

RECLAMATION

Managing Water in the West

TANEUM CREEK STUDY: The Bruton-KRD Water Exchange Project

DRAFT Report for Public Review and Comment



Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

TANEUM CREEK STUDY: The Bruton-KRD Water Exchange Project

DRAFT Report for Public Review and Comment

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EXECUTIVE SUMMARY

This draft report describes the Taneum Creek Study: The Bruton-KRD Water Exchange Project (Bruton-KRD exchange) being proposed by the Bureau of Reclamation as part of the Yakima River Basin Water Enhancement Project (YRBWEP). The objectives of the project are to:

- Provide Bruton Ditch water users with an alternative to the existing irrigation water delivery system, and
- Improve fish passage conditions in Taneum Creek.

The impacts of the project to Bruton Ditch water users and Taneum Creek fishery resources were reviewed. It was concluded that the project would result in improvements to the irrigation water supply and environmental conditions in Taneum Creek.

PURPOSE OF THE STUDY

The purpose of this report is to seek public comments on a proposal to provide Bruton Ditch water users with alternatives to the existing irrigation and stock water delivery system. The YRBWEP staff has studied the hydrologic, environmental, engineering, and economic aspects of the proposal while preparing this report.

The Bruton Ditch alternatives are intended to improve habitat conditions and fish production in Taneum Creek without adversely affecting existing water and land uses. To further that goal, Reclamation is seeking comments on the effects of the project.

Following a 45-day review and comment period, this report will be revised and completed. The final report will be submitted to the Committee on Energy and Natural Resources of the Senate, the Committee on Natural Resources of the House of Representatives, the Governor of Washington, and made available to the public.

BACKGROUND

Taneum Creek Fish Passage Issues

Bruton Dam was built at its current location on Taneum Creek in 1965 to accommodate construction of Interstate-90 (see Figure 1 and Figure 2). The dam currently provides irrigation and stock water to the Bruton Ditch. When the dam was built, Bruton Ditch was also used by Kittitas Reclamation District (KRD) to deliver water to lands east of Taneum Creek. Although KRD retains ownership of the dam, the district has developed other water delivery routes, and no longer uses Bruton Dam.

By the time Bruton Dam was completed, salmon had not returned to Taneum Creek in notable numbers for over 50 years, and steelhead were no longer abundant. Reports state that silver salmon were present until 1910, when the Taneum Canal Company diversion was put in place. In 1936 biologists surveying habitat conditions in Taneum Creek (McIntosh et al., 1995) concluded that the Taneum Canal Company dam was a complete barrier to upstream migrants and a trap for downstream migrants, and was sufficient to destroy salmon runs in the creek.

Although fish facilities were commonly installed on diversion dams at that time, Bruton Dam did not have a fish ladder for upstream migrants, nor was the ditch screened to prevent fish from going down the canal. For 20 years, Bruton Dam was a complete barrier to fish migration and compounded fish passage problems in Taneum Creek.



Figure 1. Location map. Taneum Creek is a tributary to the upper Yakima River (RM 166) in central Washington



Figure 2. Bruton Dam at high and low creek flows. The fish ladder is to the left; Interstate-90 bridge is in the background.

Removing manmade fish passage barriers and allowing fish access to suitable habitat is an important strategy for fishery enhancement and restoration. In 1989, Reclamation built a fish ladder at Bruton Dam and screened the canal as part of a program to upgrade fish passage facilities at Yakima Project diversions. Reclamation made an agreement with the Bruton Ditch water users to maintain and operate the fish facilities at no cost or responsibility to them, and assured them that the fish facilities will not obstruct the flow of water into the Bruton Ditch. Either KRD or Reclamation staff has operated the dam since the fish facilities were constructed.

Over the years, experience has shown that the fish ladder at Bruton Dam is difficult to operate, and has not provided effective fish passage. The fish ladder was only designed to operate during high creek flows; at low flows, fish passage continues to be compromised. The entrance to the ladder is perpendicular to the creek flow, so at high creek flows it is difficult to find, causing migration delays. When the ladder is operating properly, it must be adjusted frequently, requiring a significant investment in manpower and resources. Reclamation estimated it spends over \$9,000 annually on maintenance at Bruton Dam (Scott Kline, Yakima Project Biologist, personal communication), a significant expense relative to the amount of water being diverted.

Today, plans are being developed to repair fish passage problems in Taneum Creek by providing irrigators with an alternative supply of water. If these plans are implemented, salmon will once again have the opportunity to return to Taneum Creek.

YRBWEP Tributary Authority

Congress authorized the first phase of the YRBWEP by the Act of December 28, 1979 (Public Law 96-162) to study the water resource needs of the Yakima Basin. The study led to the second phase of YRBWEP, enacted when Congress passed Title XII, Public Law 103-434 on October 31, 1994. Title XII authorized Reclamation to develop a conservation program and included a section to enhance water supplies in tributaries of the Yakima River basin. The goals of YRBWEP include:

- Protecting and enhancing fish and wildlife through improved water management, instream flows, and other means of habitat improvement, and
- Improving the reliability of the water supply for irrigation.

The YRBWEP legislation states that the Bureau of Reclamation may implement a wide variety of measures to achieve project goals, including but not limited to: water use efficiency improvements, the use of Yakima Project canals and facilities, the construction, operation, and maintenance of groundwater wells, the purchase of water rights from willing sellers, and the restoration of stream habitats.

Participation in the YRBWEP tributary program is voluntary. Reclamation has consulted with the State of Washington, Taneum Creek water rights owners, the Yakama Nation, Kittitas Reclamation District, Washington Water Trust, Kittitas County Conservation District, Kittitas Conservation Trust, and others in developing alternatives for the Bruton Ditch.

PROPOSED ALTERNATIVE: PASSAGE IMPROVEMENT

The two water diversions on Taneum Creek—Bruton and Taneum Canal Company dams—are partial barriers to fish migration and need structural alterations to allow fish to freely migrate upstream. In 2007 the Kittitas Conservation Trust (KCT) obtained a grant to design and construct improvements to the fish ladders at Bruton and Taneum Canal Company dams. KCT started with Bruton Dam, which is located 1.6 miles upstream from the confluence with the Yakima River, and is the first migration barrier on the creek.

While reviewing alternatives for repairing the fish ladder, a “roughened channel” design was chosen as the preferred design. A roughened channel is simply a constructed stream channel. Roughened channels provide fish passage in locations where natural stream channels are undesirable due to the need to protect important manmade structures. In the case of Bruton Dam, the roughened channel is needed to keep Taneum Creek at an elevation that will protect I-90 and the Taneum Road bridges.

The roughened channel was preferred because the design allows all life-stages of all fish species to pass up and downstream without harm or delay. Traditional fish ladders, properly designed and situated, would allow adult salmon passage with minimal delay, but do not allow many other species of fish, including juvenile salmon, to migrate upstream. A roughened channel requires little maintenance, and does not need to be operated or adjusted in response to changes in stream flow. Once completed, a roughened channel will resemble and function like a natural stream channel for fish passage.

However, in order to construct the roughened channel mentioned above, Bruton Dam must be lowered or removed. Because the dam provides irrigation and stock water to the Bruton Ditch water users, an acceptable alternative must be developed to provide water to Bruton Ditch.

The Bruton-KRD Water Exchange Project

Irrigation

Reclamation purchased the Heart K Ranch property on Taneum Creek in 2000, which included 51 acres of land irrigated within KRD. Reclamation pays KRD assessments, but does not intend to use the irrigation water for that property.

The Bruton Ditch water right was confirmed for 47.75 acres. The lands served by the ditch lie within the service area of KRD, but were never provided with irrigation water by the district. Therefore, Reclamation could transfer the irrigation water from the Heart K property to the lands served by Bruton Ditch. In

exchange, Bruton Ditch water users would not divert Taneum Creek water for irrigation purposes. Reclamation would continue to pay KRD assessments for the Bruton water users in perpetuity.

Reclamation would design and construct a buried pipeline to carry water from the KRD-South Branch Canal to a turnout for Bruton water users near the west end of the lands currently served by the Bruton Ditch, and KRD would operate and maintain the lateral to the turnout. Another buried pipeline distribution system would deliver the KRD water from the turnout mentioned above to the property of each Bruton Ditch water user. KRD would deliver irrigation water to the Bruton users in the same quantity and timing as all other KRD customers (see Figure 3).

Once constructed, tested, and approved, Bruton Ditch water users would own the Bruton distribution system, and be responsible for its operation and maintenance. Water users would also remain responsible for on-farm irrigation systems.

Stock Water

The existing Bruton Ditch would remain in place to deliver the stock water portion of the Bruton Ditch water right. Stock water would continue to be diverted from Taneum Creek and, during the irrigation season, KRD water may be used for stock water; it would be delivered as noted above.

Reclamation would continue to ensure its fish facilities do not obstruct the flow of water to the Bruton Ditch. Water users will continue to be responsible for maintaining the Bruton Ditch downstream of the headgate.

Funding and Trust Water Options

Because water users will no longer use Taneum Creek water for irrigation and because the Bruton Ditch water right has been partitioned by the water users, each individual water user could decide how to manage their creek water right. The water user could (1) continue to own the water right and place it into the State water trust program, so it will be protected from relinquishment; (2) sell or lease their Taneum Creek water rights to the Washington Water Trust; or (3) sell or lease the water to a private party so long as the instream flow remains in Taneum Creek before being diverted.

Any proceeds gained by water users from the sale or lease of Taneum Creek rights could be used to contribute to the cost of the water distribution system mentioned above, on-farm improvements, or for other purposes.

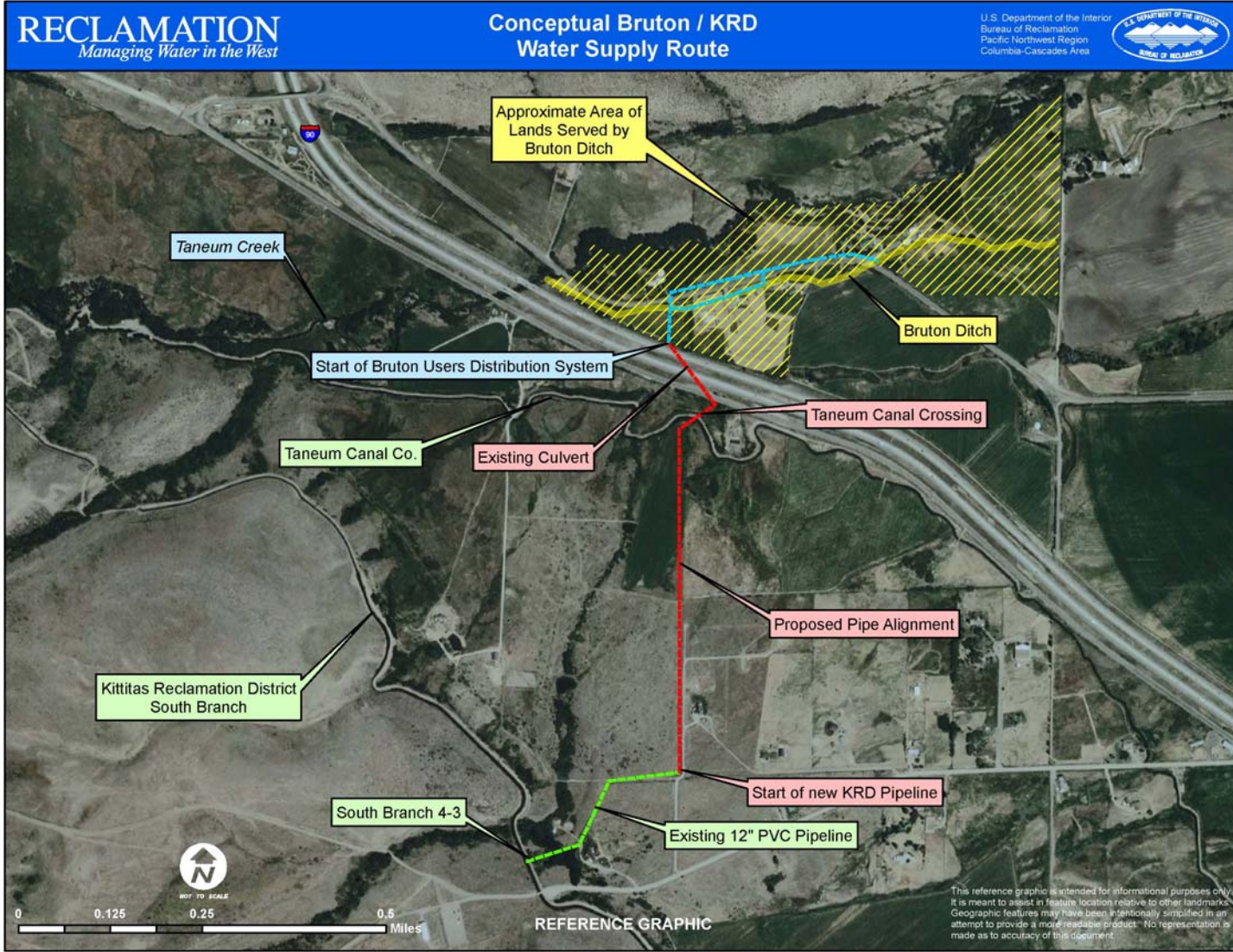


Figure 3. Conceptual Bruton/KRD water supply route (subject to revision).

Impacts to Water Users from Proposed Project

The impacts to the Bruton Ditch water users irrigation water supply was evaluated by comparing two scenarios, (1) existing Taneum Creek water rights, and (2) the proposed exchange for KRD irrigation water.

All Taneum Creek irrigation water rights share a priority date of June 30, 1873. The Bruton Ditch provides irrigation water for 47.75 acres of land. The annual quantity for irrigation is 386.7 acre-feet; the timing is from April 1 to October 31. When actual Taneum Creek flows during the irrigation season are at or above 98 cfs, Bruton Ditch water users are entitled to divert their maximum amount of 2.12 cfs (irrigation and stock water). When Taneum Creek flows drop below 98 cfs, all water rights holders on Taneum Creek are entitled to a proportionate share of creek water. The Bruton Ditch share of Taneum Creek is 2.2 percent of the creek flow (Appendix A).

Mean monthly flow data from the Brain Ranch gage was downloaded from the Washington Department of Ecology's website for Taneum Creek (<https://fortress.wa.gov/ecy/wrx/wrx/flows/station.asp?sta=39P080>). The gage is upstream of all diversions and represents the natural flow of Taneum Creek. As shown in Figure 4, flows in Taneum Creek usually peak in May, then decline sharply beginning in June. By late July, the creek has reached base flow¹ (see Figure 5).

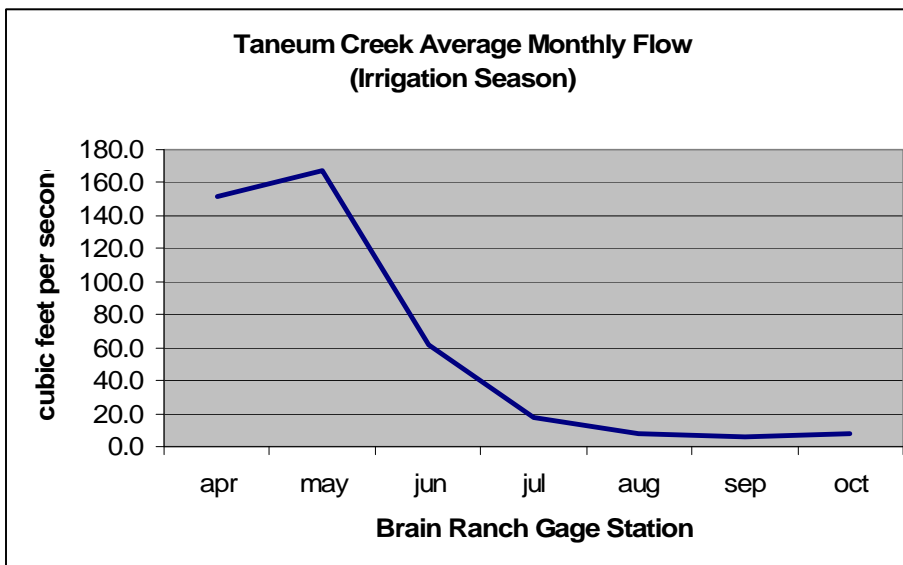


Figure 4. Mean monthly flows for Taneum Creek for the irrigation season (based on Brain Ranch gage data from May 2005-October 2008).

¹ Base flow equals that part of the stream discharge that is not attributable to direct runoff from precipitation or melting snow; it is usually sustained by groundwater.

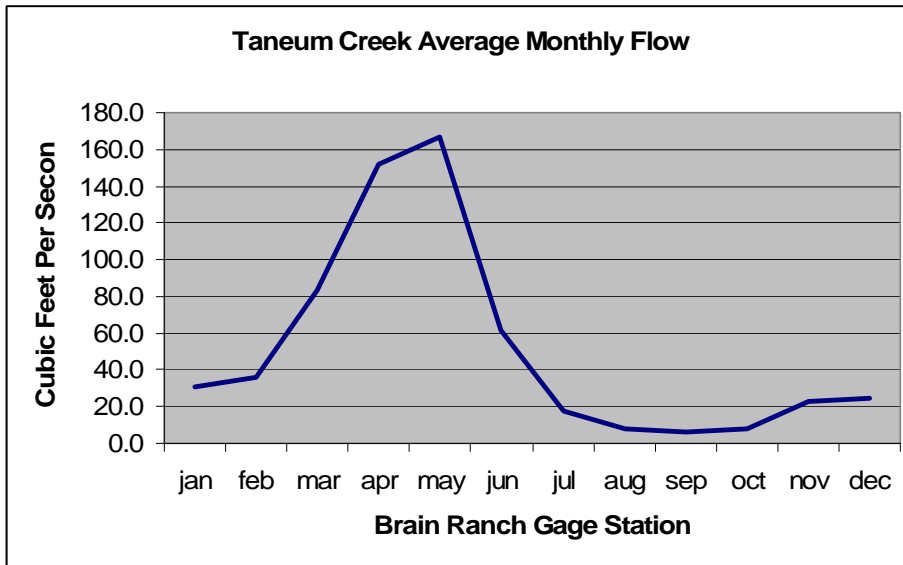


Figure 5. Mean monthly flows for Taneum Creek year-round (based on Brain Ranch gage data from May 2005-October 2008).

Bruton Ditch diversion amounts were calculated based on Taneum Creek water rights (Table 1). The maximum instantaneous flow of 2.12 cfs occurs in April and May, or when creek flow equals or exceeds 98 cfs. Based on the mean monthly flow data, it was calculated that Bruton Ditch can expect to divert 379 acre-feet annually, which is very close to the adjudicated water right of 386.7 acre-feet, or approximately 8 acre-feet per acre. This suggests the mean monthly flow data accurately reflects the availability of water for Bruton Ditch.

Table 1. Current Bruton Ditch diversion quantities available based on natural flows of Taneum Creek.

Month	Average Taneum Creek flow (cfs)	Bruton Diversion Amount (cfs)	Bruton Diversion Amount (gpm)	Acre-feet per day	Days per month	Acre-feet per month
Apr	152.1	2.12	951.46	4.01	30	120.30
May	166.9	2.12	951.46	4.01	31	124.31
Jun	61.9	1.36	611.18	2.7	30	80.89
Jul	17.9	0.39	176.74	0.78	31	24.17
Aug	8.0	0.18	78.99	0.35	31	10.8
Sep	6.1	0.13	60.23	0.27	30	7.97
Oct	8	0.18	78.99	0.35	31	10.8
Total					214	379.25

In contrast, as of 2009 the KRD provides water users with 4.5 acre-feet per acre. The operating season is from mid-April to mid-October, typically a 178-day irrigation season. Under a KRD scenario, the Bruton Ditch would receive 215 acre-feet of water for the season, equating to about 1.2 acre-feet per day, (0.60 cfs or 273 gpm) as a steady supply. While KRD supplies less water during the entire irrigation season, the water delivery during the critical months of July-September is a higher instantaneous flow rate and total volume than that provided by Taneum Creek (Table 2).

Timing of water availability is an important factor for irrigation. The majority of the Bruton Ditch water right is available during the spring runoff months when crop demands are low. The growing season in Ellensburg is approximately 120 days long, typically from mid-May until late September. At the same time Taneum Creek is declining to base flow, crop demands are increasing and are high in July, August, and September. During full water years the KRD supply remains steady, and would be 267 gpm, which is significantly greater than the 60-80 gpm Taneum Creek provides during the peak growing season.

Table 2. Current Bruton Ditch quantities available compared to proposed KRD monthly deliveries (acre-feet per month).

Month	Taneum Creek	KRD
Apr	120.3	12.1
May	124.3	37.5
Jun	80.9	36.3
Jul	24.2	37.5
Aug	10.8	37.5
Sep	8.0	36.3
Oct	10.8	18.2
Total	379.3	215.4
Jul-Oct	53.8	126.3

Impacts to Taneum Creek Fishery Resources from Proposed Project

Taneum Creek is located on the east side of the Cascades crest, approximately 10 miles northwest of Ellensburg, in Kittitas County, Washington. Formed by the confluence of the North and South forks, it flows generally west to east, joining the Yakima River at RM 166.1. Total basin area is approximately 82.9 square miles (Jones and Stokes, 1991). Annual precipitation ranges from >60 inches in the upper Taneum to approximately 10 inches near the Yakima River. Elevations in the basin range from 6,280 feet at Quartz Mountain to 1,690 feet at the confluence of Taneum Creek and the Yakima River (Toth 1995, Jones and Stokes

1991). The estimated mean annual flow at the mouth of Taneum Creek, including water diverted for irrigation, is approximately 66 cfs.

Taneum Creek is considered to have substantial potential for producing steelhead, and coho and spring Chinook to a lesser degree. Salmonid population densities in Taneum Creek were the highest of ten upper Yakima tributaries that were evaluated (Pearsons, et al. 1994, as cited in KCCD, 1999).

From 2002-2006, Reclamation and the Yakama Nation studied the distribution of adult steelhead spawning in the upper Yakima River basin (C. Karp, Reclamation, unpublished data). Steelhead were captured at Roza Dam and outfitted with radio transmitters. Fish were allowed to recover and then released back into the Yakima River, where their movements were monitored using mobile tracking and fixed receiving stations. During the study period, 351 fish were actively monitored. Of those, 62% moved into a tributary to spawn, while the remainder spawned in the mainstem Yakima River. Tributaries used by steelhead for spawning included the Teanaway River, Swauk Creek, and Taneum Creek. A total of 17 steelhead (5 percent) used Taneum Creek, with some moving upstream to at least the Taneum Creek Campground (9 miles). Most (82.4 percent) ascended the Bruton Diversion (about 1.6 miles), and more than half of these fish moved upstream above the Taneum (2.4 miles) and Knudson (3.0 miles) diversions.

During the radio-tagging study, biologists observed delays in steelhead migration at Bruton Dam. Mark Johnston, Fisheries Research Scientist, Yakama/Klickitat Fisheries Project, commented “In spring of 2003 the steelhead radio tracking crew and I tracked a steelhead into Taneum Creek up to the Bruton diversion. The fish stayed just below the diversion for approximately 10 days; after that time, we became concerned that the fish could not or would not use the ladder in its current state (there was a lot of water flowing over the dam and into the [irrigation] canal, with very little going down the ladder). Upon observing this, we proceeded to remove one of the lower weir check boards to allow more flow out of the ladder. While we were there, we noticed a fair number of 10- to 14-inch rainbows jumping at the dam and landing on the apron. The following day, the radio-tagged fish had passed the diversion and were continuing upstream, and subsequently four more fish used the ladder, with about a 2- to 3-day delay.”

The Bruton-KRD exchange project would facilitate improved fish passage at Bruton Dam, and would improve instream flow for fish and wildlife by diverting less water from the creek during critical low-flow months. Instream flow from the exchange project would add 2.2 percent of the creek flow during low-flow periods to the existing 15.4 percent of flow that has already been placed in trust. The maximum amount of combined water diversions that occur in Taneum Creek is 98 cfs. Any time during the irrigation season that natural flows exceed 98 cfs, the remaining water is left instream. When flows fall below 98 cfs, the water rights are split proportionally. Figure 6 and Table 3 both show the quantities

associated with the natural flows and the trust water rights, based on average annual conditions. See Appendix A for further explanation.

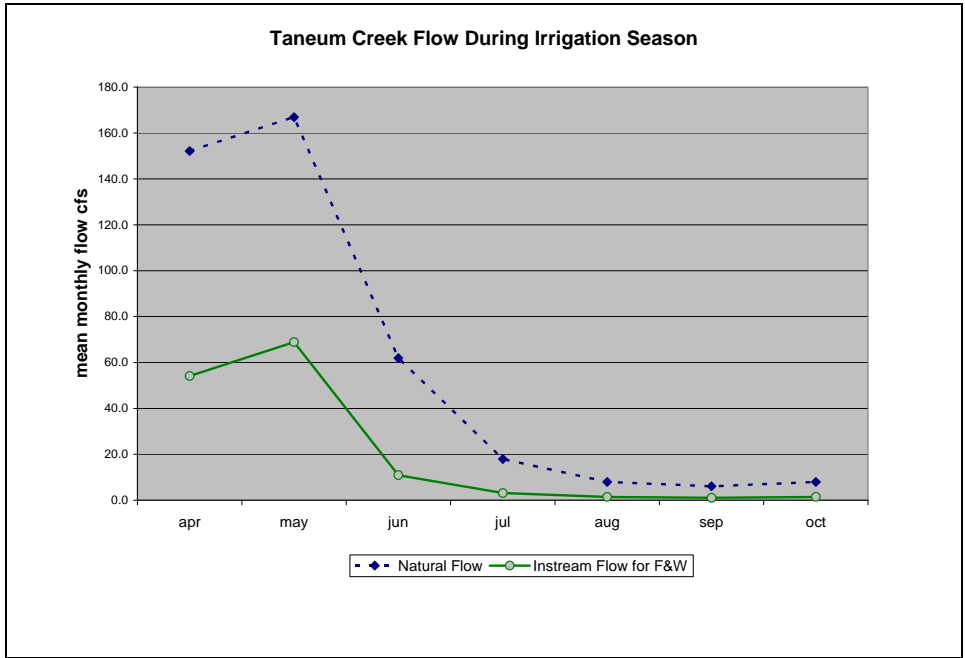


Figure 6. Taneum Creek flows during irrigation season.

Table 3. Mean monthly natural flows in Taneum Creek and flows available for fish and wildlife purposes (cfs).

Month	Natural flow	Instream flow for F&W
Apr	152.1	54.1
May	166.9	68.9
Jun	61.9	10.9*
Jul	17.9	3.2*
Aug	8.0	1.4*
Sep	6.1	1.1*
Oct	8.0	1.4*
* trust water quantities		

CONCLUSION

During the development of this project, the Bureau of Reclamation considered a variety of alternative measures for providing water to the Bruton Ditch while improving fish passage in Taneum Creek. Measures were examined with regard to hydrologic, environmental, engineering, and economic factors, and the impacts of such measures on the Bruton Ditch water users were considered. During project development, alternatives reviewed included transferring stock and irrigation water rights to wells, and abandoning the creek diversion altogether. These alternatives were found to be economically or environmentally undesirable at this time.

The Bruton-KRD water exchange project could benefit the Bruton Ditch water users by providing a more reliable supply of irrigation water during the late part of the season. Water users would have to make a financial contribution to the project that could be recovered by a long-term lease or sale of their Taneum Creek water right.

The project would benefit fish passage and instream flows for fish and wildlife enhancement. Taneum Creek could once again contribute to salmon and steelhead production in the Yakima Basin.

REFERENCES

- Jones and Stokes Associates. 1991. *Watershed characteristics and conditions inventory; Taneum Creek and Tacoma Creek watersheds*. Prepared for Washington Department of Natural Resources. June 28, 1991. 61 pages.
- Kittitas County Conservation District. 1999. *Upper Yakima River Watershed Project*. Report funded by WA Dept. of Ecology.
- McIntosh, B.A., S.E. Clark, and J.R. Sedell. 1995. *Summary report for Bureau of Fisheries stream habitat surveys, Yakima River Basin 1934-1942*. Prepared for Bonneville Power Administration, P.O. Box 3621, Portland, OR, 97208. DOE/BP 02246-5.
- Toth, S. 1995. Technical Report #11, *In Support of the Habitat Conservation Plan on Forested Lands Owned by Plum Creek Timber Company, L.P. in the I-90 Corridor of the Central Cascades Mountain Range, Washington, 1995*.

APPENDIX A – TANEUM CREEK WATER RIGHTS AND PRO-RATA WATER SHARE INFORMATION

TANEUM CREEK WATER RIGHTS AND PRO-RATA WATER SHARE INFORMATION

Updated by Stan Isley on 4-01-2009

PREFACE - Simple Pro-rata Water Share Summary Information:

Simplified Pro-rata Share for Taneum Creek Water Rights when Taneum Creek Flow Is Less than 98.0 cubic feet per second (cfs); Grouped by Four Categories - One for Each of the Three Diversion Ditches, and One for Instream Flow Rights:

NOTE: The following simplified formula can be used to define and allocate pro-rata shares of available creek flow during periods when actual Taneum Creek flow is less than 98.0 cfs; is generally applicable from May 16 through October 31 each year; and is generally applicable through the expiration of the first of the four Taneum Canal Company (TCC) Irrigation Efficiencies Grants Program (IEGP) contracts on 8/24/2024.

- Mann Ditch off-stream diversion amount is 3.4% of available Taneum Creek water;
- Taneum Canal off-stream diversion amount is 79.0% of available Taneum Creek water;
- Bruton Ditch off-stream diversion amount is 2.2% of available Taneum Creek water; and
- Instream flow trust water amount is 15.4% of available Taneum Creek water.

Information Regarding Water Sharing During Low Flow Periods, etc.:

TABLE I
TANEUM CREEK IRRIGATION WATER DISTRIBUTION WHEN AVAILABLE CREEK FLOW WATER IS LESS THAN 98.0 CFS AS METERED AT:

Ecology's Taneum Creek @Brain Ranch Stream Flow Gage above the Mann Ditch diversion, the upstream-most diversion from Taneum Creek (see <https://fortress.wa.gov/ecy/wrx/wrx/flows/station.asp?sta=39P080>)

(Prepared by Jack Carpenter & Stan Isley on 5/3/01 & Updated by SI on 04-01-09)
 [TCrights2 04-01-09.doc]

USER NAME	ACRES	DELIVERY DITCH	TOTAL CFS (98.0)	% OF TOTAL	CONTACT
RECLAMATION/ ECOLOGY/RMEF (former Knudson)	142.33 & irrigation season stock water	Mann Ditch Assigned to instream flow enhancement use.	(10.67) (0.36) 11.03	11.2%	Dawn Wiedmeier (509) 575-5848, ext. 213 (USBR)
KNUDSON	17.67 & irrigation season stock water	Mann Ditch	(1.33) (0.04) 1.37	1.4%	Necia & Terry Knudson
SPRINGWOOD Investment Corp.	7	Mann Ditch	0.67	0.7%	Scott Gress
STOVALL (former Emerick)	22	Mann Ditch	1.28	1.3%	Bill & Lora Stovall
(MANN DITCH OFF-STREAM USE SUBTOTAL)	(46.67) (& irrigation season stock water)	(Mann Ditch) (Total of rights, less the instream flow amount)	(3.28) (0.04) (3.32)	(3.4%)	(Irrigation season only – 4/01-10/31, closed in winter.)
(MANN DITCH INSTREAM USE SUBTOTAL)	(142.33) (& irrigation season stock water)	(Mann Ditch) (Total of rights, less the off-stream use amounts)	(10.67) (0.36) (11.03)	(11.2%)	[Dawn Wiedmeier (509) 575-5848, ext. 213 (USBR)]
(MANN DITCH SUBTOTAL)	(189) (& irrigation season stock water)	(Mann Ditch) (Diversion amounts, plus the instream flow amount)	(13.95) (0.40) (14.35)	(14.6%)	(Irrigation season only – 4/01-10/31, no winter diversion or instream flow rights.)
ENOCHS (former Nesmith)	0.75	Bruton Ditch	0.02	0.02%	Don Enochs

USER NAME	ACRES	DELIVERY DITCH	TOTAL CFS (98.0)	% OF TOTAL	CONTACT
FISCHER (former Emerick)	5.08 & year-round stock water	Bruton Ditch	(0.216) (0.0110) 0.227	0.23%	Mike & Wendy- Jean Fischer
GORDON (former Emerick)	2.68 & year-round stock water	Bruton Ditch	(0.114) (0.0057) 0.120	0.12%	Tony & Cindy Gordon
KOREIS (former Emerick)	5.24 & year-round stock water	Bruton Ditch	(0.223) (0.0113) 0.234	0.24%	Jim & Ann & Sherry Koreis
STOVALL (former Emerick)	34 & year-round stock water	Bruton Ditch	(1.447) (0.0720) 1.519	1.55%	Bill & Lora Stovall
(Subtotal of former Emerick Bruton Ditch right)	(47) (& year-round stock water)	(Bruton Ditch)	(2.0) (0.1) (2.1)	(2.14%)	
(BRUTON DITCH SUBTOTAL ALL OFF_STREAM)	(47.75) (& year-round stock water)	(Bruton Ditch)	(2.02) (0.1) (2.12)	(2.2%)	(4/01-10/15 irrigation season; 0.1 cfs winter stock water right.)
GEORGE (former Lang)	36 & irrigation season stock water	Taneum Canal (4/01-10/15 irrigation season)	(1.5) (0.03) 1.53	1.6%	Craig George
TCC Wheatley (IEGP Trust Water)	124 Conserved water assigned each year to instream flow trust water use from May 16 to Oct. 31 through 7/25/2029	Taneum Canal Irrigation use to 5/15; assigned to instream flow enhancement use from 5/16-10/31.	1.39* (*Reduced during in- stream use period)	1.42%	Ben George
TCC Meyer @1 (IEGP Trust Water)	75 Conserved water assigned each year to instream flow trust water use from May 16 to Oct. 31 through 8/24/2024	Taneum Canal Irrigation use to 5/15; assigned to instream flow enhancement use from 5/16-10/31.	0.95* (*Reduced during in- stream use period)	0.97%	Ben George

USER NAME	ACRES	DELIVERY DITCH	TOTAL CFS (98.0)	% OF TOTAL	CONTACT
TCC Wheatley @3 (IEGP Trust Water)	104.6 Conserved water assigned each year to instream flow trust water use from May 16 to Oct. 31 through 4/26/2025	Taneum Canal Irrigation use to 5/15; assigned to instream flow enhancement use from 5/16-10/31.	1.17* (*Reduced during in-stream use period)	1.19%	Ben George
TCC Wheatley @4 (IEGP Trust Water)	52.6 Conserved water assigned each year to instream flow trust water use from May 16 to Oct. 31 through 2/19/2028	Taneum Canal Irrigation use to 5/15; assigned to instream flow enhancement use from 5/16-10/31.	0.59* (*Reduced during in-stream use period)	0.60%	Ben George
TANEUM CANAL COMPANY – TCC (during and after the IEGP contract periods)	3700 to 5/15 each year during IEGP, & all irrigation season post-IEGP; 3343.8 from 5/16 to 10/31 for IEGP term to 8/24/2024, increasing incrementally to 3700 on 7/26/2029; (& irrigation season stock water & conveyance water)	Taneum Canal Diversion reductions are effective from 5/16-10/31 for duration of IEGP contracts to 8/24/2024, reducing by increments to zero reductions at end of IEGP contract period on 7/25/2029. TCC irrigation season is 2/20-11/15 each year.	61.7 to 5/15 each year 57.6 from 5/16-10/31; <u>18.3</u> 80.0 to 5/15 during IEGP & all irrig. season post-IEGP 75.9 from 5/16-10/31 to 8/24/2024 increasing incrementally to 80 on 7/26/2029.	81.63% to 5/15 each year; 77.45% from 5/16-10/31 during IEGP term to 8/24/2024, increasing incrementally as IEGP contracts expire to 81.6% 7/26/2029.	Ben George
(Subtotal of TCC w/IEGP Trust Water - 2/20-11/15 season of use each year in total)	(3700) (& irrigation season stock & conveyance water; & instream water from	(Taneum Canal) (Totals up through 5/15 each year during IEGP contract periods; and then for the entire irrigation season after IEGP contracts expire.)	(61.7) (18.3) (80.0)	(81.63%)	

USER NAME	ACRES	DELIVERY DITCH	TOTAL CFS (98.0)	% OF TOTAL	CONTACT
	5/16-10/31)				
(TANEUM CANAL OFF-STREAM USE DURING IRRIGATION SEASON [TCC: 2/20–11/15; Craig George: 4/01-10/15 each year] SUBTOTAL)	(3736 to 5/15 each year during IEGP and all irrigation season post-IEGP; 3379.8 from 5/16-10/31 during IEGP period.) (<i>& irrigation season stock & conveyance water</i>)	(Taneum Canal) (<i>Totals up through 5/15 each year during IEGP contract period,; and all irrig. season after IEGP contracts expire; The reduced totals are effective from 5/16-10/31 during IEGP contract period to 8/24/2024, increasing incrementally to full totals at end of last IEGP contract period on 7/25/2029.</i>)	(81.53 to 5/15 during IEGP & all irrig. season post-IEGP 77.43 from 5/16-10/31 for IEGP period.)	(83.2% to 5/15 during IEGP & all irrig. season post-IEGP 79.0% from 5/16-10/31 for IEGP period)	[Ben George & Craig George]
(TANEUM CANAL INSTREAM USE DURING IRRIG. SEASON SUBTOTAL)	(356.2)	(Taneum Canal) (<i>Totals effective 5/16-10/31 during IEGP contract periods to 8/24/2024, decreasing incrementally to zero at end of IEGP contract period on 7/25/2029.</i>)	(4.1)	(4.2%)	
(TANEUM CANAL SUBTOTAL)	(3736) (<i>& irrigation season stock & carriage water, & instream flow water</i>)	(Taneum Canal) (<i>This includes both the diversion amounts for TCC and Craig George and the TCC IEGP instream flow amounts.</i>)	(81.53)	(83.2%)	
TOTAL TANEUM CREEK IRRIG. SEASON WATER RIGHTS	3972.75 (<i>& stock water: irrigation season & year-round; & conveyance water & instream water</i>)	(This includes both the diversion amounts and the instream flow water amounts during irrigation season.)	98.0	100%	
TOTAL TANEUM CREEK OFF-STREAM USE WATER RIGHTS DURING IRRIGATION SEASON EACH YEAR.	3474.22 from 5/16-10/31 during IEGP term (3830.42 to 5/15 each year during IEGP; and all	Taneum Creek Totals effective 5/16-10/31 each year during IEGP contract periods through 8/24/2024, increasing incrementally to 86.97 cfs at end of IEGP contract period on	82.87 (86.97 on 7/25/2029)	84.6% (88.8% on 7/25/2029)	Stan Isley (509) 575-5848, ext. 281 (Ecology)

USER NAME	ACRES	DELIVERY DITCH	TOTAL CFS (98.0)	% OF TOTAL	CONTACT
	irrigation season post-IEGP.)	7/25/2029.			
TOTAL TANEUM CREEK INSTREAM FLOW WATER RIGHTS DURING IRRIGATION SEASON EACH YEAR.	498.53	Taneum Creek Totals effective 5/16-10/31 each year during IEGP contract periods through 8/24/2024, decreasing incrementally to 11.03 cfs at end of last IEGP contract period on 7/25/2029.	15.13 (11.03 on 7/25/2029)	15.4% (11.2% on 7/25/2029)	Stan Isley (509) 575-5848, ext. 281 (Ecology)
TOTAL TANEUM CREEK INSTREAM FLOW WATER RIGHTS DURING THE WINTER NON-IRRIGATION SEASON EACH YEAR (11/16 through 2/19)	0 WWT acquired the TCC winter conveyance water right for instream flow enhancement . (TCC & Craig George winter stock water rights transferred to a series of wells).	Taneum Creek Effective 11/16-02/19 each year. TCC canal is now permanently shut down during non-irrigation season each year.	up to 28.8	Winter (The only remaining winter Taneum Creek diversion is the 0.1 cfs Bruton Ditch winter stock water right)	Susan Adams (206) 675-1585, ext. 101 (WWT)

Explanatory Notes:

- All Taneum Creek water rights share the same June 30, 1873, date of priority, and thus share equal rights to divert or otherwise beneficially use the water available in Taneum Creek, up to the limits allowed in each individual water right. When actual Taneum Creek flows during the irrigation season are 98.0 cfs or greater, the water right holders are entitled to divert or otherwise beneficially use their full confirmed water right quantities as listed in Table I. When Taneum Creek flows drop below 98.0 cfs, all water right holders are entitled to their proportionate share (pro-rata share) of available creek water, as given in the ' % of total ' column in Table I.