

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 94-9375

Exam Date: 06/08/2020

1. Current Owner:
IDAHO DEPT OF FISH & GAME 2885 W KATHLEEN AVE COEUR D ALENE ID 83815
2. Accompanied by: Unnaccompanied drive by

3. **SOURCE:**
ROBINSON CREEK

Tributary
COEUR D ALENE RIVER

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

ROBINSON CREEK NE¼ SW¼, Sec. 23, Twp 48N, Rge 02W, B.M. KOOTENAI County

Method of Determination: GPS. POD Located at -116°33.434, 47°29.467.

PLACE OF USE: RECREATION STORAGE, FIRE PROTECTION STORAGE, and WILDLIFE 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	
48N	02W	23			X					X	X					X			

Method of Determination: Field exam and Arcmap.

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
N/A					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: N/A

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$$

2. Volume Calculations for Other Uses:

See 2ea pond analysis sheets

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/8/2020, unaccompanied, showed a wetland pond developed by Dept. of Fish and Game supporting wildlife storage, recreation storage, and fire protection storage. The exam showed one head gate with an incorporated fish ladder system as the sole POD for the Robinson Creek Restoration project. There is no diversion rate applied to this water right. At time of permitting, three PODs were identified, but during field exam it was determined that the project build used only one; as a result, two PODs were removed at time of licensing.

The restoration project was stated to be 27 acres in size by the applicant. Using field exam notes and arcmap, the pond was traced out at time of licensing equaling 27 acres. The wetland pond was dissected into two separate pond systems following the field exam using arcmap, and referencing applicant provided pond size and depth analysis sheet, to more accurately account for varying water levels.

Shallow depth pond analysis sheet: 14 acres, average depth of 1 foot, a pond capacity of 14.0 af, seepage loss of 15.3 af, evaporation loss of 16.2 af, and total volume required of 45.5 af.

Deeper depth pond analysis sheet: 13 acres, average depth of 2 feet, a pond capacity of 26.0 af, seepage loss of 14.2 af, evaporation loss of 15.0 af, and total volume required of 55.2 af.

Combined total Pond Analysis factor values: 27 acres, 40.0 af capacity, 29.5 af seepage loss, 31.2 af evaporation loss, and total volume required of 100.7 af. This value was rounded to **101.0 af** for the annual volume, and maximum diversion volume, applied to each beneficial use component (not additive) during licensing review to account for department administrator's memorandum, Application Processing No.6, Significant Figures for Numeric Values.

At time of permitting, the maximum diversion volume appropriated was 122.0 af; during licensing review, the two pond analysis sheets developed accounted for seepage, which was not accounted for by applicant's when developing the project plans.

Conditions 029 and 082 were removed from license. Conditions 219 and 220 were adapted to reflect updated pond analysis sheet data. All other conditions remain on license. There are no overlap concerns for this WR.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Annual Volume</u>
RECREATION STORAGE	01/01 to 12/31	101.0 AF
FIRE PROTECTION STORAGE	01/01 to 12/31	101.0 AF
WILDLIFE STORAGE	01/01 to 12/31	101.0 AF

Totals: 101.0 AF

2. Recommended Amendments

 Change P.D. as reflected above Add P.D. as reflected above X None

 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

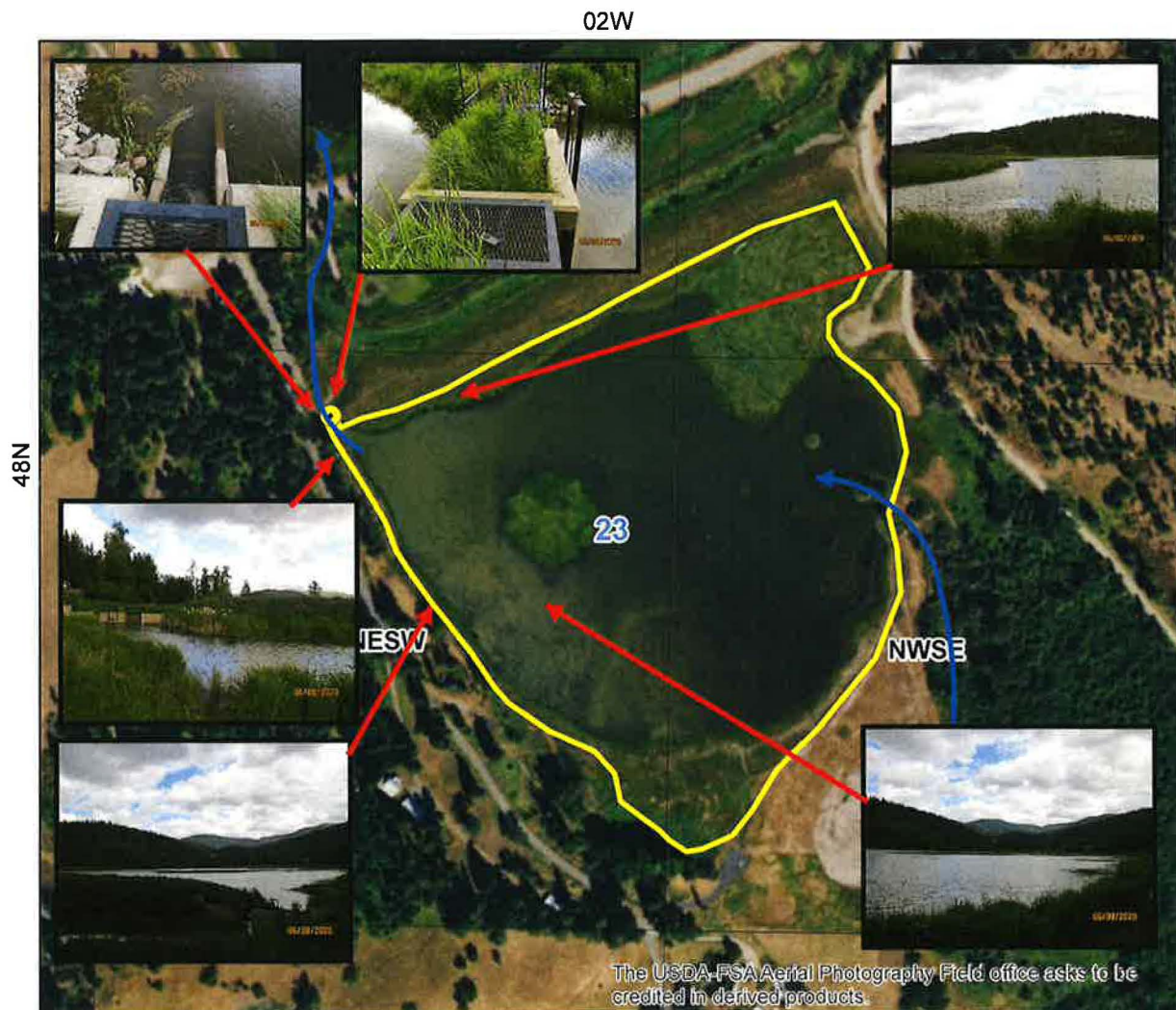
Luke Bates - Water Resource Agent






Field Examiner's Name Date 7/7/2020

Reviewer Date 7/7/2020

State of Idaho
Department of Water Resources
Attachment to Field Exam
94-9375

RECREATION STORAGE, FIRE PROTECTION STORAGE, and WILDLIFE STORAGE system diagram.



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

0 0.05 0.1 0.2 Miles



Total Storage Calculations

FILE NUMBER	94-9375
REVIEWER	Luke Bates
DATE	7/7/2020

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.)	14	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	1	"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)	14.0	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)	15.3	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	16.2	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	45.5	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.

Total Storage Calculations

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User Input
Calculated value
Formula Explanations

Surface Area (AC.)	13	"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)	26.0	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)	14.2	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	15.0	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	55.2	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.



POD



OUTFLOW FROM WETLAND



MULTIPLE STORAGE COMPONENT POU



MULTIPLE STORAGE COMPONENT POU





MULTIPLE STORAGE COMPONENT POU