

RE Stream Reach Summary

Study Reach: RE, Reeder Creek - From BLM fishing access downstream to the Colorado River.

Reach Description: Approximate channel length: 0.5 miles, approximate channel slope 2.5%.

Reeder Creek is a tributary to the Colorado River, confluencing in CR5 approximately 0.75 miles upstream of the bridge crossing on County Road 39 at the KB Ranch. Reeder Creek is comprised largely of return flows from the Big Lake Ditch. Adjacent lands are primarily undeveloped and steep, with some agricultural use and meadows. This area is also a popular fishing area with public parking nearby off of County Road 33.



Reeder Creek 2500 feet upstream of confluence with Colorado River

Flow Recommendations:

Environmental Flow Methodology: CWCB instream flows have been proposed for the 7 miles above the confluence with the Colorado River. A study site was also established by TetraTech in August 2008 on Reeder Creek approximately 2500 ft above the confluence. Environmental flow targets were developed based upon a single riffle transect approach similar to that applied by CWCB. See Appendix A for details and Appendix E for survey information.

Water Users:

- Irrigators, municipalities and industry flow-related issues: None reported
- Recreation: None reported.

Summary of Flows:Environmental, recommended flow targets

- 2.1 cfs, summer
- 1.2 cfs, winter
- Flushing Flow – at least 12 cfs for a 3-day duration with a frequency of 1 in 2 years during the late May to Late June period.

CWCB Flows

- 2.5 cfs (01/1 – 12/31)

Water Users

- Irrigators, municipalities and industry: There are no local diverters between the study site and the Colorado River.
- Recreation: none reported

Stream Assessments: In August 2008 Tetra Tech conducted two stream assessments in Reeder Creek. These included the Stream Reach Inventory and Channel Stability Evaluation (SRI/CSE) and the EPA Habitat Quality Assessment (HQA). The SRI/CSE scored a 65, “good” condition, while the HQA scored a 141, “suboptimal” condition, with the only attribute rated as marginal being velocity/depth regime. Results of the assessments are summarized in the following table and plot. Details and methodology are presented in Appendix A.

Reach RE					
Stream Assessments					
Stream Reach Inventory/Channel Stability Evaluation			EPA Habitat Quality Assessment		
Attribute			Attribute	Score	
Upper Banks			Channel		
1	Landform Slope	4	1	Aquatic Habitat Barriers/ Diversion	18
2	Mass wasting hazard	6	2	Aquatic Structure as Cover	11
3	Debris Jam Potential	4	3	Velocity/ Depth Regimes	8
4	Vegetation Cover	7	4	Channel Flow Status	18
Upper Bank Score:		21	5	Channel Alteration	18
Lower Banks			6	Frequency of Riffles	16
5	Channel Capacity	1	7	Channel Sinuosity	8
6	Bank Rock Content	6	Channel Score		97
7	Flow obstructors & Deflectors	3	Banks		
8	Cutting	8	8	Bank Stability	16
9	Deposition	4	9	Riparian Vegetation Cover and Disturbance	12
Lower Bank Score:		22	10	Riparian Vegetation zone width	16
Channel Bottom			Bank Score		44
10	Rock Angularity	2	Total Score		141
11	Brightness	2	Notes		
12	Consolidation/Particle Packing	3			
13	Bottom size distribution	4			
14	Bed Scour and Deposition	8			
15	Clinging Aquatic Veg	3			
Channel Bottom Score:		22			
Total Score:		65			

Spawning Observations: No trout spawning survey was conducted on Reeder Creek.

Hydrologic Records: No USGS stream gage records are available for Reeder Creek. The BLM has periodically measured stream flow since 1989, with flows ranging from 2.7 to 59 cfs.

Water Temperature: RE 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 water temperature data are available for this reach.

Water Quality: No water quality data were available for this reach.

Water Supply Issues (UPCO): No water supply issues are reported for this reach.

Summary of Results and Additional Remarks:

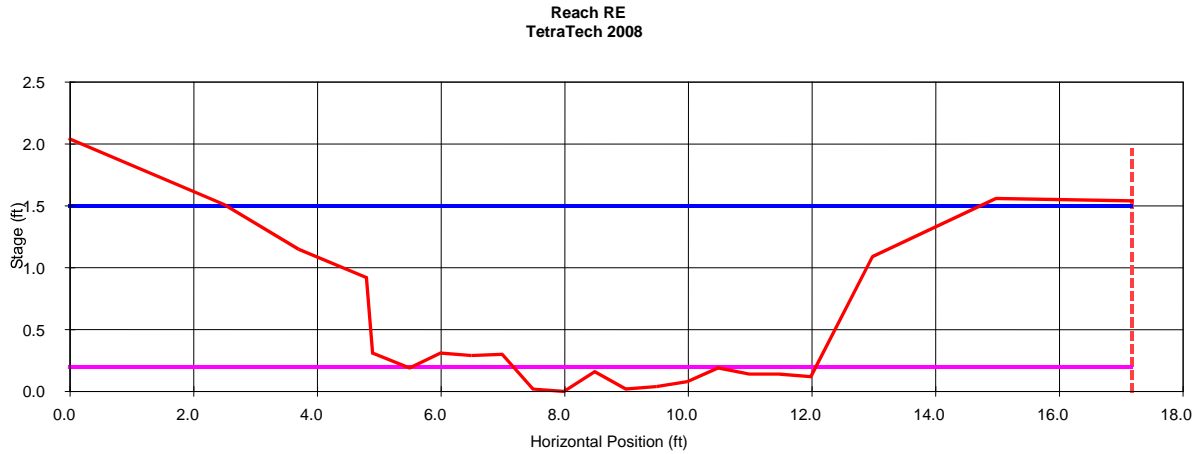
1. Recommended environmental flow target are relatively consistent with CWCB instream flows and based on BLM measurements appear to be present.
2. Review of future flow conditions indicate that water rights transfers out of Big Lake Ditch could result in significant flow reduction in Reeder Creek.

Restoration opportunities: No recommendations are made at this time.

Monitoring: No recommendations are made at this time.

Support Data

Transect Hydraulics-Flow Relationships:



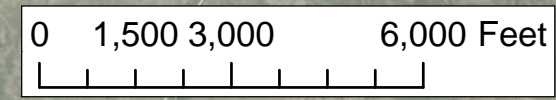
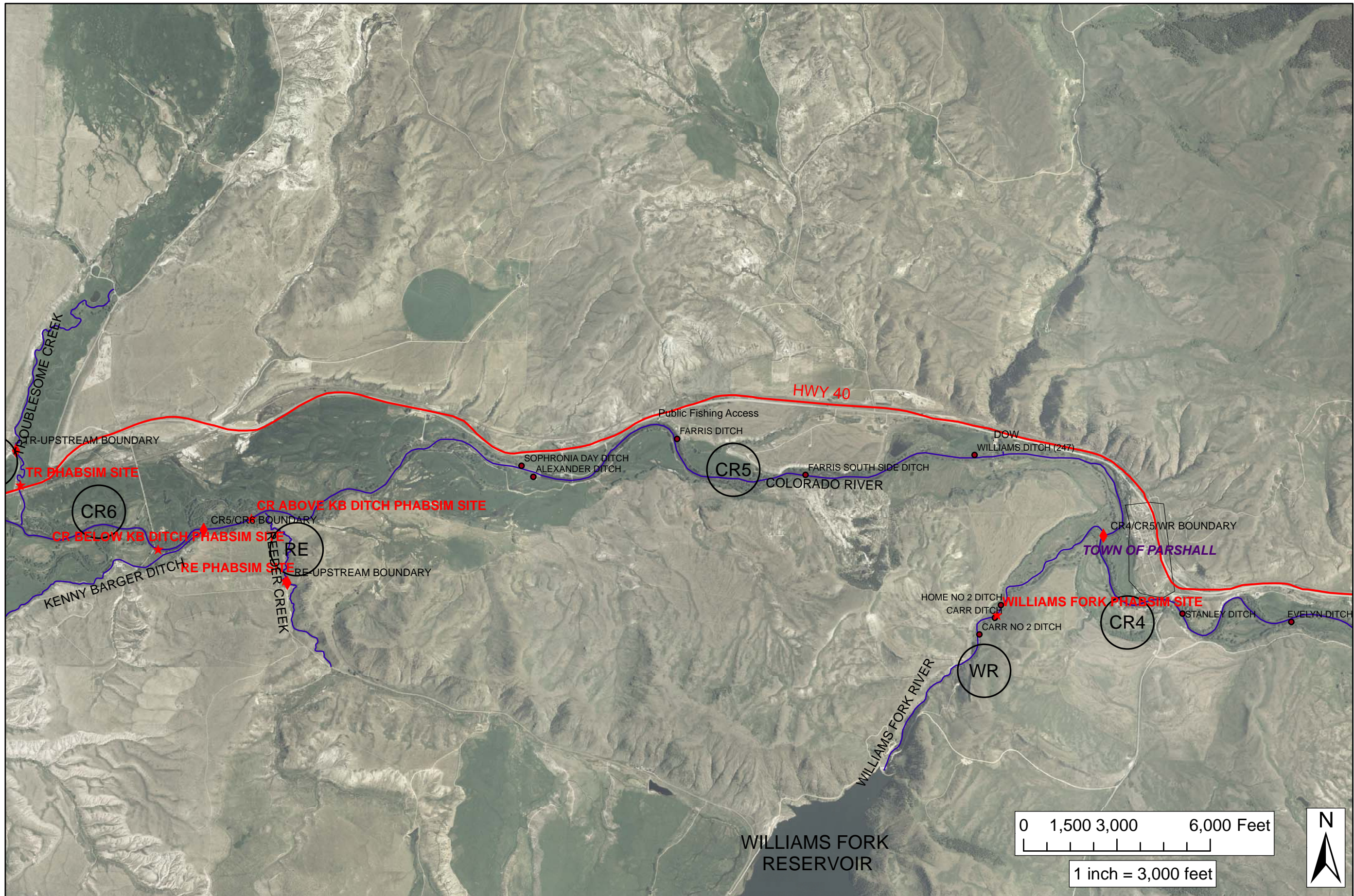
Reach RE										
TT2008 Site										
Resistance Method: Manning's n										
STAGE	AREA	PERIM	WIDTH	R	DHYD	SLOPE	n	VAVG	Q	SHEAR
(ft)	(sqft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)		(ft/s)	(cfs)	(psf)
0.2	0.5	5.1	5.0	0.10	0.10	0.025	0.101	0.5	0.3	0.16
0.3	1.1	7.2	6.9	0.15	0.15	0.026	0.100	0.67	0.7	0.24
0.4	1.8	7.7	7.4	0.23	0.24	0.027	0.099	0.93	1.7	0.39
0.5	2.6	8.0	7.5	0.32	0.34	0.027	0.098	1.17	3.0	0.54
0.6	3.3	8.2	7.6	0.40	0.43	0.028	0.098	1.39	4.6	0.7
0.7	4.1	8.5	7.8	0.48	0.53	0.029	0.097	1.61	6.5	0.87
0.8	4.9	8.7	7.9	0.56	0.62	0.03	0.096	1.81	8.8	1.03
0.9	5.7	9.0	8.0	0.63	0.71	0.03	0.095	2.01	11.3	1.19
1.0	6.5	9.5	8.5	0.68	0.76	0.031	0.094	2.16	14.0	1.32
1.1	7.4	10.2	9.1	0.72	0.81	0.032	0.093	2.29	16.9	1.44
1.2	8.3	11.0	9.9	0.75	0.84	0.033	0.093	2.41	20.0	1.53
1.3	9.3	11.8	10.7	0.79	0.87	0.033	0.092	2.54	23.7	1.65
1.4	10.4	12.6	11.4	0.83	0.91	0.034	0.091	2.68	27.9	1.77
1.5	11.6	13.4	12.2	0.87	0.95	0.035	0.090	2.82	32.7	1.89

GRAND COUNTY
STREAM MANAGEMENT PLAN
REACHES

Legend

- ◆ REACH BOUNDARY
- ★ PHABSIM SITES
- DIVERSIONS

REACH: RE
SHEET # :
1 OF 1



1 inch = 3,000 feet

