

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 74-7340

Exam Date: 5/22/2012

1. Current Owner: STATE OF IDAHO
DEPT OF FISH & GAME
PO BOX 25
BOISE ID 83707
(208)287-2714

2. Accompanied by: Larry Weeks

Phone No: (208) 756-6022Address: Region 7, PO Box 1336, Salmon, ID 83647Relationship to Permit Holder: Easement Specialist

3. SOURCE
LEMHI RIVER

TRIBUTARY
SALMON RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NONE
2. Other water rights with the same point of diversion: 74-735

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

LEMHI RIVER SE1/4SW1/4 Sec. 20, Twp 19N, Rge 24E, B.M. LEMHI County

Method of Determination: Visual Inspection and Existing Spatial Data information

2.

PLACE OF USE: FISH PROPAGATION

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
19N	24E	20												X					

Method of Determination: Visual Inspection and GIS

3. YES Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

YES Aerial Photo Attached (required for irrigation of 10+ acres).YES Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Site Tag # A0018577	NONE				Open Ditch

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

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

2. Measurements: The system was set up with a standard orifice that is used on all of the fish screens in the Salmon River and Lemhi River area. This orifice has been checked for accuracy and found to be reliable. Please see Cory Skinner's memo dated 8/24/2011.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method:

Measurement = 0.71 cfs

Permit allowed = 0.80 cfs

License recommend for 0.71 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses:

0.71 cfs X 246 days in irrigation season X 1.9835 = 346.78 af of use per year.

346

G. NARRATIVE/REMARKS/COMMENTS

Water from Ditch is diverted from Lemhi River through a ditch that travels approximately 475 feet north to the fish screen. At the fish screen the majority of the water continues down the ditch to supply water to the other water rights using this diversion. A maximum of 0.71 cfs is diverted through a 10 inch pipe back to the creek to prevent fish kills in the creek. The water going back to the creek is run through a 4 inch orifice for measurement purposes. The patial data point names this point of diversion as L-30A.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
FISH PROPAGATION	03/15 to 11/15	0.710 CFS	303.00 AF 346
	<u>Totals:</u>	0.710 CFS	303.00 AF 346

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 ☐ Other

I. AUTHENTICATION Daniel A. Nelson – Staff Hydrologist

Field Examiner's Name



Date

12-10-2012

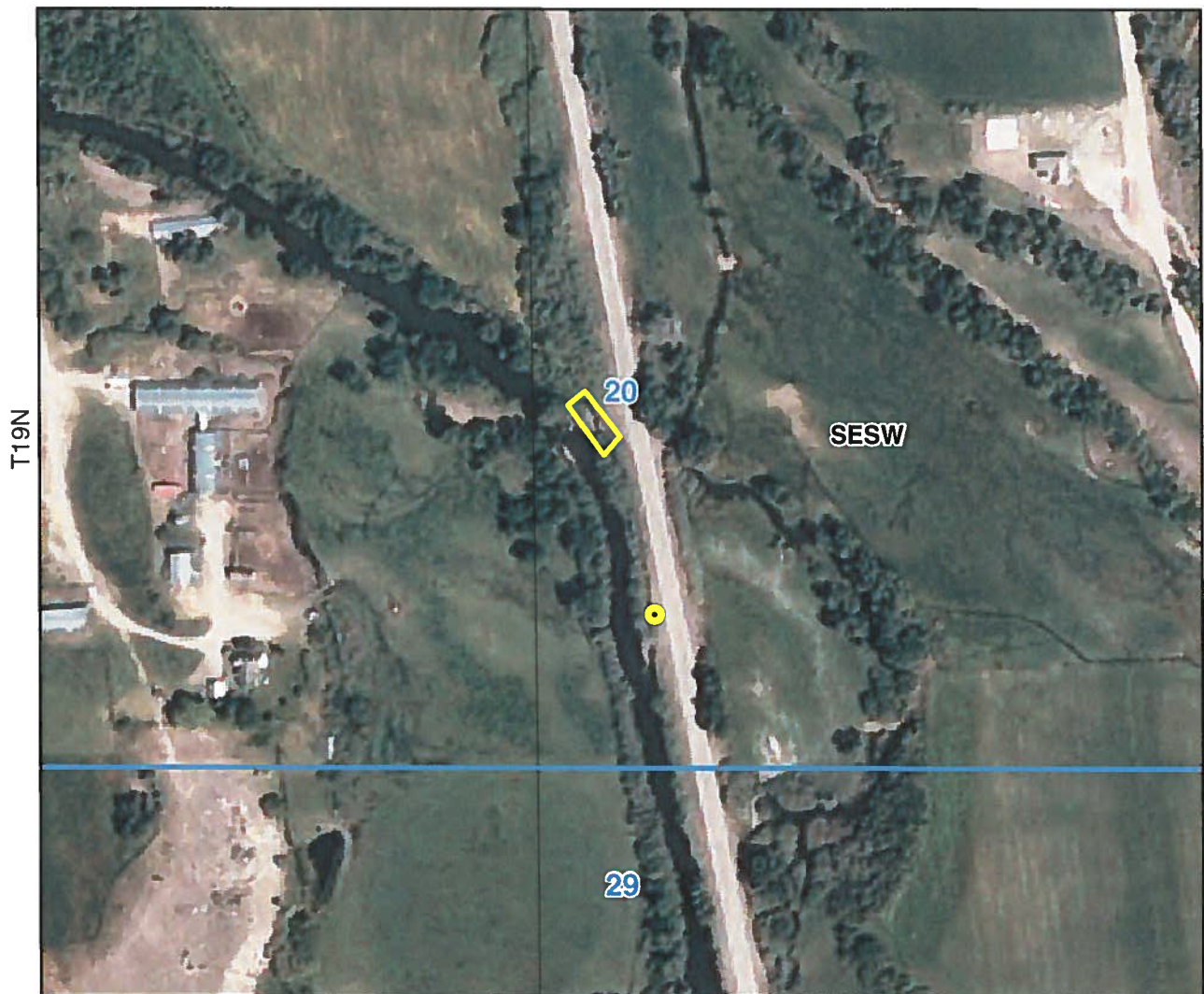
Reviewer

Date

State of Idaho
Department of Water Resources
Field Exam Map
74-7340

This map depicts the FISH PROPAGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.

R24E



0 0.035 0.07 0.14 Miles

-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters





Lemhi River

Ditch

Fish Screen

L30A Headgate
74-7340

**T19N
R24E
S20
SESW**

System Diagram for Water Right 74-7340 By Dan Nelson

Water from Ditch is diverted from Lemhi River through a ditch that travels approximately 475 feet north to the fish screen. At the fish screen the majority of the water continues down the ditch to supply water to the other water rights using this diversion. A maximum of 0.71 cfs is diverted through a 10 inch pipe back to the creek to prevent fish kills in the creek. The water going back to the creek is run through a 4 inch orifice for measurement purposes. The patial data point names this point of diversion as L-30A.

Field Exam Flow Rate Calculation Sheet for Fish Screen Orifices

Water Right Number: 74-7337
Field Examiner: Daniel Nelson
Date of Exam: 5/21/2012

Discharge from a tank through an orifice (see attached memo from water right 72-16754 by Corey Skinner for a formula and orifice coefficient.

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

Where C_d = coefficient of discharge
 A_o = Area of orifice opening in Square feet
 $g=32.2$ feet per second²

h = Measured head above center of orifice opening in feet

Orifice Diameter in inches =	4
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$A_o = (\pi r^2) / 144 =$ Square Feet

$A_o =$ 0.087

Head above center of orifice in Inches =	27.5
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(Measured to High Water Mark)

$h=$ 2.292

Coefficient of Discharge for Orifice* =	0.67
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Total Diversion Rate = 0.71

* Per Cory Skinner's memo for Basin 71 and 72 IDF&G Fish Bypass Permit Files dated August 24, 2011, the Coefficient for round edge orifice should be 0.67.