

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-15797
Exam Date: 12/3/2020

1. Current Owner:
MICHAEL ASKER 104 S A ST GRANGEVILLE ID 83530-1400
2. Accompanied by: In office exam

3. **SOURCE:**
UNNAMED STREAM

Tributary
THREE MILE CREEK

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
85-7634	Unnamed Stream	Storage for Irrigation, Recreation, Wildlife; Irrigation from Storage	License

Comments: Right 85-7634 uses the same unnamed stream source as this right, and aside from wildlife storage (85-7634) and fire protection storage (85-15797) uses the same pond for storage POU purposes. Both right's irrigation from storage POU are the same parcel and to similar extents. Right 85-7634 was licensed for very miniscule volumes that did not reflect the applicant's beneficial uses of water, resulting in right 85-15797 being developed. Condition X35 was added to mitigate overlap concerns between rights 85-7634 and 85-15797.

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

Water Right No.	Source	Purpose of Use	Basis
85-7634	Unnamed Stream	Storage for Irrigation, Recreation, Wildlife; Irrigation from Storage	License

Comments: Rights 85-7634 and 85-15797 use the same 4 inch corrugated PVC pipe at the POD. Condition F06 was added to this license to reflect the shared POD between rights.

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM NE¼ SE¼, Sec. 31, Twp 30N, Rge 03E, B.M. IDAHO County

Method of Determination: POD is a pipe in unnamed stream located at -116°07.163, 45°53.712.

PLACE OF USE: RECREATION, IRRIGATION STORAGE, RECREATION STORAGE, FIRE PROTECTION 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	
30N	03E	31													X				

PLACE OF USE: IRRIGATION FROM 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	
30N	03E	31													1.3				1.3

Total Acres: 1.3

Method of Determination:

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
5 GALLON BUCKET MEASUREMENT						

2. Measurements: Three 5 gallon bucket tests were completed from the corrugated pipe at POD, with average of three resulting in diversion flow rate of 5 gal / 5.0 sec x 60 sec/min = 60 gpm = **0.13 cfs**, considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5 GAL Bucket Test = (5 gal / 5.0 sec) x 60 sec/min = 60 gpm
 = (5 gal / 5.1 sec) x 60 sec/min = 58.8 gpm
 = (5 gal / 5.0 sec) x 60 sec/min = 60 gpm

Average of 3ea 5 GAL Bucket Tests = (60 gpm + 58.8 gpm + 60 gpm) / 3 = 60 gpm = 0.13 cfs, considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.3 \text{ acres} \times 3.0 \text{ afa} = 3.9 \text{ af}$ for irrigation from storage

$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{irrigation from storage, no diversion rate applied.}$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 3.9 \text{ af}$

2. Volume Calculations for Other Uses: See attached pond analysis worksheet.

- Irrigation storage / Irrigation from storage annual volume = **3.9 af**, which is non-additive.
- Recreation storage / Fire protection storage annual volume = 0.7 af (pond capacity) + 0.1 af (seepage and evaporation loss) = **0.8 af**, which is non-additive.
- Recreation annual volume = 0.13 cfs x 365 day season of use = **47.5 af**, which is non-consumptive use.
- Maximum diversion volume = 3.9 af (irrigation use volumes) + 0.8 af (recreation/fire protection storage volumes) + 47.5 af (recreation direct flow volume) = **52.2 af**.

G. NARRATIVE/REMARKS/COMMENTS

This permit resulted following a second field exam and subsequent licensing of right 85-7634. The second field exam for 85-7634 was performed on 6/13/2018, which validated the same licensing components with regard to POD, POU, beneficial uses, and storage pond components found under this right and are sufficient to license this right with an in-office review. Referencing the second field exam conducted by Adam Frederick with the applicant, Michael Asker, the beneficial use volumes on this permit accurately depict water usage on the applicant's property.

During prior field exam dated 6/13/2018, it was found water was being diverted from an unnamed stream POD using a 4 inch corrugated PVC pipe with screened inlet. Water from the POD was routed downgrade to a small pond for multiple storage uses, and irrigation from storage use. At the POD, three 5 gallon bucket tests were completed from the corrugated pipe, resulting in a diversion rate of 5 gal / 5.0 sec x 60 sec/min = 60 gpm = **0.13 cfs**, considering department rounding standards. 0.13 cfs will be applied as both the diversion storage rate and recreation beneficial use direct flow diversion rate, as well as the maximum diversion rate for licensing purposes.

From the POD to the storage pond POU, the applicant had developed a scenic rocky brook, which he used for recreation purposes and shall serve as the recreation POU. Water was allowed to pass through the pond back to the unnamed stream year round, with resulting recreation annual volume equaling 0.13 cfs x 365 days = **47.5 af**, considering department rounding standards that will be applied to the license. This large volume is dedicated as pass through water, and is designated as non-consumptive use for licensing purposes.

Arcmap aerial imagery (year 2019) was used to trace out the pond serving as the irrigation storage, recreation storage, and fire protection storage POU. The size and shape designated under right 85-7634 was found to be accurate. The pond surface area equals 0.1 acres with a maximum depth of 15 feet, an average depth of 6.8 feet, pond capacity of 0.7 af, 0.1 af of loss from seepage and evaporation (minimal seepage loss), a multi-fill volume of **3.9 af** applied to irrigation from storage component, and a total volume requirement of 4.7 af. The recreation and fire protection beneficial uses are non-additive, with annual volume(s) equal to the pond's capacity of 0.7 af + seepage/evaporation value of 0.1 af = **0.8 af**.

Referencing the field exam performed on 6/13/2018, along with Arcmap aerial imagery year 2019, the irrigation from storage POU was traced out equaling 1.3 ac, which is recommended for licensing purposes. The volume associated with irrigation from storage equals 1.3 acres x 3.0 afa = **3.9 af**, which serves as the storage and from storage volume associated with irrigation use by the applicant and is non-additive for licensing purposes. Review of photographs taken at the last field exam, coupled with 2019 aerial imagery clearly illustrate the irrigation use. The applicant irrigates around his home, and along the western portion of his parcel that was not included under right 85-9634. This results in a larger irrigation from storage POU on the current right compared to 85-9634. The applicant's parcel aligns with both ¼¼ sectional boundary and section boundaries that give the appearance that irrigation is taking place in outside the permit approved POU, due to minor shifting of DRG imagery overlays an amendment to permit is not recommended to license this right.

Condition 029 and a text condition for private pond fish stocking requirements were removed from permit during licensing review. 259 was updated to reflect multiple fill storage volume derived during licensing review. R58 was added to describe limiting irrigation to 3.0 af per acre. A text condition was added describing that the recreation beneficial use shall be non-consumptive under this water right. F06 was added describing the same POD between rights 85-9634 and 85-15797. X35 was added describing that rights 85-9634 and 85-15797 when combined shall not exceed a total diversion rate of 0.13 cfs, and the irrigation of 1.3 acres. All other conditions from permit will remain on the license.

Overlap concerns - Right 85-7634 uses the same unnamed stream source as this right, and aside from wildlife storage (85-7634) and fire protection storage (85-15797) uses the same pond for storage POU purposes. Both right's irrigation from storage POU are the same parcel and to similar extents. Right 85-7634 was licensed for very miniscule volumes that did not reflect the applicant's beneficial uses of water, resulting in right 85-15797 being developed. Condition X35 was added to mitigate overlap concerns between rights 85-7634 and 85-15797. Right 85-15797 is being recommended for licensing the full volume for each beneficial use and incorporating condition X35 to cap the applicants use between the two rights, versus reducing the volumes proportionately by the 0.1 af per beneficial use overlapped between rights. This was decided due to the very small value issued under right 85-9634, and doesn't cause concern for enlargement of either right after issuance of 85-15797. There are no other overlap concerns for this right.

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>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31		3.9 AF
IRRIGATION FROM STORAGE	04/01 to 10/31		3.9 AF
RECREATION	01/01 to 12/31	0.13 CFS	47.5 AF
RECREATION STORAGE	01/01 to 12/31		0.8 AF
FIRE PROTECTION STORAGE	01/01 to 12/31		0.8 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.13 CFS	

Totals: 0.13 CFS 52.2 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

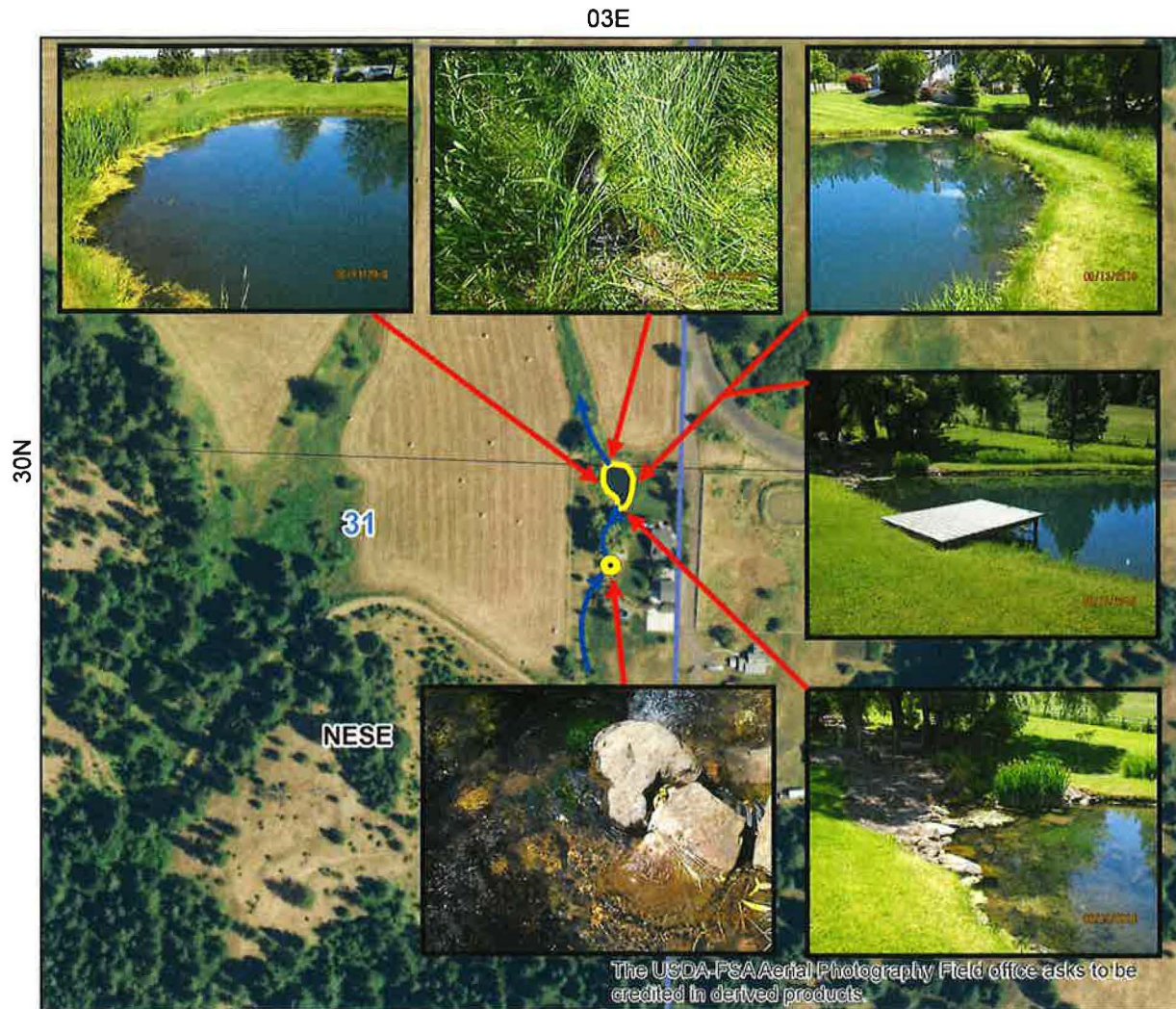
Luke Bates - Water Resource Agent

Field Examiner's Name [Signature] Date 12/03/2020

Reviewer [Signature] Date 12/7/2020

State of Idaho
Department of Water Resources
Attachment to Field Exam
85-15797

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



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

0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
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IRRIGATION FROM STORAGE and RECREATION system diagram.



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

0 0.035 0.07 0.14 Miles



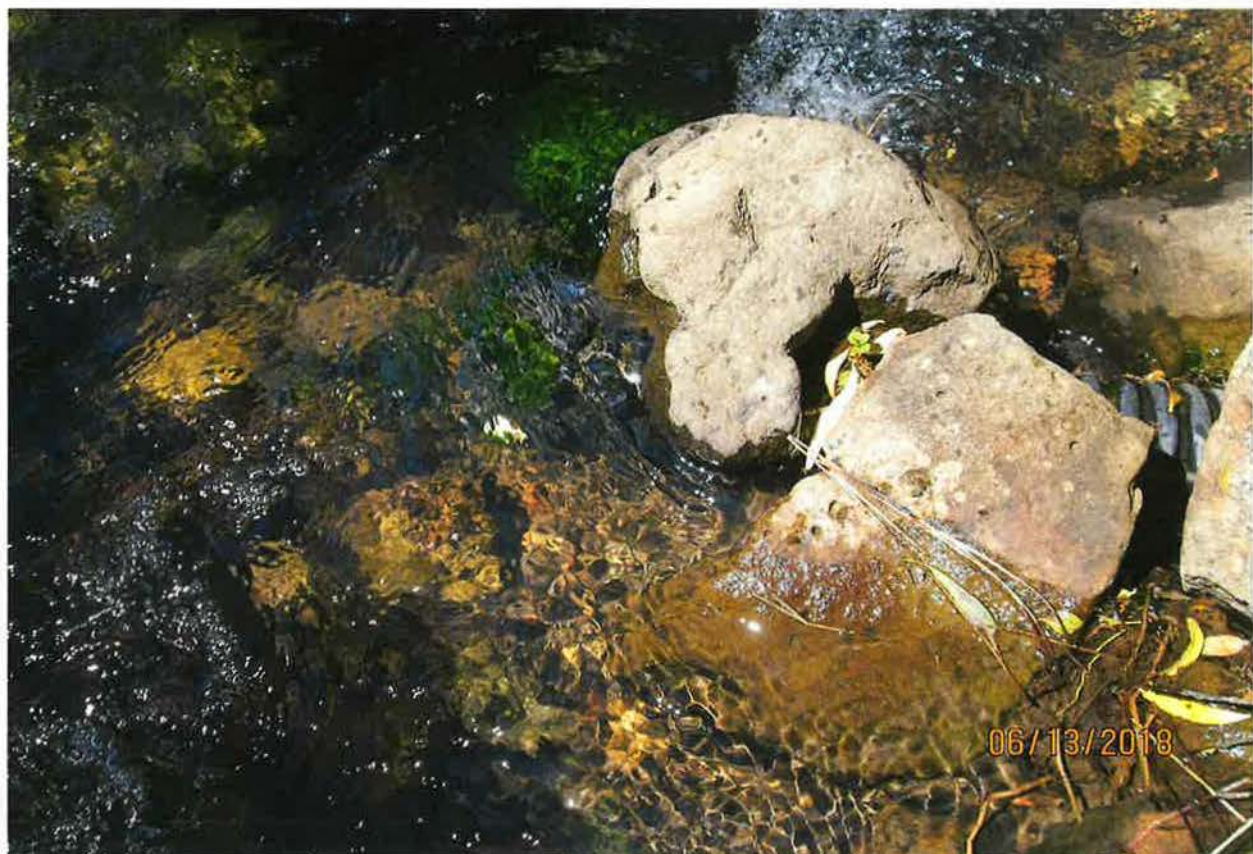
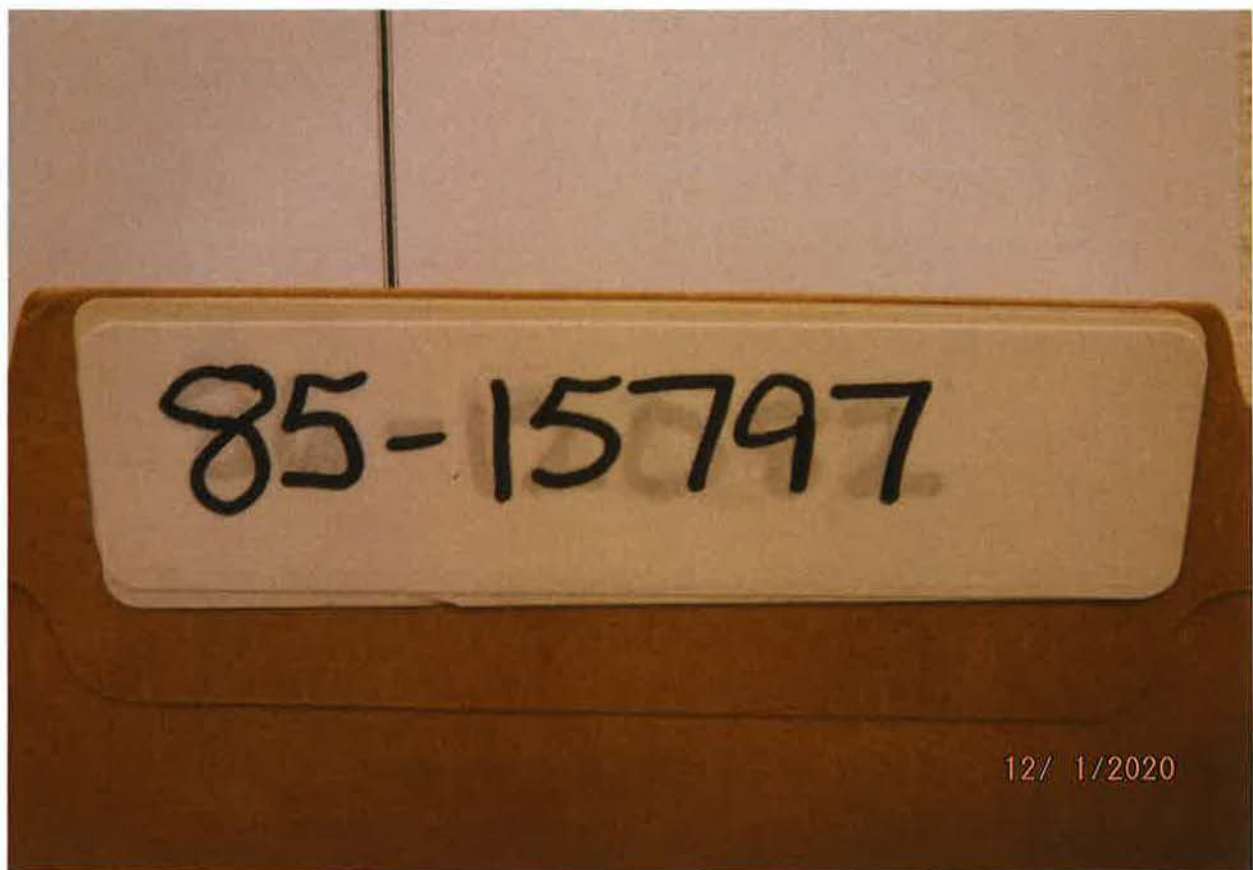
Total Storage Calculations

FILE NUMBER	96-9645
REVIEWER	Luke Bates
DATE	12/2/2020

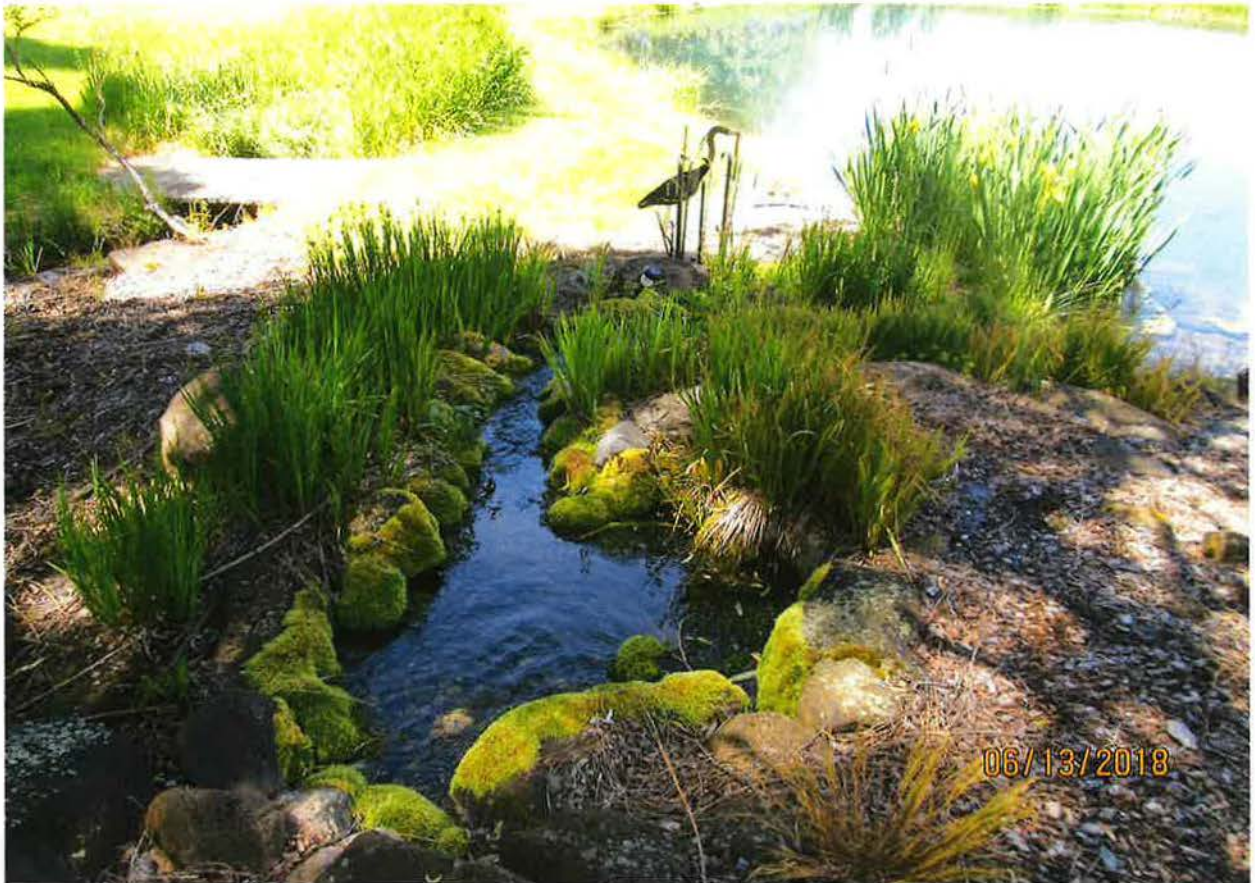
This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.1	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	6.8	"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)	0.7	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)	3.9	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)	0.1	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	4.7	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 - 4 INCH CORRUGATED PIPE IN STREAM



STREAM WATER ENTERING POND





POND OVERFLOW DISCHARGE BACK TO STREAM VIA 6" CORRUGATED PVC PIPE



RECREATION POU – BETWEEN POD AND POND STORAGE



IRRIGATION STORAGE, RECREATION STORAGE, & FIRE PROTECTION STORAGE POU – POND





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU

