



Memorandum

Oregon Department of Fish and Wildlife

Date: July 21, 2021

To: Fish passage Task Force

From: Dave Banks

Subject: Benefit Analyses fish passage exemption on Jump Creek, tributary to Silvies River

Proposal

Silvies Valley Ranch (SVR) is seeking exemptions from fish passage requirements for 10 artificial beaver dams (ABD's) located on Jump Creek, a tributary to the Silvies River (OAR 635-412-0025). This exemption is being requested for previously constructed ABD's located above a dam (44.021147 -118.984303) that was constructed about 1930 according to information submitted by SVR in the exemption application. The exemption would waive the fish passage requirement at these ABD's and affect approximately 2.8 miles of Jump Creek.



Figure 1. The yellow line indicates the length of Jump Creek, 2.8 miles, with 10 artificial beaver dams (ABD's). The downstream point begins at the dam and continues upstream to approximately the private-public ownership boundary.

Basin/Channel Characteristics:

The watershed available to support native fishes begins at the dam and upstream approximately 4.3 miles with the highest elevation rising to about 5,400 ft. This is likely too small to support the entire life cycle of redband trout and other native fishes. Sampling by ODFW fish staff during the fall of 2019 and spring of 2021 found no native migratory fish in Jump Creek (ODFW 2020, ODFW 2021). Further not all of the stream channel contains flowing water throughout the year (Figure 2). Staff surveyed 1.1 miles (1.7 km) of Jump Creek on public land in November 2019 and found water in some sections of the stream, but limited riparian shade is available to buffer water temperatures during warmer months (Figure 2-4). A few pools were observed during the survey, but no fish were captured (ODFW 2020). Other sections were dry or lacked a defined channel. During spring sampling in May of 2021, 23 of 24 sites (Figures 5-7) contained flowing water with suitable water temperatures, yet no redband trout or other native migratory fish were captured (Tables 1-2, ODFW 2021). Sampling efforts in 2019 and 2021 informs my professional judgement that this stream lacks consistent water flow throughout the year to support native migratory fishes or any part of their life cycle.



Figure 2. JC3



Figure 3. JC7



Figure 4. JC15

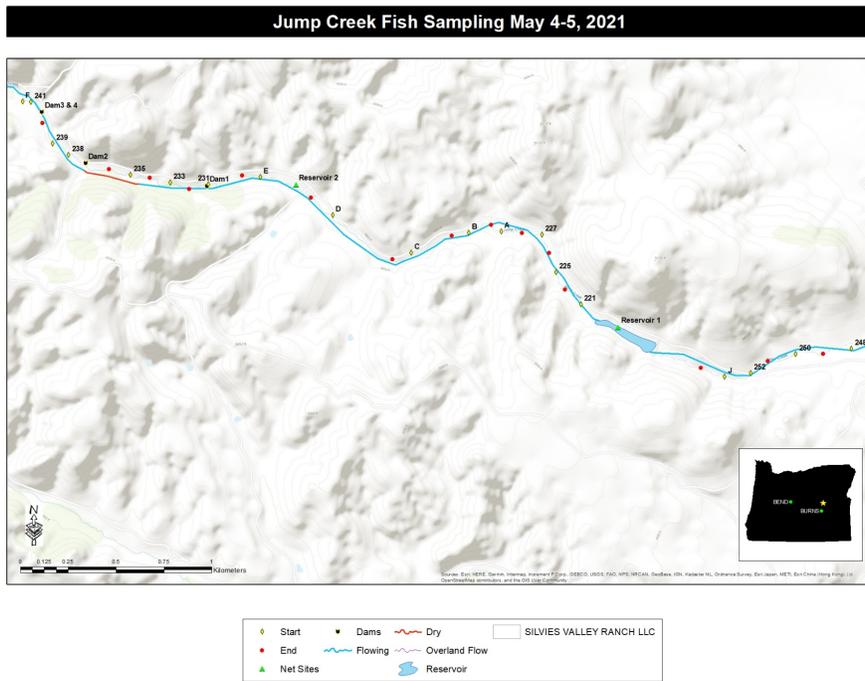


Figure 6. Middle Jump Creek.

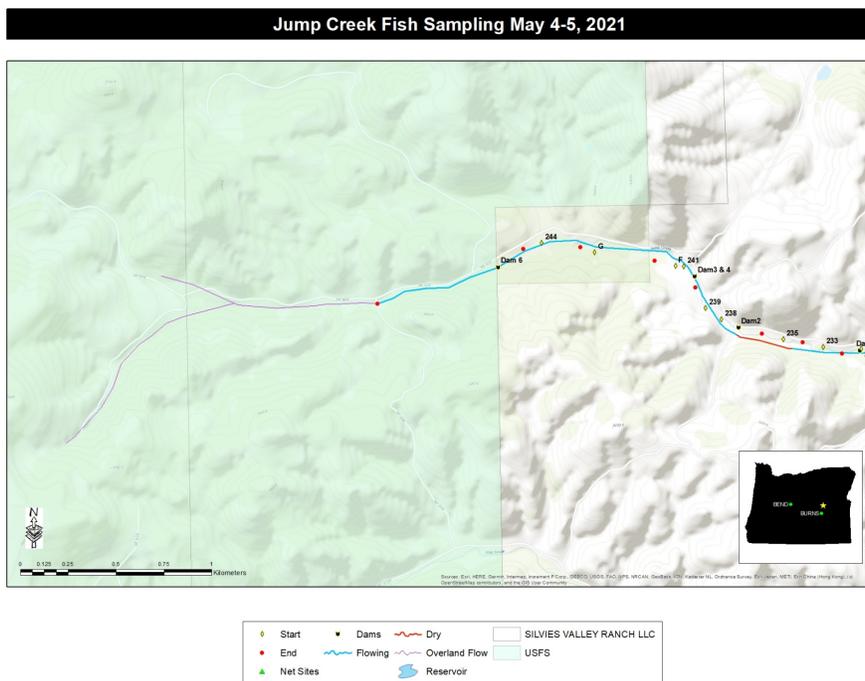


Figure 7. Upper Jump Creek.

Table 1. Site ID, percent of the site with flowing water (% wetted), and ownership where the site was located. Redband trout (RBT), Yellow Perch (YP) and Speckled Dace (SPD).

Site ID	% Wetted	Owner	RBT	YP	SPD
A	100	Silvies Valley Ranch	0	10	26
B	100	Silvies Valley Ranch	0	0	1
C	100	Silvies Valley Ranch	0	0	3
D	100	Silvies Valley Ranch	0	0	12
E	100	Silvies Valley Ranch	0	0	5
F	100	Silvies Valley Ranch	0	0	0
G	100	Silvies Valley Ranch	0	0	0
H	100	Silvies Valley Ranch	0	0	0
I	100	Silvies Valley Ranch	0	0	0
J	100	Silvies Valley Ranch	0	0	9
221	100	Silvies Valley Ranch	0	0	7
225	100	Silvies Valley Ranch	0	0	2
227	100	Silvies Valley Ranch	0	0	1
231	100	Silvies Valley Ranch	0	0	0
233	100	Silvies Valley Ranch	0	0	0
235	5	Silvies Valley Ranch	0	0	0
238	100	Silvies Valley Ranch	0	0	0
239	100	Silvies Valley Ranch	0	0	0
241	100	Silvies Valley Ranch	0	0	0
244	100	Silvies Valley Ranch	0	0	0
246	100	Silvies Valley Ranch	0	0	0
248	100	Silvies Valley Ranch	0	0	0
250	100	Silvies Valley Ranch	0	0	0
252	100	Silvies Valley Ranch	0	0	0
USFS/SVR - 3765-868	100	U. S. Forest Service	0	0	0

Table 2. Trap net set location, soak time, total fish and species captured.

Location	Soak Time (h)	Total	Species
Reservoir 1	25.5	153	YP
Reservoir 2	20.0	1	YP

Fish Presence and Habitat Quality:

Under historic conditions, this tributary would have functioned as spawning and rearing habitat for redband trout and other fish species native to the Silvies watershed. However there has been a dam constructed, agricultural water use, and landscape modifications on Jump Creek over the last 130 years that has negatively impacted fish persistence. The dam has existed for many years as noted in the exemption application and was identified by ODFW as the upper limit of fish distribution in Jump Creek distribution surveys conducted in 1999 (Bowers). Habitat quality on public land above the dam overall is poor for supporting redband trout or other native fishes. In November 2019 ODFW staff surveyed Jump Creek and found 1.1 miles (1.7 km) of wetted

channel upstream of the SVR property boundary on the US Forest property. The channel is simple, lacks depth and riparian canopy along most of the channel and has few pools. Dry reaches occurred on public land during the survey in 2019 (Figure 2). Spawning habitat for redband trout was not observed during surveys in 2019 and it is my professional opinion that there is no suitable spawning habitat within the public land portions of Jump Creek. Further sampling during spring flows in 2021 did not capture any redband trout or other native migratory fishes and redds were not observed in Jump Creek (ODFW 2021).

Sampling for redband trout or other native fishes never occurred on any portion of Jump Creek pre or post ADB construction. Jump Creek was not a priority in site selection during sample design for redband trout for major sampling efforts within the Silvies watershed. Sampling by ODFW staff from 1974-79, 1996-99 and 2007-12 did not include Jump Creek as a waterbody from which sampling sites could be selected. The three sampling events that did occur on Jump Creek did not find any fish present (Bowers 1999, ODFW 2020, ODFW 2021). Non-native yellow perch reportedly inhabit the reservoir created by the dam (Campbell pers. Comm, 2014) and they were confirmed present during spring 2021 (ODFW 2021). Yellow perch compete for food and space and lower the value of the reservoir for redband trout. Native migratory fish subject to fish passage authority (OAR 635-412-0005(32)) are not currently present above the reservoir (ODFW 2020, ODFW 2021).

Exemption Eligibility:

This site appears to meet eligibility requirements for an exemption. Native migratory fish have not been observed during sampling in 2019 or 2021. Further, this stream was never included in sample site selection during three long-term sampling periods for redband trout. Water appears to be intermittent in this drainage throughout the year and current channel conditions above the dam seem to lack the definition typical of perennial flowing water capable of supporting redband trout.

Net Benefit:

There appears to be no appreciable benefit for native fish at these 10 locations. It is my professional opinion, based on sampling in 2019 and 2021, that there is no appreciable benefit for native migratory fish

Conclusion:

The ODFW Malheur Watershed District fish staff recommend granting an exemption as requested by Silvies Valley Ranch. The main reasons for this conclusion are:

1. Lack of capturing native migratory fish during two sampling events in 2019 and 2021
2. The poor habitat quality that exists above the reservoir
3. Professional judgement that sufficient water to support native fishes is lacking upstream of the reservoir