



# 2017 NAPA FIRES

CITY WATER SYTEM  
EMERGENCY  
RESPONSE TO  
PROTECT  
DRINKING WATER  
RESERVOIRS

# Water Service

Reliability  
challenged

Lake Hennessey



Milliken Reservoir



# Fine Sediment Management



# Sediment Management

Why does it matter?

Drinking water quality compliance

2011 Stage II Disinfection Byproduct Rule

TOC

>5ppm

Total Organic Carbon



~~TTHMS~~

>80 ppb RAA

Trihalomethanes



# Fine Sediment Management

## Waddle installation

- ❑ 7,500 linear feet (lf) installed
- ❑ 2 rows with #4 rebar staked every 12'
- ❑ above high water mark
- ❑ 10-man crew + captain
- ❑ 3-man City of Napa watershed crew



# Fine Sediment Management

## Waddle installation

### Goals:

- ❑ slow and spread the inlet flow into the reservoir
- ❑ capture fine sediment in a series of waddles backed up by silt fence
- ❑ protect drinking water supplies from an estimated minimum 3 years of elevated total organic carbon (TOC)



# Fine Sediment Management



# Fine Sediment Management





# Fine Sediment Management

## Waddle installation above high water mark



# Fine Sediment Management



# Fine Sediment Management



# What's Next?

## Large Debris and Sediment Management

- Fell and chip dead trees
- Maintain access roads
- Install sediment traps at culvert outfalls
- Construct sediment traps at major inlets

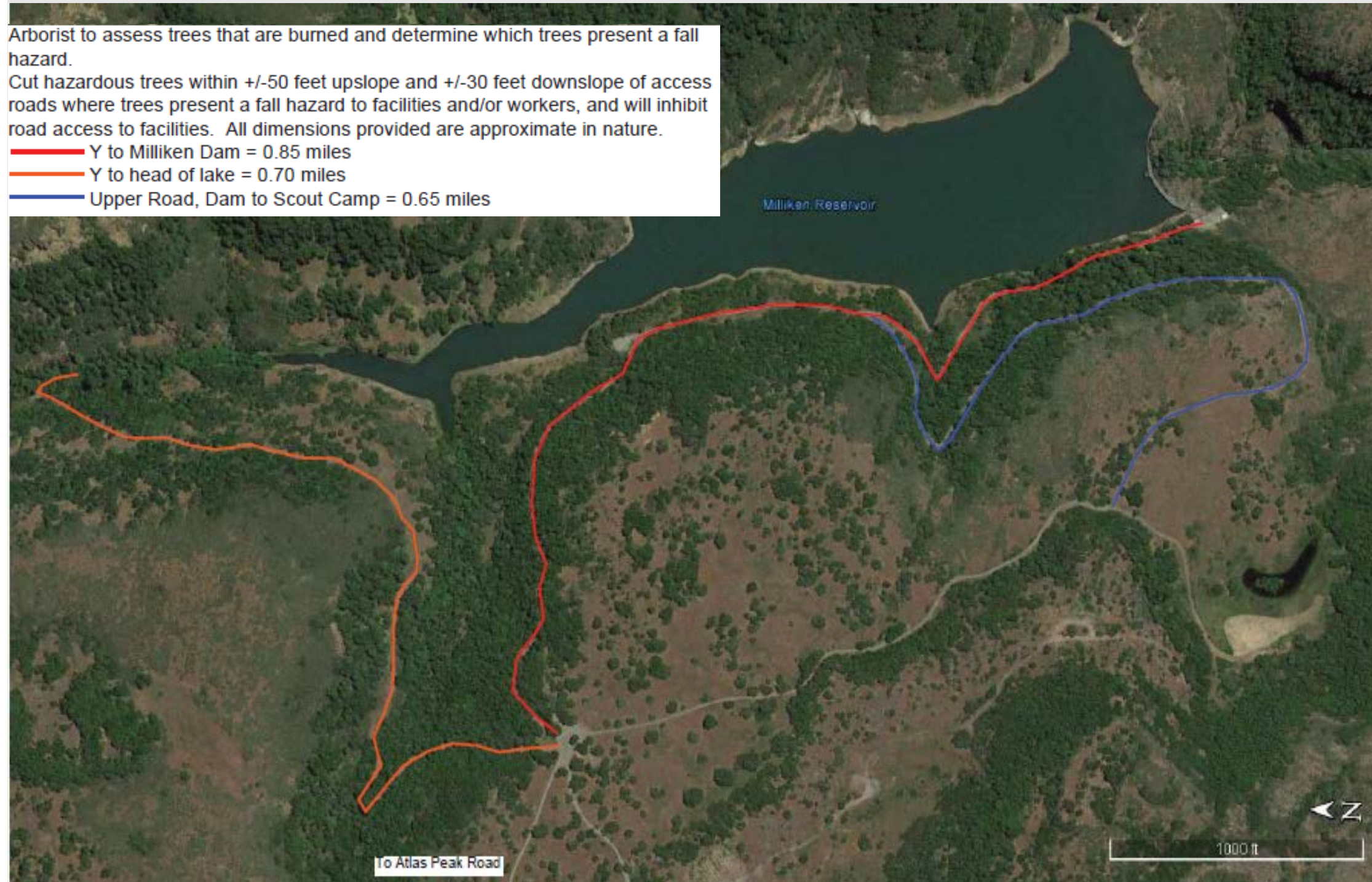


# What's Next?

## Large Debris Management

Arborist to assess trees that are burned and determine which trees present a fall hazard.  
Cut hazardous trees within +/-50 feet upslope and +/-30 feet downslope of access roads where trees present a fall hazard to facilities and/or workers, and will inhibit road access to facilities. All dimensions provided are approximate in nature.

- Y to Milliken Dam = 0.85 miles
- Y to head of lake = 0.70 miles
- Upper Road, Dam to Scout Camp = 0.65 miles



# What's Next?

## Large Debris Management

- Install booms to protect face of dam
- Corral and manage debris



# What's Next?

- ❑ Increase Frequency of Monitoring and Analyses
- ❑ Enhance Treatment Process
  - ❑ Granular Activated Carbon (GAC)



# Water Service

## 24/7 Treatment

Chemical Feed Pumps



Chemical Analyses



Instrumentation and Controls



Filters - Night Operations

Filter Gallery



Turbidimeters





Questions or Comments?



# Tuesday Silverado CC Evacuated – Temp Hillcrest Pump Station running



# Hillcrest Pump Station

2017 Fires

