



SPF WATER
ENGINEERING

December 1, 2017

Tom Bassista
Idaho Department of Fish and Game
3101 South Powerline Road
Nampa, ID 83686
Via email to thomas.bassista@idfg.idaho.gov

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DEC 27 2017

WATER RESOURCES
WESTERN REGION

WATER RESOURCES
WESTERN REGION

DEC 27 2017

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Subject: Applications for Permit 63-34414 and 63-34415

Dear Tom:

As a follow up to our recent conversations, this letter provides a narrative description of the proposed water use under applications for permit 63-34414 and 63-34415 filed in the name of BID LLC (BID). Included is an analysis of potential impacts to flows in the Boise River and a list of proposed conditions of approval. This letter updates the previous narrative letter that I sent to you on November 6, 2017.

On October 11, 2017, you and I attended an on-site meeting with applicant Doug Bates (BID), his farm manager, his farm lessee, and eight Idaho Department of Fish & Game (IDFG) staff members. At that meeting, we toured portions of the project area, including the place of use and point of diversion for 63-34414. We also discussed how the water is used and the benefits of the proposed water right permits to resident and migratory waterfowl and resident wildlife species dependent on riparian and agriculture lands.

Description of Applications

The two applications propose seasonal diversion of water from the Boise River for wildlife and recreation uses on BID-owned or BID-leased lands located along the Boise River, approximately 3 to 4 miles southeast of Parma, in Canyon County. The wildlife and recreational uses are somewhat synonymous, as water is used primarily to attract waterfowl and benefit seasonal wildlife habitat for the purposes of hunting and wildlife viewing.

In general, each application proposes to divert water from the Boise River, and convey the water through existing irrigation channels for shallow flooding of agricultural lands to attract and hold waterfowl. Most of the diverted water returns to the River either through surface channels or as groundwater. Consumption of water diverted under these applications will be minimal because (1) the majority of the use is during fall and winter when evaporation rates are negligible and (2) any transpiration from crops is covered under existing decreed irrigation water rights. BID will agree to conditions limiting the combined diversion rate for the wildlife/recreation permit and irrigation water rights to the amount of the wildlife/recreation permit.

Specifics of each application are provided below; applications with maps showing the points of diversion and places of use are enclosed as Attachment A.

- Application 63-34414 proposes diversion of 24.3 cfs for flooding of a 182-acre area on the north side of the Boise River. Season of use would be September 1 through February 28. The water would be diverted from the Boise River at an existing irrigation diversion structure located in Government Lot 3 (NENW) Section 36, T5N, R5W. The majority of the flow is returned to the river 1.5 miles downstream at a location approximately 100 yards upstream of the Highway 95 bridge; a minor portion of flow returns to the river further upstream. Some of the diverted water infiltrates into the shallow aquifer and ultimately returns to the river as groundwater discharge to the river bed, tributary drains, and tributary wetlands. The diverted water is conveyed through an existing slough within the property, and then lifted with existing irrigation pumps to flood fields. The 182-acre place of use is partially overlapped by the place of use for permit 63-11617 that authorizes diversion of 3.0 cfs from November 15 through March 15 for wildlife purposes. The proposed diversion rate for 63-34414, in combination with 63-11617, is based on the 0.15 cfs/acre standard rate that the Western Region Office of Idaho Department of Water Resources (IDWR) has adopted for field flooding use. The application also includes a 2500-af wildlife and recreation storage component to account for the seasonal flooding volume, including theoretical evaporation and seepage volumes. The theoretical seepage loss accounts for 95 percent of the storage volume.
- Application 63-34415 proposes diversion of 24.2 cfs for flooding of a 161-acre area on the south side of the Boise River. Season of use would be September 1 through February 28. The water would be diverted from the Boise River at an existing irrigation pump site located in SWSE Section 26, T5N, R5W, and returned to the river at various points between 0.5 and 1.5 miles downstream; the furthest downstream return point is approximately ½ mile below the Highway 95 bridge. The diversion rate is based on the 0.15 cfs/acre standard rate that the Idaho Department of Water Resources (IDWR) has adopted for this type of use. The application also includes a 2500-af wildlife and recreation storage component to account for the seasonal flooding volume, including theoretical evaporation and seepage volumes. The theoretical seepage loss accounts for 95 percent of the storage volume. The 161-acre place of use is partially overlapped by the place of use for permit 63-11618 that authorizes diversion of 2.0 cfs for year-round wildlife uses from Dixie Slough.

The proposed season of use includes the months of September through February. Diversion rates will vary through these periods depending on weather, crops, and other factors. It is anticipated that the peak diversion period will be early November through mid-January.

The uses proposed by both applications consist of flow-through water for shallow flooding of agricultural fields near the Boise River for the purpose of seasonal waterfowl habitat. Typically, the areas are flooded to a depth of a few inches, although depending on topography, the flooding depth can range from less than an inch to over a foot.

Benefits to Wildlife and Public

Some of the flooded areas will be hunted, while other areas will be preserved as waterfowl resting/refuge areas. Some of the dedicated refuge/resting areas may change from year to year, although approximately 20 acres (including the 10-acre pond in the east ½ of the NW ¼ of Section 26) are maintained as permanent refuge areas. In addition to dedicated refuge areas, less than 20 percent of the property is actively hunted at any particular time (although hunting areas may be rotated through the property over the course of a season) which provides additional areas for waterfowl to rest and feed. The resting/roosting/refuge areas ensure that waterfowl have a secure area to provide hunting opportunity within and adjacent to the property. The landowner restricts hunting to small-gauge shotguns which minimizes the noise impacts on adjacent resting/roosting/refuge areas. Effective resting/roosting/refuge areas increase the seasonal population of waterfowl in the local area which provides improved hunting success both on and off of the property.

The property is currently leased to a hunting club with approximately 30 members, providing hunting opportunities to participating members of the public.

Although applications 63-34414 and 63-34415 do not propose diversions during the March and April spring migration period, BID provides flooding of pastures on the south side of the river during that period under year-round wildlife water right permit 63-1618. This spring-season flooding has historically attracted large numbers of migrating ducks, geese, shorebirds and wading birds to the property, and BID plans to continue this beneficial practice into the future. Spring-time pasture flooding provides forage and security areas for these species and provides public opportunities for wildlife viewing from adjacent roadways.

Impacts to Flows in the Boise River

Potential impacts to the Boise River from applications 63-34414 and 63-34415 consist of a depletion of up to 48.5 cfs for a one-mile reach of river (i.e., between the point of diversion for 63-34415 and the return point for 63-34414), and up to approximately 24.3 cfs for two additional one-mile reaches (i.e., between the points of diversion for 63-34414 and 63-34415, and from the return flow point for 63-34414 to the return point for 63-34415). Actual depletions will be somewhat less, because portions of the diverted flows return upstream from the furthest downstream return flow point for each application.

The USGS gaging station for the Boise River at Parma is located 4 miles downstream from the proposed points of return flow for these applications. The gage station provides an estimate of river flows in the potentially depleted reach, although there are a few tributary drains between the points of diversion and the gage, most notably the Dixie Slough that enters the river approximately 1000 feet downstream of the 63-34414 point of diversion and 2500 feet upstream of the 63-34415 point of diversion. A copy of the gage data report from the USGS website is enclosed as Attachment B. In summary, mean monthly discharge at the gage for the past 40

years has been 949 cfs in September, 1030 cfs in October, 995 cfs in November, 1040 cfs in December, 1330 cfs in January, and 1730 cfs in February. Review of monthly averages for the period of record shows that average monthly river flow exceeds 700 cfs approximately 80% of the time in September, 90% of the time in October, 97.5% of the time in November and December, 95% of the time in January, and 92.5% in February. As a result, depletion to the River reaches impacted by these applications will typically be less than 10% of the flow during the main use period of November through January.

There are five other currently permitted non-irrigation season wildlife diversions from the Boise River that could impact the same 2-mile river reach. These include the following.

- 63-11617 (3.0 cfs) is owned by BID LLC. The water can be diverted from the Boise River through the Andrews Ditch (0.4 miles upstream of the 63-34414 proposed point of diversion) or at the diversion proposed for 63-34414. Water is returned to the river just upstream of the Highway 95 bridge.
- 63-32066 (20.5 cfs) held by BID LLC. The water is diverted from the Boise River through the Andrews Ditch and is returned to the river just upstream of the Highway 95 bridge.
- 63-33910 (4.5 cfs) held by BID LLC. The water is currently pumped from the Boise River approximately 2000 feet upstream of the Highway 95 bridge and returned to the river just upstream of the Highway 95 bridge.
- 63-32467 (20 cfs) held by Tree Top Ranches. The water is diverted from the Boise River through the Andrews Ditch and is returned to the river downstream of the Highway 95 bridge.
- 63-32911 (20 cfs) held by Tree Top Ranches. The water is pumped from the Boise River downstream of the Highway 95 bridge. This permit has the potential to impact only the lower ¼ mile of the potential reach, and is offset by return flows from the BID diversions that return to the river upstream of the Highway 95 bridge.

The cumulative diversion rate for the four permits diverting upstream of the Highway 95 bridge is 48 cfs. Combined with 63-34414 and 63-34415, total diversion would be 96.5 cfs. Assuming a Boise River low flow of 700 cfs, the four approved permits in combination with applications 63-34414 and 63-34415 have the potential to reduce the 1-mile reach flow by approximately 14 percent. Under normal flows of approximately 1000 cfs, the one-mile reach flow reduction will be 10 percent or less.

Attachment C is a summary of all other Boise River water rights, permits, and applications listing wildlife as a water use. Water rights diverting for wildlife uses upstream from the reach potentially impacted by 63-34414 and 63-34415 discharge their return flows to the river upstream of the reach potentially impacted by 63-34414 and 63-34415. As a result, there

should be little or no cumulative impact from upstream wildlife diversions from the River. Similarly, the two proposed applications and four existing permits are not expected to have a significant cumulative impact on downstream flows because most of the diverted water will return to the river as surface water discharge or groundwater gains within one mile of the Highway 95 bridge.

Proposed Conditions of Approval

Based on our conversations with you, BID is willing to agree to the following conditions of approvals on the permits. We anticipate that IDWR will include additional standard conditions of approval.

1. The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this permit.
2. Prior to diversion of water under this right, the right holder shall install and maintain a measuring device and lockable controlling works of a type acceptable to the Department as part of the diverting works.
3. Use of water under this right may be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 63.
4. Wildlife and wildlife storage use is to create shallow water and moist soil wildlife habitat. These habitats are intended to provide resting, roosting, and refuge areas for waterfowl.
5. Recreation and recreation storage use is for waterfowl hunting and wildlife viewing. Recreation use under this right is for flow-through water and return-flow water associated with recreation storage.
6. Any obstruction in the Boise River Channel for diversion of water under this right must provide for watercraft and fish passage. The right holder must bypass sufficient flows in the Boise River at the point of diversion to accommodate watercraft navigation and fisheries values in the Boise River downstream of the diversion. The quantity of the bypass flow may be established in the future by the filing of a petition with the Department to establish the bypass flows and subsequent proceedings as described in the Department's Rules of Procedure.
7. This right does not authorize the diversion and use of water released from Lucky Peak Reservoir for stream flow maintenance purposes in connection with Water Right 63-3618.

8. Prior to construction of any diversion or return works in the Boise River, necessary authorizations must be obtained from the US Corps of Engineers.
9. Water diverted under the recreation flow component of this water right, minus evaporation and seepage losses, shall be returned to the Boise River.
10. Water rights 63-34414, 63-174, 63-175, and 63-5181 in combination shall be limited to a diversion rate of 24.3 cfs.
11. Water rights 63-34415, 63-201, 63-5179, and 63-33855 in combination shall be limited to a diversion rate of 24.2 cfs.

Summary

1. The two BID applications for permit propose diversion of a combined 48.5 cfs from the Boise River for wildlife and recreation uses primarily focused on waterfowl hunting.
2. The diverted water will return to the river either directly through surface channels or indirectly as seepage losses that are expected to ultimately reach the river as groundwater flow. BID does not propose to monitor return flow rates on a continuous basis. However, BID will commit to performing spot measurements of return flow rates in December and January during the first year of operation and provide a report to IDF&G by March 01.
3. The 48.5 cfs diversion rate will result in a typical river flow depletion of approximately 2 to 10% within a 2-mile reach of the river from the upper point of diversion to the lower point of return.
4. BID believes that the seasonal habitat and resting areas provided by the project will improve waterfowl hunting not only within the BID property, but on other private and public lands within the Parma area. A hunting club leasing the property provides hunting opportunities for participating members of the public.

Please contact me if you have additional questions regarding these applications

Sincerely,



Terry M. Scanlan, P.E., P.G.
Principal Engineer/Hydrogeologist

Enclosures: Attachment A - Applications
Attachment B - USGS Streamflow Data – Boise River at Parma 1971-2016
Attachment C - Summary of other Boise River Wildlife Water Rights

cc: Douglas Bates - BID
SPF file number 733.0020

Attachment A
Applications 63-34414 and 63-34415

Application 63-34414

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT
To appropriate the public waters of the State of Idaho

Ident. No.

63-34414
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JUL 03 2017

WATER RESOURCES
WESTERN REGION

1. Name of applicant(s) BID, LLC Phone 208-489-7488
 Name connector (check one): ☐ and ☐ or ☐ and/or
 Mailing address c/o Douglas Bates, 777 W. Main St., Ste 900 City Boise
 State ID _____ ZIP 83702 Email doug@clearwateranalytics.com
2. Name of representative, if any SPF Water Engineering Phone 208-383-4140
 Mailing address 300 E. Mallard Dr., Ste. 350 City Boise
 State ID _____ ZIP 83702 Email lgraves@spfwater.com
- a. ☐ Send all correspondence for this application to the representative and not to the applicant OR
☒ Send original correspondence to the applicant and copies to the representative.
- b. ☒ The representative may submit information for the applicant but is not authorized to sign for the applicant OR
☐ The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation.
3. Source of water supply Boise River which is a tributary of Snake River

4. Location of point(s) of diversion:

Twp	Rge	Sec	Govt Lot	1/4	1/4	1/4	County	Source	Local name or tag #
5N	5W	36	3		NE	NW	Canyon	Boise River	

5. Water will be used for the following purposes:

- Amount 24.3 cfs for Wildlife & Recreation purposes from 9/1 to 2/28 (both dates inclusive)
 (cfs or acre-feet per year)
- Amount 2500 ac-ft for Wildlife & Recreation Storage purposes from 9/1 to 2/28 (both dates inclusive)
 (cfs or acre-feet per year)
- Amount 24.3 cfs for Diversion to Storage purposes from 9/1 to 2/28 (both dates inclusive)
 (cfs or acre-feet per year)
- Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
 (cfs or acre-feet per year)

6. Total quantity to be appropriated is (a) 24.3 cubic feet per second (cfs) and/or (b) 2500 acre-feet per year (af).

7. Proposed diverting works:

- a. Describe type and size of devices used to divert water from the source. headgate, ditches
- b. Height of storage dam _____ feet; active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet. If the reservoir will be filled more than once each year, describe the refill plan in item 12. For dams 10 feet or more in height AND having a storage capacity of 50 acre-feet or more, submit a separate Application for Construction or Enlargement of a New or Existing Dam. Application required? ☐ Yes ☐ No
- c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.
- d. Is ground water with a temperature of greater than 85°F being sought? ☐ Yes ☐ No
- e. If well is already drilled, when? _____; drilling firm _____;
 well was drilled for (well owner) _____; Drilling Permit No. _____

Received by (PWS) Date 7/3/17 Time _____ Preliminary check by CP
 Fee \$ 110.00 Receipted by (PWS) Receipt No. W005441 Date 7/3/17

For Department Use

8. Description of proposed uses (if irrigation only, go to item 9):
- Hydropower; show total feet of head and proposed capacity in kW. _____
 - Stockwatering; list number and kind of livestock. _____
 - Municipal; must complete and attach the [Municipal Water Right Application Checklist](#).
 - Domestic; show number of households _____
 - Other; describe fully. Miscellaneous wildlife, including waterfowl habitat; recreation use for waterfowl hunting and wildlife viewing.
9. Description of place of use:
- If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
 - If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RGE	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	5W	25						1	14			15							30
								L6	L7			L8							
		26	1		22	30				15	4				25	38	6	11	152
					L8	L9				L3	L7								

Total number of acres to be irrigated: 182

10. Describe any other water rights used for the same purposes as described above. Include water delivered by a municipality, canal company, or irrigation district. If this application is for domestic purposes, do you intend to use this water, water from another source, or both, to irrigate your lawn, garden, and/or landscaping? 3.0 cfs from the Boise River is currently authorized for wildlife uses in the same area under permit 63-11617.

11. a. Who owns the property at the point of diversion? n/a - accretion lands/river channel property
- b. Who owns the land to be irrigated or place of use? Applicant
- c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: Prescriptive easement to the additional POD has been established through historical irrigation and stock-water decreed rights recently acquired by the applicant.
12. Describe your proposal in narrative form, and provide additional explanation for any of the items above. Attach additional pages if necessary. see attached remarks

13. Time required for completion of works and application of water to proposed beneficial use is 5 years (minimum 1 year).

14. MAP OF PROPOSED PROJECT REQUIRED - Attach an 8½" x 11" map or maps clearly identifying the proposed point of diversion, place of use, section #, township & range. The map scale shall not be less than two (2) inches equal to one (1) mile.

The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval.

Signature of Applicant

Signature of Applicant

Print Name (and title, if applicable)

Print Name (and title, if applicable)

Application Remarks:

Proposed flow rate for wildlife/recreation uses is based on diversion of 0.15 cfs per acre for 182 acres of flow-through field flooding minus 3.0 cfs currently authorized for wildlife from the same source under permit 63-11617. Field flooding depth will range from less than 1 inch up to approximately 12 inches with an average depth of 6 inches. Flooding will occur intermittently from September through February. Proposed volumes were calculated using the IDWR storage memo 76 spreadsheet and account for associated storage, seepage and evaporation amounts. Regarding seepage, the USDA's Web Soils Survey results show Notus soils (No), Falk fine sandy loam (FaA) and Moulton fine sandy loam (MtA) as the predominate soils. The USDA Soil Survey of Canyon County Idaho (1972 issue) lists a permeability range of 0.63 to 6.3 inches/hour or greater for these predominate soils. As a result, the rate used for seepage loss was calculated using the spreadsheet's maximum 0.2 ft/day for 182 acres. Regarding evaporation, positive precipitation deficits from the Parma AgriMet Station for open water-shallow systems from September through February were used to calculate evaporation losses.

Volume Calculation					
Seepage					
Area (acres)	Rate (ft/day)	Start Date	End Date	Days	Volume (AF)
182	0.2	1-Sep	28-Feb	65	2366
Total					2366
Evaporation					
Area (acres)	Rate (mm/day)	End Date	Start Date	Days	Volume (AF)
182	2.67	1-Sep	30-Sep	11	17.54
182	1.13	1-Oct	31-Oct	11	7.42
182	0.1	1-Nov	30-Nov	11	0.66
182	-0.54	1-Dec	31-Dec	11	0.00
182	-0.43	1-Jan	30-Jan	11	0.00
182	0.38	1-Feb	28-Feb	10	2.27
Total				65	27.9
Storage Volume					
Area (acres)	Average Depth (ft)				Volume (AF)
182	0.5				91
Total Volume					2484.9

Search

Map Unit Legend

Canyon Area, Idaho (ID645)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FaA	Fall fine sandy loam, 0 to 2 percent slopes	12.1	14.3%
HA	Houlihan fine sandy loam, 0 to 1 percent slopes	25.1	29.4%
Mo	Morus soils	46.1	54.1%
Ra	Riverwash	1.7	2.0%
W	Water	0.3	0.3%
Totals for Area of Interest		85.3	100.0%

Soil Map

Scale (not to scale)



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil maps comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps show the small areas of contrasting soils that could have been shown at a more detailed scale.

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Printable Version | Add to Shopping Cart

Search

Map Unit Legend

Canyon Area, Idaho (ID668)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FsA	Fels, fine sandy loam, 0 to 2 percent slopes	6.4	75.9%
No	Notus soils	2.0	24.1%
W	Water	0.0	0.0%
Totals for Area of Interest		8.5	100.0%

Soil Map

Scale (not to scale)



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps the small areas of contrasting soils that could have been shown at a more detailed scale.



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[Printable Version](#) [Add to Shopping Cart](#)

Search

Map Unit Legend

Canyon Area, Idaho (ID645)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cu	Culshaw fine sandy loam	1.0	1.1%
HMA	Hauzian fine sandy loam, 0 to 1 percent slopes	58.8	70.0%
No	Nelus silt	23.2	28.0%
Totals for Area of Interest		83.0	100.0%

Soil Map

[Scale](#) (not to scale) v



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps the small areas of contrasting soils that could have been shown at a more detailed scale.

Application 63-34415

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT
To appropriate the public waters of the State of Idaho

Ident. No. 63-34415 **RECEIVED****JUL 03 2017**WATER RESOURCES
WESTERN REGION

1. Name of applicant(s) BID, LLC Phone 208-489-7488
 Name connector (check one): ☐ and ☐ or ☐ and/or
 Mailing address c/o Douglas Bates, 777 W. Main St., Ste. 900 City Boise
 State ID ZIP 83702 Email doug@clearwateranalytics.com
2. Name of representative, if any SPF Water Engineering Phone 208-383-4140
 Mailing address 300 E. Mallard Dr., Ste. 350 City Boise
 State ID ZIP 83702 Email lgraves@spfwater.com
- a. ☐ Send all correspondence for this application to the representative and not to the applicant OR
☒ Send original correspondence to the applicant and copies to the representative.
- b. ☒ The representative may submit information for the applicant but is not authorized to sign for the applicant OR
☐ The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation.
3. Source of water supply Boise River which is a tributary of Snake River

4. Location of point(s) of diversion:

Twp	Rge	Sec	Govt Lot	¼	¼	¼	County	Source	Local name or tag #
5N	5W	26			SW	SE	Canyon	Boise River	

5. Water will be used for the following purposes:

Amount 24.2 cfs for Wildlife & Recreation purposes from 9/1 to 2/28 (both dates inclusive)
 (cfs or acre-feet per year)

Amount 2500 ac-ft for Wildlife & Recreation Storage purposes from 9/1 to 2/28 (both dates inclusive)
 (cfs or acre-feet per year)

Amount 24.2 cfs for Diversion to Storage purposes from 9/1 to 2/28 (both dates inclusive)
 (cfs or acre-feet per year)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
 (cfs or acre-feet per year)

6. Total quantity to be appropriated is (a) 24.2 cubic feet per second (cfs) and/or (b) 2500 acre-feet per year (af).

7. Proposed diverting works:

- a. Describe type and size of devices used to divert water from the source. Pump, headgates, ditches
- b. Height of storage dam _____ feet; active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet. If the reservoir will be filled more than once each year, describe the refill plan in item 12. For dams 10 feet or more in height AND having a storage capacity of 50 acre-feet or more, submit a separate Application for Construction or Enlargement of a New or Existing Dam. Application required? ☐ Yes ☐ No
- c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.
- d. Is ground water with a temperature of greater than 85°F being sought? ☐ Yes ☐ No
- e. If well is already drilled, when? _____; drilling firm _____;
 well was drilled for (well owner) _____; Drilling Permit No. _____.

Received by (Signature) Date 7/3/17 Time _____ Preliminary check by LP
 Fee \$ 1110.- Receipted by (Signature) Receipt No. WDUSM41 Date 7/3/17

8. Description of proposed uses (if irrigation only, go to item 9):

- Hydropower; show total feet of head and proposed capacity in kW. _____
- Stockwatering; list number and kind of livestock. _____
- Municipal; must complete and attach the [Municipal Water Right Application Checklist](#).
- Domestic; show number of households _____
- Other; describe fully. Miscellaneous wildlife, including waterfowl habitat; recreation use for waterfowl hunting and wildlife viewing.

9. Description of place of use:

- If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
- If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RGE	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	5W	26							8		7	32	24	31			5		107
									L5		L7	L6							
		27	10	5		39													54
			L1	L2		L1													

Total number of acres to be irrigated: 161

flooded

10. Describe any other water rights used for the same purposes as described above. Include water delivered by a municipality, canal company, or irrigation district. If this application is for domestic purposes, do you intend to use this water, water from another source, or both, to irrigate your lawn, garden, and/or landscaping? 63-11618 diverted from Dixie Slough

- Who owns the property at the point of diversion? The Tina Iest Family LLLP
- Who owns the land to be irrigated or place of use? Applicant and The Tina Iest Family LLLP
- If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: Applicant leases property and has an option to purchase.

12. Describe your proposal in narrative form, and provide additional explanation for any of the items above. Attach additional pages if necessary. see attached remarks

13. Time required for completion of works and application of water to proposed beneficial use is 5 years (minimum 1 year).

14. MAP OF PROPOSED PROJECT REQUIRED - Attach an 8½" x 11" map or maps clearly identifying the proposed point of diversion, place of use, section #, township & range. The map scale shall not be less than two (2) inches equal to one (1) mile.

The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval.

Signature of Applicant

Signature of Applicant

Print Name (and title, if applicable)

Print Name (and title, if applicable)

Application Remarks:

Proposed flow rate for wildlife/recreation uses is based on diversion of 0.15 cfs per acre for 161 acres of flow-through field flooding. Field flooding depth will range from less than 1 inch up to approximately 12 inches with an average depth of 6 inches. Flooding will occur intermittently from September through February. Proposed volumes were calculated using the IDWR storage memo 76 spreadsheet and account for associated storage, seepage and evaporation amounts. Regarding seepage, the USDA's Web Soils Survey results show Baldock loam (BdA), Bram Silt loam (BrA, BsA, BsB), Letha fine sandy loams (LtA, LsA) and Moulton loams (MuA, MWA) as the predominate soils. The USDA Soil Survey of Canyon County Idaho (1972 issue) lists a permeability range of 0.06 to 0.20 inches/hour or greater for these predominate soils. As a result, the rate used for seepage loss was calculated using the spreadsheet's maximum 0.2 ft/day for 161 acres. Regarding evaporation, positive precipitation deficits from the Parma AgriMet Station for open water-shallow systems from September through February were used to calculate evaporation losses.

Volume Calculation					
Seepage					
Area (acres)	Rate (ft/day)	Start Date	End Date	Days	Volume (AF)
161	0.2	1-Sep	28-Feb	74	2382.8
Total					2382.8
Evaporation					
Area (acres)	Rate (mm/day)	End Date	Start Date	Days	Volume (AF)
161	2.67	1-Sep	30-Sep	12	16.92
161	1.13	1-Oct	31-Oct	13	7.76
161	0.1	1-Nov	30-Nov	13	0.69
161	-0.54	1-Dec	31-Dec	12	0.00
161	-0.43	1-Jan	30-Jan	12	0.00
161	0.38	1-Feb	28-Feb	12	2.41
Total				74	27.8
Storage Volume					
Area (acres)	Average Depth (ft)				Volume (AF)
161	0.5				80.5
Total Volume					2491.1

Search

Map Unit Legend

Canyon Area, Idaho (ID645)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BdA	Baldock loam, 0 to 1 percent slopes	26.9	16.8%
BtA	Bram silt loam, 0 to 1 percent slopes	2.8	1.8%
BsA	Bram silt loam, saline-silt, 0 to 1 percent slopes	4.3	3.7%
BsD	Bram silt loam, saline-silt, 1 to 3 percent slopes	2.6	1.6%
GwE	Greenleaf-Chrysee silt loams, 12 to 20 percent slopes	0.0	0.0%
LsA	Latha fine sandy loam, 0 to 1 percent slopes	16.2	11.4%
LtA	Latha fine sandy loam, strongly saline-silt, 0 to 1 percent slopes	19.3	12.1%
MuA	Moulton fine sandy loam, saline, 0 to 1 percent slopes	37.6	23.8%
MuA	Moulton loam, saline, 0 to 1 percent slopes	35.5	22.3%
Nd	Notus silt	12.2	7.7%
Totals for Area of Interest		189.4	100.0%

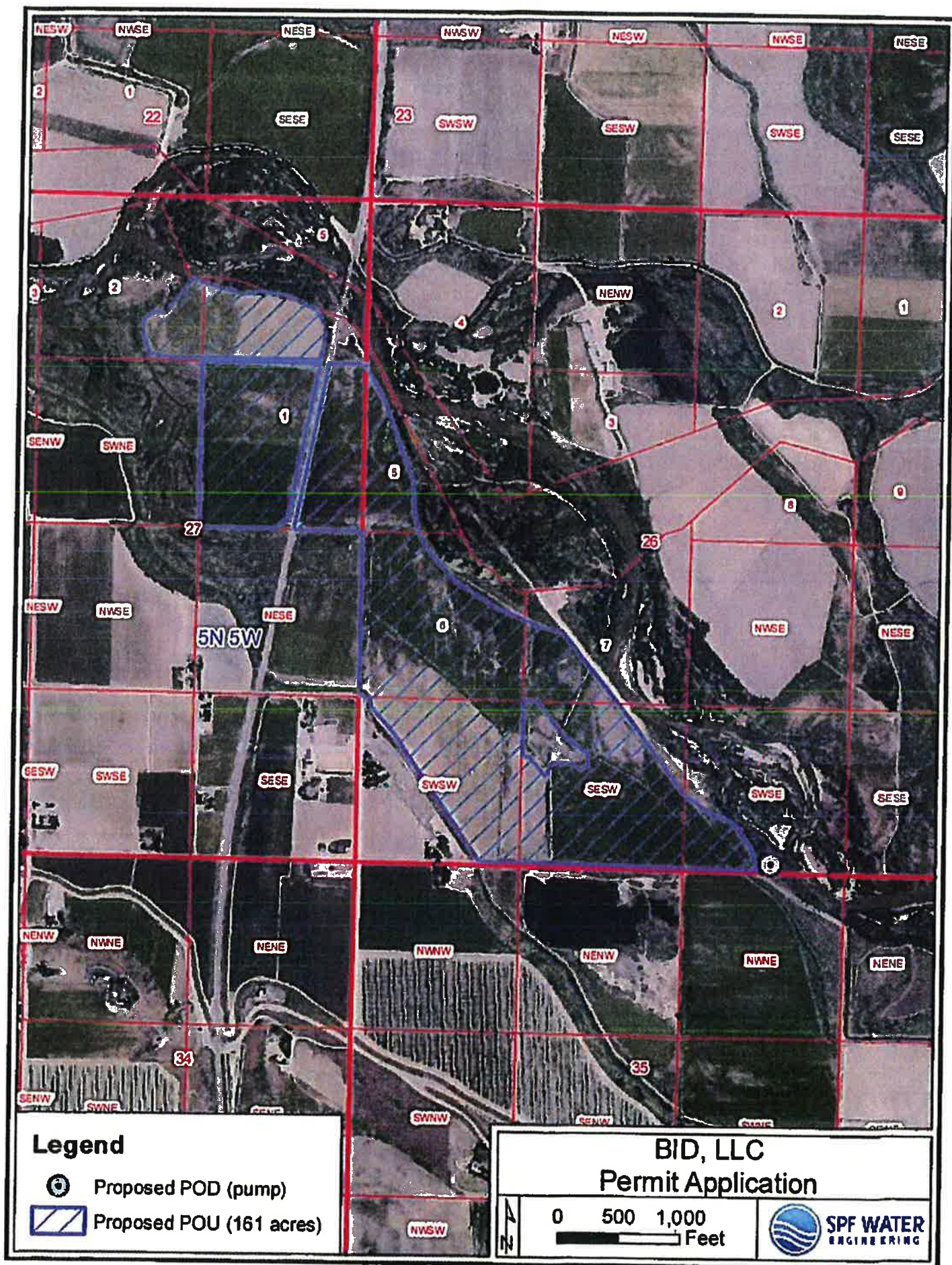
Soil Map

Scale (not to scale)



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps the small areas of contrasting soils that could have been shown at a more detailed scale.



63-34415

Attachment B
USGS Streamflow Data



USGS Home
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National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Surface Water

Geographic Area:

Idaho

GO

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USGS Surface-Water Monthly Statistics for Idaho

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USGS 13213000 BOISE RIVER NR PARMA ID

Available data for this site

Time-series: Monthly statistics

GO

Canyon County, Idaho

Hydrologic Unit Code 17050114

Latitude 43°46'54", Longitude 116°58'22" NAD83

Drainage area 3,906 square miles

Gage datum 2,196.49 feet above NGVD29

Output formats

[HTML table of all data](#)

[Tab-separated data](#)

[Reselect output format](#)

00060, Discharge, cubic feet per second,												
YEAR	Monthly mean in ft ³ /s (Calculation Period: 1971-09-01 -> 2016-09-30)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1971									1,167	1,425	1,034	1,000
1972	2,857	6,441	7,214	6,737	5,489	3,501	796.9	820.9	1,152	1,171	976.9	1,032
1973	912.1	802.2	726.1	600.0	617.6	746.4	668.0	666.5	871.2	1,069	1,012	986.9
1974	1,000	2,642	5,268	6,499	6,327	5,388	1,308	819.2	885.9	1,109	1,079	1,022
1975	941.6	967.4	2,711	6,780	6,225	2,492	797.3	912.2	936.8	1,293	1,118	1,049
1976	2,038	2,126	2,393	3,925	3,633	1,301	740.7	1,088	1,219	1,182	1,073	952.5
1977	782.3	685.9	592.1	219.4	440.4	315.2	305.3	339.1	556.2	750.6	780.4	781.7
1978	889.2	894.5	986.3	4,583	2,769	715.6	762.2	789.4	1,054	1,007	898.0	803.8

1979	778.4	1,243	714.1	587.2	440.7	491.6	497.1	665.5	711.9	929.4	915.7	811.9
1980	874.5	869.2	839.4	1,089	4,118	3,563	988.1	778.1	1,346	971.0	922.8	887.5
1981	829.6	847.3	1,162	1,478	1,593	2,597	635.7	555.1	795.0	1,053	976.6	1,004
1982	1,013	4,919	6,747	6,693	5,842	3,317	3,098	1,001	1,183	1,996	1,279	2,274
1983	4,255	4,456	6,196	6,940	6,705	6,817	2,848	1,580	1,482	1,738	1,006	2,512
1984	5,080	3,119	3,130	4,368	6,762	4,269	1,846	1,057	2,587	2,395	2,322	1,957
1985	1,706	921.7	819.0	895.4	914.3	622.7	565.8	635.3	1,266	1,149	964.5	1,647
1986	1,074	2,882	7,168	6,942	5,134	3,745	973.2	843.3	1,386	1,183	2,283	1,375
1987	843.8	847.5	821.1	283.4	658.2	559.1	503.1	523.1	685.0	827.1	890.9	821.6
1988	756.1	726.3	669.5	432.3	506.4	480.7	300.7	305.8	415.7	570.7	829.5	750.6
1989	712.8	811.1	1,072	3,392	1,178	563.9	577.6	739.0	989.0	989.0	916.6	809.0
1990	770.3	745.2	533.9	356.5	714.5	554.5	406.4	519.4	633.2	844.4	899.1	785.1
1991	779.7	742.4	664.2	538.0	780.6	670.8	533.8	424.1	550.3	668.1	818.8	722.2
1992	656.1	657.8	505.5	243.5	276.3	315.6	281.9	187.4	183.5	423.2	633.3	606.1
1993	652.2	653.3	975.5	1,704	3,791	1,440	1,010	922.1	877.5	1,002	934.3	873.6
1994	843.5	792.6	708.5	482.8	805.7	520.7	699.6	596.4	400.5	668.4	755.2	776.9
1995	758.4	742.6	694.3	1,606	4,551	2,591	2,369	1,028	1,070	1,089	977.3	1,664
1996	1,715	4,756	7,143	5,625	5,010	4,217	1,064	1,132	1,117	1,058	996.3	1,358
1997	6,882	7,916	7,466	6,835	5,255	3,938	1,364	1,532	1,464			
2002										838.4	866.7	798.5
2003	815.1	799.8	677.1	731.3	859.1	813.2	818.7	844.0	859.4	959.6	886.8	831.5
2004	889.2	1,229	873.0	645.5	1,042	771.0	781.1	761.2	853.5	898.8	883.8	806.2
2005	761.3	750.0	656.6	452.4	1,025	590.3	573.0	702.6	804.0	774.8	846.4	927.5
2006	1,048	4,121	3,845	5,640	6,773	2,920	889.3	967.9	948.8	899.6	863.8	809.5
2007	817.0	773.9	659.4	599.2	575.2	794.2	933.7	675.3	694.7	811.7	790.4	764.8
2008	745.8	777.3	733.9	661.4	2,688	947.0	865.8	839.2	850.1	910.8	885.7	922.3
2009	834.1	763.4	731.1	570.5	1,585	3,601	714.2	759.0	916.2	1,022	901.6	1,109
2010	944.3	882.9	781.5	610.8	1,403	3,034	779.1	571.9	823.5	937.1	934.2	1,021
2011	1,260	924.9	1,287	6,219	6,867	4,357	1,792	634.4	885.7	1,055	935.0	853.6
2012	955.9	1,162	3,753	6,533	5,242	1,410	865.7	575.7	836.4	906.4	941.4	915.9
2013	859.0	874.0	703.8	367.7	709.3	418.5	312.8	423.3	815.9	839.8	864.3	802.5
2014	760.1	954.4	851.1	1,567	540.5	838.3	734.4	558.1	887.9	931.1	995.8	1,010
2015	1,085	962.5	806.3	353.7	1,286	366.3	867.5	537.2	812.6	854.4	900.1	911.1
2016	854.6	836.9	770.5	3,255	2,281	1,982	625.6	564.6	938.1			
Mean of monthly Discharge	1,330	1,730	2,130	2,700	2,840	1,960	937	747	949	1,030	995	1,040
** No Incomplete data have been used for statistical calculation												

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Title: Surface Water data for Idaho: USGS Surface-Water Monthly Statistics

URL: <https://waterdata.usgs.gov/id/nwis/monthly?>

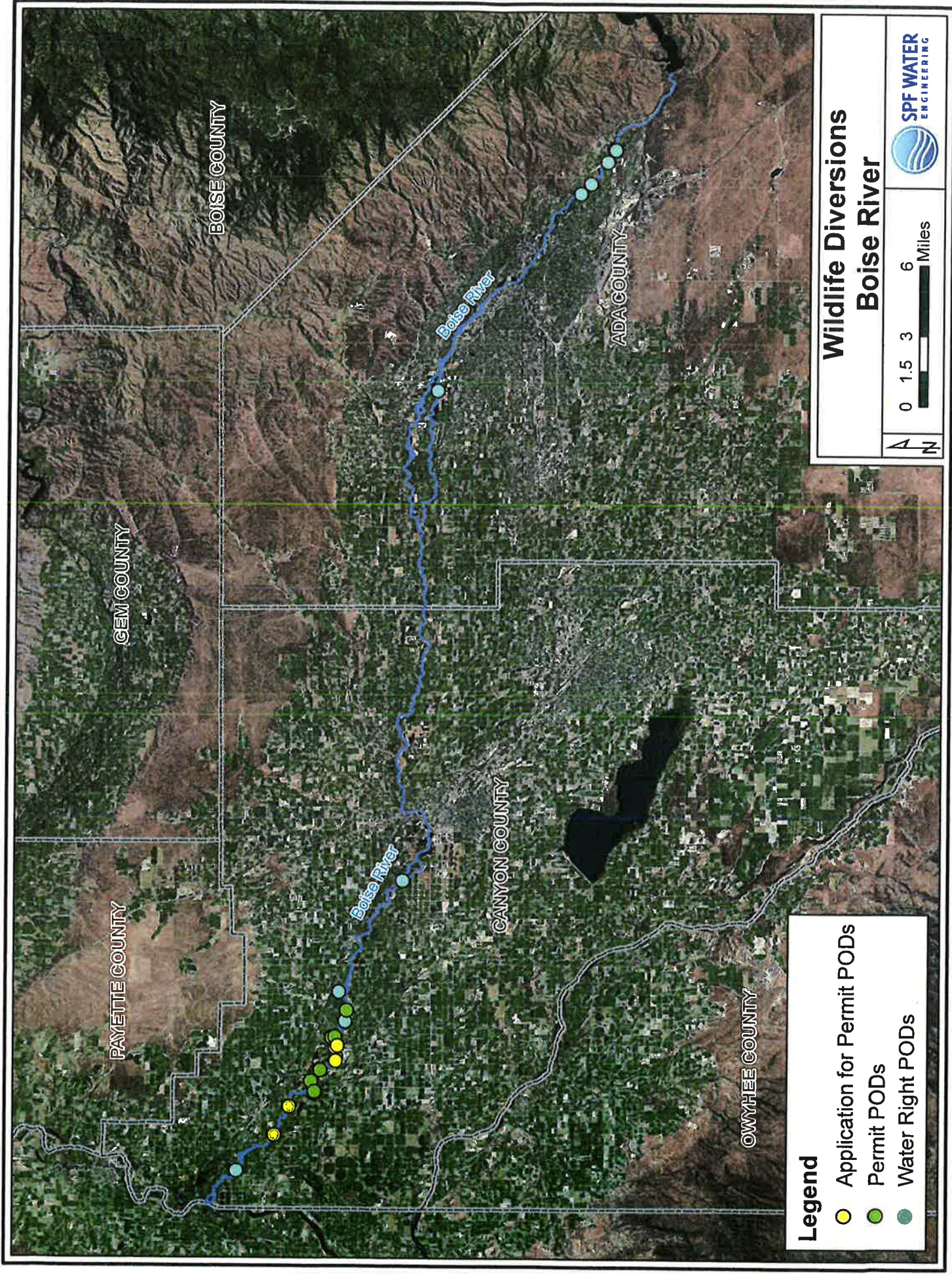


Page Contact Information: [Idaho Water Data Support Team](#)

Page Last Modified: 2017-09-25 17:44:50 EDT

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Attachment C
Summary of Boise River Water Rights
Listing Wildlife as a Purpose of Use



Legend

- Application for Permit PODs
- Permit PODs
- Water Right PODs

**Wildlife Diversions
Boise River**



Boise River Water Rights Listing Wildlife as a Use					
Water Right	Basis	Priority Date	Owner	Diversion Rate (cfs)	Remarks
63-149A	Decreed	6/1/1865	South Boise Water Co	40.00	2 points of diversion in SE Boise
63-278	Decreed	4/1/1865	Riverview Ventures	0.80	Ridenbaugh Canal (SE Boise)
63-279B	Decreed	4/1/1870	Riverview Ventures	0.32	Ridenbaugh Canal (SE Boise)
63-287D	Decreed	6/1/1882	Russell Ruff	0.04	Warm Springs Ditch (Eagle Island)
63-7721	Decreed	2/12/1973	J Glaisyer	6.00	Atwell Ditch (3 mi west of Caldwell)
63-9944	Decreed	8/11/1982	Dan L Bilbao Jr	1.00	Baxter Ditch (2 mi west of Notus)
63-10397	License	3/6/1987	Burdge Family Trust	3.00	3 mi west of Notus
63-10810	License	6/12/1989	J R Kemp	4.10	2 mi west of Parma
63-11617	Permit	12/13/1991	The Tina Iest Family LLLP	3.00	2 points of diversion
63-17034	Decreed	11/16/1904	Idaho Foundation For Parks & Lands Inc	0.00	Barber Dam (SE Boise)
63-32066	Permit	12/8/2004	The Tina Iest Family LLLP	20.50	Andrew Ditch (4 mi west of Notus)
63-32238	Permit	7/9/2005	Erlebach Properties LP	10.00	3 mi west of Notus
63-32459	Permit	4/5/2005	G O Investments Idaho LLC	6.00	Haas Ditch (2.5 mi S of Parma)
63-32467	Permit	12/28/2005	Tree Top Ranches LP	20.00	Andrew Ditch (4 mi west of Notus)
63-32911	Permit	12/28/2005	Tree Top Ranches LP	20.00	3 mi SE of Parma
63-33507	Permit	5/11/2011	G O Investments Idaho LLC	6.00	Haas Ditch (2.5 mi S of Parma)
63-33640	Application	8/7/2015	E G Johnson Farms Inc	3.00	4 mi west of Notus
63-33910	Permit	2/3/2014	BID LLC	4.50	4 mi west of Notus
63-34333	Application	1/26/2017	Thorpe Family Trust	0.90	1 mi SW of Parma
63-34334	Application	1/26/2017	Thorpe Family Trust	13.05	Island Highline Ditch (1.5 mi S of Parma)
63-34384	Application	5/16/2017	Greg Obendorf, Ann Obendorf	23.50	Andrew Ditch (4 mi west of Notus)
63-34414	Application	7/3/2017	BID LLC	24.30	4 mi west of Notus
63-34415	Application	7/3/2017	BID LLC	24.20	5 mi west of Notus