



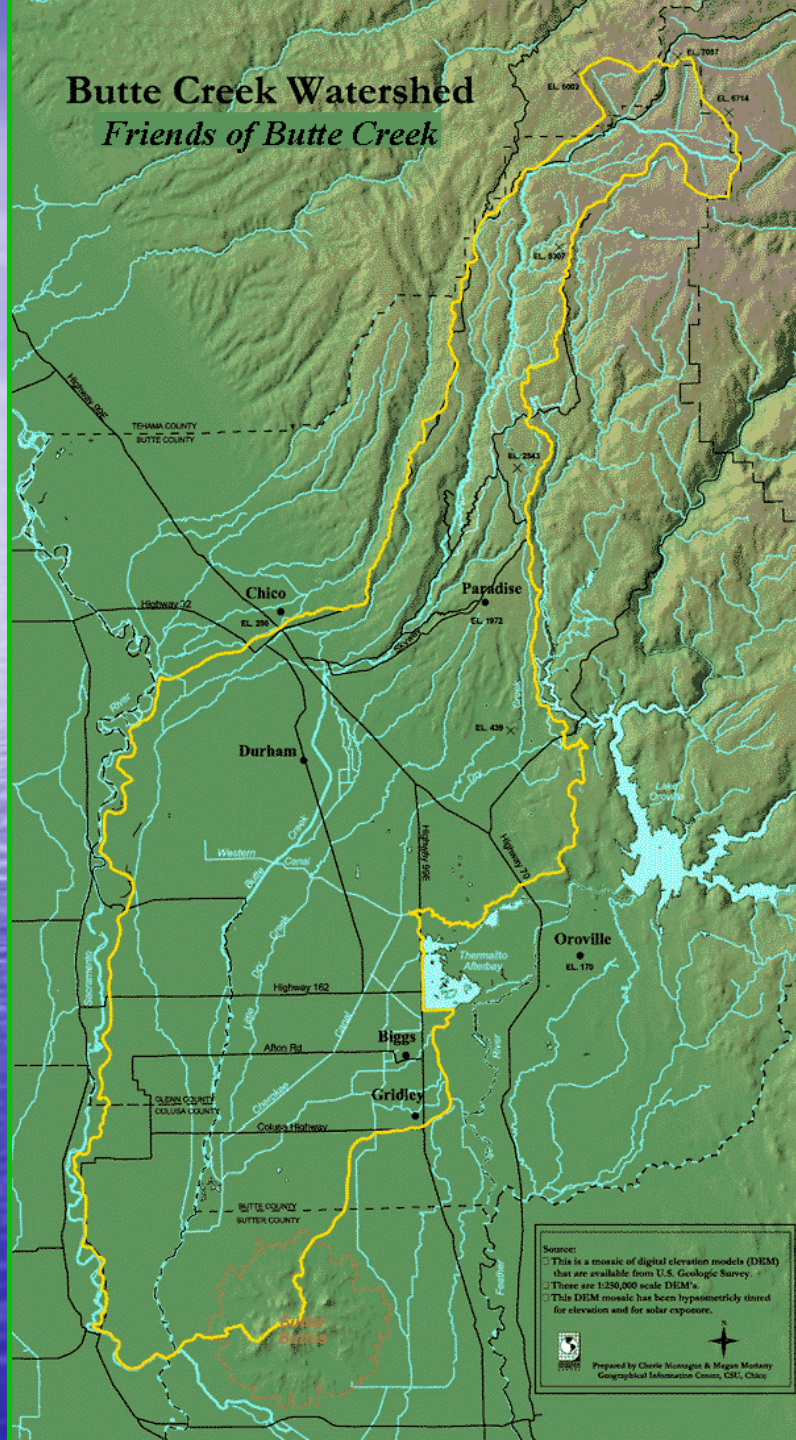
# Butte Creek DeSabla-Centerville Hydro Project - Decommission or Retool? Salmon Want to Know

Allen Harthorn  
Friends of Butte Creek

Salmonid Restoration Federation  
April 13-14, 2018 Fortuna

# Butte Creek Watershed

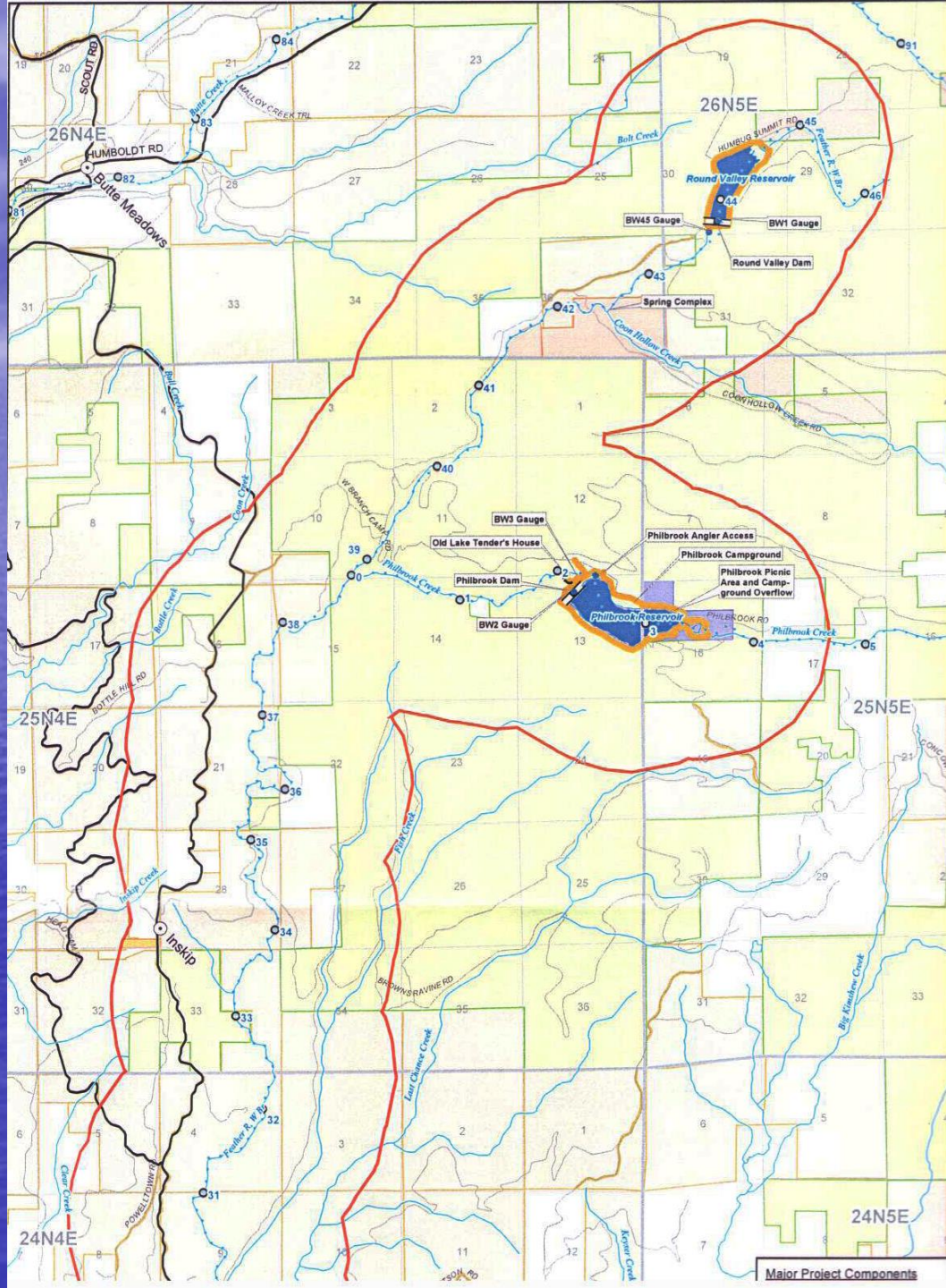
*Friends of Butte Creek*



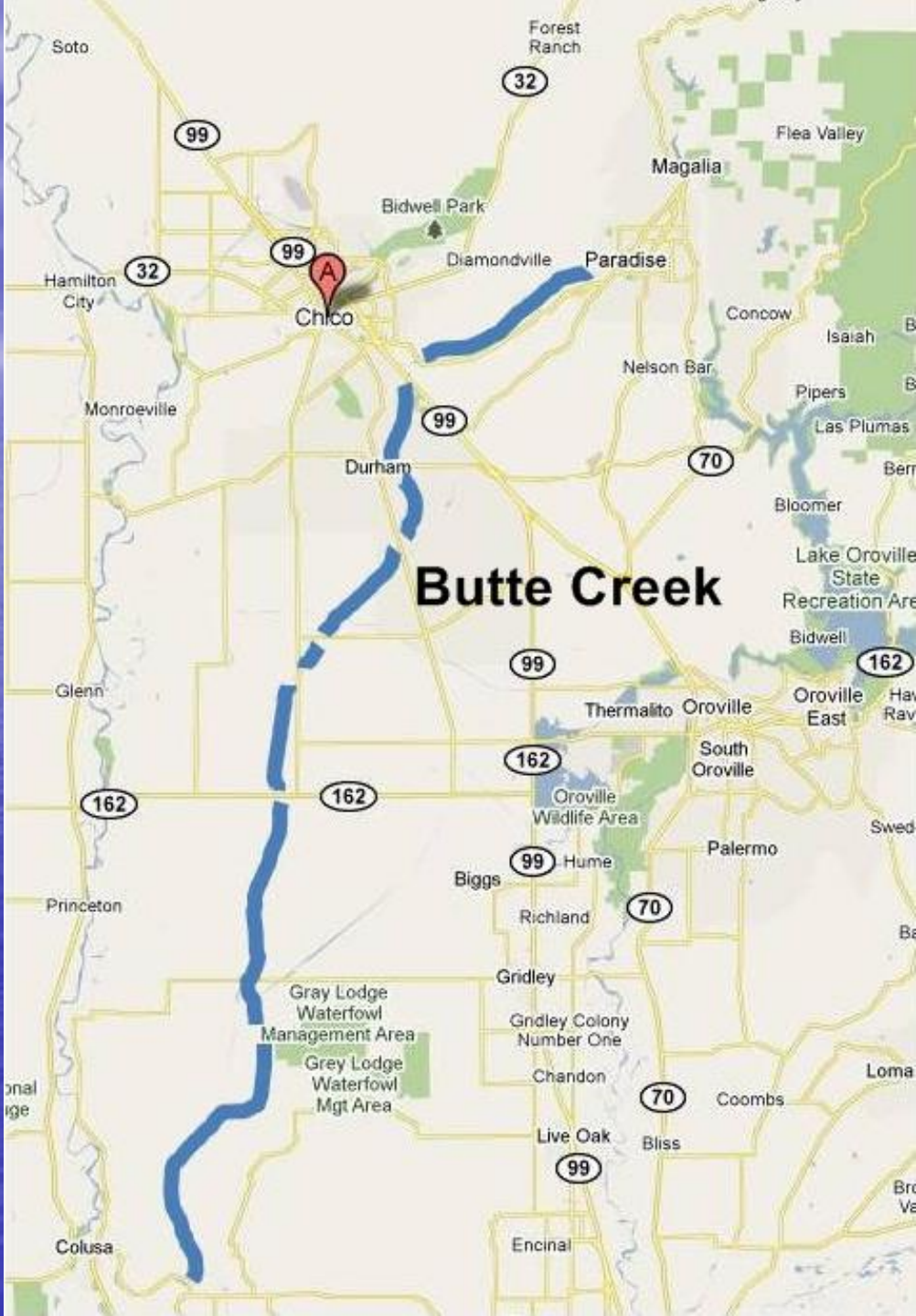
# Butte Creek Watershed



Upper West Branch  
Feather River



Lower Butte Creek



Sutter Bypass



# Sutter Bypass Butte Creek

5/20/2009 - Aerial Photos

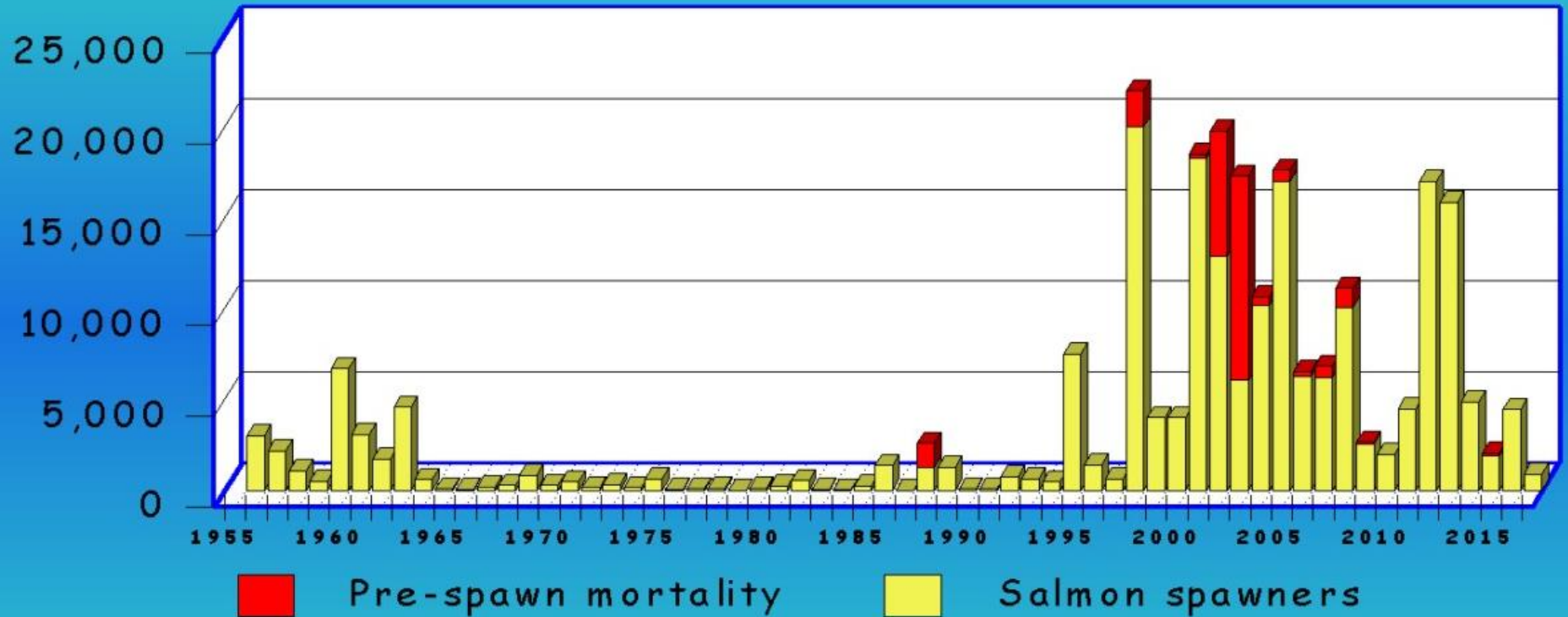


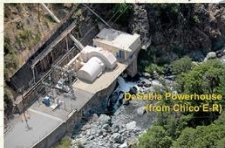
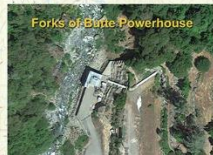
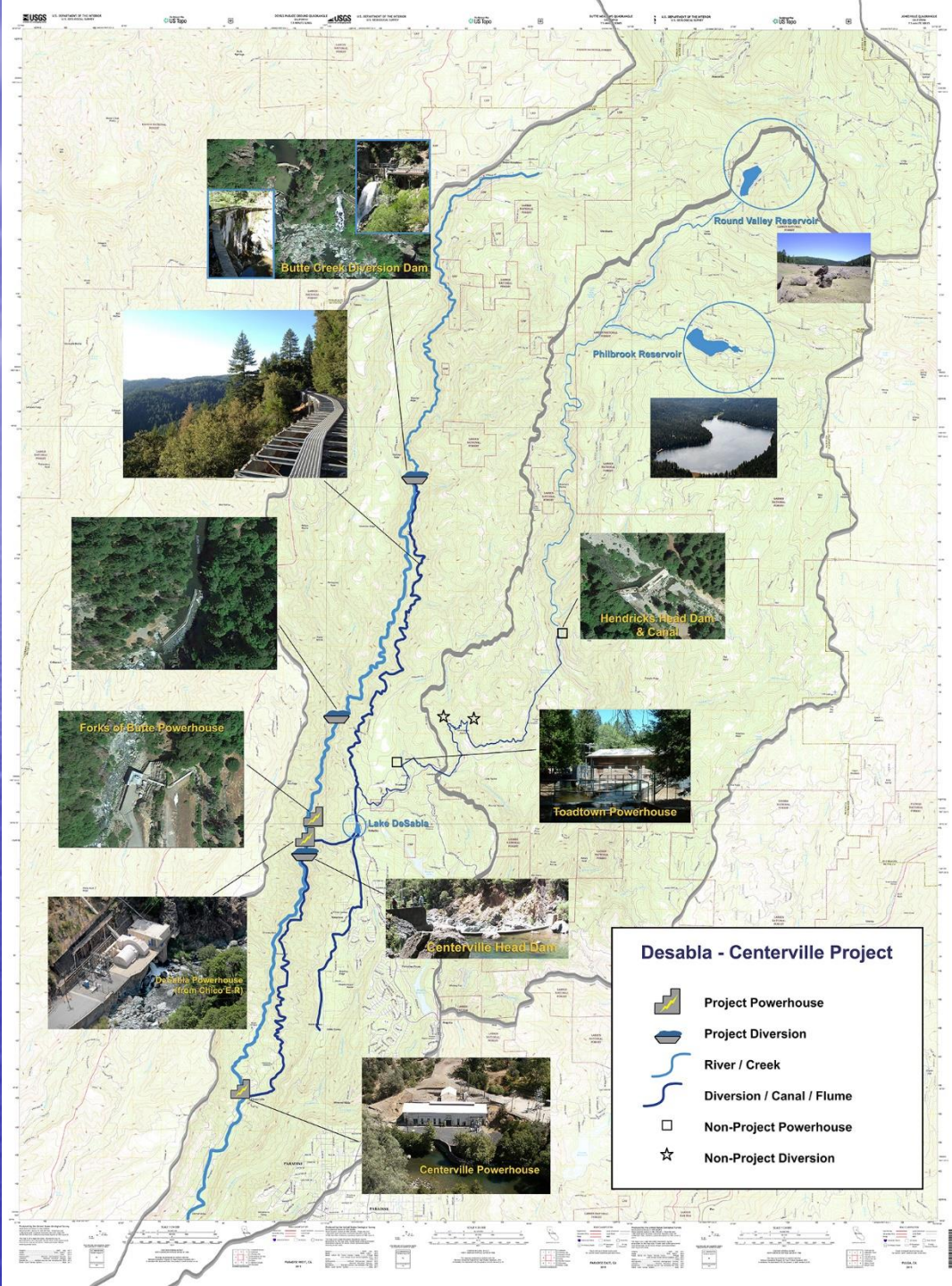
N 38° 50.626' W 121° 36.867'

4733 ft







05/20/2009 9:09:55 AM

# Butte Creek Spring Run Salmon Population





**Desaba - Centerville Project**

-  Project Powerhouse
-  Project Diversion
-  River / Creek
-  Diversion / Canal / Flume
-  Non-Project Powerhouse
-  Non-Project Diversion



# DeSabra-Centerville Hydro Timeline

1906 Centerville PH operational



Butte Head Dam 2912 feet elevation

# Butte Canal Elevated Sections



# Butte Canal: Instream flow release gate





Centerville Head Dam 1150 feet elevation



Centerville Head Dam, Early 1900's: Tailings of Butte Creek, 1972

Wooden Elevated Flume,  
Lower Centerville Canal:  
Tailings of Butte Creek 1972











Centerville Powerhouse 520 feet elevation

# Centerville PH Update 2015

Powerhouse originally started in 1906

- Main Turbine offline since early 2010
- Repairs completed 2011
- Start-up attempted Feb. 2011
- Penstock pressure fluctuations indicate failing integrity
- Both units taken offline
- Project decommissioning in near future (hopefully)



# Philbrook Reservoir-Elevation 5591





On Saturday, January 16, 1909 the Oroville Daily Register ran the headline, **"Philbrook Dam Out – Havoc on the West Branch."** The story that followed states that at 1 A.M. that morning, the dam failed releasing 90,000,000 cubic feet (2,066 acre-feet) of water into the West Branch. **"The water came down in a solid mass, reaching ten feet above the highest level and carrying everything in the way with it."**

# Hendricks Head Dam-West Branch Feather River



# Restoration projects

- 1992-increase flows above Centerville PH
- 1993-remove McFerrin and McGowan and Point Four dams
- 1995-new screen and ladder on Parrott/Phelan
- 1997-remove 4 dams, eliminate 12 unscreened diversions, open up 25 miles of unimpeded flow
- 1998-2000-new ladders and screens on Adams, Gorrill and Durham Mutual dams
- 1999 –Sanborn Slough, Drumheller Slough dams
- 2002-Sutter Bypass East/West, and SB Weir #3 and #5
- 2003-Butte Sink Weir upgrades, drain exclusions
- 2005-date Sutter Bypass East and West upgrades; Willow Slough ladder, Weir #2 ladder and others



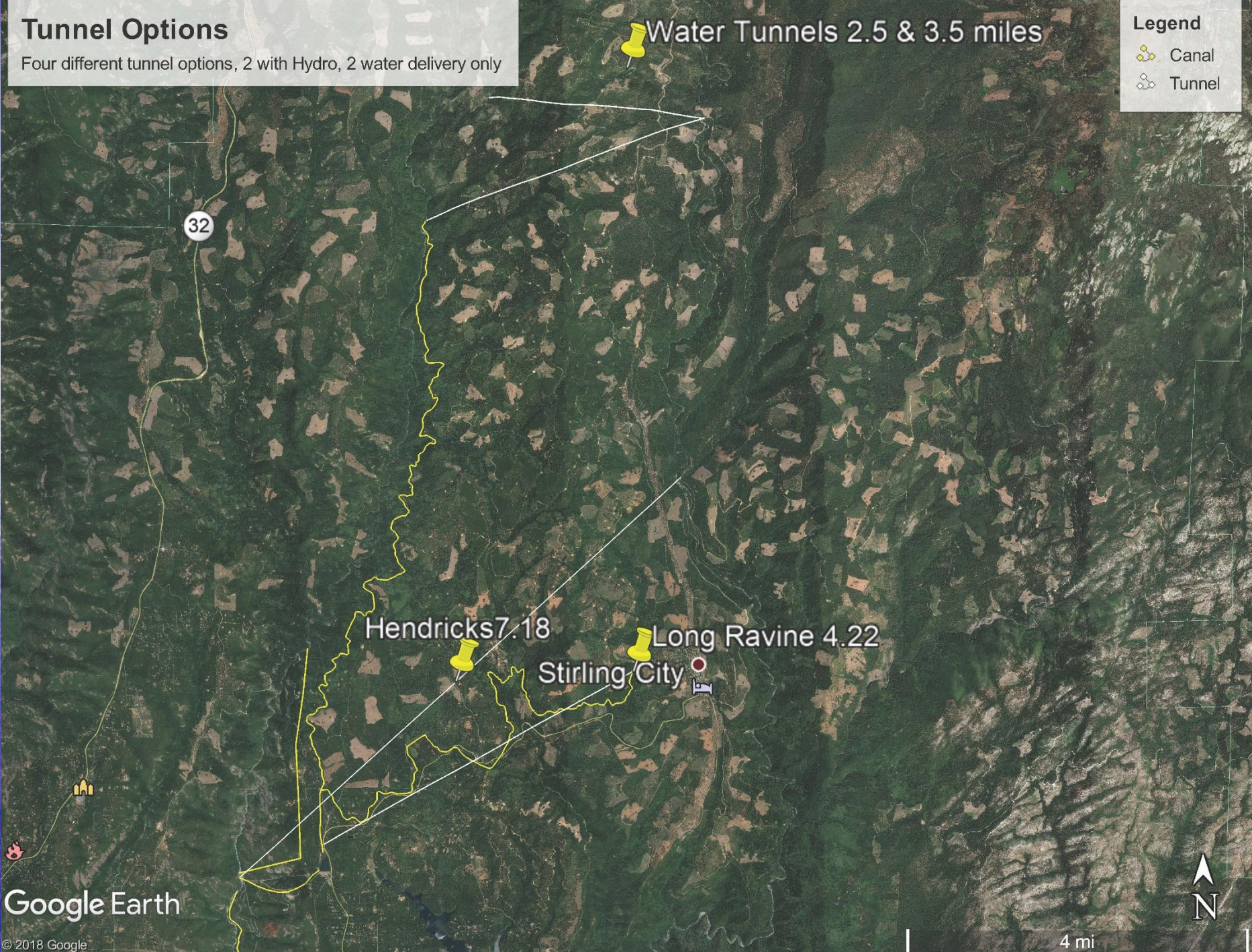
# Tunnel Options

Four different tunnel options, 2 with Hydro, 2 water delivery only

Water Tunnels 2.5 & 3.5 miles










## Legend

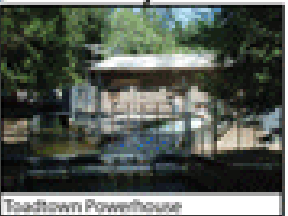
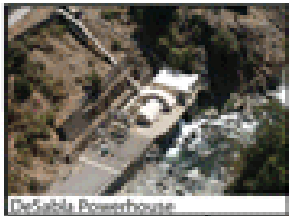
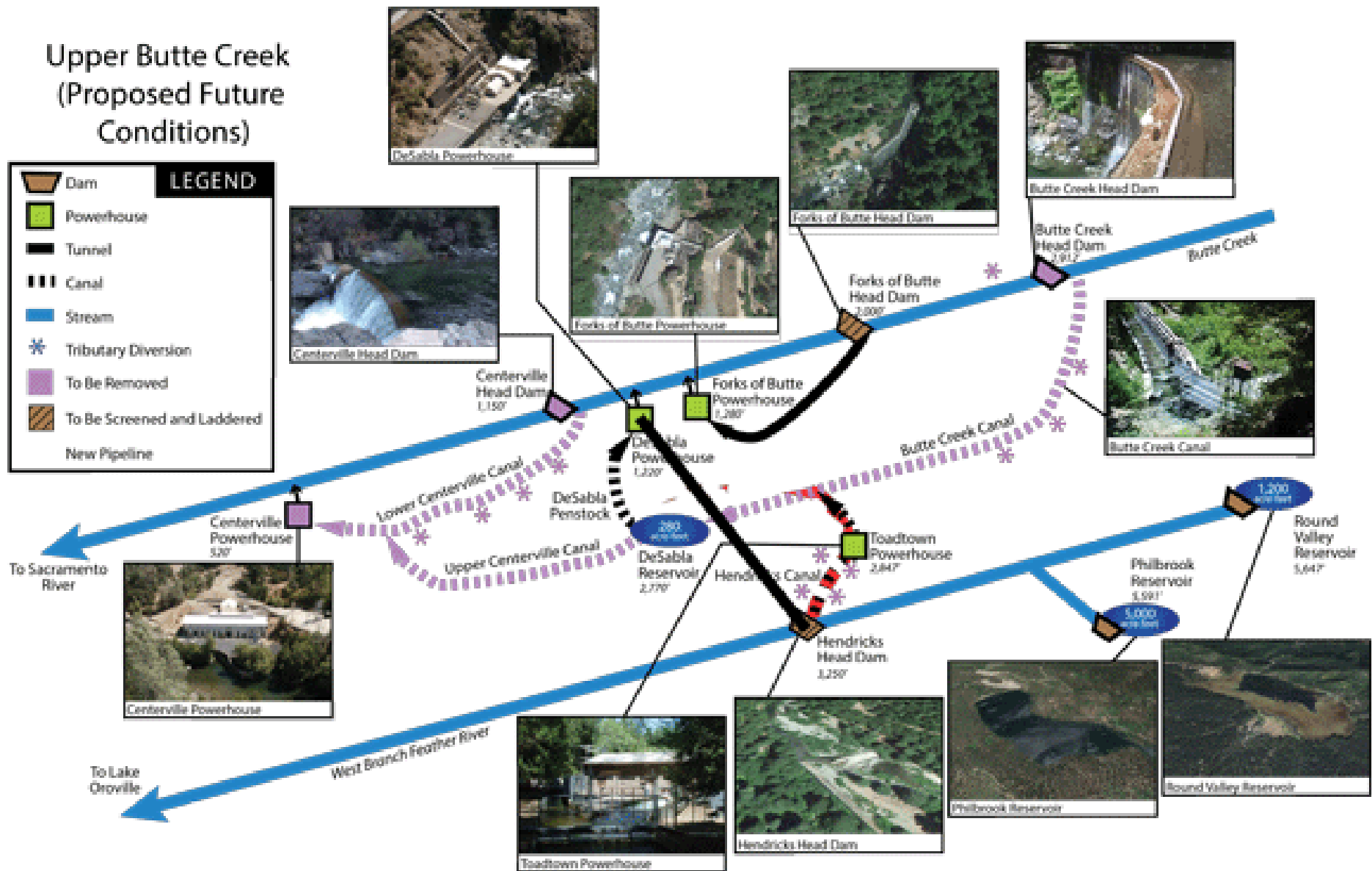
- Canal
- Tunnel



# Upper Butte Creek (Proposed Future Conditions)

**LEGEND**

-  Dam
-  Powerhouse
-  Tunnel
-  Canal
-  Stream
-  Tributary Diversion
-  To Be Removed
-  To Be Screened and Laddered
-  New Pipeline



# Salmon Pool July 12, 2003



Salmon Pool August 12, 2003





Fish ladder/irrigation diversion

Parrott/Phelan  
Diversion  
M&T Ranch, Llano Seco

Water Rights to half of  
the imported water





# Butte Creek Problems and Promise

Mostly promise, but problems will persist.....

Friends of Butte Creek  
[www.buttecreek.org](http://www.buttecreek.org)



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