

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 71-11018
Exam Date: 08/22/2024

1. Current Owner:
STATE OF IDAHO FISH & GAME COMMISSION
PO BOX 25 BOISE ID 83707-0025

2. Accompanied by: N/A
Phone No:
Address:
Relationship to permit Holder:

3. **SOURCE:**
SMILEY CREEK

Tributary
SALMON RIVER

Method of Determination: On-site Inspection

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
N/A			

Comments:

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
71-60B	Smiley Creek	Irrigation & Stockwater	Decreed

Comments:

C. DIVERSION AND DELIVERY SYSTEM

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

SMILEY CREEK NE¼ SE¼, Sec. 27, Twp 07N, Rge 14E, B.M. BLAINE County

Method of Determination: On-site inspection

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	
07N	14E	27													X				

Method of Determination: On-site inspection

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X

Indicate weir size/pipe as applicable.

X

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

X

Aerial Photo Attached (required for irrigation of 10+ acres).

X

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
POD ID: 1077370					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Tape Measure & Staff Gauge						

2. Measurements: 5" Diameter Orifice (0.13635 sf); 1' 7" (1.583') high water mark above center of the orifice

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: Utilized orifice flow equation from an 8/24/2011 memorandum regarding methodology for flow measurements for fish bypass permits:

$$Q = C_d A_o (2gh)^{1/2}$$

Where C_d = coefficient of discharge for orifice (0.67 was determined to be an appropriate coefficient per memo)

A_o = Area of orifice opening in feet²

$G = 32.2$ ft per second²

h = measured head above center of orifice opening in feet

$$0.67 \times 0.13635 \text{ sf} \times [2(32.2 \text{ fps}^2)(1.583')]^{1/2} = 0.92 \text{ cfs}$$

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

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

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: Fish Propagation:

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Season of Use}) \times 1.9835 = (0.8 \text{ cfs}) \times (184 \text{ days}) \times 1.9835 = 292.0 \text{ afa}$$

G. NARRATIVE/REMARKS/COMMENTS

On 8/22/2024 I visited the fish screen and headgate for this right to conduct a field exam. I found a functioning fish screen and bypass structure, both of which were accurately located at the points indicated in the permit layer in ArcMap. The opening for the bypass was a 5" diameter orifice. The head measured above the center of the orifice was at 1.583'. Based on the orifice flow equation, there was approximately 0.92 cfs flowing through the bypass during high water flows. Recommend licensing the permitted flow rate of 0.80 cfs with a volume of 292.0 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>	
FISH PROPAGATION	05/01 to 10/31	0.80 CFS	292 AF
<u>Totals:</u>		0.80 CFS	292 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

Bill Mills - Water Resource Agent, Senior

Field Examiner's Name

Date

Reviewer

Date

Bill Mills 9-16-2024
Py Shin 9/17/2024



Figure 1: Fish screen with bypass (on the left side)



Figure 2: Center of orifice to high water mark

System Diagram

