



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

August 29, 2013

MAXINE LARSON
ROY EDWARD LARSON
922 GRELLE DR
LEWISTON ID 83501

RE: License No. 85-7669

Issuance of License

Dear Water Right Holder(s):

The Department of Water Resources has issued the enclosed Water Right License confirming that a water right has been established in accordance with your permit. Please be sure to thoroughly review the conditions of approval and remarks listed on your license.

The license is a PRELIMINARY ORDER issued by the Department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action by the Department unless a party petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclosed information sheet.

Please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Failure to report these changes could result in a \$100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

If you have any questions, please contact me at 208-287-4916.

Sincerely,

For Craig L. Saxton

Water Rights Supervisor

Enclosure(s)

CERTIFICATE OF SERVICE

I hereby certify that on August 30, 2013, I mailed a true and correct copy, postage prepaid, of the foregoing PRELIMINARY ORDER (Approved License) to the person(s) listed below:

RE: WATER RIGHT NO.

85-7669

**MAXINE LARSON
922 GRELLE DR
LEWISTON ID 83501**

**ROY EDWARD LARSON
922 GRELLE DR
LEWISTON ID 83501**



**Darla Block
Technical Records Specialist**

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was not held)

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a "Preliminary Order" issued by the department pursuant to section 67-5243, Idaho Code. **It can and will become a final order without further action of the Department of Water Resources ("department") unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:**

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. **Note: the petition must be received by the department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after: (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) The petition for reconsideration is disposed of; or
- (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

State of Idaho
Department of Water Resources
Water Right License

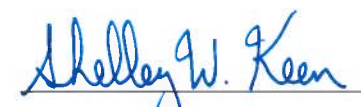
WATER RIGHT NO. 85-07669

CONDITIONS OF APPROVAL

1. This right when combined with all other rights shall provide no more than 0.03 cfs per acre nor more than 4.0 afa per acre at the field headgate for irrigation of the lands above.

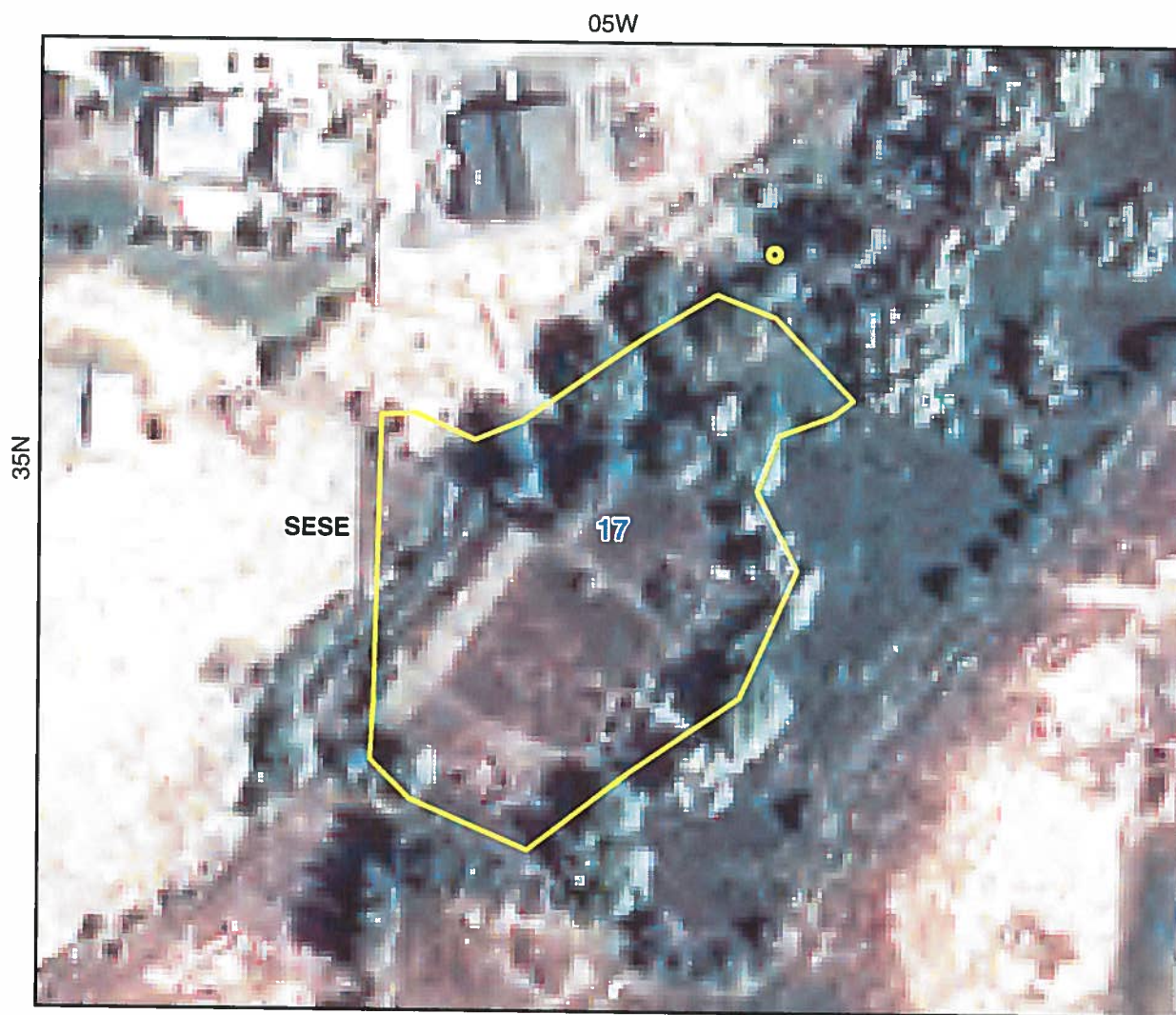
This license is issued pursuant to the provisions of Section 42-219, Idaho Code. The water right confirmed by this license is subject to all prior water rights and shall be used in accordance with Idaho law and applicable rules of the Department of Water Resources.

Signed this 28th day of August, 2013.



for GARY SPACKMAN
Director

State of Idaho
Department of Water Resources
Attachment To Water Right License
85-7669

This map depicts the IRRIGATION and IRRIGATION FROM STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



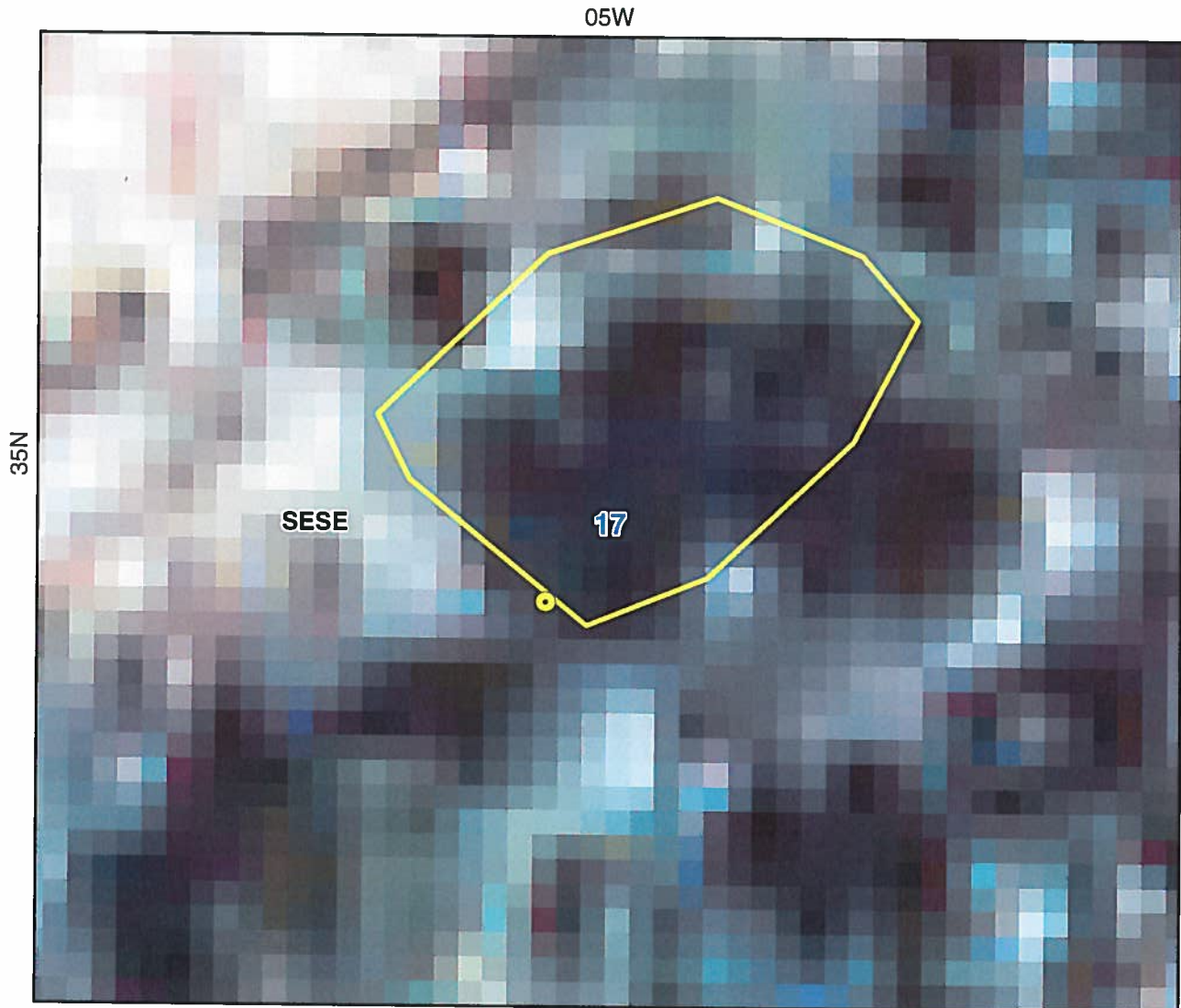
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.0125 0.025 0.05 Miles



State of Idaho
Department of Water Resources
Attachment To Water Right License
85-7669

This map depicts the IRRIGATION STORAGE and WILDLIFE STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



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

0 0.00275 0.0055 0.011 Miles



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-7669

Exam Date: 5/16/2012

1. Current Owner: MAXINE LARSON
922 GRELLE DR
LEWISTON ID 83501
(208)743-1827

And/Or

ROY EDWARD LARSON
922 GRELLE DR
LEWISTON ID 83501
(208)743-1827

2. Accompanied by: Roy Larson

Phone No: (208)743-1827

Address: 922 Grelle Dr., Lewiston, ID 83502 (mailing address and physical address are the same)

Relationship to Permit Holder: self/current owner

- ### 3. SOURCE

TRIBUTARY

UNNAMED STREAM

TAMMANY CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None. There are other water rights for the City of Lewiston Municipality and irrigation Co. through Lewiston Orchard Irrigation District (no shares are owned for this POU).

2. Other water rights with the same point of diversion: There are other water rights for the City of Lewiston Municipality and irrigation Co. through Lewiston Orchard Irrigation District .

Additional Information: There is no supplemental water for this POU.

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM SE1/4SE1/4 Sec. 17, Twp 35N Rge 05W, B.M. NEZ PERCE County

Method of Determination: GPS Garmin Map, ArcMap Esri and 2009 imagery

2.

PLACE OF USE: IRRIGATION and IRRIGATION FROM STORAGE

[illegible]

Total Acres: 1.7

PLACE OF USE: IRRIGATION STORAGE and WILDLIFE STORAGE

[illegible]

Method of Determination: GPS Garmin Map, and ArcMap Esri and 2009 Imagery

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.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
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2 groups of springs that merge and do-mingle to form the unnamed stream, with the point of diversion being at the dam; 2 inch discharge to 2 inch poly pipe (above the ground) that is moved around to flood irrigate, and then splits off to numerous drip lines with unknown size emitters to numerous trees

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

- Measurements: 5-gallon Measurement
 $(5 \text{ gallon} \times 60 \text{ sec}) / 5 \text{ sec} = 60 \text{ gpm} \times 0.00223 = 0.13 \text{ cfs}$ (2 separate measurements)
 $(5 \text{ gallon} \times 60 \text{ sec}) / 6 \text{ sec} = 50 \text{ gpm} \times 0.00223 = 0.11 \text{ cfs}$
 Average = 0.12 cfs
- Pipe Conversion for a 2 inch poly pipe = 0.11 cfs
- 1.7 acres $\times$ 0.03 cfs/acre = 0.05 cfs

RECOMMEND: 1.7 acres irrigation, and 0.05 cfs total diversion rate

E. FLOW CALCULATIONS

Measured Method: no other flow calculations

F. VOLUME CALCULATIONS

- Volume Calculations for Irrigation:

$$V_{I.R.} = (1.7 \text{ Acres Irrigated}) \times (4.0 \text{ Irrigation Requirement}) = 6.8 \text{ AF}$$

$$V_{D.R.} = [0.05 \text{ Diversion Rate (cfs)}] \times (289 \text{ Days in Irrigation season}) \times 1.9835 = 28.7 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 6.8 \text{ AF}$$

- Volume Calculations for Other Uses:

ET calculations attached for Storage of 0.05 acre pond $\times$ 6 ft average depth = 0.3 af + 1.1 Evaporative Loss

RECOMMEND:

Irrigation	6.8 af
Irr. Storage	1.0 af (as permitted)
Irrigation from Stor.	1.0 af (as permitted)
Wildlife Storage	1.0 af (as permitted)
Total Annual Vol.	7.8 af

G. NARRATIVE/REMARKS/COMMENTS

The Unnamed Stream consists of overflow from 2 different springs sources (both in Section 16, one group of springs in the NWSW and one group of springs in the SWSW quarter-quarter, co-mingling in Section 17 SESE northeast of the POU Irrigation and Wildlife Storage pond). There are specs for the pond attached to the original application for permit. The earthen dam is 8.6 ft tall with an additional 1/2 ft comber on top for settlement. There is an 18 inch diameter discharge pipe that discharges from the bottom of the dam, with an emergency spillway at the top sides of the dam. The size of the pond is 0.05 acre with the average depth being 6 feet. There is a 2 inch overflow pipe from the pond that goes to the field and trees for both gravity flow irrigation and a drip system. There are small fish and wildlife in the pond, in addition to numerous birds, ducks, bear, cougar, and deer. The dam with culvert and the 12-inch water control structure is part of a watershed conservation project plan for the Tammany Creek USDA-NRCS Contract No. 60-0211-8-64 (NRCS Lewiston Office 208-746-9886 Lynn Rasmussen). There is no other source of water (no shares are owned through Lewiston Orchard Irrigation District).

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

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	02/15 to 11/30	0.050 CFS	6.80 AF
IRRIGATION STORAGE	02/15 to 11/30		1.00 AF
IRRIGATION FROM STORAGE	02/15 to 11/30		1.00 AF
WILDLIFE STORAGE	01/01 to 12/31		1.00 AF
<u>Totals:</u>		0.050 CFS	7.80 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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name Judy Hemenway Date: 7/8/2013

Evaporation Loss Calculation

FILE NUMBER	85-7669
REVIEWER	Sandy Hemenway
DATE	6/24/2013

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

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

To ascertain the evaporation from a pond, you will need to go to the Kimberley Research Center website. The link is found below . This web site provides the Precipitation Deficit for the area where the pond is located. The Precipitation Deficit is the total amount of free pan 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, and the entire state is pretty much covered. IDWR staff can find the nearest site using ArcMap. The shape file containing the sites can be found at X:/Spatial/Climate/ETIdahostations.shp .

Found at: <http://www.kimberly.uidaho.edu/ETIdaho/online.php>

Precipitation Deficit

Station: Lewiston WB AP (NWS --105241)

Month	mm/day ¹	Days per month	mm/Month
Jan	0.93	31	28.83
Feb	0.84	28	23.52
March	0.95	31	29.45
April	1.19	30	35.70
May	1.42	31	44.02
June	0.99	30	29.70
July	0.54	31	16.74
August	0.59	31	18.29
September	0.61	30	18.30
October	0.76	31	23.56
November	1.08	30	32.40
December	0.83	31	25.73

PLEASE NOTE: We cannot use the season average, because there are several areas in Northern Idaho with a negative Precipitation Deficit. Therefore, we must enter each monthly deficit, and enter in a zero (0) for each negative month. The reason for this is that precipitation can only offset evaporation to the extent of the evaporation.

Please enter the daily average Precipitation Deficit as shown in the example below.

¹Negative monthly mean values should be entered in the above table as "0".

Total mm/year = 326.24

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

(326.24) ÷ (304.8) X 1.00 = 1.1 AFA

TOTAL STORAGE

FILE NUMBER	85-7669
REVIEWER	Sandy Hemenway
DATE	6/24/2013

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

Surface Area (in Acres)	0.05	"Surface Area" depicts the actual surface area of the pond measured, determined by ArcMap, or estimated.
Average Pond Depth (in feet)	6	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated.
Pond Capacity (in acre feet)	0.3	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth.

Volume Needed Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (in acre feet)	0	The "Volume Needed 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). PLEASE 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 (in acre feet)	0.3	The "Estimated Seepage Loss" is automatically is automatically carried over from the Seepage Loss Sheet
Estimated Evaporation Loss (in acre feet)	1.1	The "Estimated Evaporation Loss" is automatically is automatically carried over from the Evaporation Loss Sheet
Total Volume Required (in acre feet)	1.7	"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.

Flow Rate Into Pond (in cfs)	1.00	The "Flow Rate" into the Pond depicts the actual flow either measured or estimated into the pond.
Highest Daily Evaporation Rate From Evaporation Tab. (in mm/day)	4.94	To determine the "Highest Daily Evaporation Rate" go the the Evaporation Loss Sheet and enter in the highest number recorded in the Precipitation Deficit table.
Maximum Required Daily Maintenance Volume (in acre feet per day)	0.00	"Maximum Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year, and is caluated 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 multiplying 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 (in cfs)	0.00	The "Mininum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determine by dividing the "Daily Required 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	0	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.
Days Required to Fill the Pond at 13,000 gallons per day	8	The "Days Required to Fill the Pond at 13,000 gallons per day" is calculated converting the "Pond Capacity" and the "Maximum Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Maximum Daily Maintenance Volume" in gallons to determine the number of days to fill pond.

SEEPAGE CALCULATIONS

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

FILE NUMBER	Pond
REVIEWER	Sandy Hemenway
DATE	6/24/2013

INPUTS

SQ. FT. Calculator
Pond Surface area in acres
0.05

POND SURFACE AREA (SQ. FT.)	2178
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SUGGESTED SEEPAGE RATE (FT/DAY)	0.0160
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Use the table below to find the "SUGGESTED SEEPAGE RATES".

FORMULA: (Surface Area X Seepage Rate) / 7.48 = Gallons Per Day loss

CONVERT TO GPD	261	GPD
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TOTAL SEEPAGE LOSS (AFA)	0.3	AFA
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SUGGESTED SEEPAGE RATES FOR DIFFERENT SOIL TYPES:
SM (silty sand, sand silt mixtures) = 0.20 ft per day
ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.016 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
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 with shallow Ground Water) = 0 ft per day

PLEASE NOTE: Seepage Rates taken from 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 ponds intersect the water table.

ALSO NOTE:

•Soil types **GW, GP, GM, GC, SW, and SP** are all sandy and gravel soils that most likely will not hold water. Any ponds developed in these soils should probably be lined unless they are part of a recharge water right. The maximum allowable seepage rate is 0.20 ft per day.

•Soil type **OL** is very similar to **ML**, so you should use 0.016 ft per day with this soil type.

•Soil types **MH, OH, and PT** are very similar to **CH**, so you should use 0.0003 when you encounter these soils.

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison@kimberly.uidaho.edu Copyright 2010, University of Idaho.

Lewiston WB AP (NWS --105241)

Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Gross Precipitation														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b
Mean	mm/day												mm	
Monthly ^c	0.93	0.84	0.95	1.19	1.42	0.99	0.54	0.59	0.61	0.76	1.08	0.83	0	326
15-Day Moving Average ^d	0.91	0.92	0.92	1.22	1.49	1.02	0.56	0.62	0.65	0.72	1.14	0.79		
7-Day Moving Average ^e	0.93	0.88	0.97	1.23	1.43	1.00	0.56	0.61	0.64	0.74	1.11	0.81		
3-Day Moving Average ^f	0.92	0.85	0.95	1.22	1.43	1.00	0.54	0.59	0.61	0.76	1.09	0.83		
Standard Deviation	mm/day												mm	
Monthly	0.75	0.49	0.57	0.55	1.13	0.39	0.71	0.82	0.53	0.64	0.52	0.59	0	60
15-Day Moving Average	0.65	0.64	0.61	0.80	1.27	0.69	0.74	0.84	0.64	0.62	0.82	0.51		
7-Day Moving Average	0.95	0.85	0.94	1.17	1.67	1.06	1.06	1.20	0.93	0.93	1.19	0.79		
3-Day Moving Average	1.44	1.21	1.38	1.67	2.26	1.62	1.53	1.69	1.37	1.34	1.66	1.16		
20% Exceedance	mm/day												mm	
Monthly	1.39	1.24	1.28	1.65	2.10	1.30	0.85	0.80	0.87	1.17	1.42	0.94	0	365
15-Day Moving Average	2.33	1.71	1.91	2.56	2.92	2.11	1.54	1.47	1.69	1.99	2.47	1.56		
7-Day Moving Average	3.26	2.37	2.94	4.00	5.37	3.39	2.53	3.10	2.71	3.37	4.07	2.39		
3-Day Moving Average	5.50	4.37	5.77	6.37	8.63	5.70	5.43	7.03	6.33	5.40	6.47	4.60		
80% Exceedance	mm/day												mm	

Monthly	0.50	0.40	0.61	0.69	0.72	0.63	0.18	0.08	0.16	0.30	0.63	0.55	0	274	274
15-Day Moving Average	0.13	0.12	0.19	0.16	0.21	0.09	0.00	0.00	0.00	0.04	0.15	0.17			
7-Day Moving Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
3-Day Moving Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Ave Highest	mm/day												--		
15-Day Moving Average ^g	1.48	1.23	1.49	1.88	2.26	1.59	1.02	1.05	1.05	1.23	1.64	1.26			
7-Day Moving Average ^h	2.31	1.87	2.37	2.96	3.76	2.57	1.75	1.90	1.78	2.16	2.73	1.99			
3-Day Moving Average ⁱ	4.32	3.23	4.39	4.91	6.63	4.71	3.46	4.01	3.59	3.72	4.91	3.59			
Ave Lowest	mm/day												--		
15-Day Moving Average ^g	0.41	0.55	0.42	0.55	0.58	0.43	0.13	0.16	0.21	0.27	0.47	0.41			
7-Day Moving Average ^h	0.11	0.11	0.11	0.09	0.11	0.05	0.00	0.01	0.00	0.02	0.15	0.13			
3-Day Moving Average ⁱ	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00			
Special normal distribution parameters for monthly, seasonal, and annual intervals													--		
Skew	0.39	0.78	0.16	0.62	0.35	0.10	0.65	0.65	1.61	0.09	0.82	0.70	0.00	0.53	0.53
Kurtosis	1.16	2.92	0.76	2.48	0.76	2.34	1.63	1.67	6.02	0.59	2.98	2.08	0.00	3.37	3.36

^a Growing Season: This is usually the time from green up or planting in the spring to a killing frost or harvest in the fall. It is not applicable for entries without a growing season and will be blank.

^b Nongrowing Season: This is usually the time from a killing frost or harvest in the fall to the of green up in the spring. It is not applicable for entries without a growing season.

^c Mean of the average daily value for month

^d Mean of the fourteen 15-day period averages contained in the month

^e Mean of the twenty three 7-day period averages contained in the month

^f Mean of the twenty seven 3-day period averages contained in the month

^g Mean of the highest/lowest 15-day period average in month

^h Mean of the highest/lowest 7-day period average in month

ⁱ Mean of the highest/lowest 3-day period average in month

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The citation for the evapotranspiration data used from this site should be: *Allen, Richard G. and Clarence W. Robison, 2009. Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho: Supplement updating the Time Series through December 2008, Research Technical Completion Report, Kimberly Research and Extension Center, University of Idaho, Moscow, ID.*

Questions regarding the data should be addressed to [Clarence W. Robison](#) or [Richard G. Allen](#), University of Idaho, Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Telephone (208)-423-6610







Lookin
from
the house
to the
storage
Pond

POU
stone
(irr. + wildl)
overl
(emerger
spillway
control
box

05/16/2012



POU
Irrigat
+ Wildl
storage

05/16/2012



Looking
at the
house
from
the
storage
pond



Lookin
at the
Pon:
Storage
(irr. +
wildlife
+
Irr. PD



2"
PVC
to 2"
poly
used by
moving
around
from
flood
irrigation
(gravity
flow) to
the
drip
system
for the
1st tree

Control
valves
to switch
water to
different
fields



contr
box
located
at the
dam

05/16/2012



POU
Irrigate

unknown
of
drip
emitters
for all
the trees

05/16/2012

POU
Irr.



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S. Hemerway