

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**BENEFICIAL USE FIELD REPORT**

**A. GENERAL INFORMATION**

Permit No: 65-13612  
Exam Date: 6/27/2013

1. Current Owner:  
LLOYD KENNETH TROUTT JR 4322 LITTLE FREEZEOUT RD EMMETT ID 83617 (208)365-3333
2. Accompanied by: Earl "Bud" Stebbins  
Phone No: 208-382-4500  
Address: 177 Bacon Creek Rd Cascade ID 83611  
Relationship to Permit Holder: Cousin. Lives across street in RV.
3. **SOURCE:**  
UNNAMED STREAM

**TRIBUTARY:**  
BACON CREEK

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

UNNAMED STREAM NE¼SE¼ Sec. 8, Twp 11N, Rge 04E, B.M. VALLEY County

Method of Determination: GPS collected: N44d 17.900 W116d 00.108

2.

PLACE OF USE: IRRIGATION FROM STORAGE

| Twp | Rge | Sec | NE |    |    |    | NW |    |    |    | SW |    |    |    | SE  |    |    |    | Totals |
|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|--------|
|     |     |     | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE  | NW | SW | SE |        |
| 11N | 04E | 8   |    |    |    |    |    |    |    |    |    |    |    |    | 5.0 |    |    |    | 5.0    |

Total Acres: 5

PLACE OF USE: IRRIGATION STORAGE

| Twp | Rge | Sec | NE |    |    |    | NW |    |    |    | SW |    |    |    | SE |    |    |    | Totals |
|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
|     |     |     | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE |        |
| 11N | 04E | 8   |    |    |    |    |    |    |    |    |    |    |    |    | X  |    |    |    |        |

Method of Determination: Aerial imagery, ArcMap tools and PLSS digital mapping.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components. 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             |
|---------------------------|------------|-----|------------------|------------|-----------------------------------------------|
|                           | Yannar     | 5.5 |                  | Contractor | 301TY-0156                                    |
|                           |            |     |                  |            | Diesel motor. 3" intake, 3" discharge. 4.0 Kw |

\*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: None collected during exam.

**E. FLOW CALCULATIONS**

Measured Method:

Additional Computation Sheets Attached

No flow calculation for storage use.

**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:

$$\text{Irrigation From Storage use} = 5.0 \text{ ac} \times 5.0 \text{ af/ac} = 25.0 \text{ af}$$

See pond spreadsheet attached to report.

**G. NARRATIVE/REMARKS/COMMENTS**

Ownership of permit 65-13612 is accurate since current owner matches latest Valley County taxlot information.

POD is accurately described by the permit's legal description. No amendment is required. Overlap review finds no other storage use rights exist on the property.

POU for 5 acres on the permit identifies two quarter-quarters immediately north of the recommended POU. Irrigation from storage use was found to be located much closer to the pond than what the application for permit map describes. A licensing amendment will be required to correct the POU. Overlap review finds no other irrigation from storage rights exist on the property.

A spreadsheet analysis of the pond was completed on 7-29-2016. Capacity of the pond totals 0.8 af with an evaporation loss of 0.5 af. Seepage losses are not accounted for when considering the 5.0 af/ac standard allowance when irrigating from storage according to admin memo #76. Limits of the permit represent a storage and from storage use of 2.0 af. This is clearly intended to account for capacity of the pond, while an 'irrigation' component of the permit was meant to account for refill associated with the use. Because the irrigation component carries a rate of 0.15 cfs, we can interpret that the maximum

volume for this use is 5.0 ac \* 3.0 af/ac (standard headgate requirement) totaling 15.0 af. Since the system is built to deliver water from the pond to a ditch that gravity feeds the property, it is confirmed to be a from storage use. For this reason, it is my recommendation to eliminate the irrigation component from the right, and describe the storage component in accordance with today's practices.

|                                 |                                            |
|---------------------------------|--------------------------------------------|
| Permit                          | 2.0 af (15.0 af implied value per IRR use) |
| B.U. Standard Allowance         | 25.0 af                                    |
| B. U. Proof Fee                 | \$50 → 0 – 20 af                           |
| Measurement or Theoretical Rate | na                                         |

---

**License Recommendation**      **15.0 af**

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

- Conditions requiring the installation of lockable devices were not installed at the time of the field exam. A waiver from the watermaster or proof that the permit is in compliance will be required before a license can be issued.

#### H. RECOMMENDATIONS

##### 1. Recommended Amounts

| <u>BENEFICIAL USE</u>   | <u>PERIOD OF USE</u> | <u>ANNUAL VOLUME</u> |
|-------------------------|----------------------|----------------------|
| IRRIGATION STORAGE      | 01/01 to 12/31       | 15.0 AF              |
| IRRIGATION FROM STORAGE | 04/15 to 10/15       | 15.0 AF              |
| <u>Totals:</u>          |                      | 15.00 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

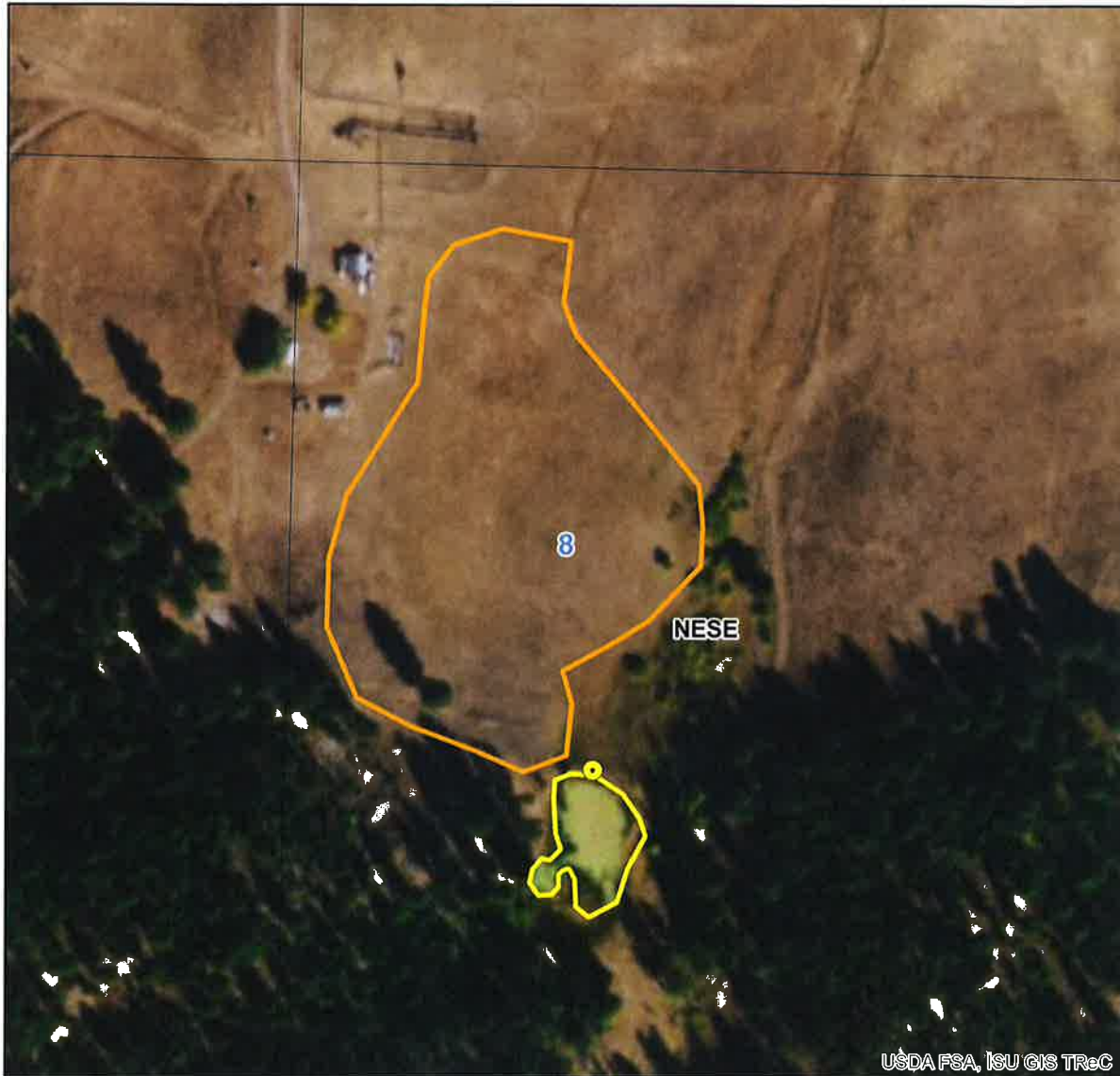
Field Examiner's Name Paish Kelly      Date 8-25-2016  
 Reviewer \_\_\_\_\_      Date \_\_\_\_\_

# Field Exam Map

65-13612

04E

11N



USDA FSA, ISU GIS TR&C

0 0.0275 0.055 0.11 Miles

-  Point of Diversion
-  Irrigation Storage POU
-  Irrigation from Storage POU
-  Townships
-  PLS Sections



## Seepage Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

|             |               |
|-------------|---------------|
| FILE NUMBER | 65-13613      |
| REVIEWER    | Patrick Kelly |
| DATE        | 7/29/2016     |

|                      |
|----------------------|
| User Input           |
| Calculated value     |
| Formula Explanations |

### INPUTS

|                         |     |     |
|-------------------------|-----|-----|
| Pond Surface Area (AC.) | 0.4 | AC. |
|-------------------------|-----|-----|

|                             |       |         |
|-----------------------------|-------|---------|
| Pond Surface Area (SQ. FT.) | 17424 | SQ. FT. |
|-----------------------------|-------|---------|

|                                  |        |         |
|----------------------------------|--------|---------|
| My Soil Classification is        | CL-ML  |         |
| Suggested Seepage Rate (FT./DAY) | 0.0200 | FT./DAY |

|                                                                      |
|----------------------------------------------------------------------|
| Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss |
|----------------------------------------------------------------------|

|                |      |     |
|----------------|------|-----|
| Convert to GPD | 2607 | GPD |
|----------------|------|-----|

|                          |     |     |
|--------------------------|-----|-----|
| Total Seepage Loss (AFA) | 2.9 | AFA |
|--------------------------|-----|-----|

Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

### Suggested Seepage Rates for Different Soil Types:

**GW, GP, GM, GC, SW, SP and SM** (silty sand, sand silt mixtures and gravel mixtures) = **0.2 ft per day**

**OL and ML** (inorganic silts - very fine sands, silty, or clayey fine sands) = **0.02 ft per day**

**SC** (clayey sands, sand clay mixtures) = **0.007 ft per day**

**CL** (Low to medium plasticity clays) = **0.003 ft per day**

**MH, OH, PT and CH** (high plasticity clays) = **0.0003 ft per day**

**LINED PONDS** (liners can be chemical, fabric, or bentonite) = **0 ft per day**

**Ponds Intercepting Groundwater** (excavated ponds filled by ground water) = **0 ft per day**

**PLEASE NOTE:** The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural Experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at <X:\Spatial\Soils\USCS\PondSoils.lyr>. Use "0" if the pond fill relies on the water table.

## Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

|             |               |
|-------------|---------------|
| FILE NUMBER | 65-13613      |
| REVIEWER    | Patrick Kelly |
| DATE        | 7/29/2016     |

|                      |
|----------------------|
| User Input           |
| Calculated value     |
| Formula Explanations |

|                                                                              |
|------------------------------------------------------------------------------|
| The acronyms used on the Kimberly Research Center website are defined below: |
| P = Precipitation                                                            |
| ET= Evapotranspiration                                                       |
| P <sub>d</sub> = Precipitation deficit                                       |
| P <sub>d</sub> =ET-P                                                         |

### USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at X:/Spatial/Climate/ETIdahostations.shp.

### Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

### Precipitation Deficit

Station: Cascade 1 NW (NWS - 101514)

| Month     | mm/day <sup>1</sup> | Days per month | mm/Month |
|-----------|---------------------|----------------|----------|
| Jan       | -1.67               | 31             | 0.00     |
| Feb       | -1.30               | 28             | 0.00     |
| March     | -0.64               | 31             | 0.00     |
| April     | 0.51                | 30             | 15.30    |
| May       | 1.34                | 31             | 41.54    |
| June      | 2.29                | 30             | 68.70    |
| July      | 3.59                | 31             | 111.29   |
| August    | 3.10                | 31             | 96.10    |
| September | 1.85                | 30             | 55.50    |
| October   | 0.12                | 31             | 3.72     |
| November  | -1.93               | 30             | 0.00     |
| December  | -2.54               | 31             | 0.00     |

**PLEASE NOTE:** The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

Total mm/year = 392.15

$$[(392.15 \text{ mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$$

( 392.15    ÷    304.8 ) X    0.40    =    0.5 AFA

## Total Storage Calculations

|             |               |
|-------------|---------------|
| FILE NUMBER | 65-13613      |
| REVIEWER    | Patrick Kelly |
| DATE        | 7/29/2016     |

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

|                      |
|----------------------|
| User Input           |
| Calculated value     |
| Formula Explanations |

|                                                                                              |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface Area (AC.)                                                                           | 0.4  | "Surface Area" is automatically carried over from the "Seepage Loss" sheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Average Pond Depth (FT.)                                                                     | 2    | "Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Pond Capacity (AF)                                                                           | 0.8  | Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above.<br><b>Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.</b>                                                                                                                                                                                                                                                                                                                                                                                         |
| Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF) | 24.2 | The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed).<br><b>Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.</b> |
| Estimated Seepage Loss (AF)                                                                  | 2.9  | The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Estimated Evaporation Loss (AF)                                                              | 0.5  | The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Total Volume Required (AF)                                                                   | 28.4 | The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                                               |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flow Rate into Pond (CFS)                                     | 0.15 | The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day) | 3.59 | This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Required Daily Maintenance Volume (AF/Day)                    | 0.01 | "Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.                                                                                            |
| Minimum Maintenance Flow (CFS)                                | 0.01 | The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Days Required to Fill the Pond                                | 3    | The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. <b>If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.</b>                                                                                                                                                             |
| Days Required to Fill the Pond at 13,000 Gallons per Day      | 29   | Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. <b>If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.</b><br>Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill. |









State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: [www.idwr.idaho.gov](http://www.idwr.idaho.gov)

C. L. "BUTCH" OTTER  
Governor

GARY SPACKMAN  
Interim Director

June 10, 2013

EARL STEBBINS  
177 BACON CREEK RD  
CASCADE ID 83611

**RE: Scheduling Field Exam for Water Right Permit No. 65-13612**

Dear Mr. Stebbins:

We are planning to **conduct water right examinations** in the vicinity of the above-referenced permit **during the week of June 24, 2013**. An examination is needed to verify water use associated with the above referenced permit in order to issue a water right license.

Please be advised that the system will need to be operating under normal conditions during the examination. The permit authorizes diversion of unnamed stream water for irrigation storage, irrigation from storage, and irrigation uses. The permit place of use is located on property owned by Kenneth Lloyd Trout Jr. Your name and address were given as the individual to contact to accompany a Department representative for the field examination.

In order to conduct the exam as efficiently as possible, we ask that you call this office to schedule a day and time convenient for you. **Please call me at 208-334-2190 by June 21, 2013.** If there is a problem with scheduling or conducting the examination at this time, please call and other arrangements can be made. I appreciate your attention in this matter and I look forward to hearing from you.

Sincerely,

Angela M. Grimm, P.G.  
Water Resource Agent, Sr.

Cc: Lloyd Kenneth Troutt, Jr.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: [www.idwr.idaho.gov](http://www.idwr.idaho.gov)

C. L. "BUTCH" OTTER  
Governor

GARY SPACKMAN  
Interim Director

September 25, 2012

Earl Stebbins  
177 Bacon Creek Rd  
Cascade, ID 83611

**RE: Scheduling Field Exam for Water Right Permit No. 65-13612**

Dear Mr. Stebbins:

We are planning to **conduct water right examinations** in the vicinity of the above-referenced permit **during the weeks of October 1 and October 9, 2012**. An examination is needed to verify water use associated with the above referenced permit in order to issue a water right license.

Please be advised that the system will need to be operating under normal conditions during the examination. The permit authorizes diversion of unnamed stream water for irrigation storage, irrigation from storage, and irrigation uses. The permit place of use is located on property owned by Kenneth Lloyd Trout Jr. Your name and address were given as the individual to contact to accompany a Department representative for the field examination.

In order to conduct the exam as efficiently as possible, we ask that you call this office to schedule a day and time convenient for you. **Please call me at 208-334-2190 by October 5, 2012.** If there is a problem with scheduling or conducting the examination at this time, please call and other arrangements can be made. I appreciate your attention in this matter and I look forward to hearing from you.

Sincerely,

Angela M. Grimm, P.G.  
Water Resource Agent, Sr.