Aquatic Habitat Impacts from Marijuana Cultivation: Trends and Cumulative Effects

CDFW Watershed Enforcement Team

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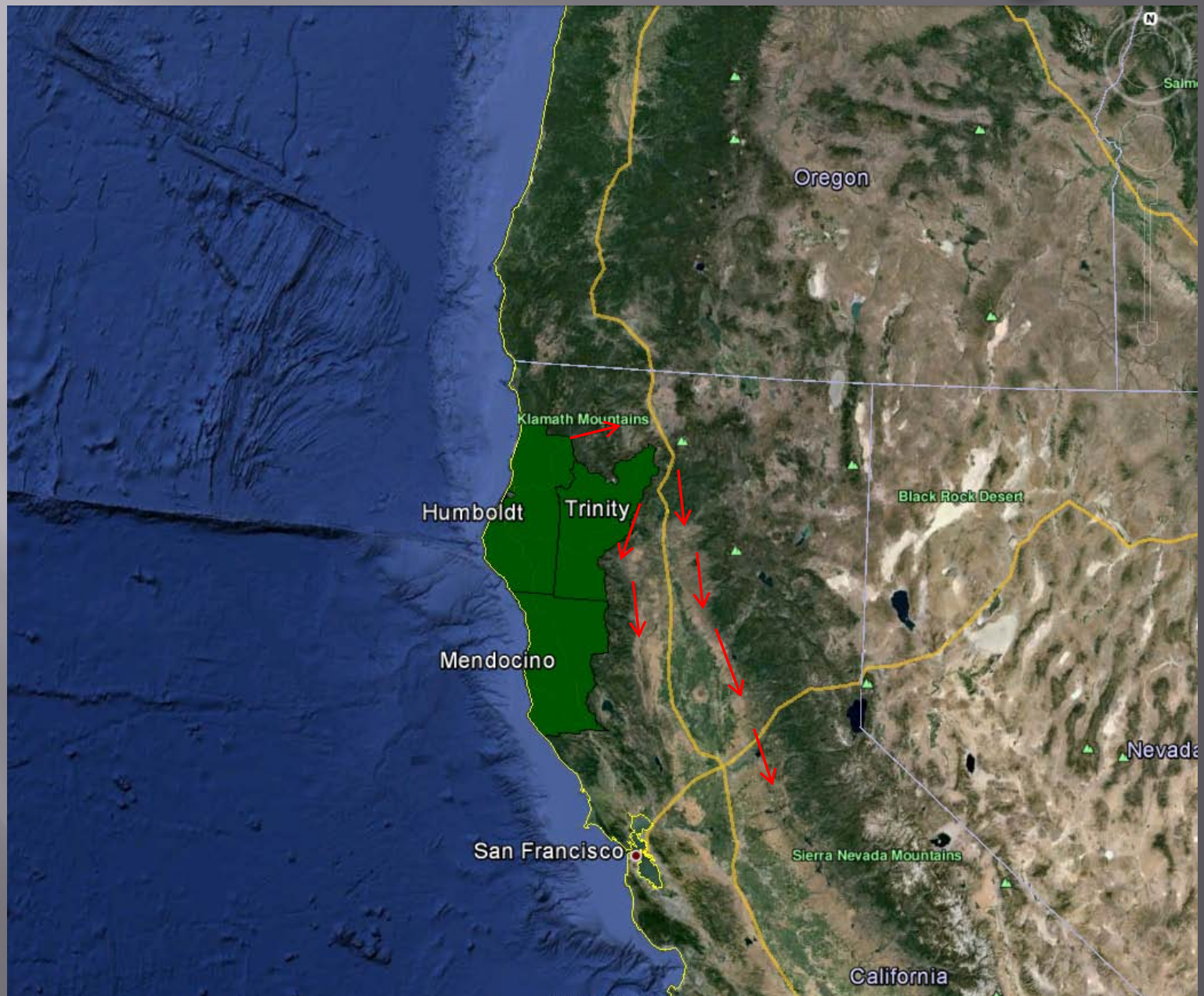
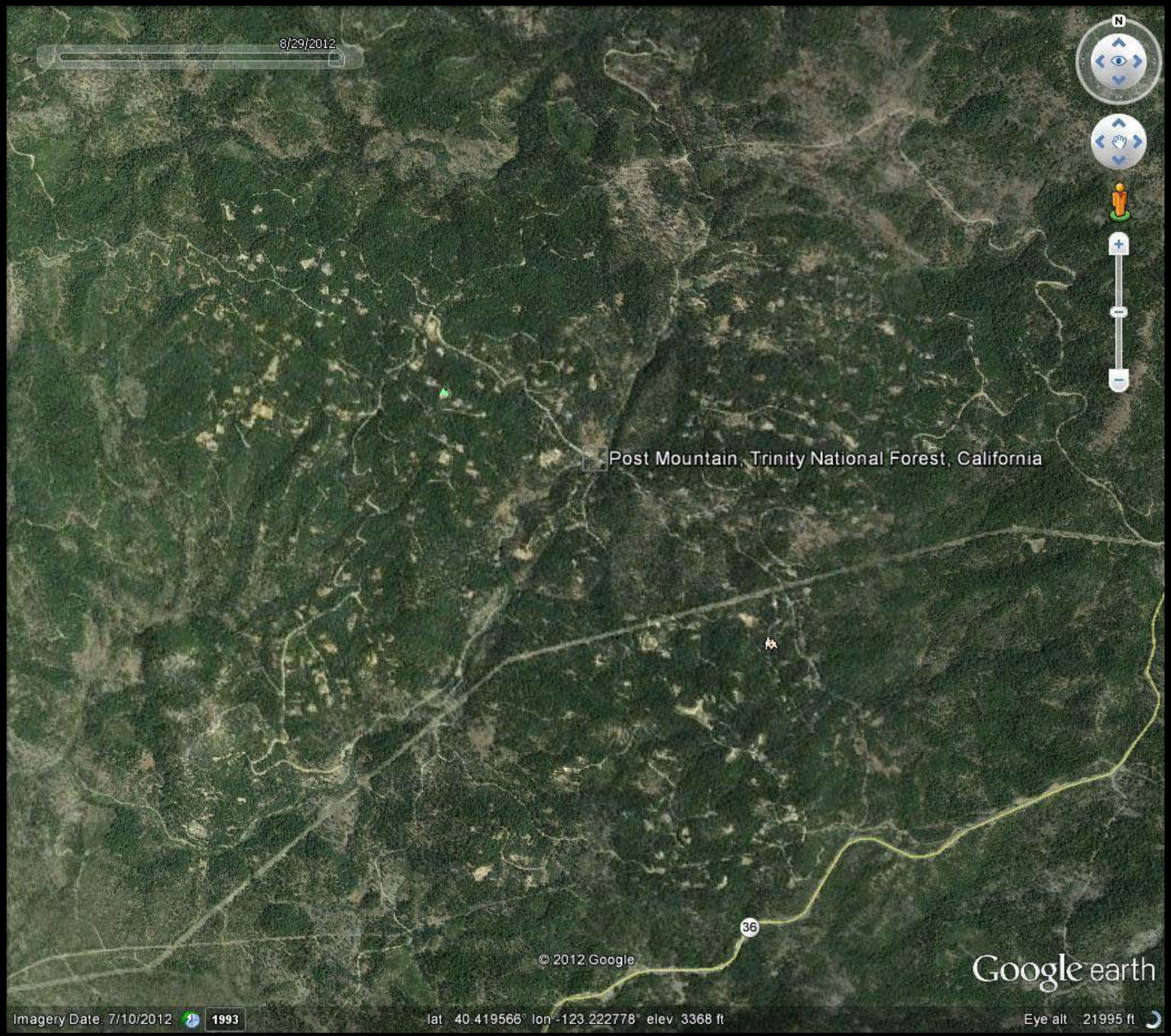
The Emerald Triangle



Post Mountain –South Fork Trinity



Explosive Growth: Post Mountain 2005-2012

Explosive Growth: Post Mountain 2005-2012

Natural Resource Impacts

- Water Diversion: During low-flow periods, no screening, oversized pumps

- Pollutants: Sediment, petroleum products, fertilizers, pesticides

- No BMPS: No Riparian & Stream Protection Areas

- Conversion/Fragmentation of lands

Sensitive fish and amphibian species

Southern torrent salamander, *Rhyacotriton variegatus*

Coho salmon, *Oncorhynchus kisutch*

Coastal Cutthroat Trout, *Oncorhynchus clarki clarki*

Coastal tailed frog, *Ascaphus truei*

Steelhead trout, *Oncorhynchus mykiss*

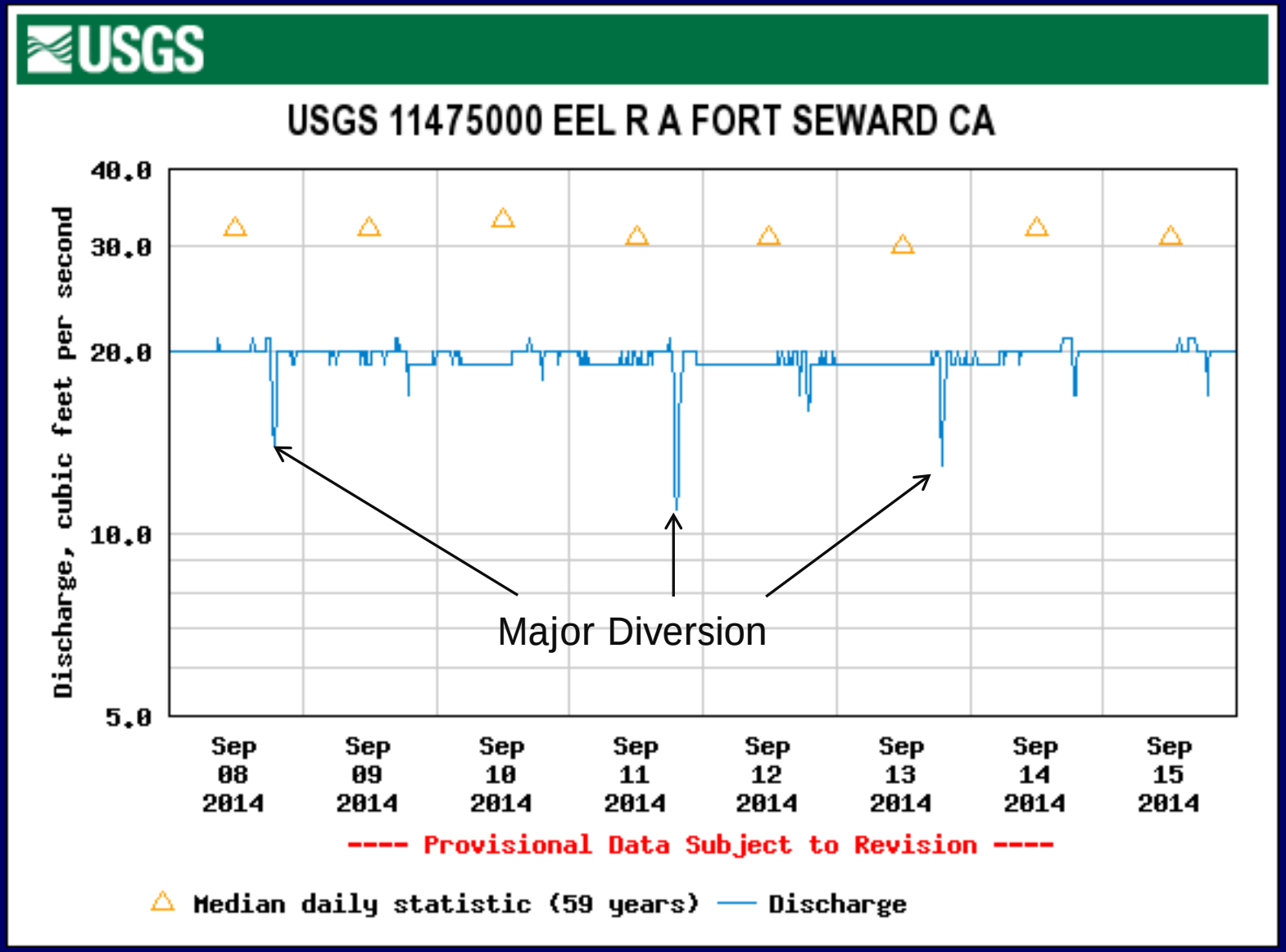
Chinook salmon, *Oncorhynchus tshawytscha*

What we saw in 2014

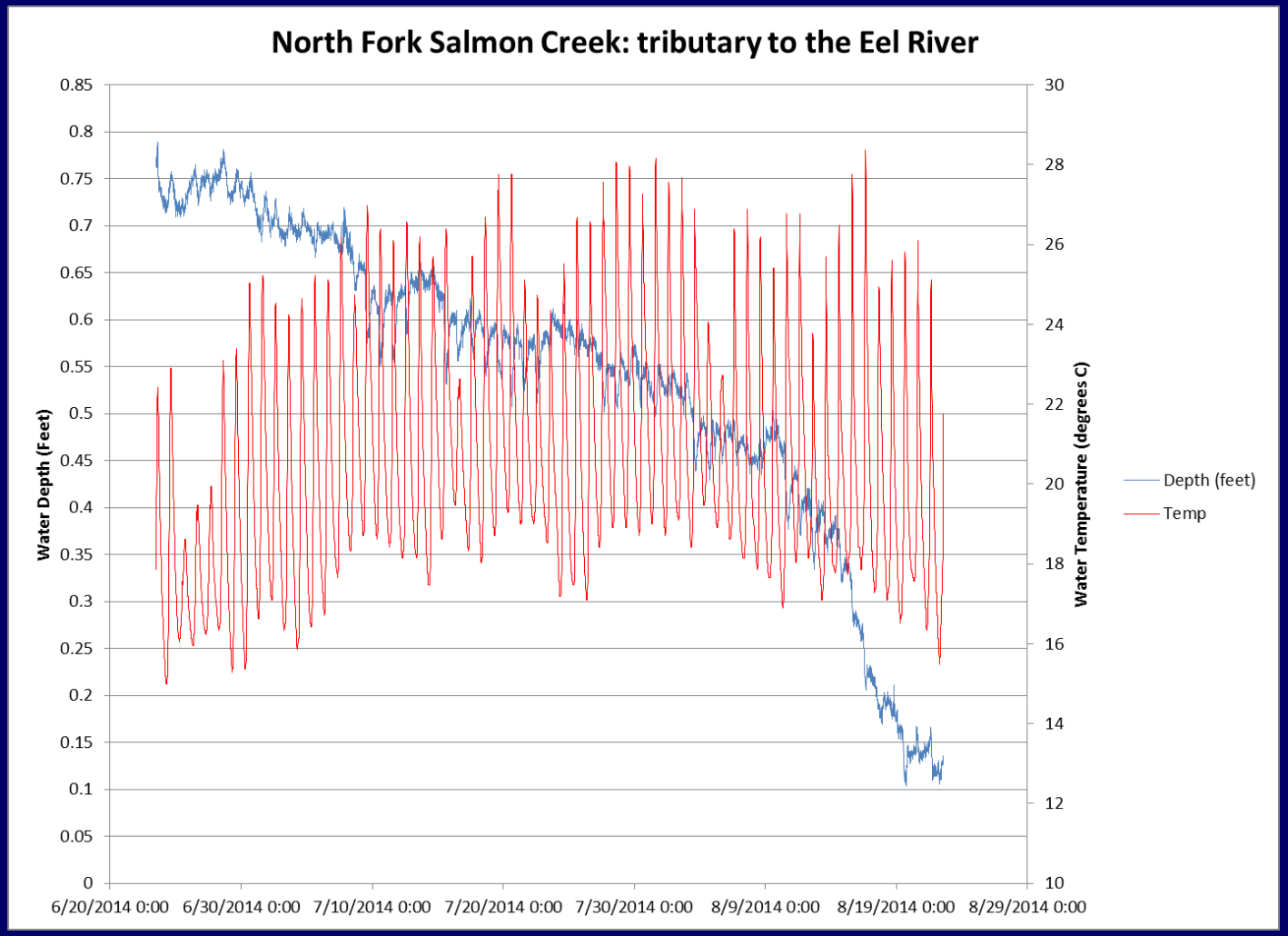
July

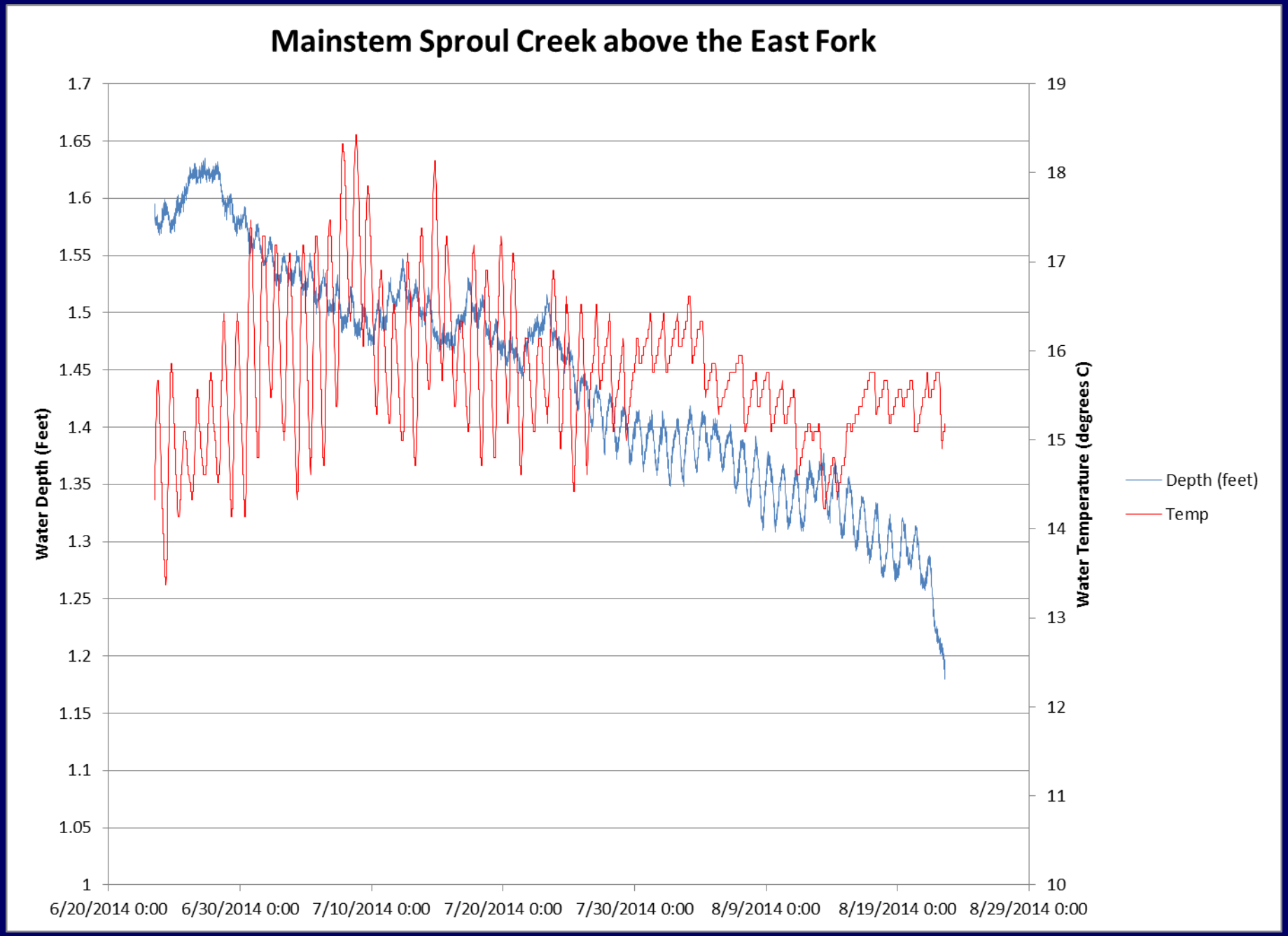
August

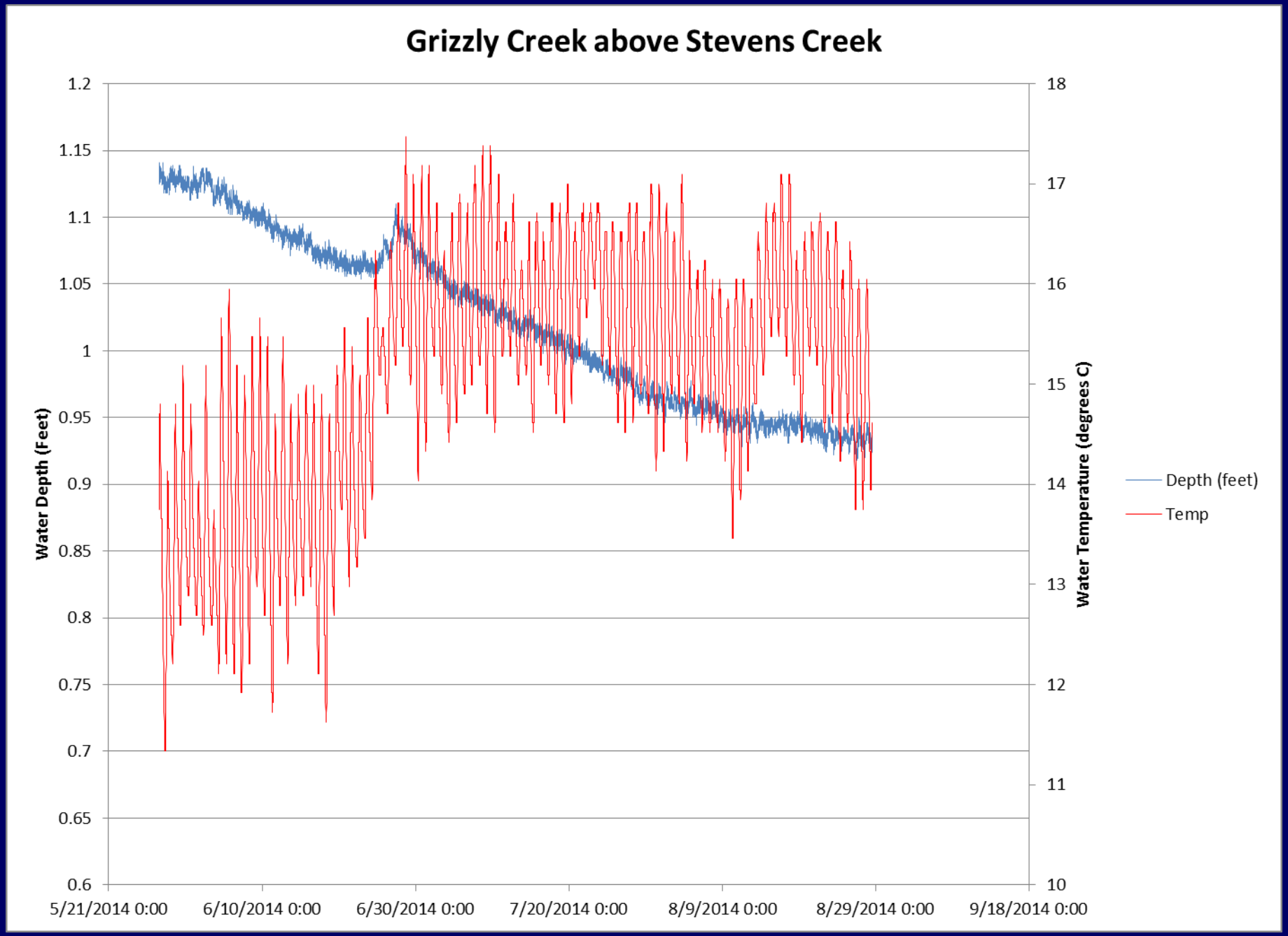
Water Withdrawals



2014 Flow Monitoring Efforts

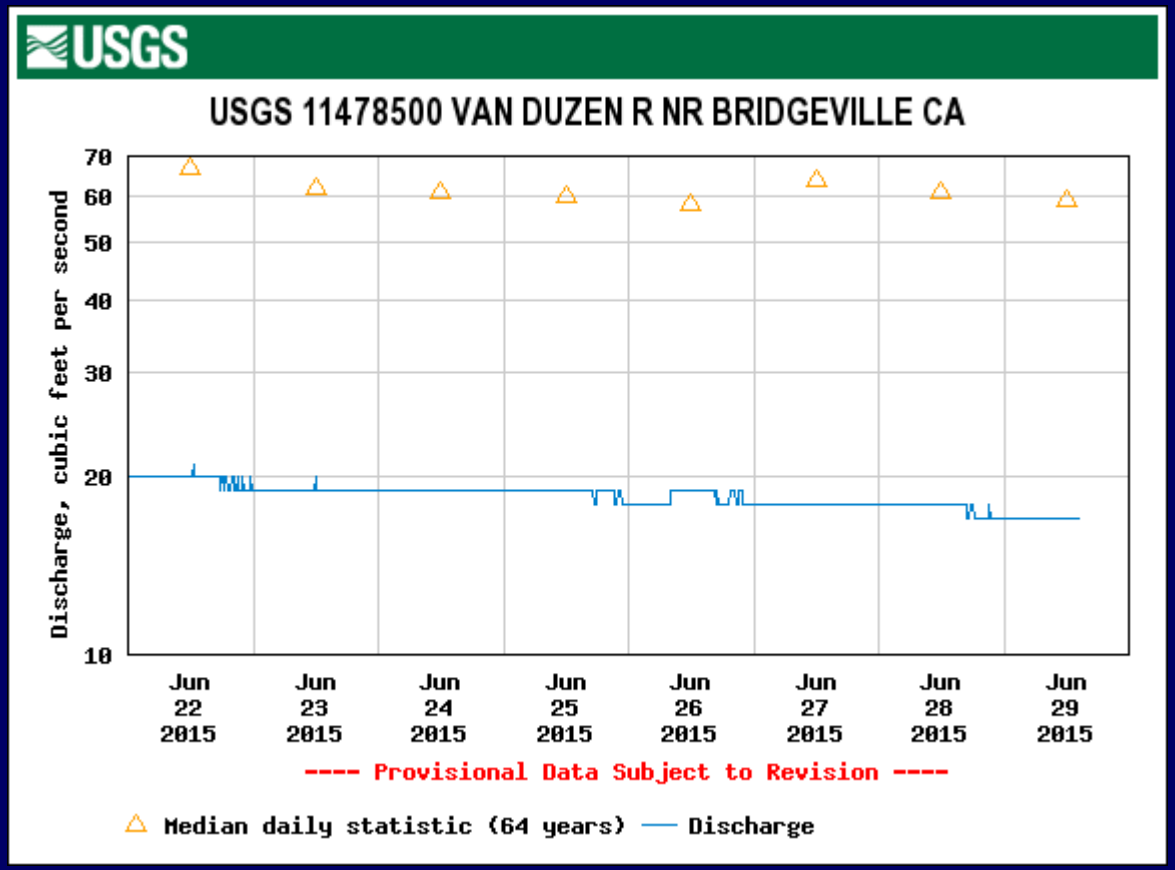



Mainstem Sproul Creek above the East Fork
Water Depth (Feet)
Water Temperature (degrees C)
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
19
18
17
16
15
14
13
12
11
10
6/20/2014 0:00
6/30/2014 0:00
7/10/2014 0:00
7/20/2014 0:00
7/30/2014 0:00
8/9/2014 0:00
8/19/2014 0:00
8/29/2014 0:00
Depth (feet)
Temp


Grizzly Creek above Stevens Creek
Water Depth (Feet)
Water Temperature (degrees C)
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
18
17
16
15
14
13
12
11
10
5/21/2014 0:00
6/10/2014 0:00
6/30/2014 0:00
7/20/2014 0:00
8/9/2014 0:00
8/29/2014 0:00
9/18/2014 0:00
Depth (feet)
Temp

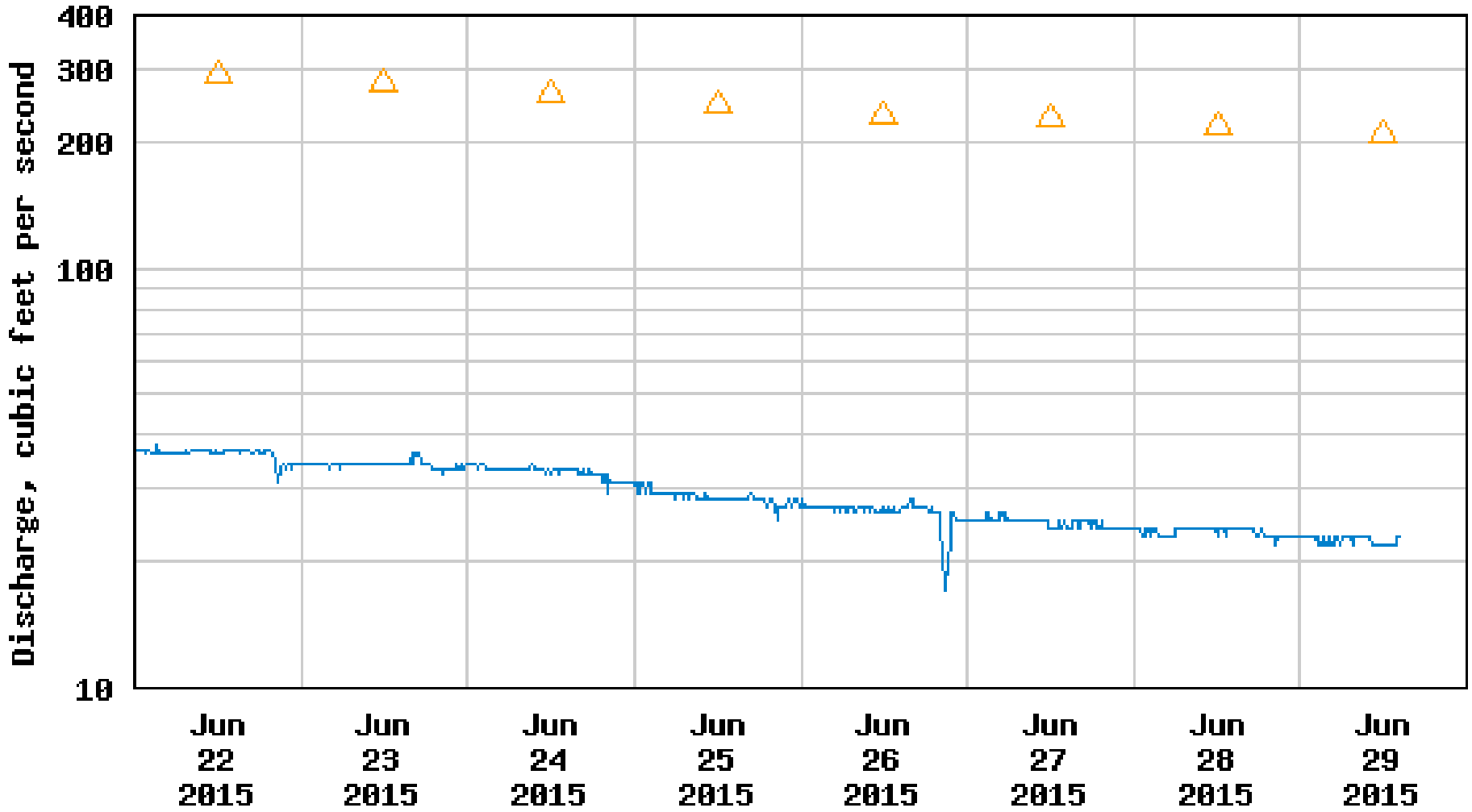
2015 Habitat Conditions and Cultivation Trends

Major Rivers Are At Or Near Historic Lows



USGS

USGS 11475000 EEL R A FORT SEWARD CA

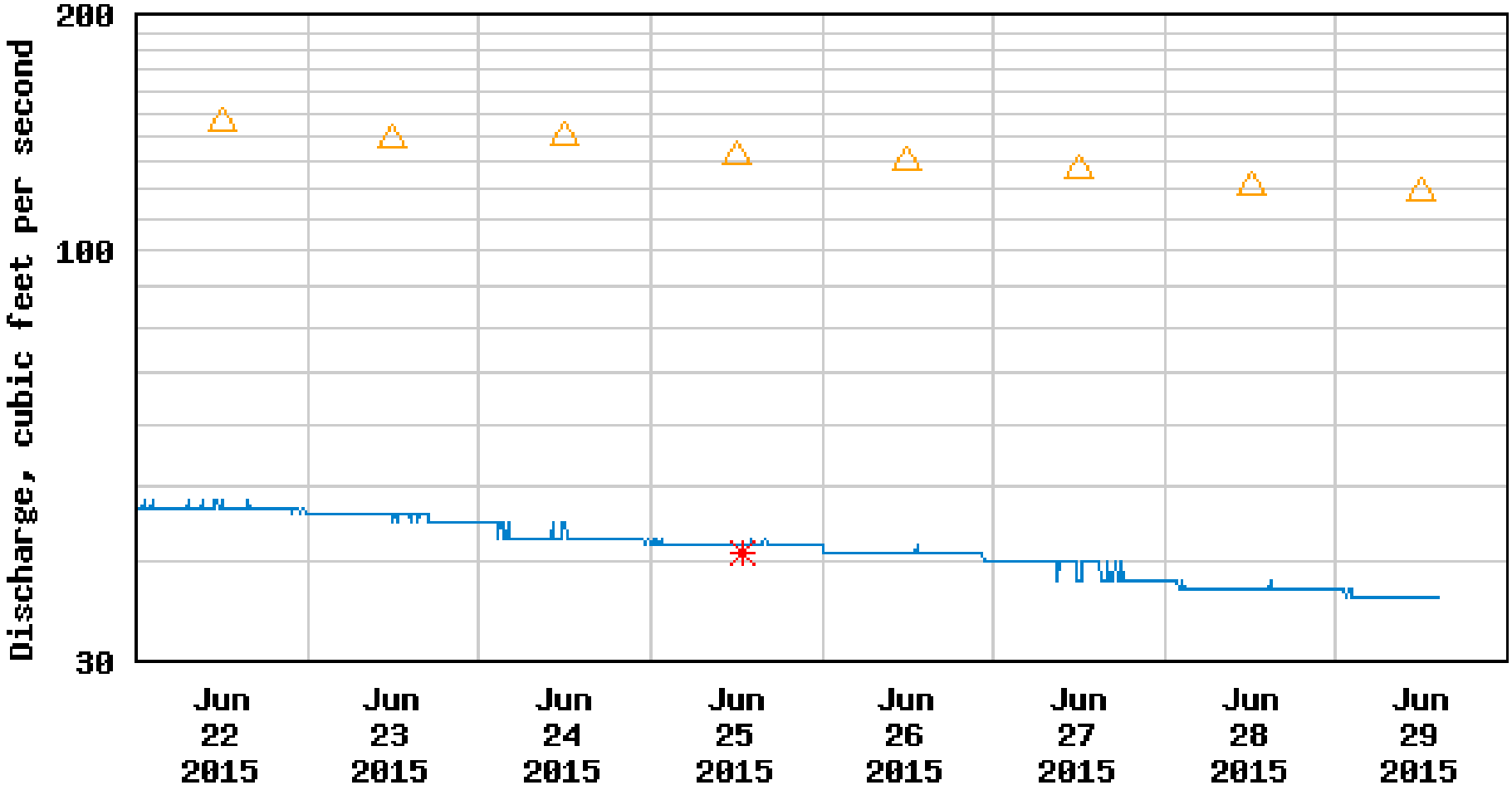


---- Provisional Data Subject to Revision ----

△ Median daily statistic (59 years) — Discharge

USGS

USGS 11482500 REDWOOD C A ORICK CA



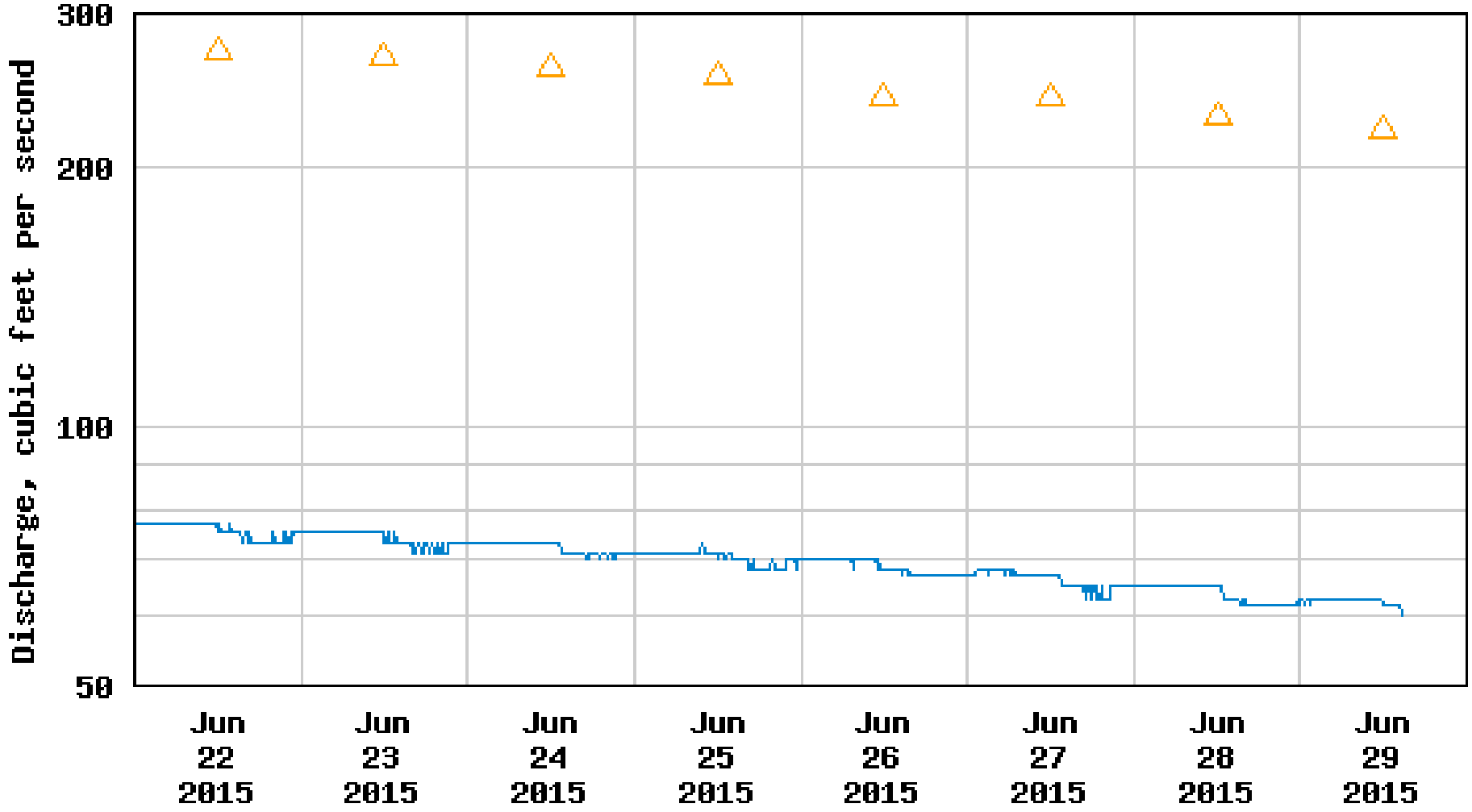
---- Provisional Data Subject to Revision ----

△ Median daily statistic (63 years) ✳ Measured discharge

— Discharge

USGS

USGS 11528700 SF TRINITY R BL HYAMPOM CA

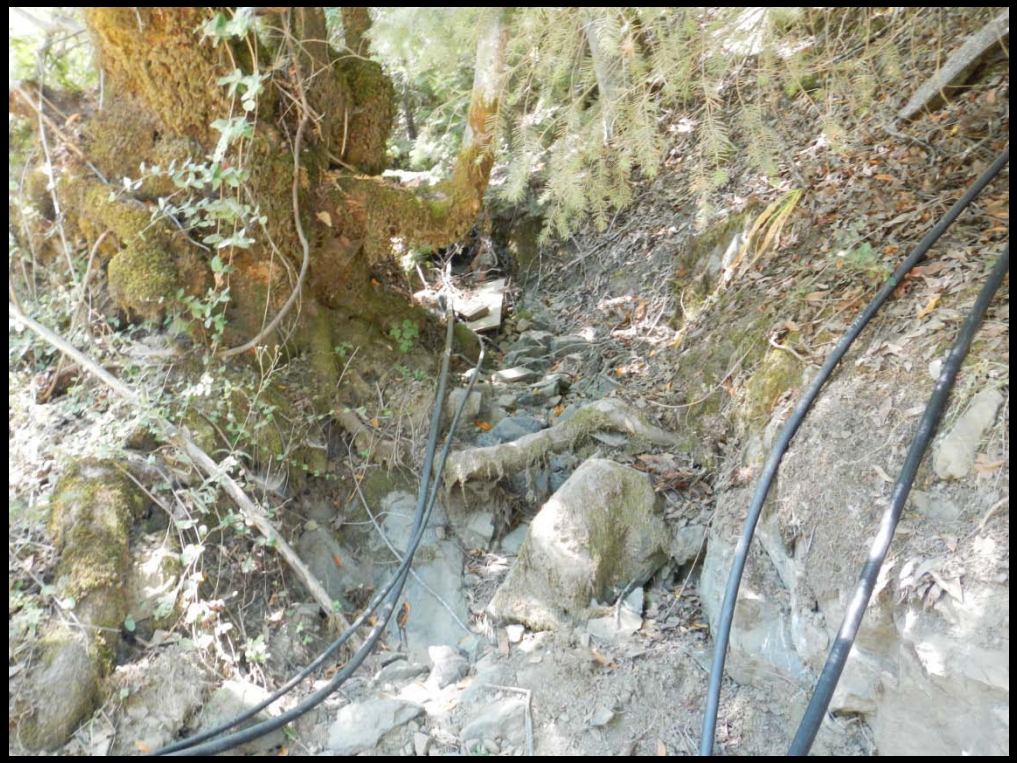


---- Provisional Data Subject to Revision ----

△ Median daily statistic (49 years) — Discharge

Grows Are Getting Larger

Diversions and Dry Streams



New Pond Construction

Poorly Constructed Pond

ON-STREAM POND

Grow Site Development

Improper Road Construction

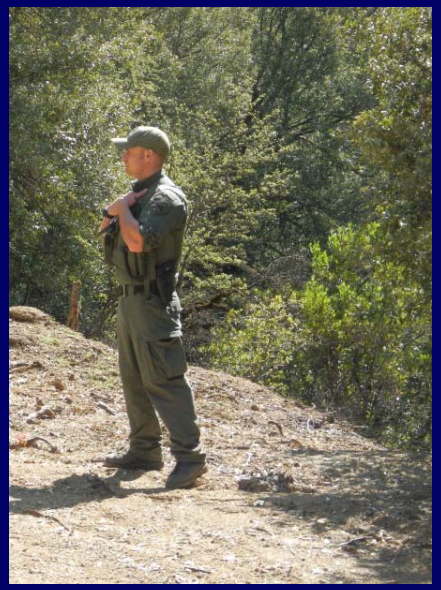
FUTURE ROAD CROSSING FAILURE

Buried Stream Channel

Stream Channel

50,000+
06.14.2012 08:58

CDFW WET Program Activities



WET Efforts to Date

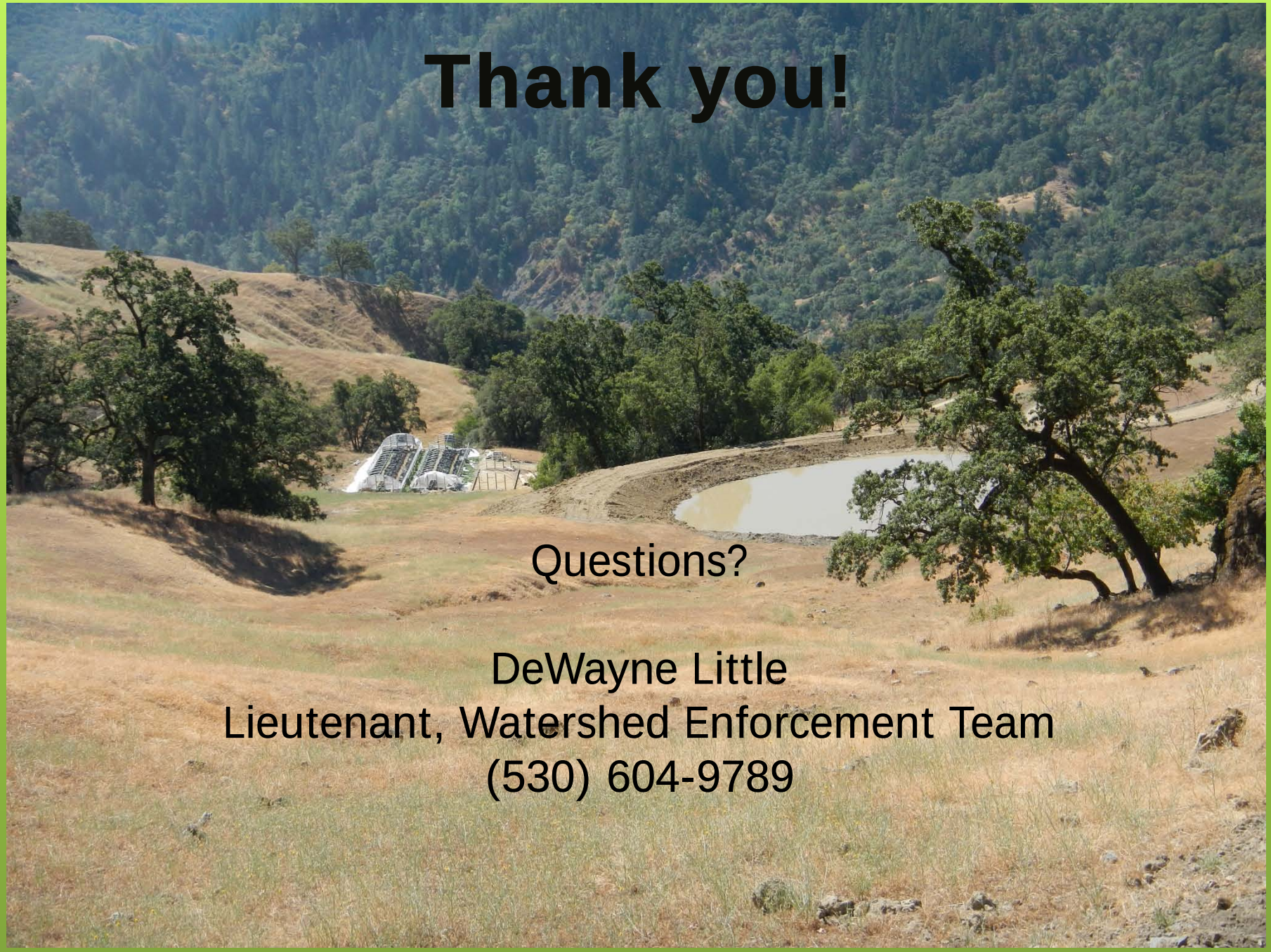
- 99 properties inspected for Fish @ Game Code violations
- Inspections in six counties: Shasta, Tehama, Butte, Humboldt, Trinity, and Mendocino
- 21+ Notice of Violations filed
- 6+ Administrative Actions pending

Compliance

- Approximately 90% compliance on inspected properties (when NOV filed)
- LSA applications submitted daily by landowners desiring compliance
- Water storage supply business booming

Future Efforts

- Continue Inspections (consent and warrant) in important salmon and steelhead trout watersheds
- Continue outreach efforts
- Permit cultivation sites in compliance with Fish & Game Code



Thank you!

Questions?

DeWayne Little
Lieutenant, Watershed Enforcement Team
(530) 604-9789