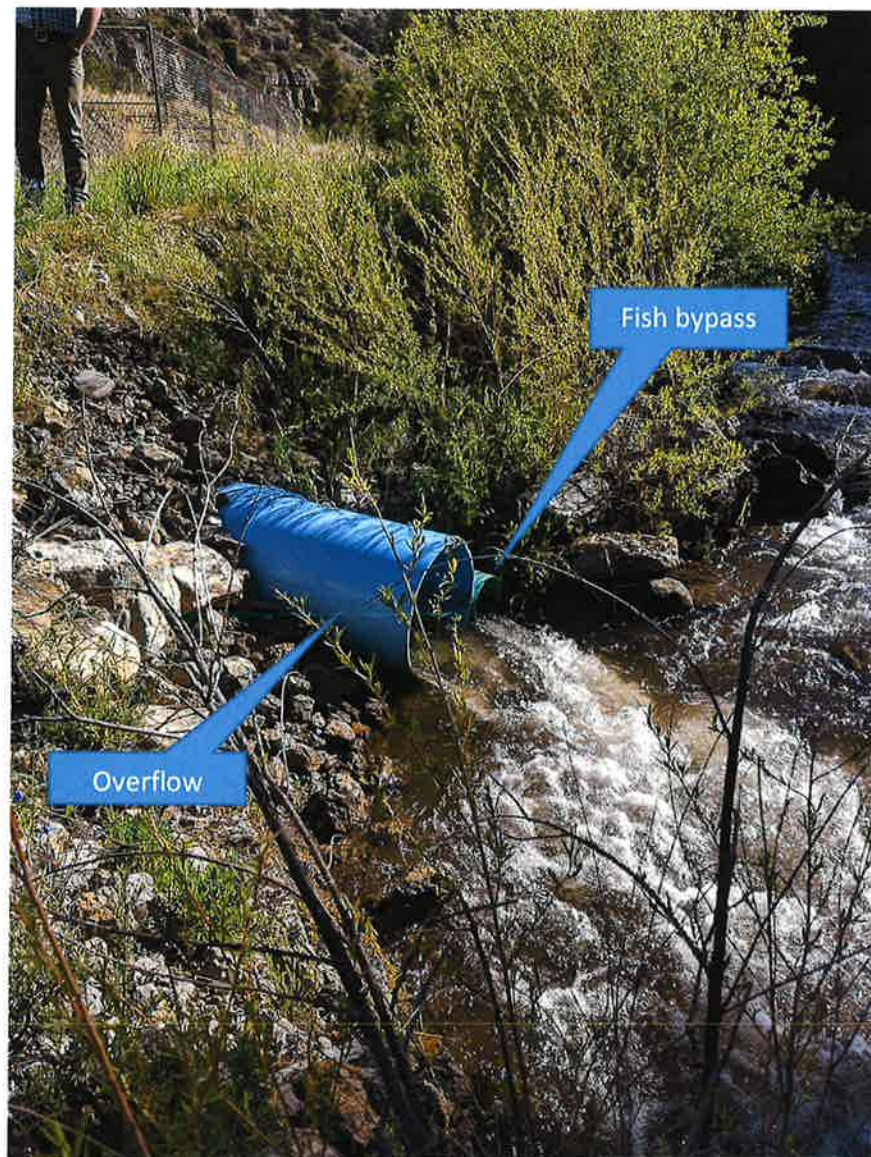


Photo 3: Fish bypass and overflow returning to Hawley Creek