Developing Plans to Integrate Wood Loading Techniques into Watershed Scale Restoration

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Outline

- Background
- Combined upslope and instream restoration action plans
- Observations

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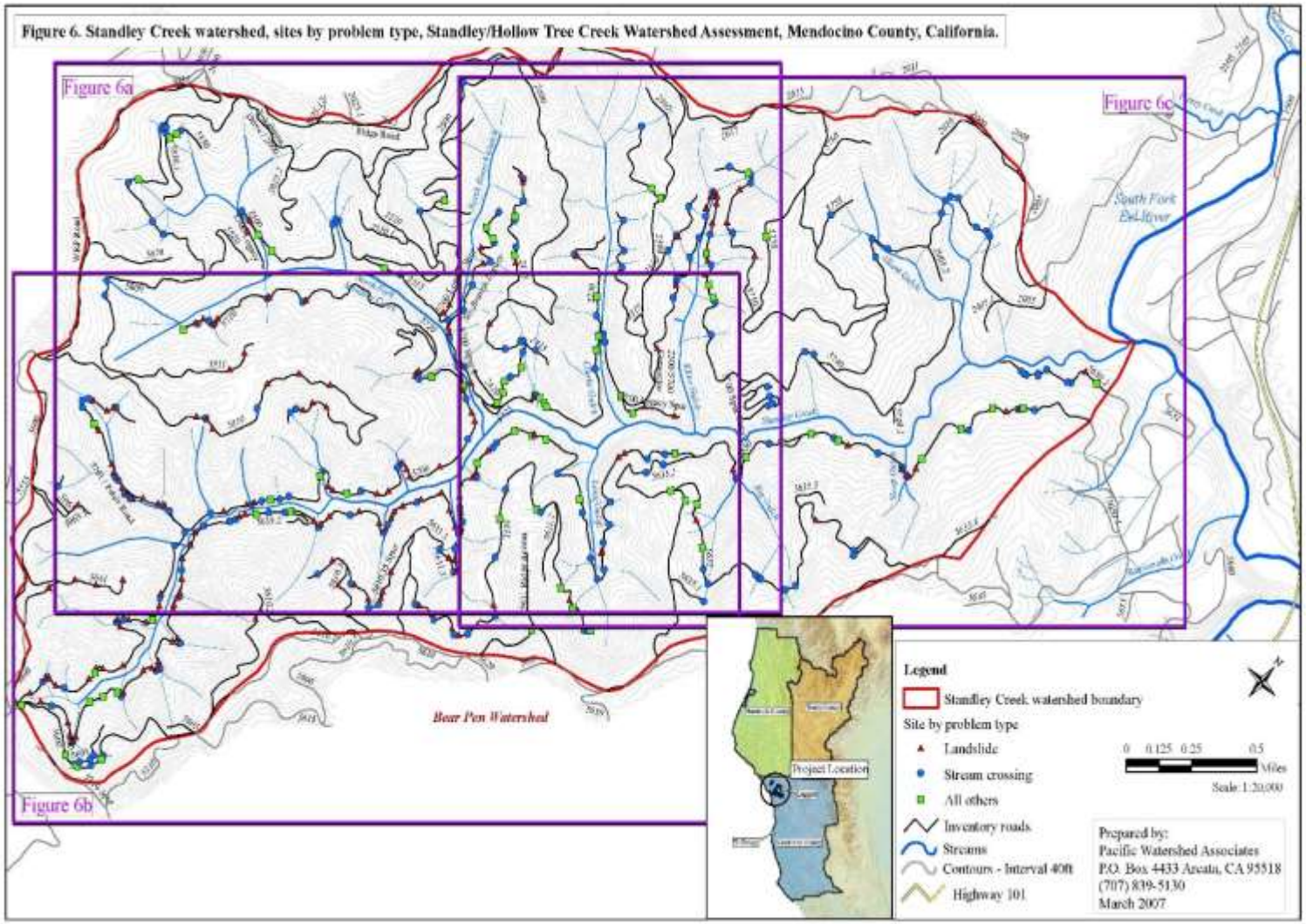
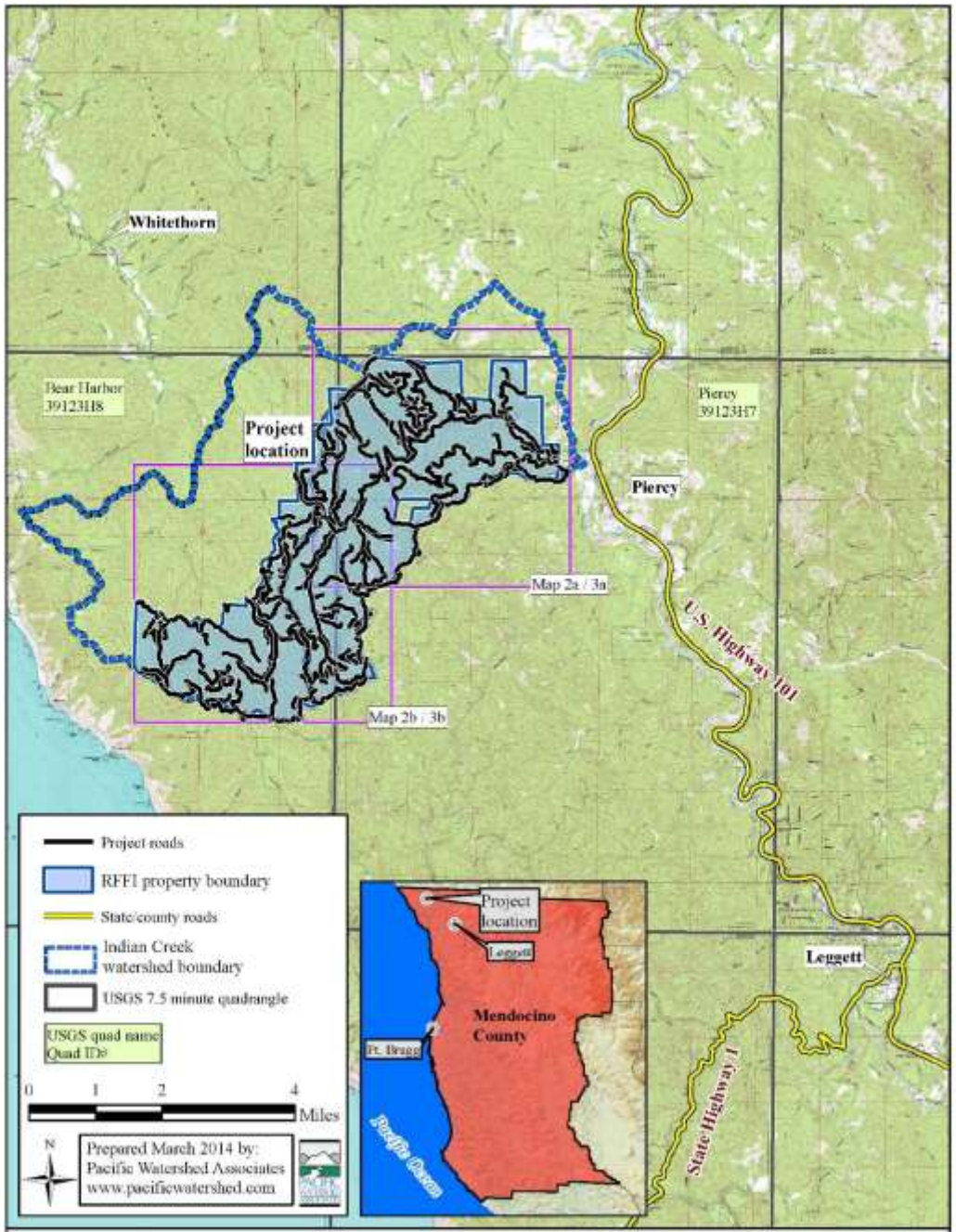
Standley Creek Road Assessment



Indian Creek Road Assessment



Map 1: Location of the Indian Creek Watershed Assessment and Erosion Prevention Planning Project.


Failing log spanner bridge
(nice big fat reusable logs)

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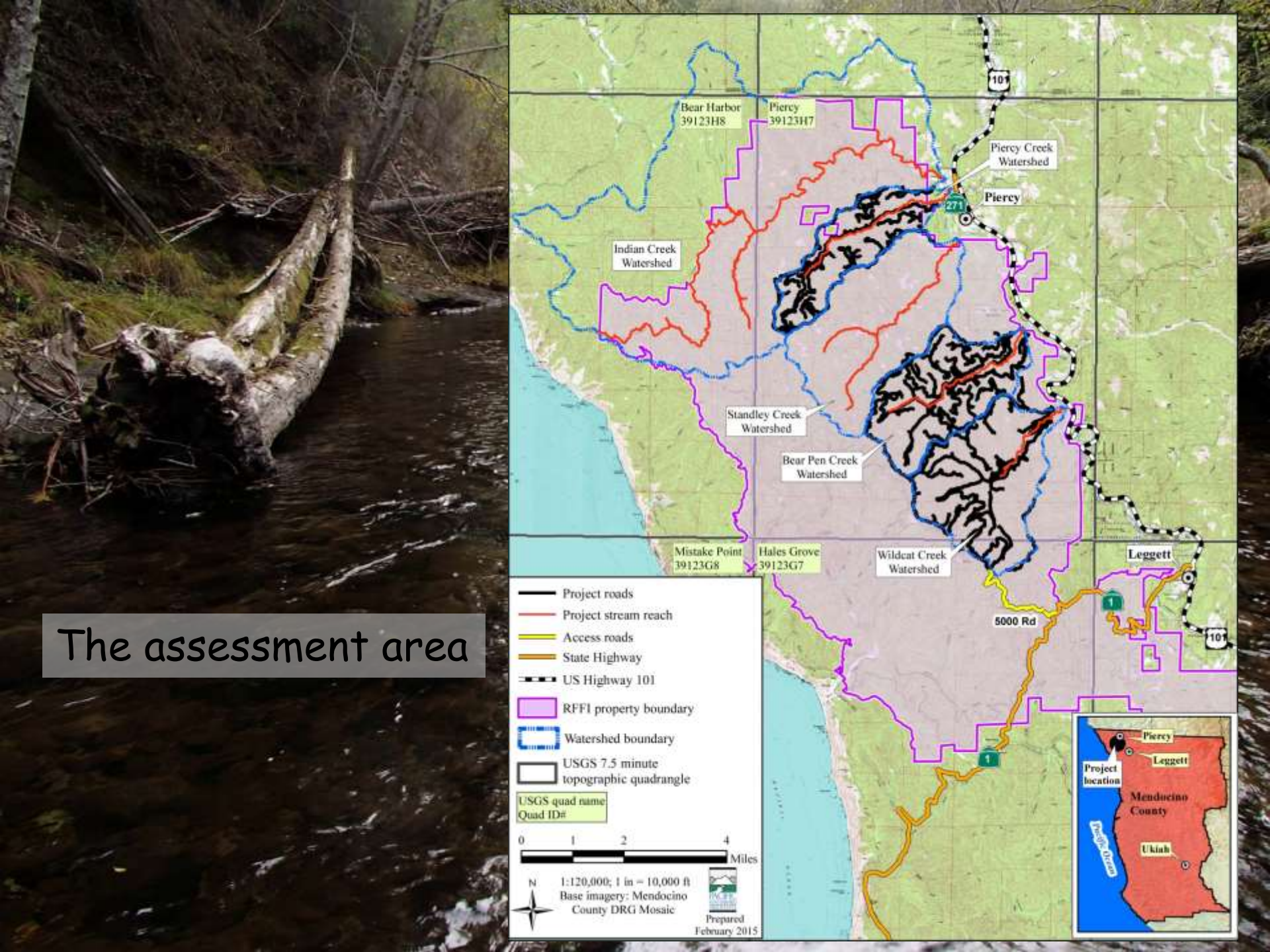
Usal Forest Coho Recovery Plan

Goal: Codevelop upslope sediment reduction and instream habitat improvement prioritized action plans on 5 watersheds over a 50,000 acre area.

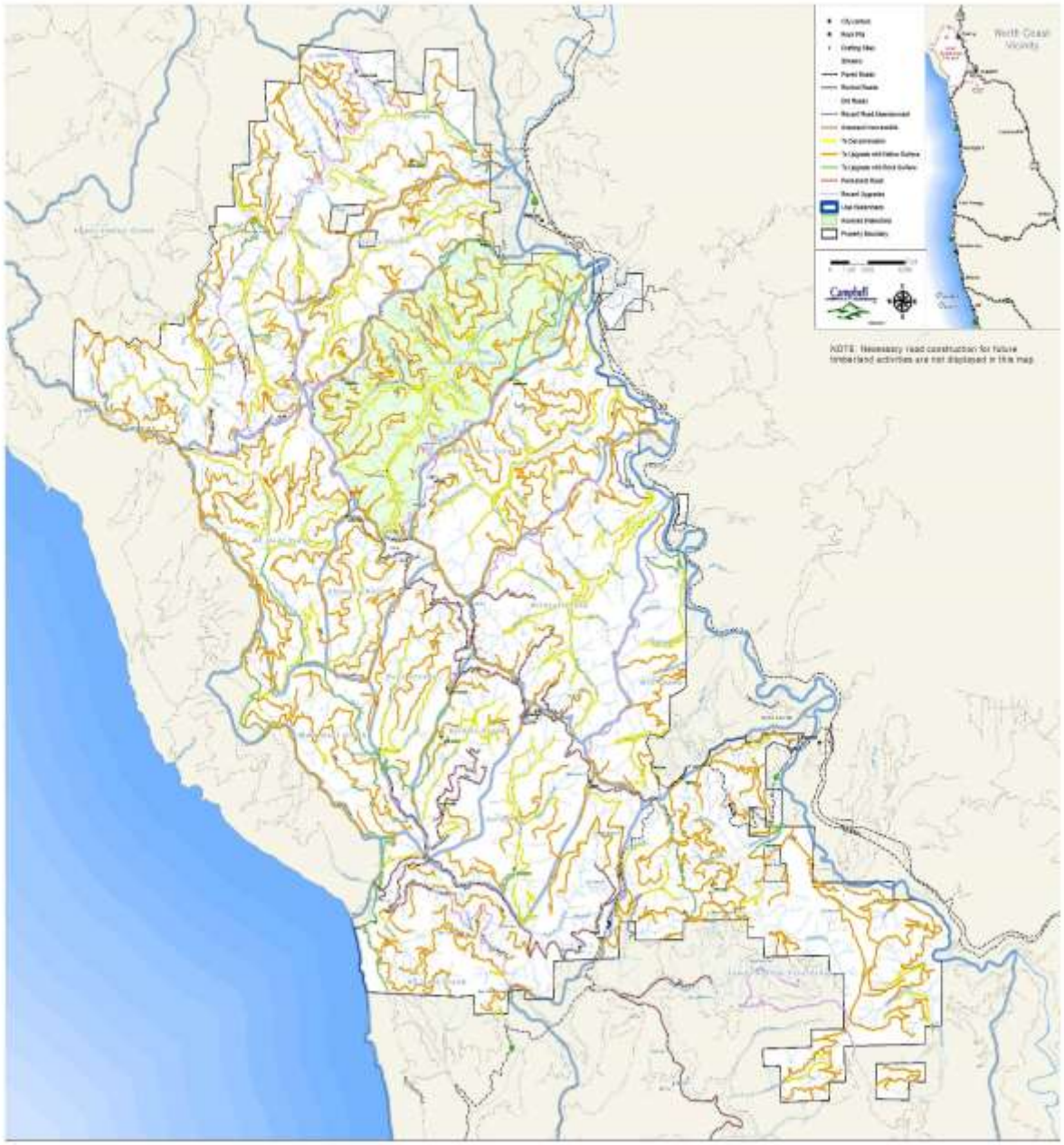
Location: South Fork Eel River, Leggett CA.

Watersheds: Wildcat, Bear Pen, Standley, Piercy, Indian



The assessment area

URFC Desired Future Road Conditions



Primary data categories for the stream survey

data collected every 500'

- General information
- Location data
- Bankfull width and depth estimates
- Channel and valley characteristics
- Channel and bank sedimentary characteristics
- Reach accessibility
- Material availability
- Riparian size and composition
- Riparian anchoring conditions

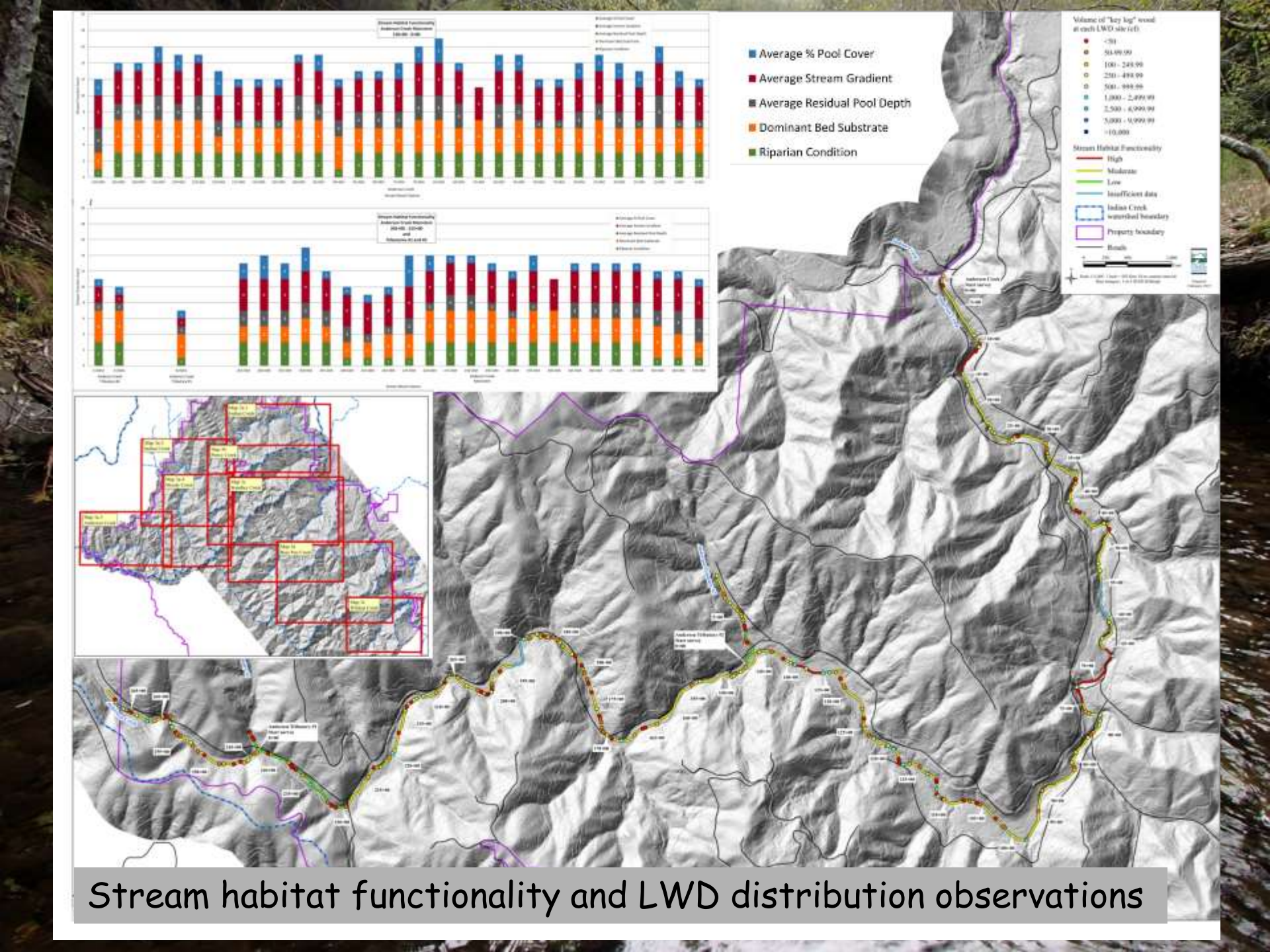
Data collected at existing LWD features

- Feature ID #
- Key log attributes
- Racked material %
- Associated residual pool depth
- % pool cover
- Origination (constructed/natural)
- Notes on jam characteristics

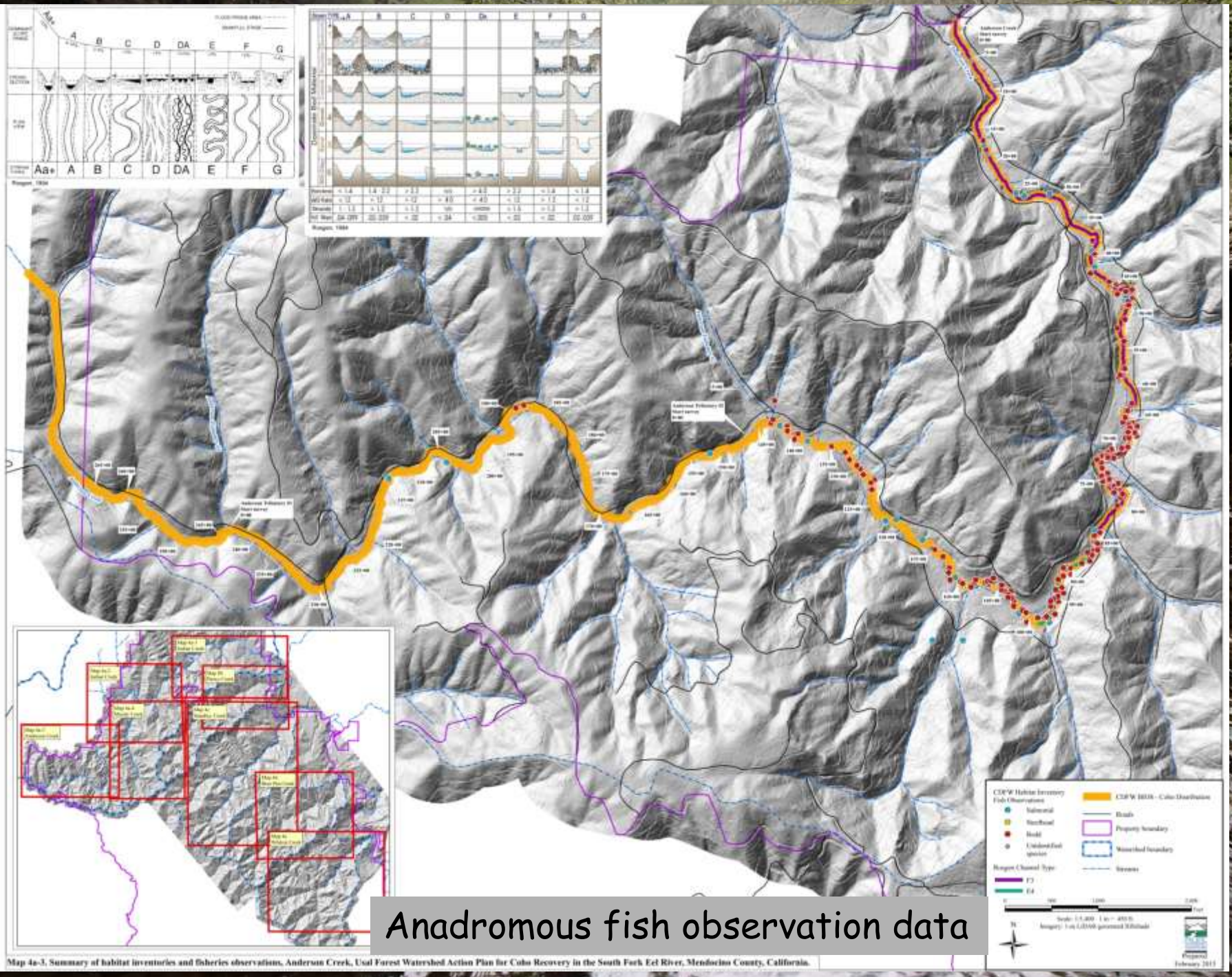
Anderson Creek Roads

Table 8. Scoring parameters for selected riparian corridor attributes, Usal Forest Watershed Action Plan for Coho Recovery in the South Fork Eel River, Mendocino County, California

Increasing functionality →				
Condition →	Minimal	Low	Moderate	High
Score →	1	2	3	4
Riparian Corridor attribute				
Riparian Conditions	small dia. 0"-12"; <50 % conifer	Small dia. 0"-12"; >50% conifer	Large dia. >12"; <50 % conifer	Large dia.>12"; >50% conifer
Avg residual pool depth	0-0.99	1-1.99	2-2.99	3+
% Cover	0-24.99	25-49.99	50-74.99	>75
Dominant bed substrate	bedrock/boulder/Fine-grained	>50% Sand; <25% Cobble/Gravel	>50% Sands; 25% - 50% cobble/gravel	<50% sands; >50% cobble and gravel dominated
Channel grade	5+	4-4.99	3 to 3.99	1 to 2.99 (<3)

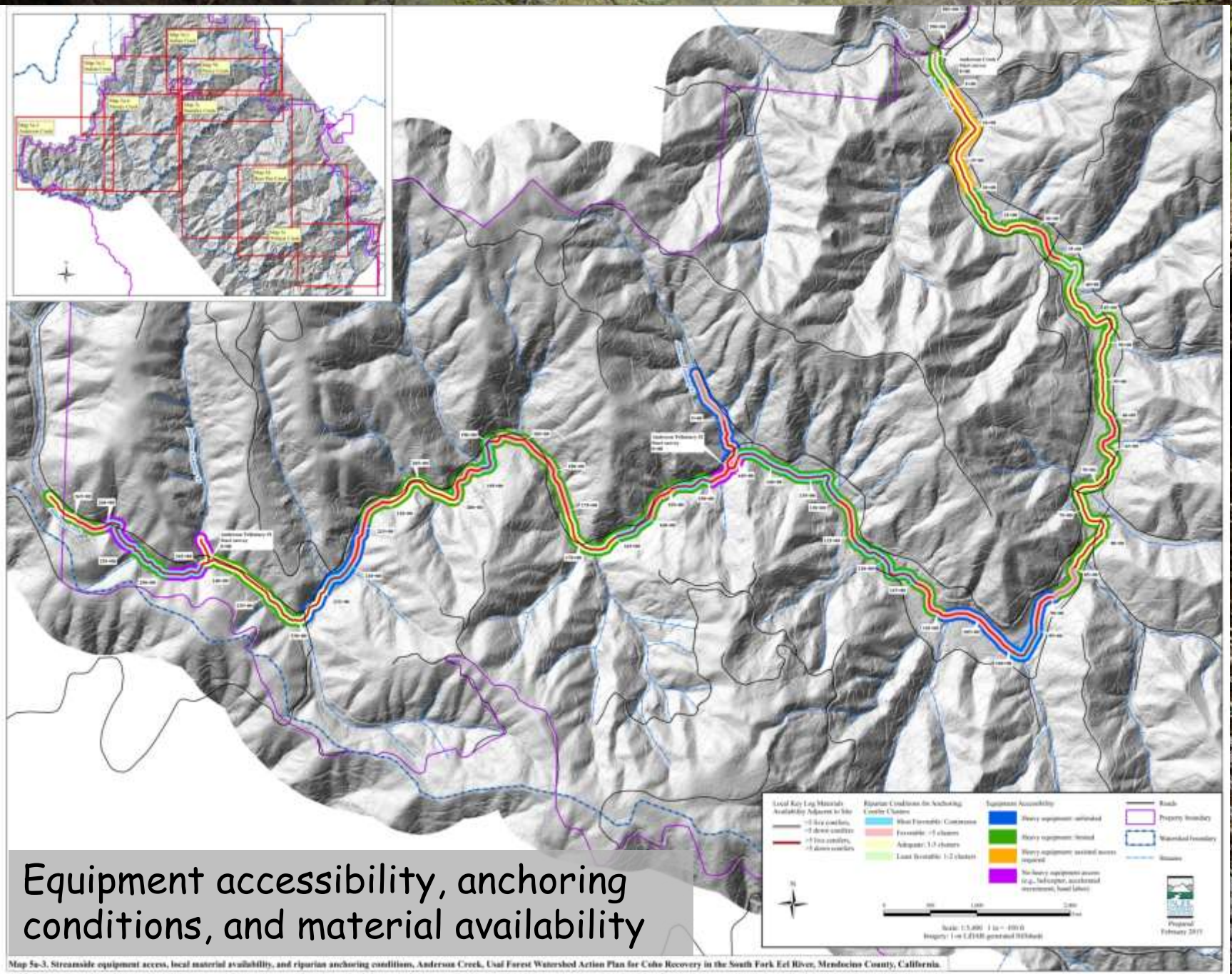


Stream habitat functionality and LWD distribution observations



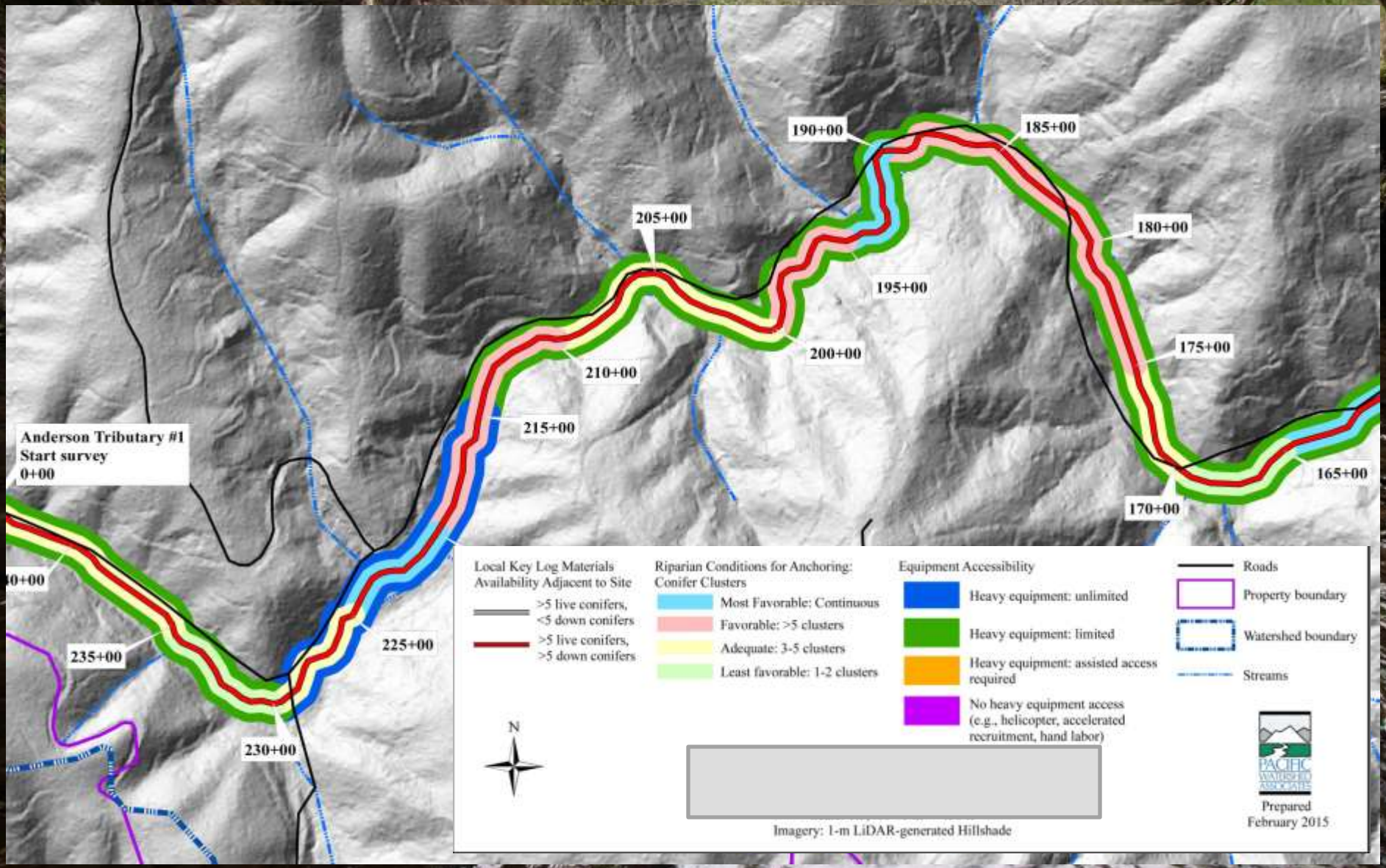
Anadromous fish observation data

Map 4a-3. Summary of habitat inventories and fisheries observations, Anderson Creek, Usal Forest Watershed Action Plan for Coho Recovery in the South Fork Eel River, Mendocino County, California.



Map 5a-3. Streamside equipment access, local material availability, and riparian anchoring conditions, Anderson Creek, Usal Forest Watershed Action Plan for Coho Recovery in the South Fork Eel River, Mendocino County, California.

Equipment accessibility, anchoring conditions, and material availability



Anderson and Moody Creek Prioritized Action Plan

Outline

- Background
- Combined upslope and instream restoration action plans
- **Observations**

3 primary disturbance events that leave a legacy of stream dysfunctionality in the smaller fish bearing streams of northern California

(1) Unprecedented accelerated delivery of upslope sediment and wood to the stream system from unregulated logging within the watershed,

(2) Excessive clearing of LWD from the stream system or vertical adjustments of massive log jams

(3) Conversion of the riparian forest from mature softwoods to youthful hardwoods.

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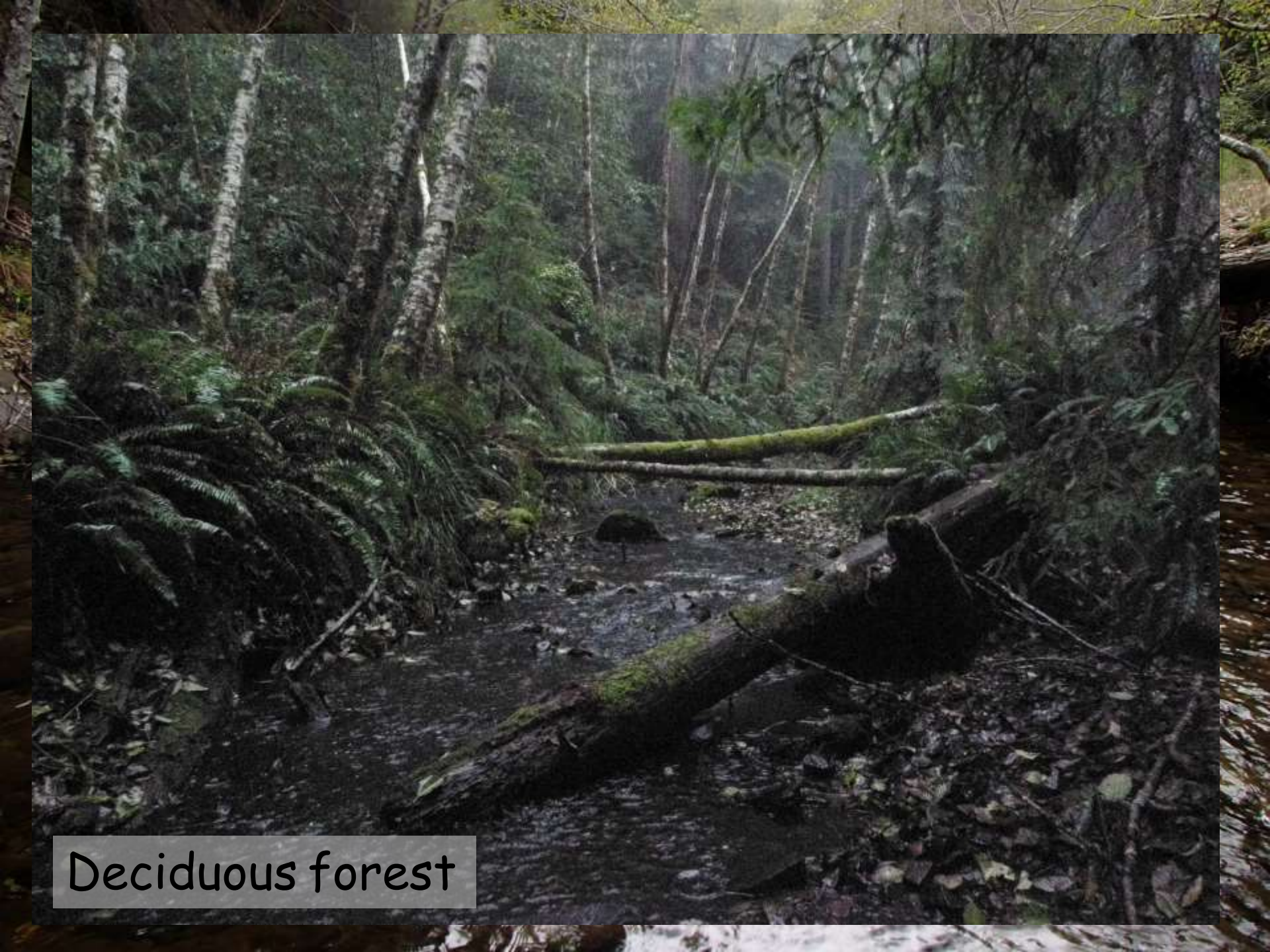
Deciduous forest

What used to be a conifer dominated riparian forest is now dominated by deciduous forest

Conclusions

- The instream protocol appears to be an effective way to rapidly develop action plans that combine both upslope sediment reduction and instream habitat enhancement projects
- The protocol also provides a basic snapshot of habitat conditions within the inventoried stream reaches
- Accelerated conifer growth should be encouraged in the riparian zones of heavily disturbed fish bearing streams to achieve a natural process of functional wood recruitment