National Biological Assessment and Criteria Workshop

Advancing State and Tribal Programs

Coeur d'Alene, Idaho
31 March – 4 April, 2003

TRIBE 101

Use of Biocriteria for 401 Certification

Presented by

Deb Madison, Fort Peck Assiniboine & Sioux Tribes

401 Certification Authority

- Obtained when Tribal WQ Standards are approved
- Triggered when any activity that requires a Federal permit may result in a discharge into navigable water
- Common activities include 404 permits (USACOE) and 402 permits (USEPA)

401 Certification Authority cont'd

- 401 Certifications are quasi-regulatory
- Tribe can attach conditions to 401 Certifications to ensure protection of water quality
- Conditions can require monitoring to ensure compliance with water quality standards

O'Connor Bridge 401 Certification

- Requested by the US ACOE & BIA in 4/98
- Tribe certified with conditions 7/98
- Conditions include:
  - Geomorphic Considerations
  - Erosion Controls
  - Revegetation and stabilization of banks
  - Monitoring upstream and downstream for physical and biological criteria

O’Connor Bridge Project

Water Quality Criteria

- O'Connor Bridge located on Poplar River on a segment designated as a Class I Cool Water
- Standards - Physical
  - Dissolved Oxygen $\geq$ 8.0
  - Temperature $\leq$ 23°
  - pH 6.5-9.0

Water Quality Criteria

- Standards – Biological
  - Taxa Richness ≥ 5
  - Family Biotic Index, (FBI) ≤ 6.5
  - EPT Index ≥ 3

Biological Data Collected

Date Collected 08/16/00								
TAXA	**Number of**	**FBI**		***FFG**				
Kicknet	**Organisms**	**TV**		**SCR**	**C-F**	**SHR**	**C--G**	**Other**
Nematoda (sludgeworm)	9	3	0.24					9
Coleoptera: gyrinidae	2	5	0.09					2
Diptera: chironomidae	1	7	0.06				1	
Diptera: simuliidae	8	6	0.43		8			
Ephemeroptera: heptageniidae	5	4	0.18					
Ephemeroptera: oligoneuriidae	83	2	1.50		83			
Trichoptera: hydropsychidae	3	4	0.11		3			
TOTAL	**111**		**2.61**	**0**	**94**	**0**	**1**	**11**
CPOM								
Gastropoda: physidae	1	8					x	
Amphipoda: talitridae	1	8					x	
Coleoptera: hydrophilidae	1	5						x
Diptera: simuliidae	12	6			x			
Ephemeroptera: heptageniidae	1	4		x				
Trichoptera: hydropsychidae	6	4			x			
	22							
*NOTE CF: Collector-Filterer; CG: Collector-Gatherer; SCR: Scraper; SHR: Shredder; OM: omnivore								
MH: macrophyte-herbivore(shredder) ; PH: piercer-herbivore(predator); PA: parasite; UN: unknown;								
XY: xylophage.								

Sampling Results August, 2000

Upstream

Date Collected 08/16/00		
METRIC	**METRIC SCORE**	**RATING SCORE**
Taxa Richness	10	3
EPT Richness	3	0
Biotic Index	2.61	3
% Dominant Taxon	75%	0
%C-F + %C-G	86%	1
% EPT Taxa	82%	3
%SCR + %SHR	0	0
%Dipteran + %Non Insecta	16%	3
		13
	TOTAL	54%
SUPPORTABILITY	Partial Support, moderately impaired	

Downstream

O'Conner X-ing dwn strm		
Date Collected 08/16/00		
METRIC	**METRIC SCORE**	**RATING SCORE**
Taxa Richness	9	2
EPT Richness	3	1
Biotic Index	3.96	3
% Dominant Taxon	38%	2
%C-F + %C-G	95%	1
% EPT Taxa	60%	3
%SCR + %SHR	1%	0
%Dipteran + %Non Insecta	38%	2
		12
	TOTAL	50%
SUPPORTABILITY	Partial Support, moderately impaired.	

Photo Comparison Upstream

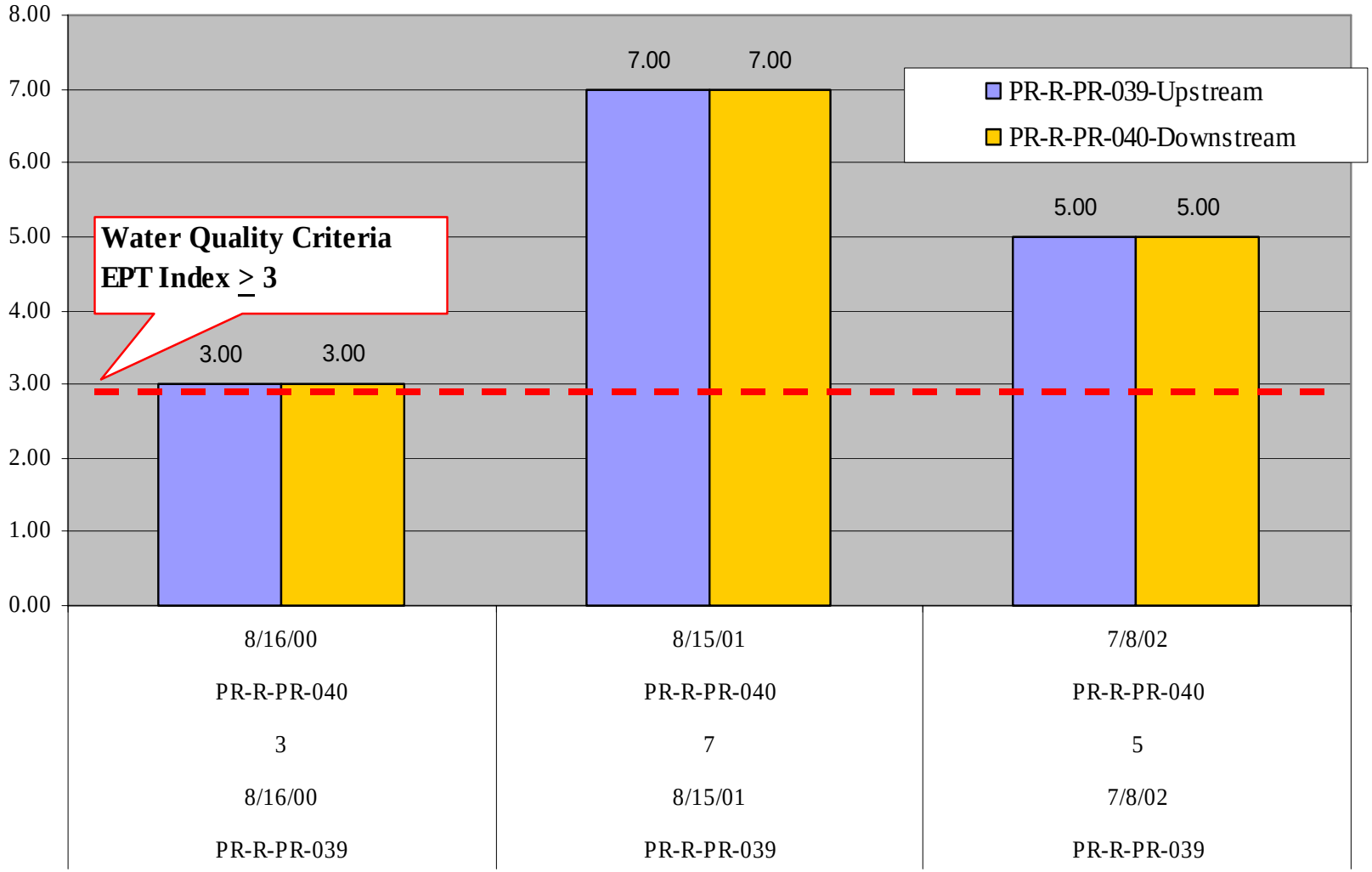
August 2000

August 2002

Photo Comparison Downstream

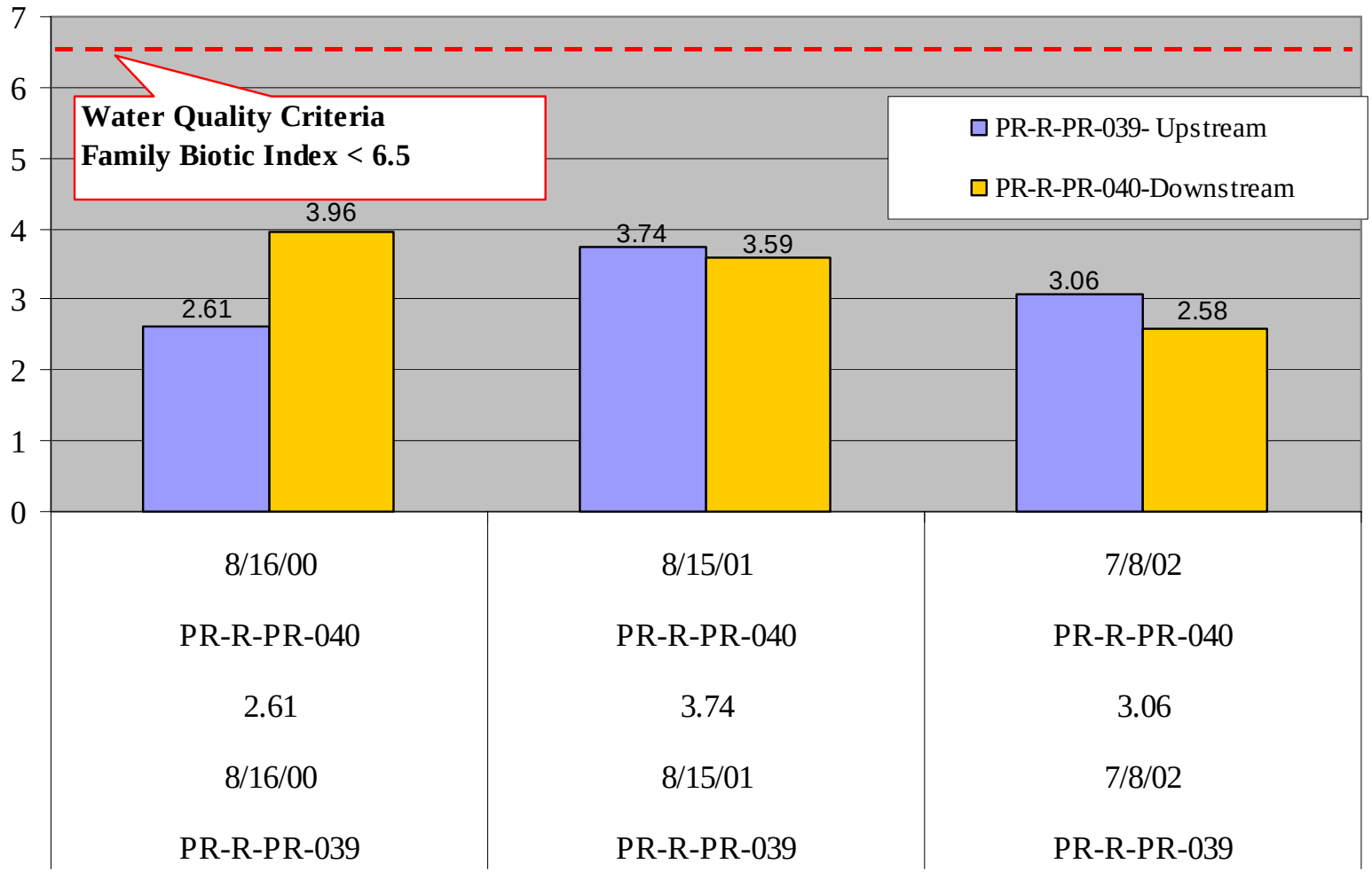
EPT RICHNESS - O'CONNER CROSSING

Fort Peck Indian Reservation, Poplar, Montana



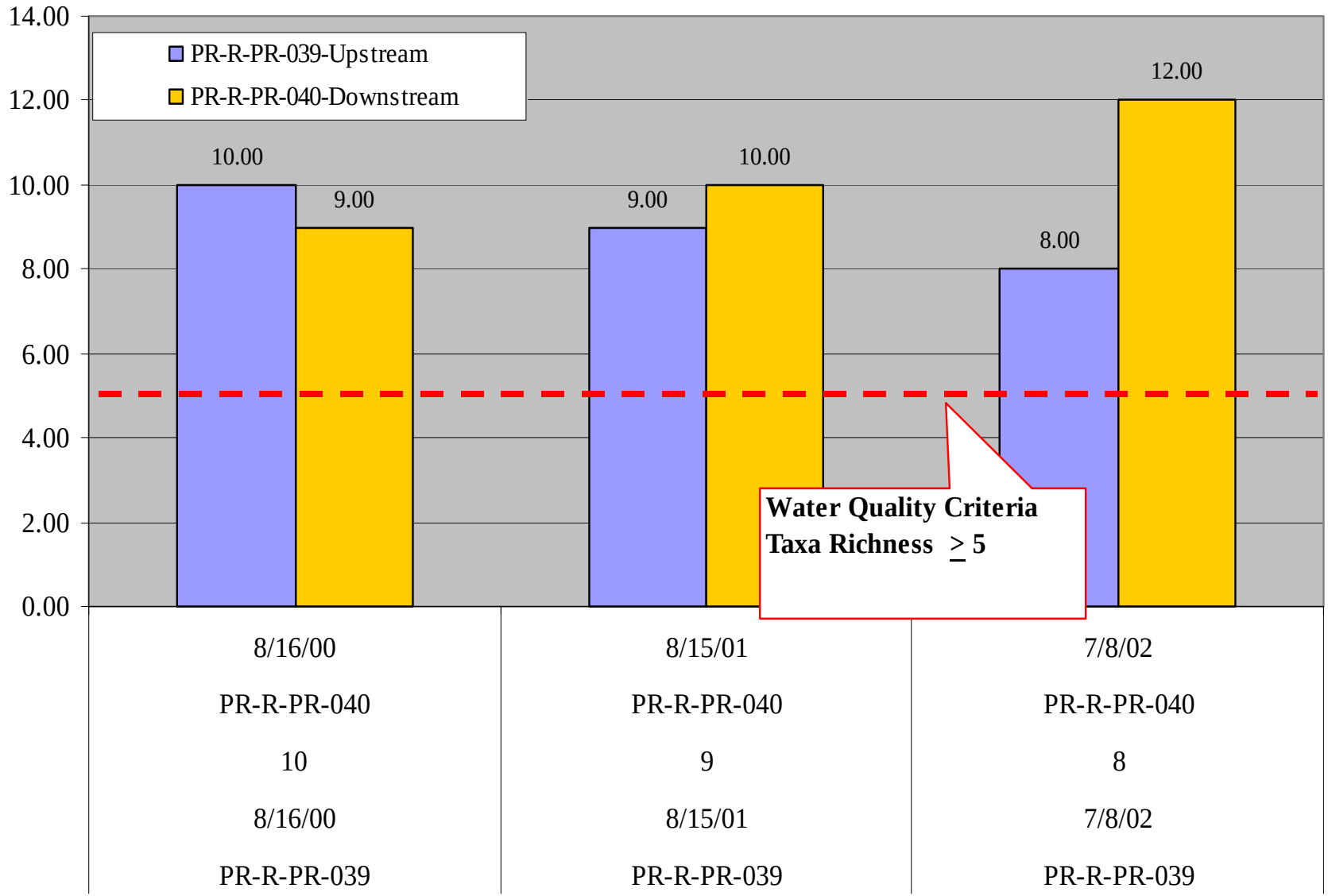
FAMILY BIOTIC INDEX - O'CONNER CROSSING

Fort Peck Indian Reservation, Poplar, Montana



TAXA RICHNESS - O'CONNER CROSSING

Fort Peck Indian Reservation, Poplar, Montana



Summary

- None of the biocriteria were violated after construction was completed although EPT values were at the standard.

- A slight trend of improvement over the course of three years after bridge completion

Future Plans

- Developing metrics for the Missouri River with EPA
- Contract for evaluation of the biological program with Tetra Tech
- Revise criteria with available information in the next triennial review of water quality standards