

F-JC Stream Reach Summary

Study Reach: F-JC, Jim Creek - Denver Water diversion downstream to Fraser River.

Reach Description: Approximate channel length, 1 mile; approximate channel slope, 4.0%.

Jim Creek is a small mountainous stream that's tributary to the Fraser River near the Winter Park Ski area. Approximately one mile upstream from its confluence with the Fraser River Jim Creek is captured almost in its entirety and diverted to the Moffat collection system. Upper sections of Jim Creek below the diversion are typically dry, or damp, while lower sections are wetter with a trickle of flow at some times. In late August 2008 the flows were measured at less than 0.1 cfs in this lower section. Rock staining is extensive.



Jim Creek at the Fraser River canal pipeline

Flow Recommendations:

Environmental Flow Methodology: A study site was not established on Jim Creek. CWCB instream flows have been set for this reach above the Denver Water diversion to the headwaters.

Water Users:

- Municipal and irrigators flow-related issues: none reported
- Recreational flows: none reported

Summary of Flows:

Environmental, recommended flow range

- No environmental flow recommendations are made for this reach.

CWCB Flows (above headgate)

- 4 cfs summer (04/15 – 9/30)
- 1.5 cfs fall (10/01 – 11/30)
- 1 cfs winter (12/01 – 4/14)

Water Users

- Irrigators, municipalities and industry: There are no surface water diversions by local water users in this reach.
- Recreation: none reported

Stream Assessments: In August 2008 Tetra Tech conducted two stream assessments in FJC. The assessments conducted included the Stream Reach Inventory /Channel Stability Evaluation (SRI/CSE), and the EPA Habitat Quality Assessment (HQA). The SRI/CSE evaluation scored in the ‘good’ category and the EPA HQA evaluation scored in the low end of the ‘suboptimal’ category. Relevant issues revealed in the stream assessments include lack of flow, poor aquatic structure, marginal velocity/depth regime, and presence of fish passage barriers. Riparian vegetation cover and width were optimal. Results of the assessments are summarized in the following table. Details and methodology are presented in Appendix A.

Reach F-JC Stream Assessments					
Stream Reach Inventory/Channel Stability Evaluation			EPA Habitat Quality Assessment		
Attribute			Attribute	Score	
Upper Banks			Channel		
1	Landform Slope	2	1	Aquatic Habitat Barriers/ Diversion	9
2	Mass wasting hazard	3	2	Aquatic Structure as Cover	3
3	Debris Jam Potential	4	3	Velocity/ Depth Regimes	6
4	Vegetation Cover	3	4	Channel Flow Status	3
		Upper Bank Score:	5	Channel Alteration	14
Lower Banks			6	Frequency of Riffles	9
5	Channel Capacity	1	7	Channel Sinuosity	7
6	Bank Rock Content	4	Channel Score		51
7	Flow obstructors & Deflectors	2	Banks		
8	Cutting	4	8	Bank Stability	20
9	Deposition	4	9	Riparian Vegetation Cover and Disturbance	20
		Lower Bank Score:	10	Riparian Vegetation zone width	20
Channel Bottom			Bank Score		60
10	Rock Angularity	2	Total Score		111
11	Brightness	2	Notes		
12	Consolidation/Particle Packing	4			
13	Bottom size distribution	4			
14	Bed Scour and Deposition	9			
15	Clinging Aquatic Veg	3			
		Channel Bottom Score:			
		Total Score:			51

Spawning Observations: No spawning survey was conducted in this reach.

Hydrologic Records: No flow records were located for this reach.

Water Temperature: F-JC is a Tier I stream reach as designated by CDPHE with a chronic temperature standard of 17°C MWAT and an acute temperature standard of 21.2°C DM. No records were located for this reach. Given the environmental setting, water temperatures in this reach are likely to be supportive of a cold-water fishery.

Water Quality: There was no water quality data located for this reach. Extensive rock staining is indicative of high iron content but no tests have been conducted to confirm this.

Water Supply Issues (UPCO): Jim Creek is diverted almost in its entirety.

Summary of Results and Additional Remarks:

1. No CWCB flows have been set for the study reach, however CWCB flows exist upstream of the Denver Water intake. Below the headgate the study reach is typically dewatered.
2. Extensive rock staining is indicative of high iron content but no tests have been conducted to confirm this.
3. There does not appear to be a need for additional studies within this reach at this time, as this reach is dewatered on a consistent basis.
4. The reach above the Denver Water Diversion is likely capable of supporting a trout population.
5. Uncaptured runoff and groundwater seeps appear to support a wetlands environment surrounding the old streambed.

Restoration Opportunities: No restoration recommendations are made at this time.

Monitoring: No recommendations are made at this time.

