

Temporary Urgency Change Petition
Dutch Bill Creek Flow Augmentation
Camp Meeker Recreation and Park District
Project Description
July 2016

STATE WATER RESOURCES
CONTROL BOARD

2016 AUG -1 AM 11:44

DIV OF WATER RIGHTS
SACRAMENTO

Introduction

Dutch Bill Creek is critically important for coho salmon. It was identified a Core Focus Area for coho protection and restoration in the National Marine Fisheries Service's (NMFS) Final Recovery Plan for Central California Coast (CCC) Coho Salmon (2012). This stream is also one of the four tributaries subject to Emergency Regulation for Enhanced Conservation Measures and Information in Key Russian River Tributaries (Regulation), to Protect Specific Fisheries adopted by the State Water Resources Control Board (SWRCB) in response to the California drought. Dutch Bill Creek has experienced critical shortages of summer baseflows causing loss of rearing habitat for endangered coho salmon and threatened steelhead trout.

In 2015, to complement water conservation efforts mandated by the SWRCB, NMFS, the California Department of Fish and Wildlife (CDFW), and the Russian River Coho Partnership, asked Camp Meeker Recreation and Park District (CMRPD) to voluntarily augment stream flow in Dutch Bill Creek. The successful implementation of this project in 2015 utilized existing water infrastructure to add water to upper Dutch Bill Creek in order to maintain a minimum subsistence condition of juvenile coho salmon and steelhead rearing in the main channel downstream of CMRPD. The project required a Temporary Urgency Change to CMRPD's existing appropriative water right permit #21198, which temporarily added fish and wildlife enhancement to the purpose of use and Dutch Bill Creek to the place of use.

The term of the 2015 Temporary Urgency Change Petition (TUCP) has since ended, and CMRPD, in partnership with NMFS, CDFW, and the Russian River Coho Partnership, seeks to continue to augment flow in the dry season for the benefit of coho and steelhead, as conditions warrant. CMRPD seeks to renew the TUCP from 2015 by submitting this TUCP for 2016.

Existing Setting

CDFW and NMFS have identified Dutch Bill Creek, Green Valley Creek, Mark West Creek, and Mill Creek as high priority CCC coho salmon tributaries in the Russian River. These four tributary watersheds provide critical spawning and rearing habitat for wild populations of state and federally endangered CCC coho salmon. Federally threatened juvenile CCC steelhead also use these four Russian River tributaries and require similar rearing habitat and water quality conditions during the summer months. Juveniles of both species can survive very dry conditions in pools in the upper watersheds, provided the pools have sufficient water and stream connectivity to maintain appropriate temperature, dissolved oxygen, and other water quality conditions. During the drought, the four tributaries sustained some of the last remaining spring and summer rearing habitat for coho salmon and steelhead in the Russian River watershed.

However, Dutch Bill Creek and the other three tributaries are likely to continue to experience low flow conditions attributable in part to active summer diversions. While streamflow is somewhat better than last year, it is unlikely to keep the rearing reach of stream wetted with contiguous hydraulic connection between pools. Last year, CDFW and NMFS estimated the minimum flow required for maintaining

hydraulic connectivity among pools in the stream to be 0.1 cfs. This low flow condition manifested in disconnected stream systems with isolated pools, low dissolved oxygen levels, and elevated temperatures. Extensive losses of this kind results in the loss of juvenile production and are especially problematic in the context of already substantial loss of scarce rearing habitat.

This project is part of a much larger effort to improve flow for coho salmon and steelhead, including CDFW's and NMFS's Voluntary Drought Initiative (VDI) program, SWRCB adoption of the Regulation, cooperative instream flow projects with water users developed by the Russian River Coho Partnership, and the actions of the others in the watershed. Of particular interest, CMRPD's neighbor, Westminster Woods, recently implemented a water conservation and tank storage project to improve instream flow and is pursuing its own long-term instream flow dedication under Water Code Section 1707.

2015 Temporary Urgency Change Petition

In August 2015, CMRPD agreed to file a temporary urgency change petition (TUCP) and an instream flow dedication petition (instream flow petition) with the SWRCB requesting approval of a temporary change to water right Permit 21198 (Application 31055) pursuant to California Water Code sections 1435 and 1707. The TUCP and instream flow petition requested the following temporary changes:

- (1) Addition of fish and wildlife preservation and enhancement as a purpose of use;
- (2) Addition of a portion of Dutch Bill Creek to the place of use. The upstream limit is located at North 1,921,868 feet and East 6,282,809 feet by California Coordinate System 1983, Zone 2, being within NE ¼ of SW ¼ of Section 21, Township 7 North, Range 10 West, Mount Diablo Base & Meridian (MDB&M). The downstream limit is located at the confluence of Dutch Bill Creek and the Russian River at North 1,932,731 feet and East 6,272,591 feet within NE ¼ of the SW ¼ of Section 7, Township 7 North, Range 10 West, MDB&M; and
- (3) Dedication of up to 30 acre-feet (af) of water at a maximum diversion rate of 0.2 cubic feet per second (cfs) for Fish and Wildlife Preservation and Enhancement for instream beneficial use in Dutch Bill Creek. Petitioner indicated a target rate of 0.1 cfs.

The petition proposed to divert water from the Monte Rio well at a rate ranging from 0.05 to 0.2 cfs under Permit 21198 for release, untreated, from its pipeline into Dutch Bill Creek. Water was directed to an existing 7,500 gallon storage tank at the water treatment facility on Alliance Redwoods Conference Grounds, approximately four miles upstream of the Monte Rio Well. A two-inch, above-ground polyethylene pipeline connected to the tank released the water into a rock-lined culvert drainage channel 400 to 450 feet from the tank; the water then flowed into Dutch Bill Creek. An agreement was reached with Alliance Redwoods Conference Grounds to allow the transport of water between the storage tank and Dutch Bill Creek. The target rate of release was 0.1 cfs. The instream flow dedication continued from August 24 through December 9, 2015. The estimated total volume of water released was 16.1 af (See attachment 1A). Temperature of release water ranged from 15.7°C to 19.9°C, remaining less than 18.2°C after September 3. Dissolved oxygen downstream of releases remained above 8 microsiemens (µS) for the duration of the release period.

CMRPD seeks the same temporary change under this TUCP for 2016.

In addition, CMRPD intends to submit a long-term Petition for Change to permanently add fish and wildlife preservation and enhancement to the purpose of use and place of use for Permit 21198. The Petition will be a separate submittal from this TUCP.

Project Elements

Flow Releases: As soon as possible for a period up to the first substantial rain event (or until flow conditions recover to a minimum of 0.1 cfs), CMRPD will release water from the pipeline at Alliance Redwoods at a rate of (approximately) 0.05 to 0.2 cfs into Dutch Bill Creek. The target rate is 0.1 cfs. Flow enhancements/ releases will begin as soon as the TUCP is approved and extend into December of 2016, or until flow conditions recover to approximately 0.1 cfs. The rate of release will range between 0.05 and 0.2 cubic feet per second with the total volume of water not to exceed 30 af during this period. Actual rates of release will be determined by NMFS, CDFW and CMRPD and shall be based upon instream flow conditions and facilities and permit constraints.

Water Right: CMRPD is a California Water District which provides municipal water services to 365 residences in and around the town of Camp Meeker, California. The water supply is sourced from two wells near the town of Monte Rio that draw underflow from the mainstem Russian River under appropriate water right (Permit #21198).

Permit 21198 was issued to CMRPD on April 27, 2007, pursuant to Application 31055. Permit 21198 authorizes direct diversion at a rate of 0.23 cfs, not to exceed 90 acre-feet per annum (afa) from the Russian River, tributary to the Pacific Ocean, in Sonoma County. Water is authorized to be diverted from January 1 to December 31 of each year. No water is diverted from Dutch Bill Creek by CMRPD.

The Dutch Bill Creek watershed encompasses an area including the towns of Occidental and Camp Meeker as well as the surrounding rural residences. CMRPD operates an offset well on the Russian River near Monte Rio (Monte Rio well), a transmission main, pump station, and storage tanks. Once diverted at the Monte Rio well, water is transported approximately four miles via a 6-inch transmission main to a water filtration facility in Camp Meeker (near Alliance Redwoods) where it is treated, stored, and subsequently delivered to residences in the CMRPD service area. The transmission main lies within the right-of-way for the Bohemian Highway, which roughly follows Dutch Bill Creek and connects with storage facilities in Camp Meeker and the Town of Occidental. Occidental Community Services District (Occidental) constructed an intertie to the CMRPD water system and currently services 70 customers under contract with Sonoma County Water Agency (SCWA). Occidental also holds a permit that is not in use. Russian River Utility manages the CMRPD and Occidental public water systems. In addition to the water diverted under Permit 21198, CMRPD entered into a water supply agreement with SCWA to purchase water.

Permitting: Rich Stabler, Senior Environmental Specialist with the Sonoma County Permit and Resource Management District has reviewed this proposal and concluded that no element within it warrants regulation via any county authority.

The North Coast Regional Water Quality Control Board (North Coast Regional Board) has responsibility to regulate discharges into waters of the state. North Coast Regional Board staff (Bryan Mcfadin) concluded the project does not require a discharge permit.

In addition, CMRPD is renewing their Voluntary Drought Initiative (VDI) agreement with CDFW and NMFS for the summer of 2016. While this is not a permit, it does provide some assurances to CMRPD that they are operating in good faith with both agencies.

Monitoring: Monitoring the effects of flow augmentation on coho salmon and steelhead is necessary to ensure these actions will not inadvertently harm these species. The RRUD will be responsible for implementing continuous flow releases during the agreed upon periods. This will include recording the timing, rate and duration of water releases as well as monitoring water temperature and dissolved oxygen at the point of discharge. Stream flows will be recorded by the gauge at Westminster Woods and its continued operation will remain during the TUCP term (July through December 2016).

University of California (UC) and Sonoma County Water Agency crews will map surface flow conditions, measure riffle crest depths, and take intermittent measurements of DO and water temperature in all of Dutch Bill (mouth to release point) at weekly intervals before and after the release. UC will communicate with partners at DFW, NOAA and SWRCB on a weekly basis regarding flow conditions. Any water quality concerns that arise from the monitoring will be resolved via communication between CMRPD, NMFS, CDFW and the North Coast Regional Board. CMRPD will subsequently report the results of the consultations with CDFW, NMFS, and the Regional Board to the SWRCB.

Partners: This project is being implemented with the help of multiple parties. They include CMRPD, CDFW, NMFS, NCRWQCB, and members of the Russian River Coho Partnership, Gold Ridge Resource Conservation District, Occidental Arts and Ecology Center, Trout Unlimited, and UC Cooperative Extension/California Sea Grant.

Required Findings of Fact

There is an urgent need to make the proposed change

As of July 8, 2016, surface flow in Dutch Bill Creek below Tyrone Bridge had ceased, with hydraulically disconnected pools remaining. Continuous surface flow remained in the upstream rearing reach and was measured at Westminster Woods on July 11 at 0.15 cfs. Mia Docto, from Trout Unlimited, compared manual flow estimates from this year to previous records (see Attachment 1B) and suggested that, while flows are slightly higher than last year, the rate of decline may be greater. This will likely result in streamflow being less than the 0.1 cfs threshold sometime in early August. Juvenile coho salmon and steelhead are present in these habitats and will therefore be exposed to degradation of aquatic habitat and subsequent mortality. Given the positive results from last year from flow enhancements, and similar dry conditions this year, additional flow from the project will likely benefit fish again.

The proposed change may be made without injury to any other lawful user of water

Absent approval of the proposed change, the water to be made available by CMRPD for the proposed instream dedication would either be put to consumptive use within the boundaries of CMRPD's place of use as identified in Permit 21198, or would continue to flow down the Russian River. The Instream flow dedication proposed by the petitioner is a non-consumptive use of water. Water diverted for instream flow purposes from CMRPD's Monte Rio well will re-enter the Russian River approximately 285 feet downstream, after flowing down Dutch Bill Creek, less natural stream conveyance losses. Consequently, only lawful users on the Russian River downstream of the Monte Rio well but upstream of the confluence with Dutch Bill Creek could experience any significant effect or injury from the proposed action. Per Division records, Occidental, under Permit 21214, constitutes the only user that could meet these criteria. Permit 21214, which is junior in priority to CMRPD's permit, authorizes year-round direct diversion of 0.16 cfs, up to 65 afa, of Russian River underflow from an offset well approximately 50 feet

downstream of CMRPD's Monte Rio well. Occidental, however, is not yet using the water under Permit 21214, and so will not experience unreasonable effect or injury from the action. Further, SCWA is required per Decision 1610 to maintain flows in the lower Russian River. The amount of this dedication (maximum rate of 0.2 cfs) is insignificant compared to flow levels maintained by SCWA. There is a risk of riparian water rights holders on Dutch Bill Creek diverting the water intended for instream flow for their own use. According to SWRCB's records, Westminster Woods (Statement of Water Diversion and Use 24280) constitutes the only active water right holder on Dutch Bill Creek downstream of the proposed point of release. In 2015, Westminster Woods implemented a water conservation project that included moving its point of diversion off of Dutch Bill Creek and filing an instream flow petition to dedicate the water that was previously used for irrigation under its riparian right to fish and wildlife.

Accordingly, granting this TUCP and instream flow petition will not result in unreasonable effect or injury to any other lawful user of water.

The proposed change may be made without unreasonable effect upon fish, wildlife, or other instream beneficial uses

The action would enhance fish habitat and other instream beneficial uses in Dutch Bill Creek by augmenting flows for rearing habitat for salmonids. Increased summer flows can lower water temperatures, increase dissolved oxygen concentrations and re-connect pool habitat, all to the benefit of juvenile coho salmon and steelhead survival and growth.

The gauge at Westminster Woods showed that flow augmentation from this project in the summer of 2015 substantially improved surface flow (Figure 1). This effort was also a significant contributing factor to maintaining rearing habitat in a wetted condition (Figure 2), despite it being the worst drought condition in recent history. The Russian River Coho Salmon Captive Broodstock Monitoring Program concluded that 76% of the juvenile salmonids observed in Dutch Bill Creek at the beginning of the rearing season were occupying habitat that remained wetted throughout the summer period. This was far more than what was observed in the four other streams included in their study (Figure 3).

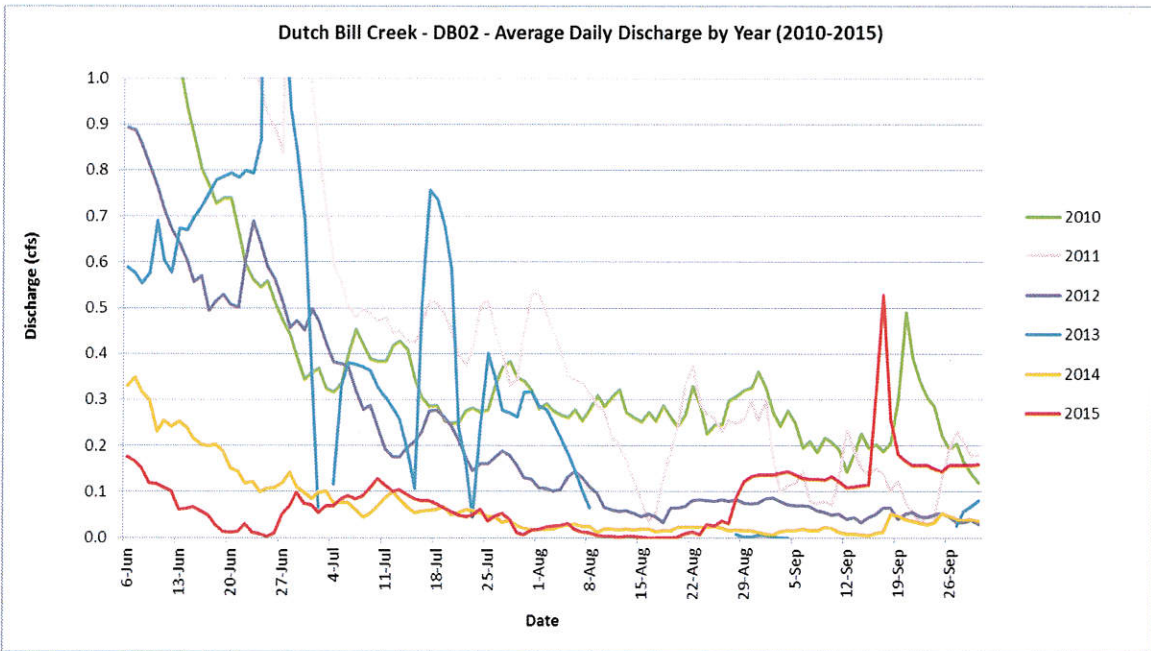


Figure 1. Average daily discharge from June through September for the years 2010 through 2015 in Dutch Bill Creek as measured by the stream gauge at Westminster Woods.

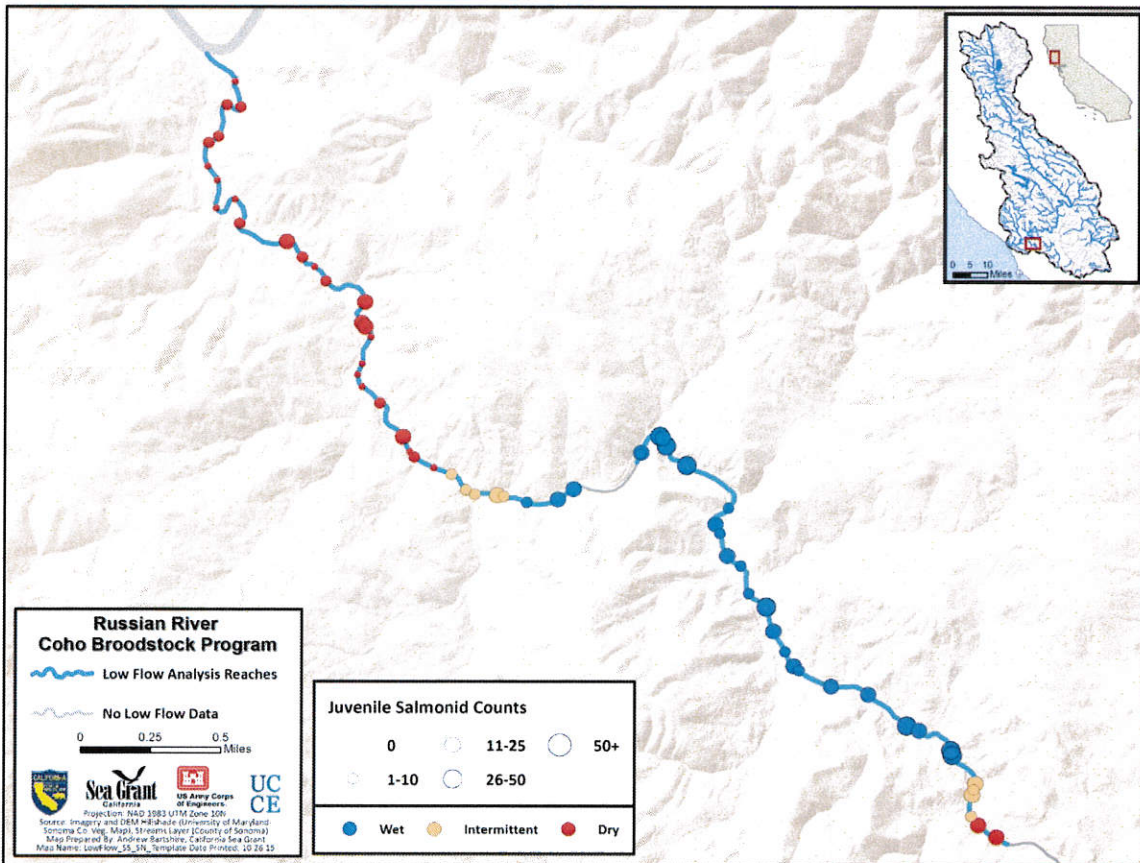


Figure 2. Distribution and abundance of juvenile salmonids as observed by the Russian River Coho Salmon Captive Broodstock Monitoring Program in June of 2015. Blue circles represent fish at locations that remained wetted through the summer period.

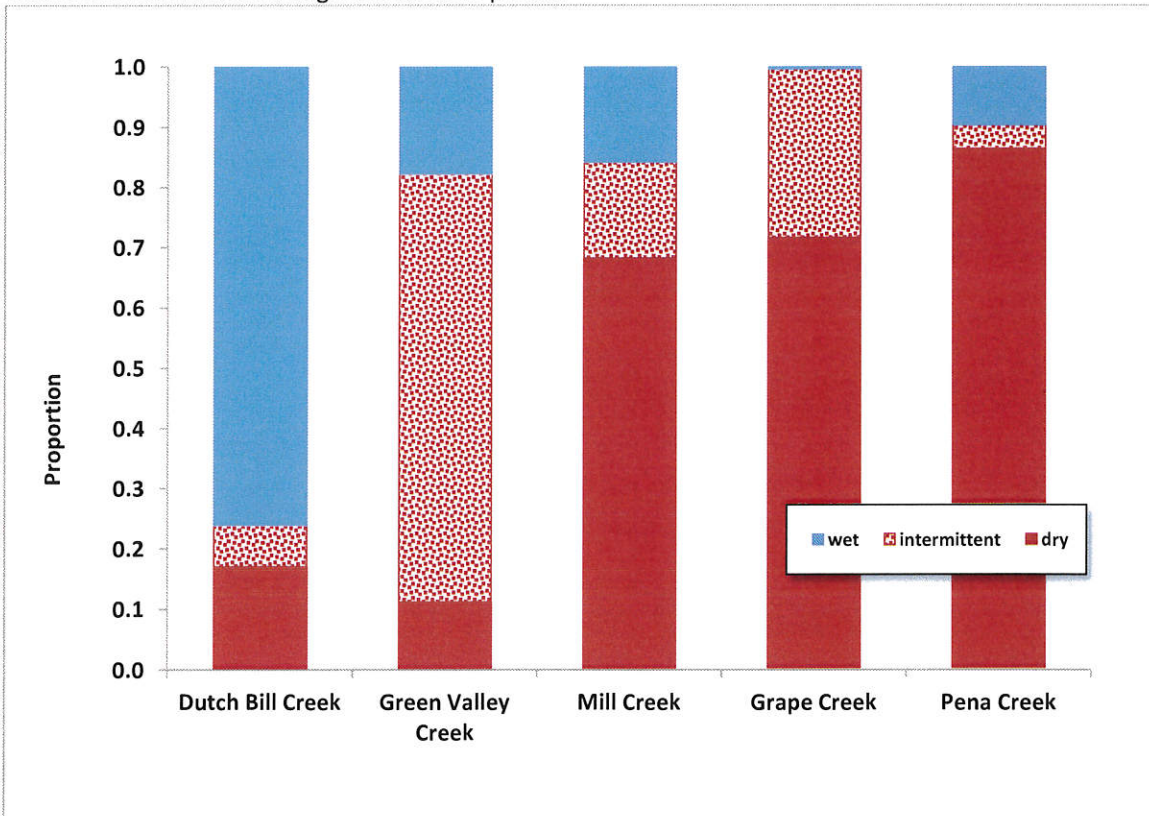


Figure 3. The proportion of juvenile salmonids observed in relation to wet, intermittent and dry stream reaches in five priority streams studied by the Russian River Coho Salmon Captive Broodstock Monitoring Program in the summer of 2015.

CDFW, NMFS, the Russian River Coho Partnership, Trout Unlimited, and the Gold Ridge Resource Conservation District have all expressed support for the project. CMRPD consulted with NMFS, CDFW, and the North Coast Regional Board regarding filing the TUCP and instream flow petition and the effects of the proposed changes. NMFS and CDFW were directly involved with the design of the project.

The proposed change is in the public interest

This project is located in a priority watershed where the risk of drought-related effects to Federally-listed and State-listed fish species is greatest. Dutch Bill Creek, tributary to the Russian River, is one such priority area. This site contains Central California Coast (CCC) coho salmon and CCC steelhead, which are listed under the Federal Endangered Species Act (ESA) as endangered and threatened, respectively. Coho salmon are also listed as Endangered under the California Endangered Species Act (CESA). Coho salmon in Dutch Bill Creek are critical to the overall viability of wild coho in the Russian River basin.

The petition will not increase the amount of water the person is entitled to use

The proposed change does not seek to expand the season, rate or amount of the permit. As discussed herein, the proposed change seeks to temporarily modify the place and purpose of use of CMRPD's existing water right. Pursuant to Permit 21198, CMRPD has until December 31, 2017 to demonstrate complete application of its authorized 90 afa and rate of 0.23 cfs. The highest annual use occurred in 2014 when CMRPD used 59.1 afa, approximately two-thirds of its permitted allotment. The total amount of water to be diverted under this Petition and will not exceed a cumulative diversion of 90 af or 0.23 cfs.

Russian River Utility
707-887-7735

CAMP MEEKER WATER SYSTEM

Month _____ Year _____

CAMP MEEKER REC

MONTE RIO WELL					DUTCH BRIL DISCHARGE METER			ENTRY	TEMP °C	UPSTREAM	TEMP °C		
Date	Time	Elaps'd Time	Meter Reading	Gallons	Gal / Day	Meter Reading	Gallons	Gal / Day	ENTRY	UPSTREAM			
1						7450,000							
2						7450,000							
3						7464,500				19.9			
4						7486,000				19.0			
5						7,666,800							
6						7722,300							
7	12:00	9-3	1,408,600	227,500	113,750	7,839,900	117,600	58,800	39.5	18.3/5.37	18.2	7.92	
8	9:00	9-4	1,575,100	106,500	106,500	7,992,200	52,300	52,300		18.0/5.60	17.8/4.07	15.7	8.2
9	11:00	9-10	2,257,000	741,900	123,650	8,260,700	368,700	61,450	42.7	18.0/5.60	17.8/5.07	16.1/6.90	17.6
10	2:45	9-11	2,315,000	57,000	30,000	8,329,700	68,900	68,900	42.4	18.3/5.61	16.8/5.12	17.6/6.70	15.7
11	1:00	9-12	2,357,000	42,000	11,000	8,486,800	129,000	129,000	30.3	18.2/6.56	16.3/5.12	17.6/6.70	15.7
12	1:00	9-13	2,446,000	89,000	99,000	8,535,900	49,000	49,000		18.2/6.56	16.3/5.12	17.6/6.70	15.7
13	1:00	9-14	2,528,000	82,000	104,000	8,614,300	78,000	78,000					
14	11:20	9-25	3,937,400	713,400	101,900	9,055,400	361,100	67,585	35.5				
15	8:15	9-28	4,160,600	323,200	107,730	9,221,200	165,800	55,265	39.37	17.8/5.69	17.8/5.03	16.4/6.94	17.4
16						9,324,300							
17	12:15	10-5	4,889,100	513,000	102,600	9,590,400	256,100	51,220	35.56				
18						9,951,800							
19						10,148,300							
20	9:50	10-19	6,331,200	309,900	103,300	10,304,900	156,600	52,200	36.25				
21	3:00	10-20	6,700,000	368,800	101,875	10,525,900	221,000	55,250	33.36				
22	12:50	10-30	7,444,000	743,000	11,055	10,888,700	320,900	51,830	36.77				
23	3:15	11-2	7,776,600	332,500	83,125	11,052,700	167,000	41,000	28.9				
24						11,251,200							
25	11:20	11-10	8,493,500	369,200	73,840	11,429,600	1,784,000	356,800	24.7				
26	11:05	11-17	9,061,300	567,800	81,000	11,735,000	303,400	43,670	30.8				
27	9:00	11-23	9,545,100	484,600	80,760	11,996,700	261,700	43,620	30.2				
28	1:00	12-1	10,218,100	673,000	84,125	12,325,100	558,400	44,800	31.1				
29	11:50	12-9	10,854,000	635,900	79,487	12,703,500	348,400	43,550		-TANK OFF-			
30													
31													

Chlorine sol: 3% 1 gal of Cl. to 3 gals water
Poly-phosphate K-5 sol: 10% 1 gal of K-5 to 8 gals water

5,253,500 GALLONS
16.14 ACRE/FEET

Bac sampl

61.700

(DB02) Dutch Bill Creek at Westminster Woods Streamflow Comparison, WY2015 data with WY2016 measurements



Streamflow Comparison WY2014, WY2015 & WY2016

- WY2016 flow is higher than last two years in June and July
- But according to our two streamflow measurements it may be falling at a higher rate
- Flow in early Aug 2016 predicted to be below 0.1 cfs