

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 74-15701
Exam Date: 06/13/2024

1. Current Owner:
KARLA A EAMES TRUST PO BOX 74 MILLVILLE UT 84326-0074
2. Accompanied by: Jim Grisman
Phone No: unknown
Address: unknown
Relationship to permit Holder: Maintenance/Groundskeeper

3. **SOURCE:**
MC DEVITT CREEK

Tributary
LEMHI RIVER

Method of Determination: Garmin Trek 20 GPS, GIS, and Tax Lot Data

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
74-7169	MC DEVITT CREEK	DOMESTIC	DECREE (2001)
74-7246	SPRING	DOMESTIC	DECREE (2002)
74-7247	UNNAMED STREAM	DOMESTIC	DECREE (2000)

Comments: No Recreation or Recreation Storage rights overlap the permit place of use (POU). There are no conflict concerns regarding the Domestic rights owned by the permit holder with Recreation/Recreation Storage use within a shared POU.

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

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: No right share the permit point of diversion (POD).

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

MC DEVITT CREEK SW¼ NE¼, Sec. 30, Twp 19N, Rge 23E, B.M. LEMHI County

Method of Determination: GARMIN GPS coordinates N44.95005,W113.77870

PLACE OF USE: RECREATION & RECREATION STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
19N	23E	30			X														

Method of Determination: GIS, and Tax Lot Data

Change in POU? ____Y XN Amendment Required? ____Y XN

3.

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

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

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

☒ 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
Screened intake at McDevitt Creek	NA	NA	NA	NA	Gravity fed through 3" PVC

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Bucket	NA	NA	NA	NA	5-Gal capacity	NA
iPhone Timer App	NA	NA	NA	NA	NA	NA

2. Measurements: The pond overflow outlet which is gravity fed through 4"PVC returning to the creek. Measurements were taken at the discharge point at Mc Devitt Creek.

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method: A 5-Gal bucket and iPhone timer were used to run 5 time trials. A maximum head of approximately 34 ft was estimated from inlet to outlet using Garmin GPS, over an approximate distance of 250ft measured with ArcGIS.

TRIAL # TIME (SEC)

1. 3.33
 2. 2.87
 3. 3.44
 4. 2.44
 5. 2.87
 Total 14.95 / 5 = 2.99 sec (avg)

5-Gal/2.99 sec = 1.672 Gal/sec x 60sec/1min= 100.34gpm / (448.83gpm/1cfs)=0.22cfs

Theoretical Calculation= 0.22cfs

Permit allowed = 0.10cfs

Recommendation= 0.10cfs

Comments:

Time trials measured averaged an averaged 0.22cfs rate through the gravity fed system. The system is limited by the available flow at the creek, which was running near the highwater mark at the time of the field exam. I recommend the license be issued for the full permit rate of 0.10cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: NA

2. . Volume Calculations for Recreation Storage use:

GIS measured pond area = 0.066 Acres

Maximum pond depth = 13 ft

Total Storage Calculations		
FILE NUMBER	74-15701	This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.
REVIEWER	Bob Howe	
DATE	6/13/2024	
		Print Page to PDF
Surface Area (AC.)	0.066	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	5.2	"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)	0.3432	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. 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.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	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). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.2	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	0.5	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.

Figure 1- Pond Loss Calc Spreadsheet- "Total Storage Calculations"

Comments:

This permit was issued for recreation and recreation storage uses from a natural stream/river source. The volume of the pond is approximately 0.34 AF for the clay lined pond and the evaporation loss is approximately 0.2 AFA. The seepage loss, evaporation loss, and volume data calculated with the Pond Loss Calc Spreadsheet is 0.5 AF (figure 1). I am recommending the license be issued for the full permitted volume of 0.5 AF.

G. PURPOSE OF USE

Irrigation ☐ Y ☒ X ☐ N # Stock ☐ NA ☐ Domestic # of Homes ☐ NA ☐

Change in Purpose of Use? ☐ Y ☒ X ☐ N

Method of Determination: Custer County Maps, GIS, and Taxlot Data

H. NARRATIVE/REMARKS/COMMENTS

The permit holder submitted the Proof of Beneficial Use, received by IDWR on March 8, 2017, stating in sections #5 & 6 that beneficial use was developed for recreation/recreation storage with a total storage volume of 0.5 AF. During the field examination on June 13, 2024, the maintenance person, Jim Grisman provided background information on the gravity fed diversion system to the clay lined pond. GPS coordinates for the POD and outlet at Mc Devitt Creek were recorded and photos were taken documenting the screened intake, pond, drain, and return to streamflow (photos 1-6). GPS records show

an elevation drop of approximately 34 feet over an ArcGIS measured run of approximately 250 ft (approx. slope 0.136). The inlet is a fish screened 3" PVC pipeline gravity fed from the creek into the pond (photos 1-3). In a previous phone call the permit holder stated that the inlet pipe disconnects and is capped at the stream in the fall. The outlet is a gravity fed 4" PVC outlet positioned to divert overflow from the pond surface to return to streamflow (photos 4 & 5).

A field measurement was taken using a bucket test. Five time trials were run with a 5-gallon bucket, which were averaged and converted to a rate of 0.22cfs. The Groundskeeper stated that the pond is approximately 13ft at its deepest point and is lined in clay to prevent seepage. The measured volume of the 0.066 sq acre pond is 0.86 AF and the Pond Loss Calculation spreadsheet found a total annual volume of 0.5 AF would be required to maintain the lined pond. I recommend the license be issued with the full permitted rate of 0.10cfs, and volume of 0.5 AF (for recreation storage).

The license should have conditions R05, 219, 220, R02, 197, 198 and X15. Condition 01H should be replaced with condition R02 at licensing, as per current guidance. Conditions 219 and 220 were updated to reflect the developed use in 1 pond, not the 3-pond system described in the original application.

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

I. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
RECREATION	01/01 to 12/31	0.10 CFS	
RECREATION STORAGE	01/01 to 12/31		0.5 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.10 CFS	

Totals: 0.10 CFS 0.5 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 Bob Howe -Water Resource Agent

Field Examiner's Name Bob Howe Date 9/30/24

Reviewer Cody Date 9-30-24



Figure 1- 2023-GIS- imagery of the permit POU (outlined in blue) and POD (blue point). The blue line is the 3" PVC intake from the creek to the north end of the pond. The red line is the 4" PVC overflow drain from the pond returning to Mc Devitt Creek.



Photo 1- POD is submerged in the creek just downstream of foot bridge in Mc Devitt Creek. Pond can be seen in the background.



Photo 2- Facing south on bridge looking down of Mc Devitt Creek. 3" PVC intake with red and silver fish screen on intake is submerged at the center of the image.



Photo 3- Facing south on the north end of the pond. Inlet water can be seen entering the pond over the rocks in the foreground.



Photo 4- White 4"PVC overflow drain in pond near the southwest shore.



Photo 5- White 4" PVC outlet emptying into Mc Devitt Creek, southwest of the pond.



Photo 6- On the north end of the property on the east side of the home, facing south. The pond is visible in the background.