

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 21-7506

Exam Date: 8/19/2014

1. Current Owner: US DEPT OF AGRICULTURE
FOREST SERVICE
CARIBOU/TARGHEE NATIONAL FOREST
1405 HOLLIPARK DR
IDAHO FALLS ID 83401
(208) 524-7500

2. Accompanied by: None
Phone No:
Address:
Relationship to Permit Holder: None

- | <u>SOURCE</u> | <u>TRIBUTARY</u> |
|---------------|------------------|
| SNOW CREEK | ROBINSON CREEK |

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 SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

SNOW CREEK SW1/4NW1/4NE1/4 Sec. 3, Twp 10N, Rge 45E, B.M. FREMONT County

(L2)

Method of Determination: GPS, Site Visit

2.

<u>PLACE OF USE:</u>			RECREATION STORAGE																
Twp	Rge	Sec	NE				NW				SW				SE				
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>Totals</u>
10N	45E	3							X	X									

<u>PLACE OF USE:</u>	RECREATION																
Twp Rge Sec	NE				NW				SW				SE				
	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>Totals</u>
10N 45E 3							X	X									

[illegible]

Method of Determination: Site Visit

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</u> <u>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</u> <u>Size</u>
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N/A

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

D. FLOW MEASUREMENTS

1.

<u>Measurement</u> <u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
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2. Measurements: There is a port in the pipe that will allow measurement, however upon site visit no equipment was available to measure the flow into the pond.

E. FLOW CALCULATIONS

_____Additional Computation Sheets Attached

Measured Method:

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: See attached pond calculation spread sheet

G. NARRATIVE/REMARKS/COMMENTSHave 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>
RECREATION STORAGE	01/01 to 12/31		48.40 AF
RECREATION	01/01 to 12/31	2.000 CFS	
RECREATION FROM STORAGE	01/01 to 12/31		48.40 AF
<u>Totals:</u>		2.000 CFS	

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 Kevin Mathews Date 8.19.2014

Reviewer _____ Date _____

Pond on Jud Property

PRECIPITATION DEFICIT CALCULATIONS FOR PONDS

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL EVAP IN AF
mm/Day *	0.0	0.0	0.0	1.2	1.8	2.9	3.8	3.3	2.0	0.7	0.0	0.0	
mm/Month	0.0	0.0	0.3	36.0	55.8	86.1	116.3	103.2	60.3	21.4	0.0	0.0	
Ft/Month	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.3	0.2	0.1	0.0	0.0	
Surface Area in Acres	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	
acre-feet	0.0	0.0	0.0	0.6	0.9	1.4	1.9	1.7	1.0	0.4	0.0	0.0	8.0

* Based on precipitation deficits provided by University of Idaho, <http://data.kimberly.uidaho.edu/ETIdaho/>

POND SIZE:	WIDTH X LENGTH	SQ. FT	ACRES
			5.1

mm to ft 0.0032808

JAN	FEB	MAR	APR
31.0	28.0	31.0	30.0
MAY	JUN	JUL	AUG
31.0	30.0	31.0	31.0
SEPT	OCT	NOV	DEC
30.0	31.0	31.0	31.0

Crop type =	Grass Pasture
CIR in AF/ACRE	2.5

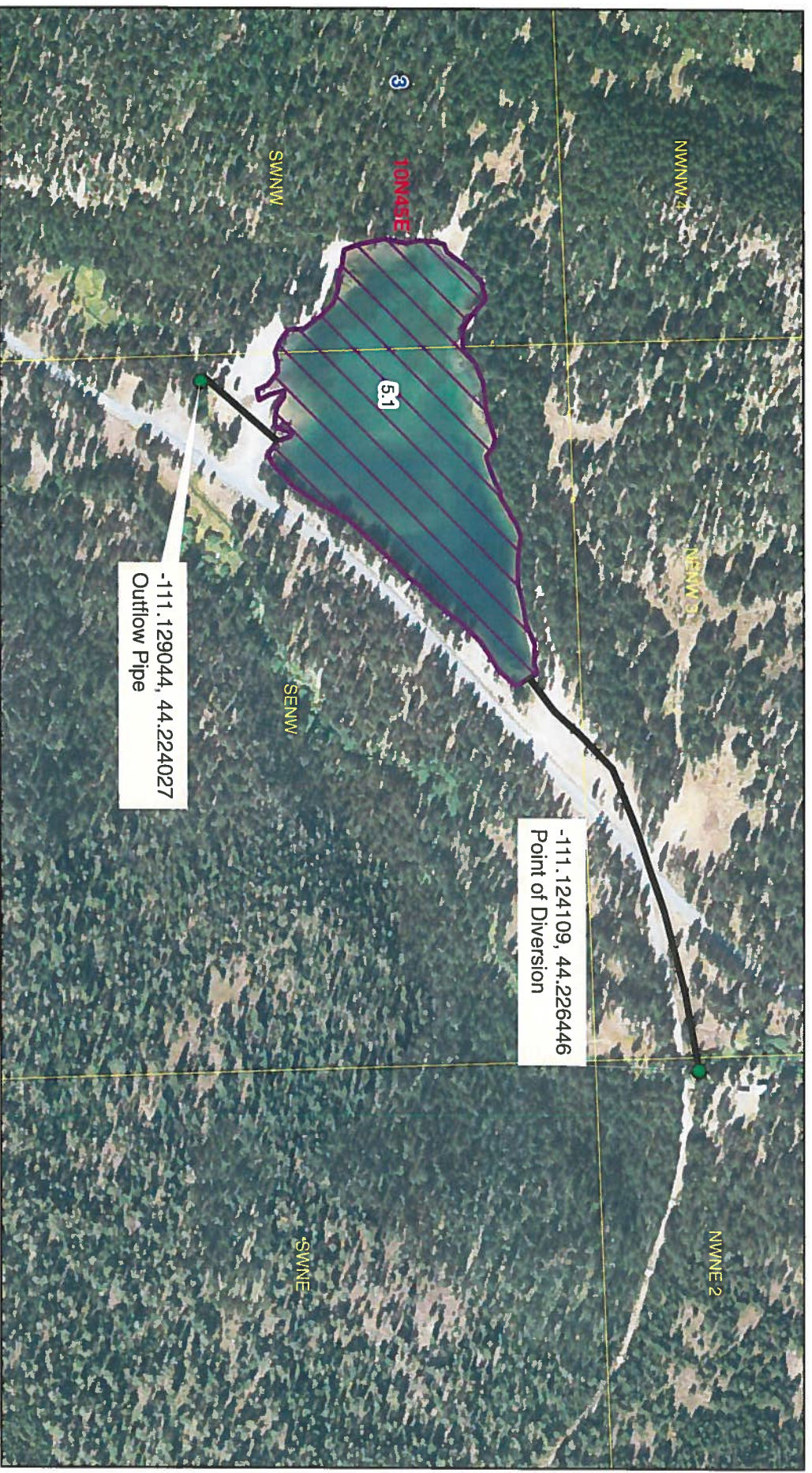
If applicable, acres need to dry up for evaporation 19.6

Pond size in acres	5.1
Average depth in ft	8.0
AF needed to Fill	40.8

20 *.4 = 8
Average depth=max depth x .40

TOTAL AF FOR POND	48.8
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Data entry in green



Field Exam August 19, 2014 21-7506

-  Pipeline
-  Place of Use
-  Township/Range
-  Sections
-  QQ



Field Exam - August 19, 2014 - 21-7506



POD, looking West at headgate off of Snow Creek; -111.124109, 44.226446



POD, looking East back towards Snow Creek



Measuring port in pipe near headgate



Pipeline vents looking towards the east



Location of pipe inlet at lake



Inlet to lake



Lake, looking North towards the inlet pipe



Lake, looking East



Over-land, overflow looking south towards return channel.



Outflow pipe from lake, looking North



Return pipe in channel

ET_{Idaho} 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison@kimberly.uidaho.edu Copyright 2012, University of Idaho.

Ashton (NWS -- 100470)

Statistics based on thirty year normal spans 1969 to 2006 years

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.

Open water - shallow systems (ponds, streams)														
Precipitation Deficit (Click here for a graph)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b
Mean ^j	mm/day												mm	
Monthly ^c	-1.75	-0.86	0.01	1.20	1.80	2.87	3.75	3.33	2.01	0.69	-1.06	-1.55	322	0
15-Day Moving Average ^d	-1.82	-1.04	0.06	1.23	1.83	2.80	3.81	3.24	1.93	0.87	-1.05	-1.52		
7-Day Moving Average ^e	-1.78	-0.92	0.01	1.19	1.79	2.78	3.76	3.31	1.97	0.77	-1.14	-1.51		
3-Day Moving Average ^f	-1.75	-0.84	0.00	1.18	1.79	2.83	3.76	3.33	2.01	0.71	-1.10	-1.55		
Standard Deviation ^k	mm/day												mm	
Monthly ^c	1.53	0.93	1.21	0.92	1.96	1.21	1.02	1.04	0.93	1.70	1.17	1.49	157	0
15-Day Moving Average ^d	1.55	1.35	1.07	1.34	1.86	1.73	0.98	1.17	1.28	1.53	1.41	1.31		
7-Day Moving Average ^e	2.09	1.77	1.45	1.85	2.54	2.58	1.44	1.52	1.82	2.17	1.85	1.75		
3-Day Moving Average ^f	2.93	2.29	2.05	2.62	3.48	3.25	2.04	2.02	2.60	2.94	2.56	2.47		
20% Exceedance ^l	mm/day												mm	
Monthly ^c	-0.88	-0.25	0.75	1.77	3.06	3.53	4.42	4.11	3.01	1.59	-0.08	-0.65	434	0
15-Day Moving Average ^d	0.11	0.24	1.42	2.91	4.29	4.80	4.91	4.52	3.67	2.56	0.62	0.24		
7-Day Moving Average ^e	0.43	1.01	1.91	3.72	5.26	5.47	5.16	4.86	4.19	3.12	1.48	0.59		

3-Day Moving Average ^f	0.63	1.39	2.28	4.59	5.70	5.90	5.45	5.21	4.43	3.41	1.81	0.79			
80% Exceedance^m	mm/day												mm		
Monthly ^c	-2.24	-1.58	-0.51	0.40	0.73	2.09	3.08	2.74	1.20	-0.42	-2.19	-2.69	147	0	147
15-Day Moving Average ^d	-4.02	-3.23	-1.77	-0.97	-0.76	0.33	1.79	1.60	-0.45	-1.81	-3.40	-4.19			
7-Day Moving Average ^e	-6.40	-4.99	-3.17	-2.55	-3.32	-2.23	-0.18	-0.19	-2.71	-5.56	-5.88	-6.02			
3-Day Moving Average ^f	-10.04	-7.76	-6.33	-6.14	-9.72	-7.65	-5.33	-2.96	-7.27	-9.39	-9.74	-9.73			
Ave Highest P_{def}	mm/day												--		
15-Day Moving Average ^g	0.08	0.19	0.90	2.20	3.16	4.22	4.59	4.08	2.93	1.97	0.32	0.10			
7-Day Moving Average ^h	0.29	0.75	1.45	3.16	4.55	5.00	4.93	4.62	3.77	2.72	0.87	0.36			
3-Day Moving Average ⁱ	0.53	1.20	1.95	3.88	5.27	5.59	5.28	5.00	4.23	3.06	1.34	0.62			
Ave Lowest P_{def}	mm/day												--		
15-Day Moving Average ^g	-2.94	-1.69	-0.82	0.19	0.53	1.45	3.01	2.46	0.91	-0.49	-2.05	-2.52			
7-Day Moving Average ^h	-4.92	-2.98	-2.17	-1.37	-1.65	-0.87	1.71	1.21	-0.77	-2.43	-3.47	-4.00			
3-Day Moving Average ⁱ	-8.11	-5.33	-4.42	-4.35	-5.52	-4.35	-1.19	-1.06	-3.69	-5.35	-6.27	-6.73			
Special normal distribution parameters for monthly, seasonal, and annual intervals															
Skew ^m	-0.48	-0.55	-0.32	0.16	-0.25	-0.77	-0.16	0.01	0.28	-0.10	-0.25	-0.07	-0.04	0.00	-0.04
Kurtosis ^o	1.27	2.95	1.01	3.27	0.83	3.20	0.58	0.70	2.32	0.73	2.38	0.65	2.49	0.00	2.49

^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

^j This value represents the *mean value* for the parameter for the month over the 'normal' period of record. Generally, the 'normal' period is the last thirty years with data.

^k This value represents the *standard deviation* for the parameter for the month over the 'normal' period.

^l This value represents the *value* for the parameter that has a 20% chance of being exceeded that month during any particular year. Conversely, there is an 80% chance that the parameter value will be less than the *value* shown.

^m This value represents the *value* for the parameter that has a 80% chance of being exceeded that month during any particular year. Conversely, there is an 20% chance that the parameter value will be less than the *value* shown.

ⁿ This value represents the *skewness (asymmetry) of the distribution of the parameter values* for the month (year) over the 'normal' period. A value near zero indicates that the distribution approximates a normal (Gaussian) and symmetrical distribution. A negative skew indicates that the parameter distribution has relatively few low values compared to high values. A positive skew indicates that the distribution has relatively few high values compared to the number of low values. A skew value near 1 indicates that the underlying distribution approximates a lognormal distribution.

^o This value represents the *kurtosis* of the parameter value distribution for the month (year) over the 'normal' period. Kurtosis is a measurement of the height to width ratio of the probability distribution, or the *peakedness (slenderness)*. A normal (Gaussian) distribution has a kurtosis of 3. A high kurtosis distribution has a sharper peak and longer tails, while a low kurtosis distribution has a more rounded peak and shorter tails.

This work and report were prepared by the University of Idaho Research and Extension Center at Kimberly, Idaho under contract with the Idaho Department of Water Resources. Work was supported by funding from IDWR and the Idaho Agricultural Experiment Station and Idaho Engineering Experiment Station. The authors gratefully acknowledge the long-term evapotranspiration data collection and long-standing advice provided by Dr. James L. Wright, USDA-ARS Kimberly (ret.), the more than two decades of high quality agricultural weather data collection by the U.S. Bureau of Reclamation AgriMet system, and the very long-standing, routine data collection by the hundreds of cooperative weather station volunteers across the state who, for more than one-hundred years, have faithfully observed daily air temperature and precipitation.

The citation for the evapotranspiration data used from this site should be: *Allen, Richard G. and Clarence W. Robison, 2012. 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



ETIdaho web site powered by [Debian](#), [Apache](#), [Firebird DBMS](#), [Python](#), with matplotlib, and kinterbasdb.