

Wildlife and Riparian Workgroup Update
Trinity Management Council Meeting
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March 26, 2015

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- Brief update on Riparian Mapping and Band Transect Sampling
 - “Healthy River” DSS

Mainstem Trinity River near Junction City, California

How has riparian vegetation changed over the years in the Trinity River?

- Pre-gold rush condition was not documented
- Post-gold rush condition was mostly barren
- Post flow-regulation (1960's), riparian vegetation increased
 - ~300 acres in 1960
 - ~800 acres in 1980
 - ~800 acres in 2000
 - ~900 acres in 2012
 - ~4,000 acres of bottomland and adjacent hillslopes along restoration reach

2014 Mapping Results comparison

	2003	2010	2014
Cover Type	Area (ac)		
Riparian Forest/Shrubland	951	932	949
Upland Forest/Shrub/Grassland	2,070	2,102	2,297
Open	348	312	330
Open water	418	456	455
Wetland	19	15	10
Unknown	70	60	0
Human Disturbance	655	679	457
Total	4,530	4,557	4,498

Fall 2014 Sample Data

			1 yr seedlings	2 yr seedlings	3 yr seedlings	4+	
GRTS Exposed Bar Location	Cross section	Location	2014	2013	2012	2011 or older	Total
Bear Island	2078+10						
Downstream of USGS Station	New						
Hoadley Gulch	1990+50	>2000 cfs		2		1	3
Dark Gulch	1749+80						
Bucktail Hole	1749+80	Between side channel and mainstem			22		22
Us end of Fish heaven mainstem sid	1732+95						
Lowden downstream of augmentati	1723+30	<2000 cfs				1	1
Indian Creek	1224+50						
Goat Ranch	New	<2000 cfs		1	1		2
Goat Ranch	899+20	<2000 cfs	2	8	2	1	13
End of the road/Canyon	788+75						
Us of Evan's Bar	678+25	<2000 cfs	5	2	2	5	14
Lower Sky Ranch	451+75						
Junction City Campground	292+40	<2000 cfs			1	17	18
Lime Point	New	<2000 cfs	4	2	6	39	51
Pear Tree	38+10	<2000 cfs	4	15	1	8	28

WY 2012- Normal, WY 2013 Dry, WY 2014 Critically Dry, so...why?







Species of interest to Wildlife and Riparian Workgroup

Salmonids

Black
cottonwood

Western Pond
Turtle

Song sparrow

Narrowleaf
Willow

Foothill
yellow-legged
frog

Black-headed
grosbeak

~150 other
species of
native plants

Other wildlife
species

Tree swallow

Yellow warbler

Invasive Plants

Yellow-breasted
chat

Riverine birds

What do these species have in common?

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Salmonid Population Recovery

Watershed Projects

Riparian Vegetation

Riparian Wildlife

Long-term Responses

Channel Rehabilitation

Gravel Augmentation

Stakeholder Concerns

Short-term Responses

Environmental Compliance

What do these topics have in common?

Flow

Riverine processes:



Instream flow-dependent needs:

- Wildlife habitats
- Water Quality
- Fish habitats

“Healthy River” Fundamental Objective

- Process- and attribute-based
- Consistent with TRFE, Mainstem EIS, and ROD
- Gains support from a wide variety of stakeholders by unifying seemingly separate or conflicting objectives under a single theme
- Places Trinity River management in broader landscape/regional context

RIVER HEALTH EVALUATION FORM

Process/Attribute	Alternate Bar Morphology	Frequent Bed Mobility	Bar Scour	Balanced Sediment	Channel Migration	Floodplain Inundation	Large Floods	Diverse Riparian	Groundwater Connection	LWD Budget	Nutrient Cycling
Metric	Bars free to form in alluvial reaches; less than 10% of reach confined by man-made obstacles	Transport of sediments up to D50 diameter across active bar surfaces, every two years on average	Scour to depth of 2 D84 on 50% of active bar surfaces, every 2-3 years on average	Sediment transport and storage in sub-reaches supports alternate bar morphology where confinement allows. Sediment input is balanced with sediment output over	Channel free to migrate in response to flows above 25-year recurrence, free from confinement by man-made obstacles	75% of floodplain is inundated every 2 years, on average	Channel and floodplain attuned to 25+ year recurrence interval floods, allowing for substantial channel re-setting (e.g. avulsions)	Riparian vegetation is sustained in a complex mosaic of native species and seral stages	Variations in groundwater elevation attuned to lifecycles of native riparian and floodplain plant species	Density/volume of LWD and density/volume of recruitable species (e.g. older cottonwoods) is sustained over time at levels sufficient to ...?	?
Scoring*											
* 2 = supports; 1 = no significant impact; 0 = obstructs											

Processes and Attributes

(based on TRFE, subject to modification)

- Alternate Bar Morphology
- Frequent Bed Mobilization
- Bar Scour
- Balanced Sediment Budget
- Channel Migration
- Floodplain Inundation
- Large Floods
- Diverse Riparian
- Groundwater Connectivity
- Large Woody Debris Budget
- Nutrient Cycling

Metrics

- A reasonable way to evaluate processes and attributes in the context of the management action (e.g., flow scheduling, gravel augmentation, land management, channel rehabilitation feature design, etc.)
- Should be simple and flexible

Scoring

- Should be simple “supports, impedes, or no effect”
- Should generate discussion among planners and stakeholders
- Should shed light on the best alternative, but won’t “tell us what to do”

Moving Forward

- How can we better place management actions and scientific studies in the “healthy river” context?
- How can we wisely invest time and money in things that are only indirectly/cumulatively supportive of salmonid population recovery?

Questions?

