

National Biological Assessment  
and Criteria Workshop

Advancing State and Tribal Programs



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

**TRIBE 101**

# *Pyramid Lake Paiute Tribe: Programmatic Implementation of Bioassessment*

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# Pyramid Lake Paiute Tribe's Key NPS concerns

- Environmental impacts to the Truckee River & Pyramid Lake aquatic life, and long term bio-accumulation of TDS and toxic substances.
- Human health impacts.
- Impacts to federally listed endangered and threatened species of fish.
- Cultural/ Social Impacts.
- Impacts from upstream sources.

# NPS Assessment & Management Plan

- To identify nonpoint sources which add significant pollution to surface water bodies within the PLIR.
- Rank and prioritize.
- Conduct an assessment/ ID BMP's (WRAS)
- Develop monitoring program to evaluate the effectiveness of BMP's.
- Write an Executive Summary of the NPS assessment and management plan for the PLIR.

# NPS & Agricultural Return Flows



- High TP, TN (1531, 277 pounds per season)
- Low Dissolved Oxygen
- 30% return flow to river





9/4/2001

**High Temps/ Low DO's**



# BMP's

Fencing/ Range Mgt Plan:  
Improves riparian/range health,  
shading, WQ, lowers water temps  
which benefits aquatic life, birds,  
amphibians, wildlife

Laser Leveling Ag. Fields: Increases water use  
efficiency, decreases runoff, improves WQ

WQ, fish, and river restoration coordination mtgs

Replace open dumps with Transfer Stations

Noxious Weed/ Pesticide Program

Replace Septic Tanks w/ community sewer system



# Dry Truckee River

(Reno, Summer 1994)



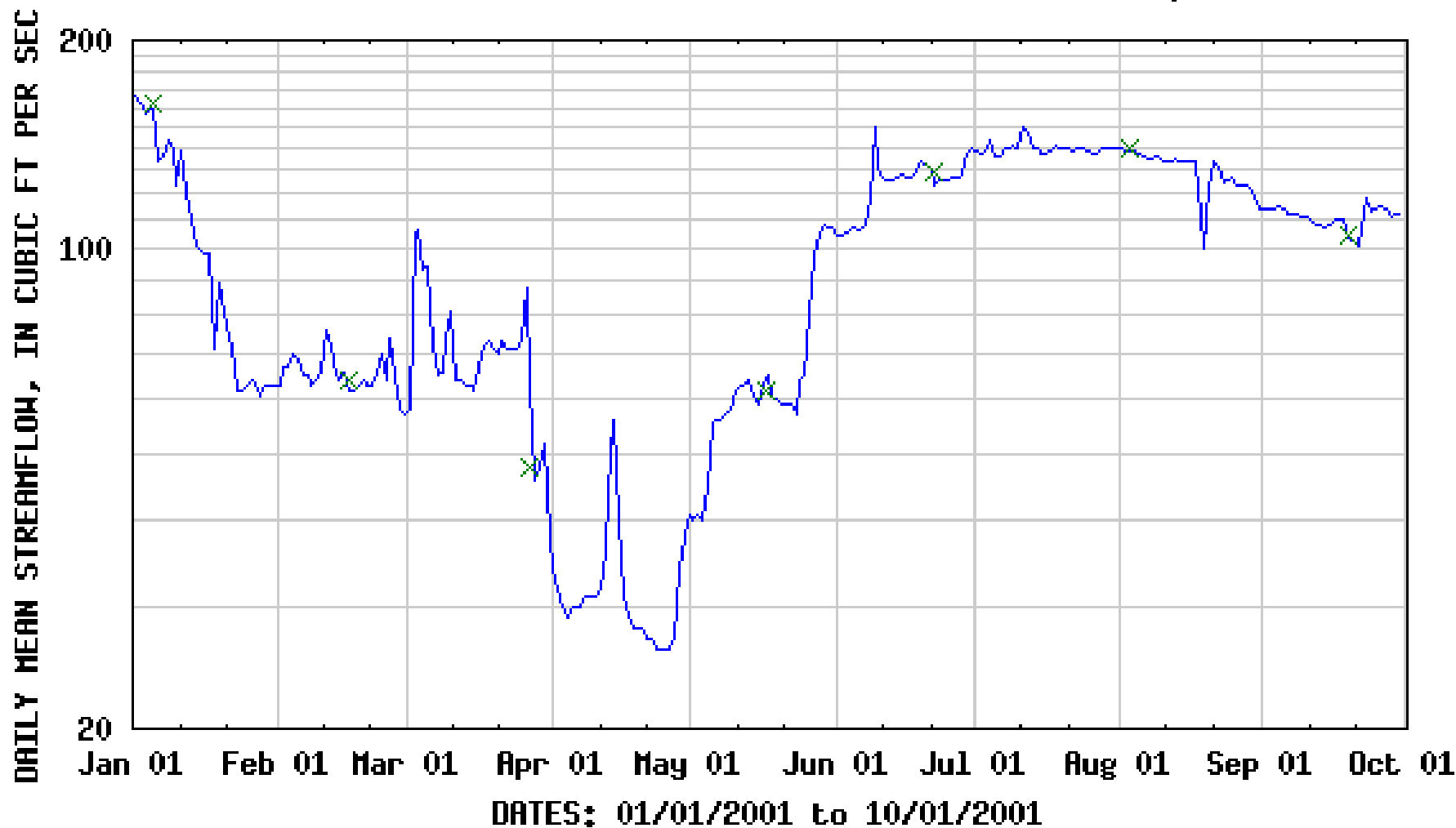
# Derby Dam





# LTR Graph of Flows

USGS 10351600 TRUCKEE R BL DERBY DAM NR WADSWORTH, NY



## EXPLANATION

— DAILY MEAN STREAMFLOW

× MEASURED STREAMFLOW

# Biotic Index Values

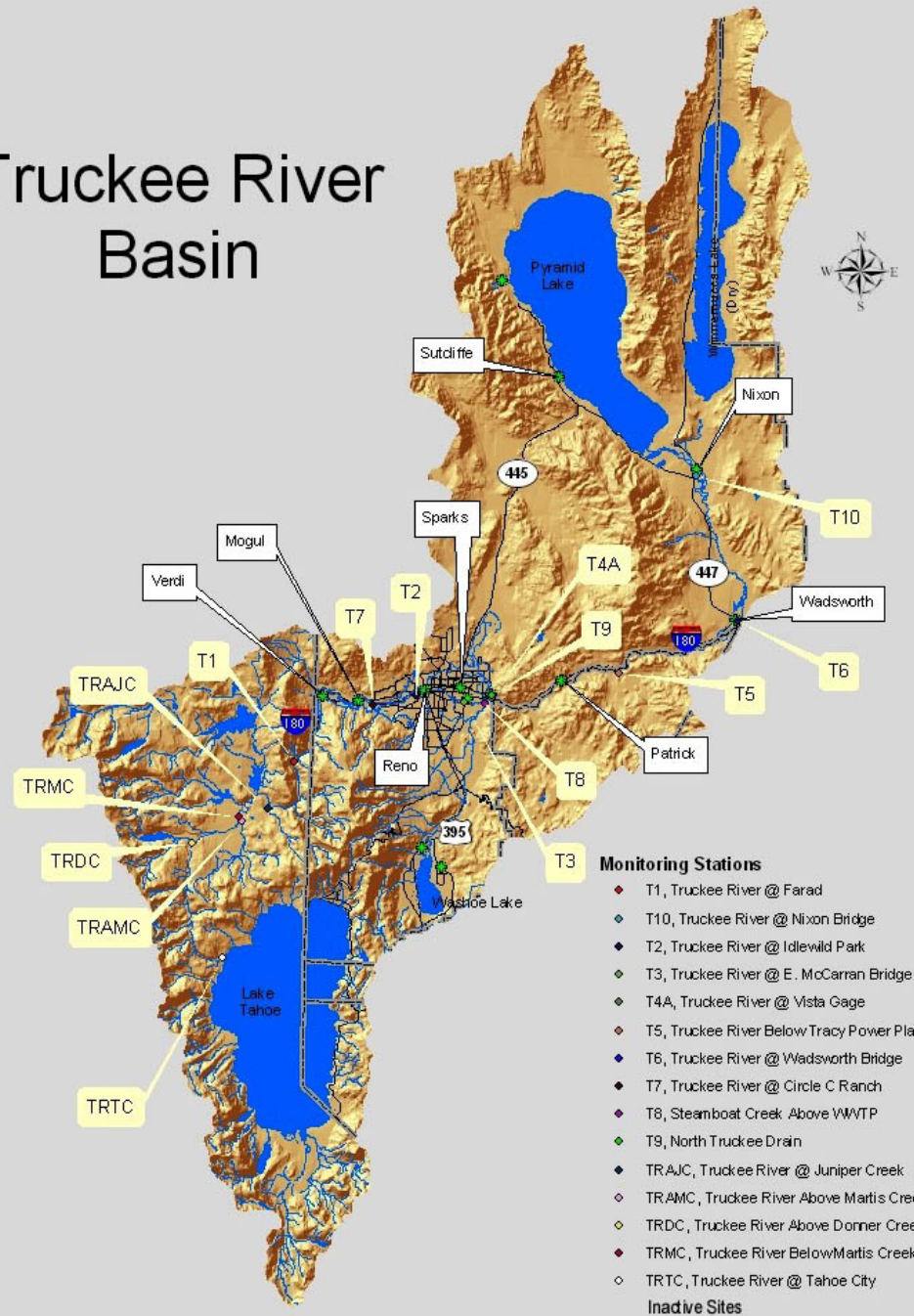
0.0 – 3.5	Excellent (Pristine water)
3.5 – 4.5	Very Good Water Quality
4.5 – 5.5	Good WQ (some pollution)
5.5 – 7.0	Fair (Moderately polluted)
7.0 – 8.0	Poor (seriously polluted)
8.5 – 10.0	Very Poor (extremely polluted waters)

# August 1994 LTR BMI data (flows 0-44 cfs)

Taxa	McCarran	Lockwood	Clark	S Bar S
Ephemeroptera	0	0	40	49
Trichoptera	0	1	66	3
Elmidae	0	3	2	13
Chironomids	0	109	12	64
Simulium	0	3	0	0
Planaria	0	1047	14	322
Oligochaeta	0	4	0	3
Gastropoda	0	227	0	16
Corbicula	0	6	3	6
Salmonids (LCT)	0	0	0	3 (0)
Cyprinids/ Catostomids		834/ 108	404/ 63	290/ 6
<b>EPT %</b>	<b>0%</b>	<b>0%</b>	<b>83%</b>	<b>10%</b>
<b>Biotic Index</b>	<b>0</b>	<b>8.57</b>	<b>5.63</b>	<b>7.75</b>



# Truckee River Basin



# August 1995 LTR BMI data (flows 654-712 cfs)

Taxa	McCarran	Lockwood	Clark	S Bar S
Ephemeroptera (6)	224	243	579	145 (1)
Skawla	25	76	0	0
Trichoptera (5)	17	99	247	21(2)
Elmidae	0	1	0	0
Chironomidae	18	589	581	22
Simulium	6	170	19	12
Planaria	0	2	0	0
Oligochaeta	0	4	14	0
Salmonids (LCT)		14 (0)	2 (0)	4 (0)
Cyprinids/ Catostomids		18/ 22	12/ 16	25/ 20
<b>EPT %</b>	<b>91%</b>	<b>35%</b>	<b>57%</b>	<b>83%</b>
<b>Biotic Index</b>	<b>3.98</b>	<b>5.19</b>	<b>5.05</b>	<b>5.16</b>

# July 1999 LTR BMI data (flows 357-482 cfs)

<b>Taxa</b>	<b>McCarran</b>	<b>Lockwood</b>	<b>Clark</b>	<b>S Bar S</b>
Ephemeroptera	45 (4)	91 (3)	467 (3)	77 (2)
Plecoptera	19 (1)	16 (2)	2 (1)	62 (1)
Trichoptera	148 (4)	183 (4)	45 (2)	177 (1)
Chironomidae	62	92	179	31
Oligochaeta	3	0	6	0
Empididae	5	0	0	0
Salmonids (LCT)		28 (6)	4 (1)	27 (1)
Cyprinids/Catostomids		0/ 0	36/ 55	0/ 3
<b>EPT %</b>	<b>74%</b>	<b>76%</b>	<b>74%</b>	<b>91%</b>
<b>Biotic Index</b>	<b>2.76</b>	<b>4.05</b>	<b>4.55</b>	<b>3.64</b>



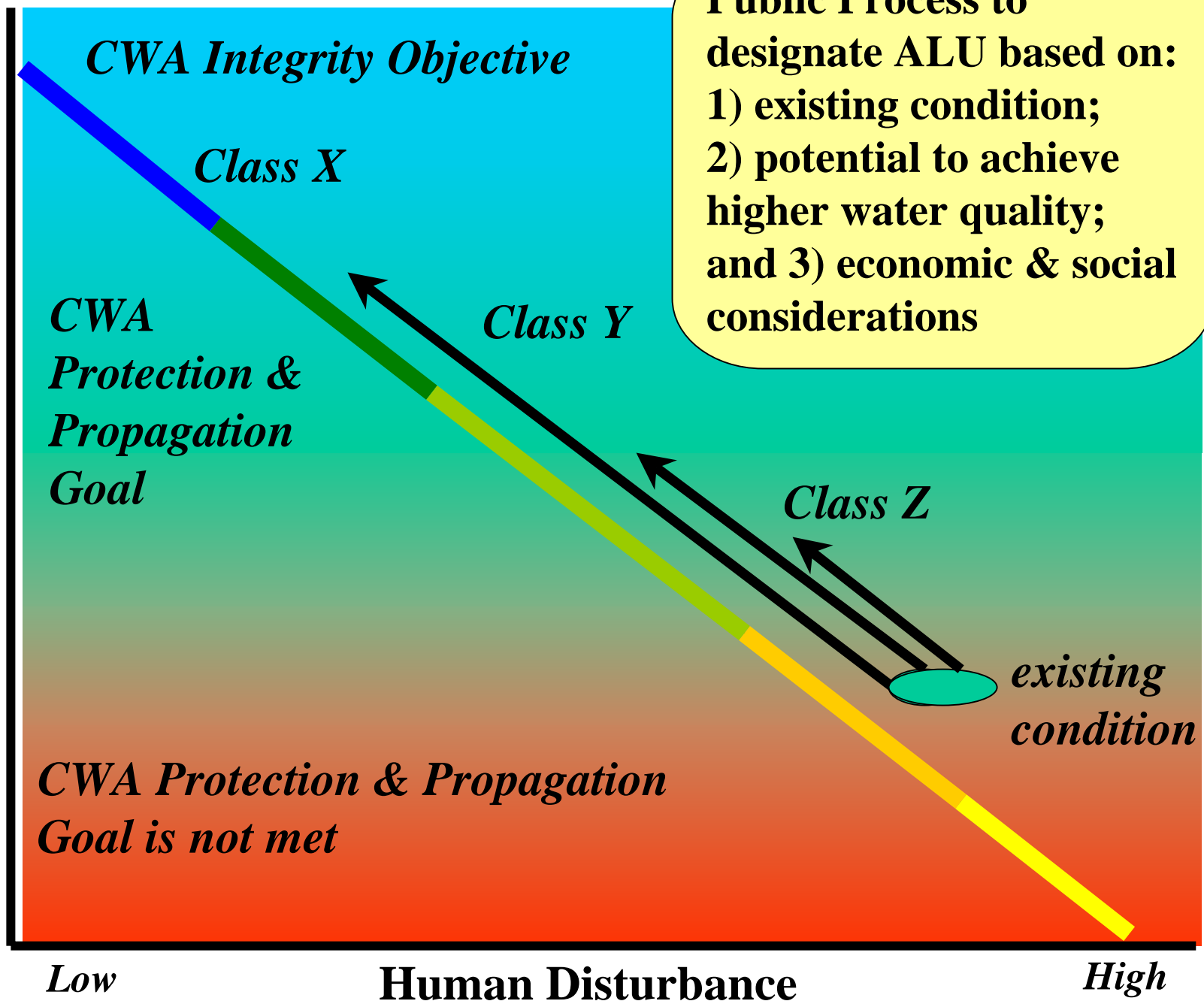
# Nov. 2001 LTR BMI data (flows 39-350 cfs)

<u>Taxa</u>	<b>McCarran</b>	<b>Lockwood</b>	<b>Clark</b>	<b>S Bar S</b>
Ephemeroptera	133 (2)	1247 (3)	110 (2)	96 (2)
Plecoptera	4 (1)	0 (0)	0 (0)	0 (0)
Trichoptera	150 (2)	132 (1)	14 (2)	4 (1)
Chironomids	14	19	22	6
Planaria	0	0	38	92
Oligochaeta	0	3	0	0
Elmidae	0	7	2	48
Corbicula	0	0	42	46
Salmonids (LCT)		14 (0)	8 (0)	6 (0)
Cyprinids/ Catostomids		52/ 4	413/ 76	174/ 36
<b>EPT %</b>	<b>89%</b>	<b>92%</b>	<b>43%</b>	<b>34%</b>
<b>Biotic Index</b>	<b>5.20</b>	<b>5.90</b>	<b>6.66</b>	<b>7.14</b>

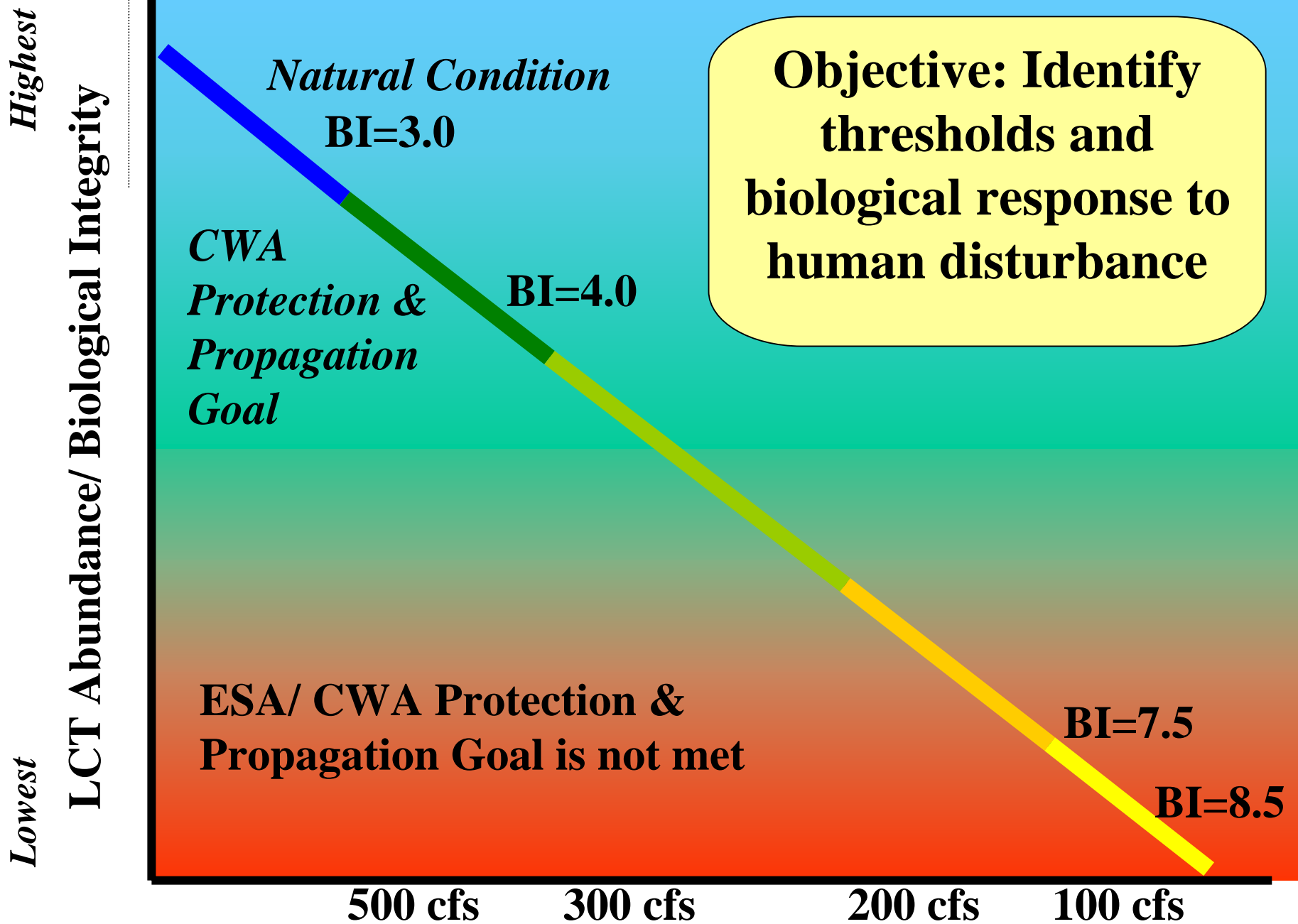
# Designation of Aquatic Life Uses

natural

Biological  
Condition



# Tiered Aquatic Life Uses: Draft Conceptual Framework





# Next Steps:

- Continue bioassessment and WQ monitoring program
- Work with NDEP, EPA, FWS and others on a draft ALUS human disturbance gradient for the lower Truckee river
- Work with Tetra Tech on which metrics could best evaluate biological integrity, and develop numeric biocriteria standards for the river



**18½ Pounder**

# Cui-ui



THE CUI-UI FISH A LARGE CUMBROUS LOOKING FISH. THE HEAD IS WIDE AND FLAT, WHICH GIVES IT THE APPEARANCE OF A FISH WITH LARGE HEAD AND SLIM BODY. THE INTERORBITAL SPACE IS GREATER THAN HALF THE LENGTH OF THE HEAD. THE MOUTH IS UNSUCKER-LIKE WITH A VENTROTERMINAL POSITION. THE LIPS ARE THIN AND OBSCURELY PAPPILLOSE. THE LOWER LIP IS SOMEWHAT PENDANT AND DIVIDED BY A VERY WIDE MEDIAN NOTCH. THE CUI-UI IS COURSE SCALED WITH THE COUNTS OF 13-14 ABOVE THE LATERAL LINE, 59-66 ALONG THE LATERAL LINE, 10-12 BELOW IT, AND 28-35 BEFORE THE DORSAL FIN.



# The Needles

A photograph of a geyser erupting into a large plume of white steam in a lake. The geyser is located in the center-left of the frame, with a thick column of white steam rising from the water. The background features dark, jagged volcanic rock formations under a blue sky with scattered white clouds. The foreground shows a grassy, brownish shoreline. In the distance, a small island with a structure is visible in the lake.

1/6/1998