

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 78-07347
Exam Date: 9/30/1998

1. Current Owner:
DASHA BELKOVA PO BOX 88 NEW MEADOWS ID 83654-0088 (208) 347-3227
2. Accompanied by: Nobody
Phone No:
Address:
Relationship to Permit Holder:

3. **SOURCE:**
LITTLE CREEK

TRIBUTARY:
~~BIG CREEK~~ LITTLE 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: None.

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

LITTLE CREEK SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 9, Twp 18N, Rge 02E, B.M. ADAMS County

Method of Determination: The field examiner made detailed notes about the diversion ditch coming out of the creek north of the road culvert. Photos taken during the exam support this description. Aerial photography displays the ditch where it intersects Little Creek. This location is described above according to digital PLSS boundary map.

2.

PLACE OF USE: RECREATION, RECREATION STORAGE, WILDLIFE and WILDLIFE 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	
18N	02E	9						X	X										

Method of Determination: The 1.9 acre pond is clearly defined throughout historical imagery. The pond exists on the QQ boundary according to digital PLSS map.

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
GRAVITY FLOW DIVERSION					

*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: Orange Peel method used.

E. FLOW CALCULATIONS☐ Additional Computation Sheets Attached

Measured Method:

Area = 2; wide x 0.15' deep = 0.3 ft²

Velocity = 1 ft/sec

Total Flow = Area * Velocity = 0.30 cfs

** Examiner noted that the ditch CAPACITY was much larger, and able to support an estimated 3 – 4.5 cfs. This is reasonable given that the delivery ditch is visible in satellite imagery.

Permit	0.20 cfs
B.U. Standard Allowance	N/A
B. U. Proof Fee	\$50 → 0.01 to 0.20 cfs
Measurement Rate	0.30 cfs
License Recommendation	0.20 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: Pond analysis measures a total use of 10.5 af. Permitted volume of 3.0 af limits the allowable volume for license.

G. NARRATIVE/REMARKS/COMMENTS

Steve Lester conducted the field exam on September 30, 1998. The water right file has been held for license review since that time. This report represents information found in the file combined with tools available today used to measure beneficial use.

According to current taxlot information, Dasha Belkova Revocable Trust still owns the land. The address associated with this data matches the PO Box address of the Current Owner.

The pond is visible using satellite imagery. An amendment to the POU will be required to recognize all QQ the pond lies within. An amendment to POD near the road culvert will be required to correct the legal description.

A pond analysis was completed using the 1.9 acre surface area and an estimated 4' depth recorded in Mr. Lester's field notes. See the attached spreadsheet for further details. The permit authorizes a total of 3.0 af for storage use. This is insufficient to fulfill the beneficial use that was developed. The 3.0 af hardly covers the 2.9 af needed to cover consumptive losses. For this reason, an application for permit will be drafted and sent to the permit/property owner with the licensing

amendment. The volume associated with this license will recognize 3.0 af of volume while the new permit would cover consumptive losses and additional capacity.

Field exam report did not include information regarding Wildlife or Recreation use. While it is reasonable to assume the pond could be used for local wildlife or recreation (covered under the storage component for each), a diversion rate for such uses is not required since the diversion to storage covers the diversion from the creek to the pond.

The source Little Creek tributary to Big Creek is an error since Little Creek runs parallel to Big Creek before eventually ending up in the Little Salmon. A water right search finds this is the only right on Little Creek with a tributary to Big Creek. A correction will be made on the license.

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

- Condition of the license will recognize a surface area of 1.9 acres and capacity of 3.0 af.
- Watermaster condition 005 will be removed since the diversion is not located within a water district.

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
RECREATION STORAGE	05/01 to 06/30		3.0 AF
DIVERSION TO STORAGE	05/01 to 06/30	0.20 CFS	
WILDLIFE STORAGE	05/01 to 06/30		3.0 AF
<u>Totals:</u>		0.20 CFS	3.0 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

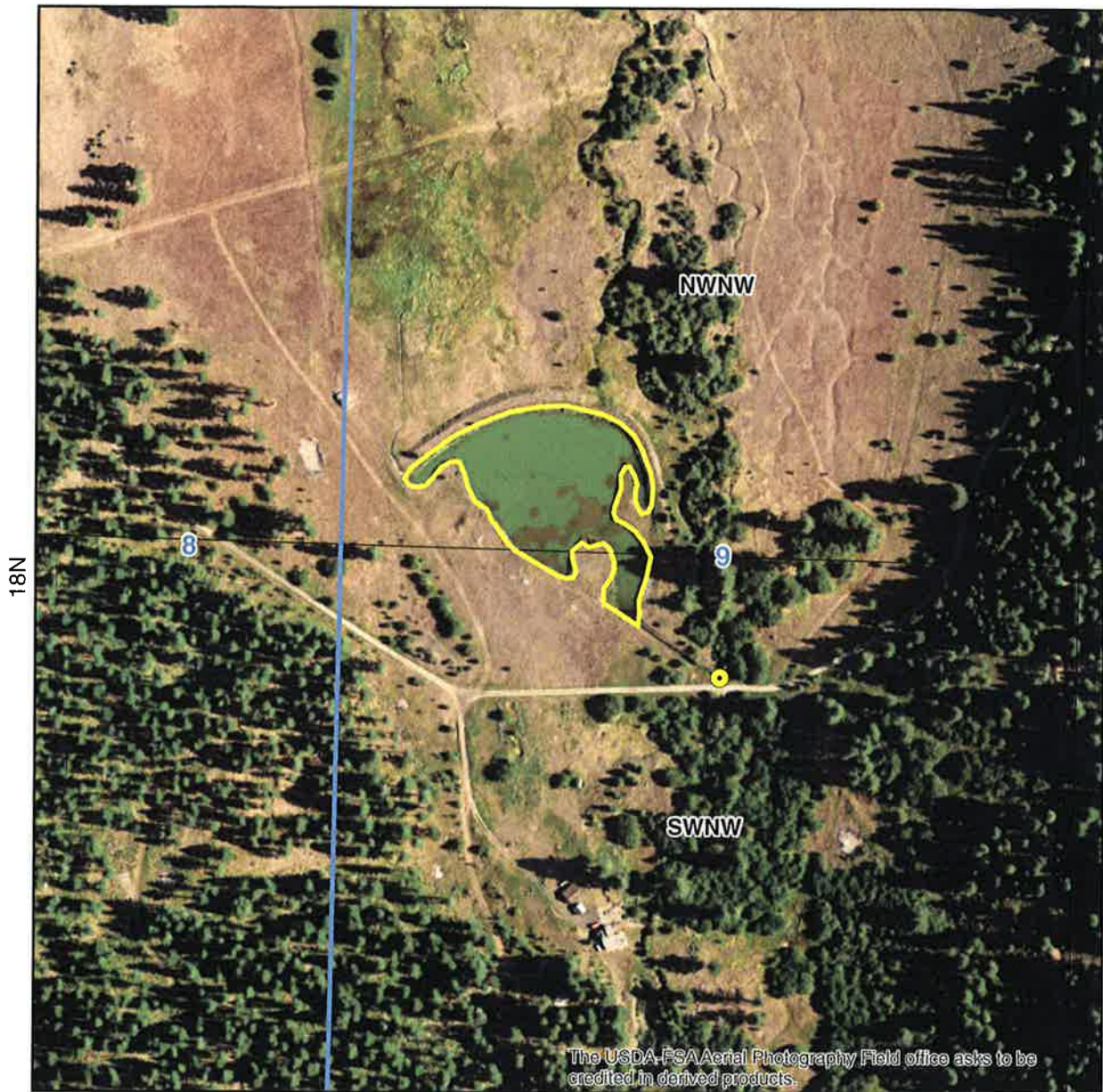
I. AUTHENTICATION

Field Examiner's Name Steve Lester Date 1-9-30-1998

Reviewer Patrick Kelly Date 12-12-2017

78-7347

02E



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

0 0.035 0.07 0.14 Miles



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	78-7347
REVIEWER	Patrick Kelly
DATE	12/12/2017

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	1.9	AC.
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Pond Surface Area (SQ. FT.)	82764	SQ. FT.
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My Soil Classification is	MH	
Suggested Seepage Rate (FT./DAY)	0.0003	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
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Convert to GPD	186	GPD
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Total Seepage Loss (AFA)	0.2	AFA
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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	78-7347
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DATE	12/12/2017

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:
P = Precipitation
ET= Evapotranspiration
P _d = Precipitation deficit
P _d =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: New Meadows Station

Month	mm/day ¹	Days per month	mm/Month
Jan	-2.62	31	0.00
Feb	-1.19	28	0.00
March	-0.43	31	0.00
April	0.67	30	20.10
May	1.68	31	52.08
June	2.21	30	66.30
July	3.96	31	122.76
August	3.26	31	101.06
September	1.85	30	55.50
October	0.38	31	11.78
November	-1.55	30	0.00
December	-2.26	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 = 429.58

$$\left(\frac{429.58 \text{ mm/yr}}{304.8} \right) \times 1.90 = 2.7 \text{ AFA}$$

Total Storage Calculations

FILE NUMBER	78-7347
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DATE	12/12/2017

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.)	1.9	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4	"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)	7.6	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)	0.2	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	2.7	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	10.5	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.

BEIKOVA

no one suitable, ok w/ 9/30/98
Nasha

See orthophots - can see access rd. to the place to
pinpoint pld for 78-07347 (Biggest pond).
↓

Pld on N. side of access rd. & culvert to creek
crossing. Is is swamp, not marsh.

& 20' div. ditch to 2 cement checks, can insert
boards into checks so won't take water when shall
not. Then south ditch runs & 150' to pond.

Pond - treat as circle & 300' diameter, $\bar{x}$ depth 4' (?).
check coles. to get up total.

- has culvert outlet (free flow so even today
allows flow back to creek. & 800' ditch from
culvert back to creek. Check SC& & ok to
have installed this ditch.

→
south
ditch
for
pond,
then
excavated

Div. ditch $\bar{x}$ depth per h.w. mark & $\frac{1}{2}'$
 $\bar{x}$ width & 3'

(velocity today & 1 ft/s average pool where
10 ft. in 10 secs.)
w & 2', d & .15'

today
 $a = 2 \times .15 \times 1 = .30 \text{ cfs}$

• too minor to actually measure today.

So capacity & $3' \times \frac{1}{2} \times 2 \text{ or } 3 \text{ ft/s} = 3 - 4.5$
cfs

Seems rather high →

Photos

① from access rd.

R = ck L = pit

background tailings pile = far edge of pond

② from ditch look upstream, creek flows R → L

③ View NE across pond from SW corner of pond area, see outlet (is almost)

Conts. of Diagram

notes ok

outlet ditch
Bank to ck

outlet
culvert

south
Berlin

20' ck to cement checks
150' checks to pond
100' outlet culvert Bank to
creek

pond
± circle 300' diam
x d ~ 4' (?)

has a
few islands
in it

south
ditch

2 cement checks w/
boards to
regulate

creek

access Rd.

culvert

