

# West Fork Cow Creek *Restoration from Scratch*

*Jonas Parker, US Bureau of Land Management*

# *A Unique Watershed*

- *Population zero*
- *Only nine landowners*



09/20/2016 09:46 AM

Mouth of W. Fk. Cow Creek

# *Remote*



09/20/2016 04:18PM

Calvert Peak Airstrip

# Rugged

- *Steep at bottom, flat at the top*
- *Great habitat – if fish can get there*



Lower W. Fk. Elk Valley Creek



Upper W. Fk. Elk Valley Creek

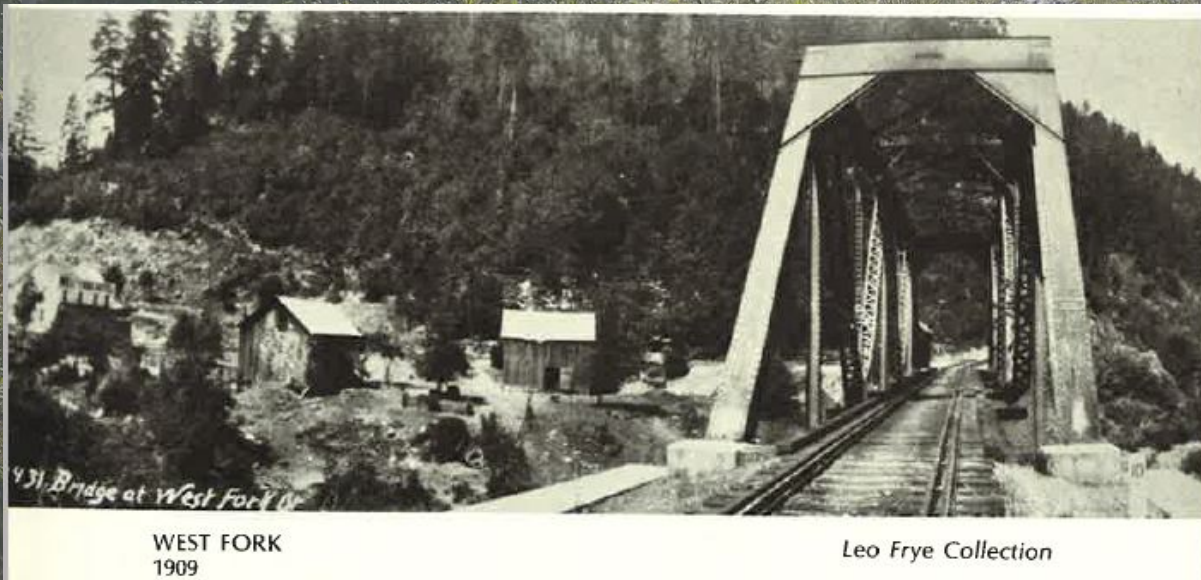
# Human History of W. Fk. Cow Creek

- Ancestral territory of the Cow Creek Band of Umpqua Tribe of Indians
- Mining pack trails
- Community of Dothan in 1882 (118 residents)
- Southern Pacific Railroad depot until 1932
- 3 hotels morphed into logging camp in the 1950s



WINTER PACKING

Siskiyou National Forest Collection



WEST FORK  
1909

Leo Frye Collection



INTERIOR  
WEST FORK HOTEL  
c.1890

Leo Frye Collection

# Past Restoration Efforts

- *Not much was done*
- *Log weirs*
- *Rootwad necklaces*

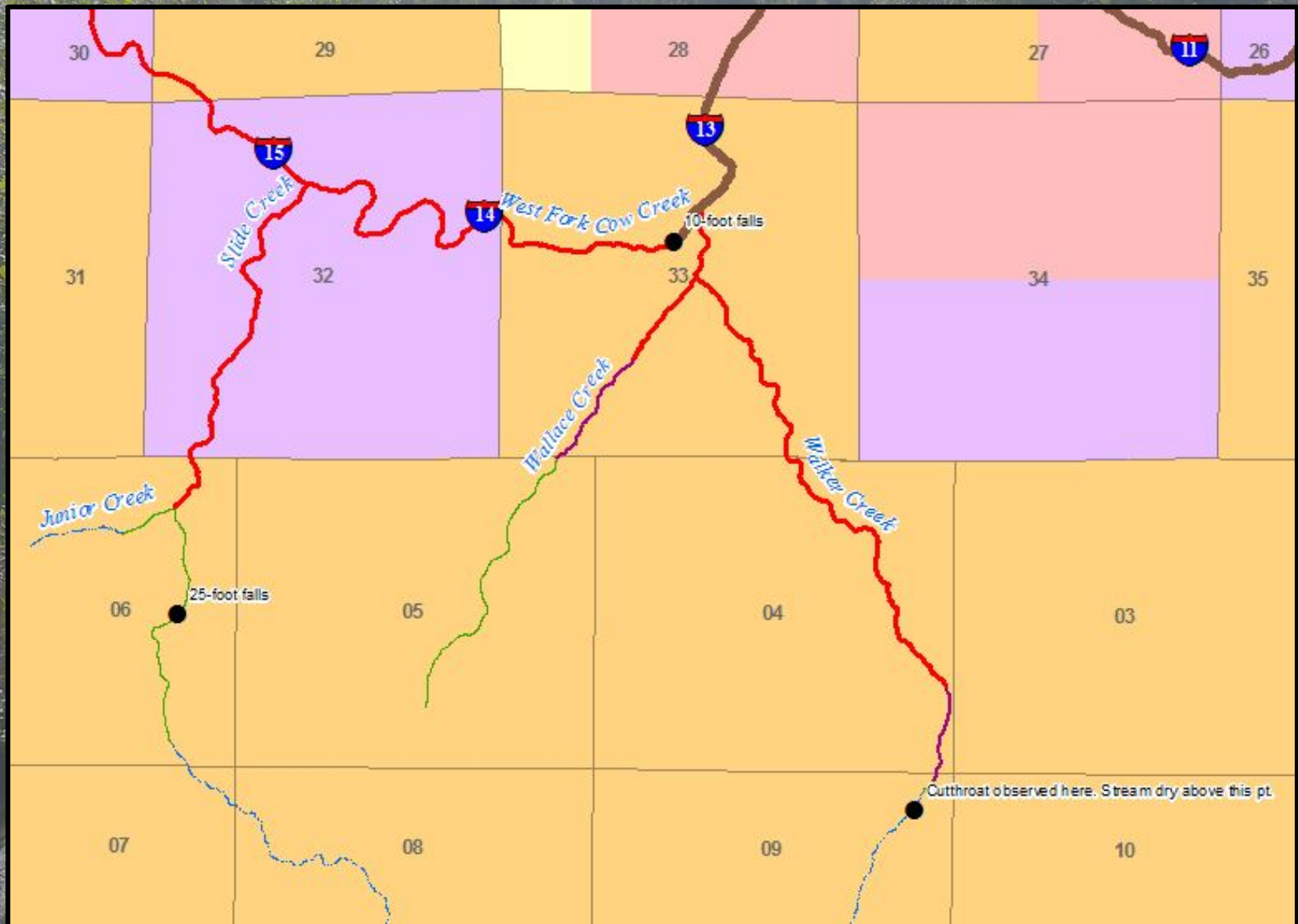


# Starting Fresh

- *Fish distribution*



# "Final" Fish Distribution





# Stream Crossing Surveys

- *BLM funded survey completion*
- *Private v. public stream crossings*



Slotted Pen Creek



Slotted Pen Creek



Hayes Creek

# Douglas Complex 2013

- *2,600 acres burned in lower W. Fk. Cow Creek*
- *Lots of restoration material!*



Bobby Pit Stockpile

# *Changing Paradigms*

- *Shift from reactive restoration*
- *Understand the watershed and its processes*
- *Bring partners to the table*
- *Integrate and leverage money and abilities*



# Instream Season 2016

- *East Fork Elk Valley Creek, phase 1*
- *Lower Panther Creek, phase 1*



# First Steps

- *Do no harm - monitoring*



E. Fk. Elk Valley Creek turbidity monitoring station

# Paired Watershed Monitoring

- *West Fork Elk Valley (control) & East Fork Elk Valley (treatment)*
- *Automated water quality samplers paired with flow/rain*
- *Paired with Bobby Creek paired watershed (19 years of data)*
- *Monitor restoration and timber harvest*



# Second Steps

- *Who lives where?*
- *Habitat condition*
  - *Barriers? Summer flow?*
- *Restoration suitability*
  - *Substrate? Floodplain? Flow variation?*
- *Quickly and comprehensively survey the entire watershed*



# 2016 Surveys with HDR Inc.



07/30/2016 15:52

Wilson Creek, HDR

*Electrofishing!*



07/30/2016 11:04

Bolivar Creek, HDR



# 2016 Surveys with HDR Inc.



Snorkeling & eDNA!



# 2016 Surveys with HDR Inc.

- *Fish passage*
- *Restoration suitability*
- *habitat surveys*

08/01/2016 09:55

# 2017 Surveys with USDA and OSU

- *Where are the beaver?*
- *What habitat are they using?*
- *What could they use more of?*



W. Fk. Elk Valley Creek

All photos courtesy of USDA National Wildlife Research Center



W. Fk. Elk Valley Creek



W. Fk. Elk Valley Creek

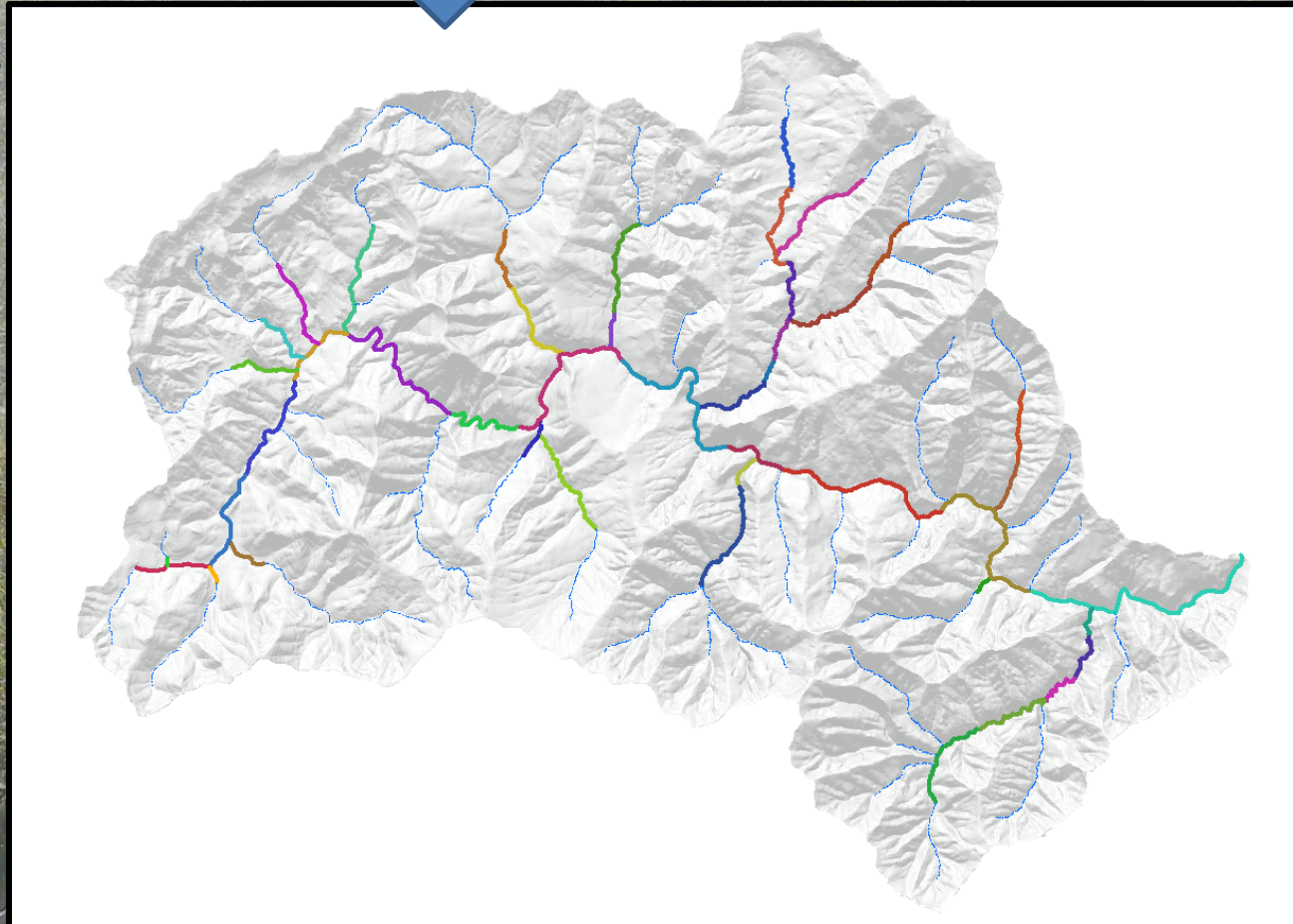
# Moving Forward

- ~18 miles of tributaries
- ~18 miles of mainstem



# *Giving Nature a Number*

- 50 “arbitrary” reaches delineated
- Every reach given points
  - Species present
  - Life stages contained
  - Fish passage
  - Instream condition
  - Riparian condition
  - Reach accessibility
  - Estimated cost



# Restoration Plan

	A	B	C	D	E	F	G	H	AM
1		Project Description		Project Type		Unit		No. Units	RAW SCORE
3	1	Ashur Creek		LWD enhancement - road based		miles		0.9	0.92
4	2	Ashur to USFS		LWD enhancement - helicopter required		miles		1.4	0.25
5	3	Bear Creek 27.5k project		LWD enhancement - road based		miles		0.7	2.55
6	4	Bear Creek helicopter		LWD enhancement - helicopter required		miles		0.7	0.50
7	5	Bear Creek PCSRF phase		LWD enhancement - road based		miles		0.4	1.49
8	6	Black Creek		LWD enhancement - road based		miles		1.2	0.69
9	7	Bobby Creek phase 1		LWD enhancement - helicopter required		miles		0.5	0.50
10	8	Bobby Creek phase 2		LWD enhancement - helicopter required		miles		1.6	0.19
11	9	Bobby to Panther		LWD enhancement - helicopter required		miles		2.6	26.67
12	10	Bolivar Creek		LWD enhancement - road based		miles		0.2	2.67
13	11	Bolivar to headwaters		LWD enhancement - road based		miles		0.9	1.05
14	12	East Fork Elk Valley Creek phase 1		LWD enhancement - road based		miles		1.4	0.76
15	13	East Fork Elk Valley Creek phase 2		LWD enhancement - road based		miles		1.0	0.82
16	14	Fuller Creek		LWD enhancement - road based		miles		0.1	7.06
17	15	Goat Trail Creek		LWD enhancement - road based		miles		0.3	1.96
18	16	Gold Mountain Creek PCSRF phase		LWD enhancement - road based		miles		0.9	1.14
19	17	Gold Mountain Creek phase 2		LWD enhancement - helicopter required		miles		1.1	0.32
20	18	Grant Creek		LWD enhancement - helicopter required		miles		0.8	0.31
21	19	Hayes to No Sweat		LWD enhancement - road based		miles		2.4	40.00
22	20	Jackass to Hayes		LWD enhancement - road based		miles		2.4	0.75
23	21	Mainstem Elk Valley Creek PCSRF phase		LWD enhancement - helicopter required		miles		1.0	0.40
24	22	Mainstem Elk Valley Creek phase 1 funded		LWD enhancement - helicopter required		miles		0.3	0.40
25	23	Mainstem Elk Valley Creek phase 2		LWD enhancement - road based		miles		0.6	1.57
26	24	No Sweat to Bobby		LWD enhancement - road based		miles		0.9	3.85
27	25	No Sweat to Bobby		riparian rehabilitation		acres		22.0	7.14
28	26	No Sweat to Bobby		LWD enhancement - road based		miles		0.9	11.25
29	27	outflow to Jackass		boulder/rock enhancement		miles		3.4	1.51
30	28	outflow to Jackass		riparian rehabilitation		acres		82.0	1.75
31	29	outflow to Jackass		LWD enhancement - road based		miles		3.4	1.33
32	30	Panther Creek phase 1		LWD enhancement - road based		miles		0.4	2.06
33	31	Panther Creek phase 2		LWD enhancement - helicopter required		miles		1.4	0.25
34	32	Panther to Walker		LWD enhancement - road based		miles		2.0	0.83
35	33	Slide to Stanley		LWD enhancement - road based		miles		2.4	0.83
36	34	Slide to Stanley		boulder/rock enhancement		miles		2.4	2.88

# *The Plan Lives!*



*Cutthroat in Slotted Pen Creek , A. Donnell*



*Pacific lamprey in W. Fk. Cow Creek, A. Donnell*

*As new information is attained, scores  
and priorities are updated*

# *Technique: au naturel*

- *What is missing that should be here?*



09/20/2016 01:18PM

W. Fk. Cow Creek above Gold Mountain Creek



# *Technique: au naturel*

- *Account for flashy flows*



# *Technique: au naturel*

- *Utilize existing material (large and small)*



# *Technique: au naturel*

- *Consider natural processes*



E. Fk. Elk Valley site #3

# *Technique: au naturel*

- *Don't force it, but still be aggressive*
  - *Don't create features where they don't belong*
  - *No fixed spacing intervals or formulas for site placement*



# *Technique: au naturel*

- *Allow for post-placement flow adjustment*

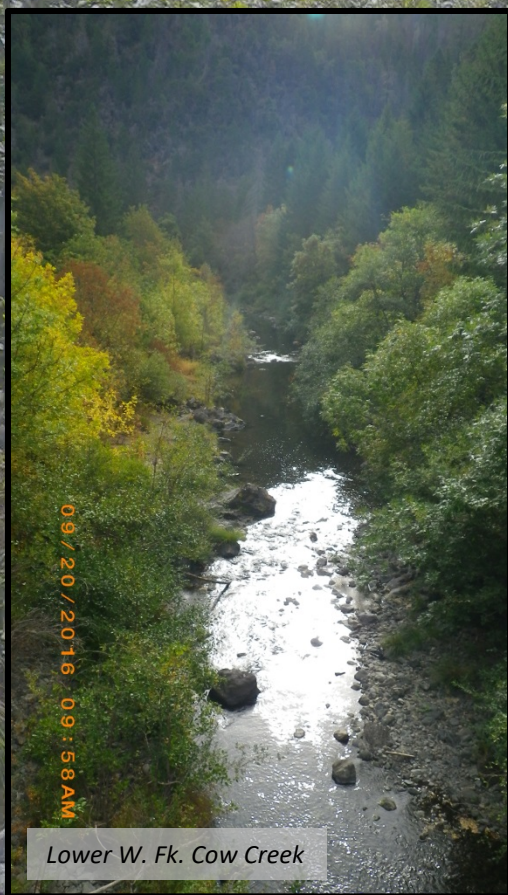


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E. Fk. Elk Valley site #4

# One size doesn't fit all

- Consider other species
  - Umpqua chub, Pacific lamprey, dace, bass
  - Beaver



# Riparian Treatments

- *Noxious weeds*
- *Riparian thinning*



# Engage all Partners





# Collaboration is everything

