

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 79-14217

Exam Date: 1/7/2021

1. Current Owner:
LARRY J ALLEN 8 MT IDAHO CEMETERY RD GRANGEVILLE ID 83530
2. Correspondence with: Larry J Allen
Phone No: (208) 451-0673
Address:
Relationship to permit Holder: Same

3. SOURCE:
SPRING
UNNAMED STREAM

Tributary
SOUTH FORK WHITE BIRD CREEK
SOUTH FORK WHITE BIRD CREEK

Method of Determination: Aerial imagery, photographs

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
79-7254	UNNAMED STREAM trib to SOUTH FORK WHITE BIRD CREEK	WILDLIFE STORAGE	LICENSE

Comments: 79-7254 authorizes 8.0 af of wildlife storage

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

Water Right No.	Source	Purpose of Use	Basis
79-7254	UNNAMED STREAM trib to SOUTH FORK WHITE BIRD CREEK	WILDLIFE STORAGE	LICENSE

Comments: 79-7254 is the same on-stream diversion as 79-14217

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

SPRING SW¼ NE¼ NE¼, Sec. 12, Twp 28N, Rge 03E, B.M. IDAHO County
UNNAMED STREAM SE¼ NE¼, Sec. 12, Twp 28N, Rge 03E, B.M. IDAHO County

Method of Determination: Aerial imagery, digital PLSS map, and documentation in backfile for beneficial use exam and water right license 79-7254

PLACE OF USE: WILDLIFE STORAGE

[illegible]

PLACE OF USE: 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	
28N	03E	12	X			X													

Method of Determination: IDWR 2019, 2017, 2013, and 2009 NAIP Aerial imagery, digital PLSS map, photographs

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X 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.

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
n/a	n/a	n/a	n/a	n/a	n/a

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
n/a	n/a	n/a	n/a	n/a	n/a	n/a

2. Measurements: In-office exam so no flow measurement was taken.

E. FLOW CALCULATIONS

Yes Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

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

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

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

2. Volume Calculations for Other Uses:

Storage capacity determined using area tool in Google Earth.

Max. Depth = 10.5 feet with an average depth of $10.5 \times 0.4 = 4.2$ feet

$$\text{Storage capacity: } \frac{5.6}{(\text{storage surface area})} \text{ acres} \times \frac{4.2}{(\text{average depth})} \text{ feet} = 23.5 \text{ AF}$$

G. NARRATIVE/REMARKS/COMMENTS

This beneficial use exam report was completed by WRA Allen Bradbury on January 21, 2021. This permit authorizes the diversion of 0.02 cfs for diversion to storage use and 23.5 af each for wildlife storage and fire protection storage in Idaho County. The point of diversion and place of use were confirmed using aerial imagery, digital PLSS maps and photographs provided by the permit holder. Additional confirmation was obtained through the beneficial use report for water right 79-7254. The pond is on private land, H.E.S. 67, within the Nez Perce National Forest. The permit holder is the property owner at the points of diversion and place of use according to current tax lot data. No changes were made to either the point of diversion or place of use.

Water right 79-7254 authorized the construction of an 8 AF pond for wildlife storage from an unnamed stream tributary to the South Fork of White Bird Creek. According to a field exam conducted for 79-7254 on 7/28/1999, a 390 foot dam was constructed. The pond stores surface runoff from the unnamed stream and is normally kept full throughout the year. The pond has an overflow spillway on the southwest abutment, a 24" overflow pipe, and a solar powered aeration system. The intake for the 24" pipe outlet is screened to prevent fish stocked in the pond from escaping into the stream. An assignment of permit from Ori Kaltenbaugh to Larry Allen was filed on 3/6/2007. A phone conversation documented in the backfile, dated 3/27/2012, indicates that the pond depth was 8 feet and the estimated pond volume was 10.5 ac-ft. The permit for 79-7254 was licensed on 3/28/2012.

However, an application for permit 79-14217 had been filed on 8/11/2008 to accommodate the extra volume as well as the added uses of diversion to storage and fire protection storage for a single Household. The applicant proposed an additional 16 AF of pond capacity to result in a total pond capacity of 24 AF. This application for permit was approved on 9/21/2009 to accommodate the additional uses of diversion to storage, fire protection storage for a single Household and wild land fire suppression. One extension request was filed and granted on 9/24/2014 based on due diligence. Proof due extended to 10/1/2019 which ended the ten year development period. Permit proof was made on 9/30/2019.

During a phone conversation on 1/7/2021, the water right holder reported that he finished the project in the fall of 2019 and that the Department's imagery appears to be spring 2019 because the pond is slightly larger than the imagery shows. Mr. Allen noted that during enlargement operations he had begun excavation out from the island and proceeded northeast in line with the two clumps of trees at the end of the pond. Pictures confirmed the location of the shoreline near the clumps of trees. He further reported that mid-way along the dam there is a dock. At the dock location the pond is approximately 9 feet deep with pond depth increasing toward the southwest and maximum depth in the far corner. A maximum depth of 10.5 feet was used for calculations involving the pond volume. Since the surface area was known to be larger, photos provided by Mr. Allen were used to estimate shoreline based on tree locations at both ends of the pond. Using the area tool in Google Earth the surface area was estimated at 5.6 acres. In a phone conversation on 1/22/21, Mr. Allen approved the drawing of the pond perimeter. Given an average depth of 4.2 feet and surface area of 5.6 acres yields a pond volume of 23.5 acres. I am recommending an annual volume of 15.5 af for wildlife storage since 79-7254 already authorizes 8.0 af of storage. In addition, and evaporation loss was calculated at 4.4 af for annual volume of 19.9 af (see evaporation loss calculation spread sheet). The fire protection storage will be licensed for the full capacity of 23.5 af.

The original application proposed a 0.02 cfs rate for diversion to storage. Additional information was gleaned from the previous field exam which confirms that water that is not used in the home flows as surface water to the pond. The pictures provided by the permit holder present evidence of diversion to storage at the place of use since the pond stores surface runoff from an unnamed stream. I am recommending a diversion to storage rate of 0.02 cfs.

Conditions
Removed 26A.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
WILDLIFE STORAGE	01/01 to 12/31		19.5 AF
FIRE PROTECTION STORAGE	01/01 to 12/31		23.5 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.02 CFS	

Totals: 0.02 CFS 23.5 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

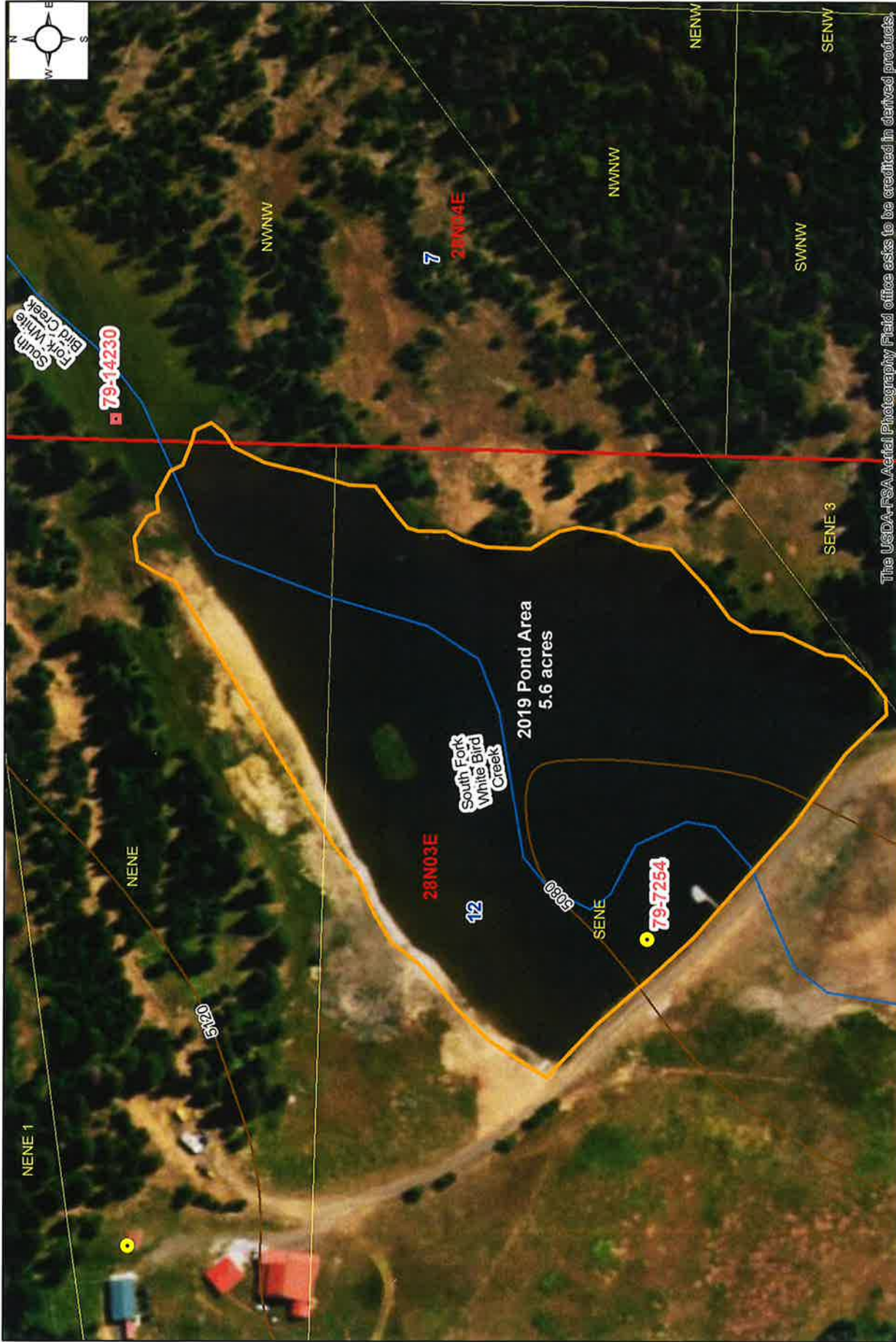
I. **AUTHENTICATION** Allen Bradbury - Water Resource Agent, Senior

Field Examiner's Name Allen Bradbury Date 2/4/2021

Reviewer Patricia Kelly Date 2-16-2021

79-14217 ALLEN

WILDLIFE STORAGE 23.5 af, FIRE PROTECTION STORAGE 23.5 af, DIVERSION TO STORAGE 0.02 cfs
from SPRING and UNNAMED SPRING trib to SOUTH FORK WHITE BIRD CREEK



The USDA-FSA Aerial Photography Field office asks to be credited in derived products.



Max Depth (ft):	10.5	Avg. Depth (ft) =	10.5	X 0.4 =	4.2
Storage capacity:	5.6 acres	x	4.2 feet	=	23.5 AF
	(storage surface area)		(average depth)		

- 2019_Pond_RevArea
- Point of Diversion
- 79-7254 Point of Diversion

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	79-14217
REVIEWER	Allen Bradbury
DATE	1/7/2021

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: Grangeville

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.75	31	0.00
Feb	-0.42	28	0.00
March	-0.58	31	0.00
April	-0.16	30	0.00
May	-0.4	31	0.00
June	0.73	30	21.90
July	2.84	31	88.04
August	3	31	93.00
September	1.19	30	35.70
October	-0.07	31	0.00
November	-1.11	30	0.00
December	-0.91	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 = 238.64

$$((238.64 \div 304.8) \times 5.60) = 4.4 \text{ AFA}$$

BENEFICIAL USE FIELD REPORT CALCULATIONS

Permit #: 79-14217
 Permit Name: Larry J Allen

Proof Due: 10/1/2019
 Priority Date: 7/16/2009
 Permit Approved: 9/21/2009

Proof Subm: 9/30/2019
 Exam Date:

Storage Volume 23.50
 Fee Rate 20.1 to 100.0
 Exam Fee \$100.00

0.00 to 0.20	\$50.00	0.00 to 20.0	\$50.00
0.21 to 1.00	\$100.00	20.1 to 100.0	\$100.00
1.01 to 2.00	\$125.00	100.1 to 200.0	\$125.00

Source UNNAMED STREAM
 Source SPRING

Tributary S FORK WHITE BIRD CR
 Tributary S FORK WHITE BIRD CR

Permitted Uses:	Proposed		Permitted		Measured/Recommended	
	Rate of Diversion	Annual Volume	Rate of Diversion	Annual Volume	Rate of Diversion	Annual Volume
WILDLIFE STORAGE		23.5 AF		23.5 AF		
FIRE PROTECTION STORAGE		23.5 AF		23.5 AF		
DIVERSION TO STORAGE	0.02 CFS		0.02 CFS			

STORAGE CALCULATIONS

Surface Area (sqft)		feet	x		feet	=	0.0
	(Length)			(width)			
Surface Area (acres):	0.0		Max. Depth (ft):	10.5	Avg. Depth (ft):	4.2	
Storage capacity:	5.6	acres	x	4.2	feet	=	23.5 AF
	(storage surface area)			(average depth)			

POND SIZE CALCULATIONS

Imagery Year	Total Acres	Add'l Acres	Volume (af)	Add'l Vol (af)	License #	Date	Action
2009	1.7	0	7.14	0		9/21/2009	Permit Approved
2013	4.5	2.8	18.9	11.76	79-7254	3/28/2012	Licensed
2019	5.6	3.9	23.52	16.38	79-14217	9/30/2019	proof subm

DIVERSION TO STORAGE: 0.02 CFS

Consumptive Use	4	Headgate Requirement	4	
Season of Use	1/1	12/31	=	365 days
	0.020	x	365	x 1.9835 = 14.48 af

Recommendation Standards for diversion rate (choose most restrictive)

Permit Rate – the rate applied for

100.00 Fee Rate – the maximum rated paid for on the fee schedule.

Beneficial Use (BU) standard = x.x ac * 0.020 cfs/acre

Measured Value – the value measured in the field

Theoretical Rate - the rate calculated

28N03E12

79-14217 Overlap Analysis

Process	Basin Sequence	Draft	Owner	Source	POD POU	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	NWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
Water Permit	79-14217	N	ALLEN, LARRY J	SPRING	POU	FIRE PROTECTION STORAGE	X			X										
Water Permit	79-14217	N	ALLEN, LARRY J	SPRING	POU	WILDLIFE STORAGE	X			X										
Water Permit	79-14217	N	ALLEN, LARRY J	UNNAMED STREAM	POU	FIRE PROTECTION STORAGE	X			X										
Water Permit	79-14217	N	ALLEN, LARRY J	UNNAMED STREAM	POU	WILDLIFE STORAGE	X			X										
Water Right	79-14210	N	ALLEN, LARRY J; CONNOR JR, RICHARD M	SPRINGS	POU	STOCKWATER	X													
Water Right	79-7254	N	ALLEN, LARRY J; KALTENBAUGH, ORIE	UNNAMED STREAM	POU	WILDLIFE STORAGE				X										
Water Right	79-10663	N	UNITED STATES OF AMERICA ACTING THROUGH	WHITE BIRD CREEK	POU	STOCKWATER				X						X		X		
Water Right	79-10666	N	UNITED STATES OF AMERICA ACTING THROUGH	TEPEE CREEK	POU	STOCKWATER						X				X				
Water Right	79-10667	N	UNITED STATES OF AMERICA ACTING THROUGH	CORDUROY CREEK	POU	STOCKWATER		X	X		X						X	X		

Process	Basin Sequence	Draft	Owner	Source	POD POU	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	NWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
Water Permit	79-14217	N	ALLEN, LARRY J	SPRING	POD		X			X										
Water Right	79-14217	N	ALLEN, LARRY J	UNNAMED STREAM	POD		X			X										
Water Right	79-14210	N	ALLEN, LARRY J; CONNOR JR, RICHARD M	SPRINGS	POD		X													
Water Right	79-7254	N	ALLEN, LARRY J; KALTENBAUGH, ORIE	UNNAMED STREAM	POD					X										
Water Right	79-10663	N	UNITED STATES OF AMERICA ACTING THROUGH	WHITE BIRD CREEK	POD					X										
Water Right	79-10666	N	UNITED STATES OF AMERICA ACTING THROUGH	TEPEE CREEK	POD												X			
Water Right	79-10667	N	UNITED STATES OF AMERICA ACTING THROUGH	CORDUROY CREEK	POD												X	X		

STOCKWATER

WILDLIFE STORAGE

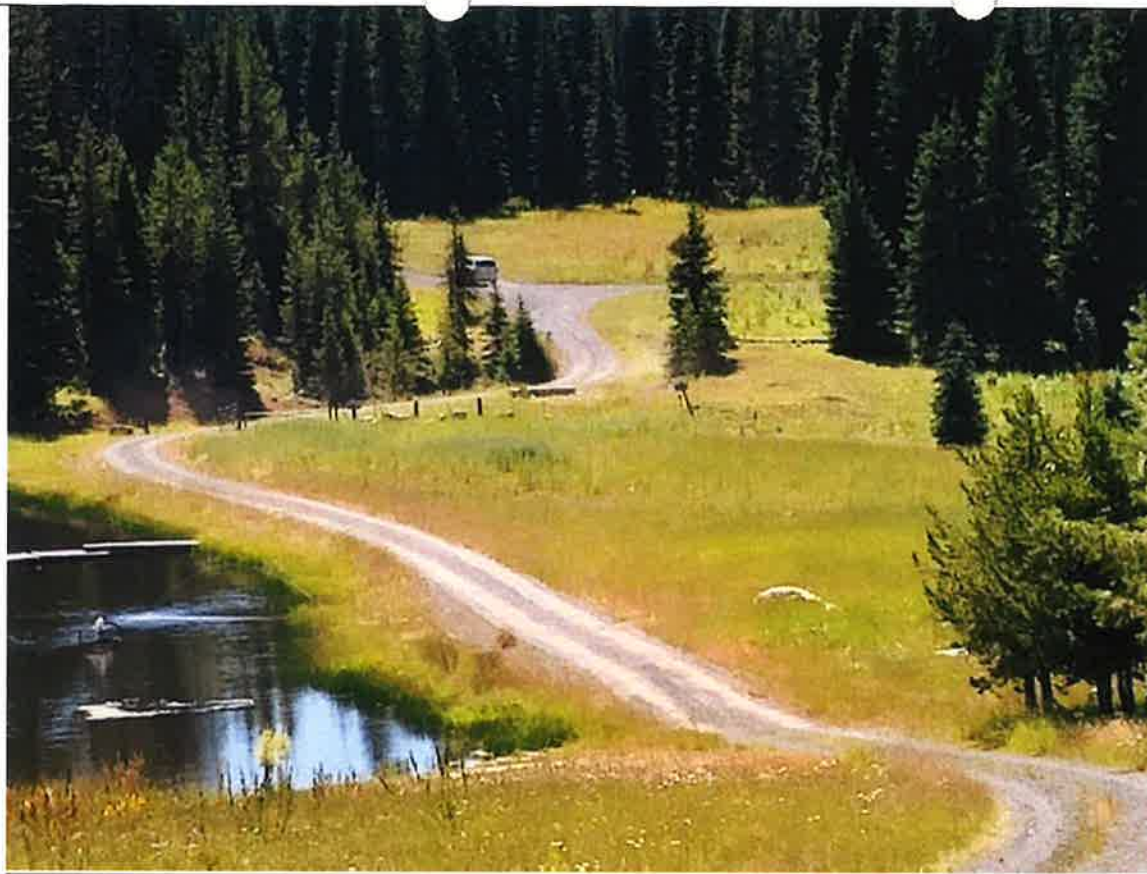


Figure 1. Looking SE across dam with over flow drain and dock visible in the pond.



Figure 2. Overflow drain.



**Figure 3. Looking
NE across dam at
pond.**



**Figure 4. Looking
SE along
downstream side
of dam.**



Figure 5.
Overflow outlet
culvert on
downstream side
of dam.



Figure 6. Looking
SW at nesting
island in pond.