

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
BENEFICIAL USE FIELD REPORT

**A. GENERAL INFORMATION**

**Permit No:** 75-14829  
**Exam Date:** 11/5/2020

1. Current Owner:  
STATE OF IDAHO  
DEPT OF FISH AND GAME  
PO BOX 25  
BOISE, ID 83707-0025

2. Accompanied by: None

3. **SOURCE:**  
CARMEN CREEK

**Tributary**  
SALMON RIVER

**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   |
|-----------------|--------------|----------------------|---------|
| 75-69G          | Carmen Creek | Domestic, Stockwater | Decreed |
| 75-70G          | Carmen Creek | Domestic, Stockwater | Decreed |
| 75-10061P       | Carmen Creek | Domestic, Stockwater | Decreed |
| 75-10062M       | Carmen Creek | Domestic, Stockwater | Decreed |
| 75-10080        | Springs      | Stockwater           | Decreed |
| 75-10081        | Ground Water | Domestic, Stockwater | Decreed |
| 75-10704        | Ground Water | Domestic             | Decreed |
| 75-10388        | Ground Water | Domestic             | Decreed |
| 75-10403        | Ground Water | Domestic             | Decreed |
| 75-10705        | Spring       | Irrigation           | Decreed |
| 75-10062AB      | Carmen Creek | Irrigation           | Decreed |
| 75-7505         | Ground Water | Irrigation           | License |
| 75-69A          | Carmen Creek | Irrigation           | Decreed |
| 75-70A          | Carmen Creek | Irrigation           | Decreed |
| 75-10061A       | Carmen Creek | Irrigation           | Decreed |
| 75-10062A       | Carmen Creek | Irrigation           | Decreed |
| 75-14248        | Carmen Creek | Irrigation           | Decreed |

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

| Water Right No. | Source                      | Purpose of Use | Basis   |
|-----------------|-----------------------------|----------------|---------|
| 75-69A          | Carmen Creek                | Irrigation     | Decreed |
| 75-69H          | Carmen Creek                | Irrigation     | Decreed |
| 75-69L          | Carmen Creek                | Irrigation     | Decreed |
| 75-70A          | Carmen Creek                | Irrigation     | Decreed |
| 75-70H          | Carmen Creek                | Irrigation     | Decreed |
| 75-70L          | Carmen Creek                | Irrigation     | Decreed |
| 75-10061A       | Carmen Creek                | Irrigation     | Decreed |
| 75-10061R       | Carmen Creek                | Irrigation     | Decreed |
| 75-10062A       | Carmen Creek                | Irrigation     | Decreed |
| 75-10062P       | Carmen Creek                | Irrigation     | Decreed |
| 75-14248        | Carmen Creek                | Irrigation     | Decreed |
| 75-14282        | Carmen Creek, Freeman Creek | Irrigation     | Decreed |
| 75-14283        | Carmen Creek                | Irrigation     | Decreed |
| 75-14286        | Carmen Creek, Freeman Creek | Irrigation     | Decreed |
| 75-14287        | Carmen Creek                | Irrigation     | Decreed |

|          |                             |            |         |
|----------|-----------------------------|------------|---------|
| 75-14288 | Carmen Creek, Freeman Creek | Irrigation | Decreed |
| 75-14289 | Carmen Creek                | Irrigation | Decreed |
| 75-14365 | Carmen Creek                | Irrigation | Decreed |
| 75-14366 | Carmen Creek, Freeman Creek | Irrigation | Decreed |
| 75-14431 | Carmen Creek                | Irrigation | Decreed |
| 75-14441 | Carmen Creek                | Irrigation | Decreed |
| 75-14442 | Carmen Creek                | Irrigation | Decreed |
| 75-14443 | Carmen 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:

CARMEN CREEK SW¼ NW¼, Sec. 2, Twp 22N, Rge 22E, 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 |        |
| 22N | 22E | 3   |    |    |    | X  |    |    |    |    |    |    |    |    | X  |    |    |    |        |

Method of Determination: Field exam and GIS

### D. FLOW MEASUREMENTS

- 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

Additional Computation Sheets Attached

Measured Method:

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 (ft<sup>2</sup>)

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 4 inches, which results in  $A_o = 0.09 \text{ ft}^2$ .

The high water mark measured above the orifice center was 1.8 ft.

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

$$Q = 0.65 \text{ cfs}$$

**F. VOLUME CALCULATIONS**

1. Volume Calculations for irrigation: N/A
2. Volume Calculations for Other Uses:  $0.65 \text{ cfs} \times 1.9835 \text{ AF/cfs/day} \times 214 \text{ days/season} = 276 \text{ AF/season}$

**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 does not meet the permitted rate. It is recommended the calculated rate replace the permitted rate on the license.

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      | 04/01 to 10/31       | 0.65 CFS                 | 276 AF               |

**Totals:** 0.65 CFS

**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** Brian Normandeau – Associate Engineer

Field Examiner's Name: Brian Normandeau

Date: 12/7/2020

Reviewer \_\_\_\_\_ Date \_\_\_\_\_



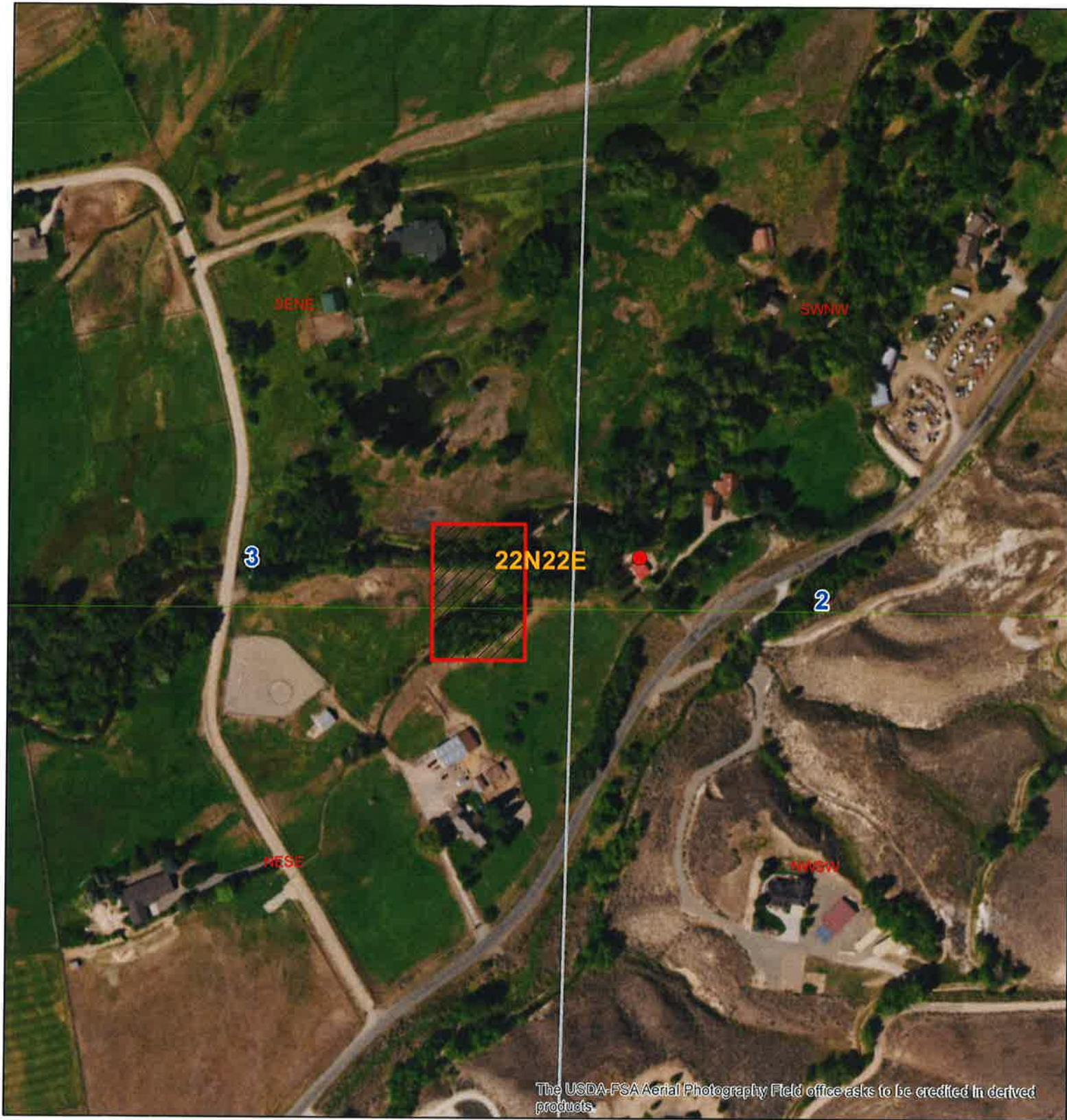
Photo 1: Diversion on Carmen Creek



Photo 2: Fish screen/bypass structure



Photo 3: Fish bypass return to Carmen Creek



## Legend

-  Place of Use
-  Point of Diversion
-  Township/Range
-  Sections
-  QQ

0 170 340 680 Feet

1 inch = 250 feet

