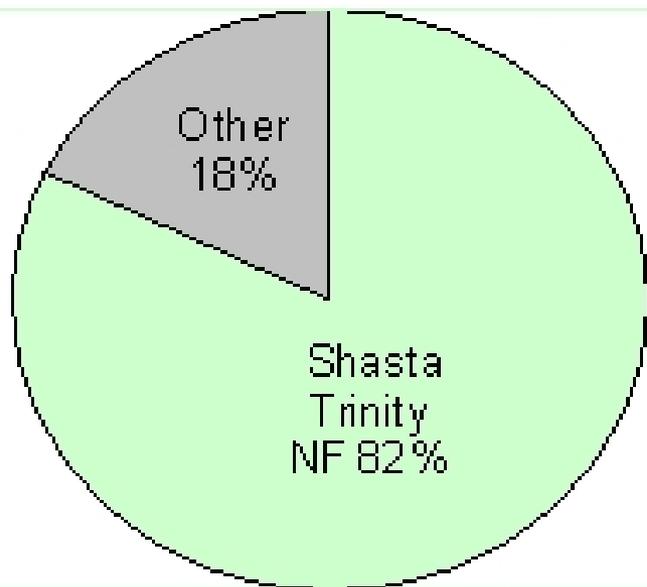


# WATERSHED RESTORATION IN THE TRINITY RIVER BASIN



Bill Brock December 2015





Trinity River (huc4)  
Perennial Stream  
Management

## SF Trinity River (huc4) Perennial Stream Management







Lumber mills in Trinity County  
jumped from 1 to 56  
between end of WWII and 1964

# Shasta-Trinity National Forest Trinity Basin

**5500 road miles**

**Roughly 3,500 miles of system roads  
and  
2,000 miles of non-system roads**



# NFS Land in Trinity Basin

**Roughly 22,000 stream xings**

(based on Pacific Northwest average of 4 xings/mi)

Increasing risks of failure

**Aging infrastructure &  
undersized pipes**

Failing Pipe



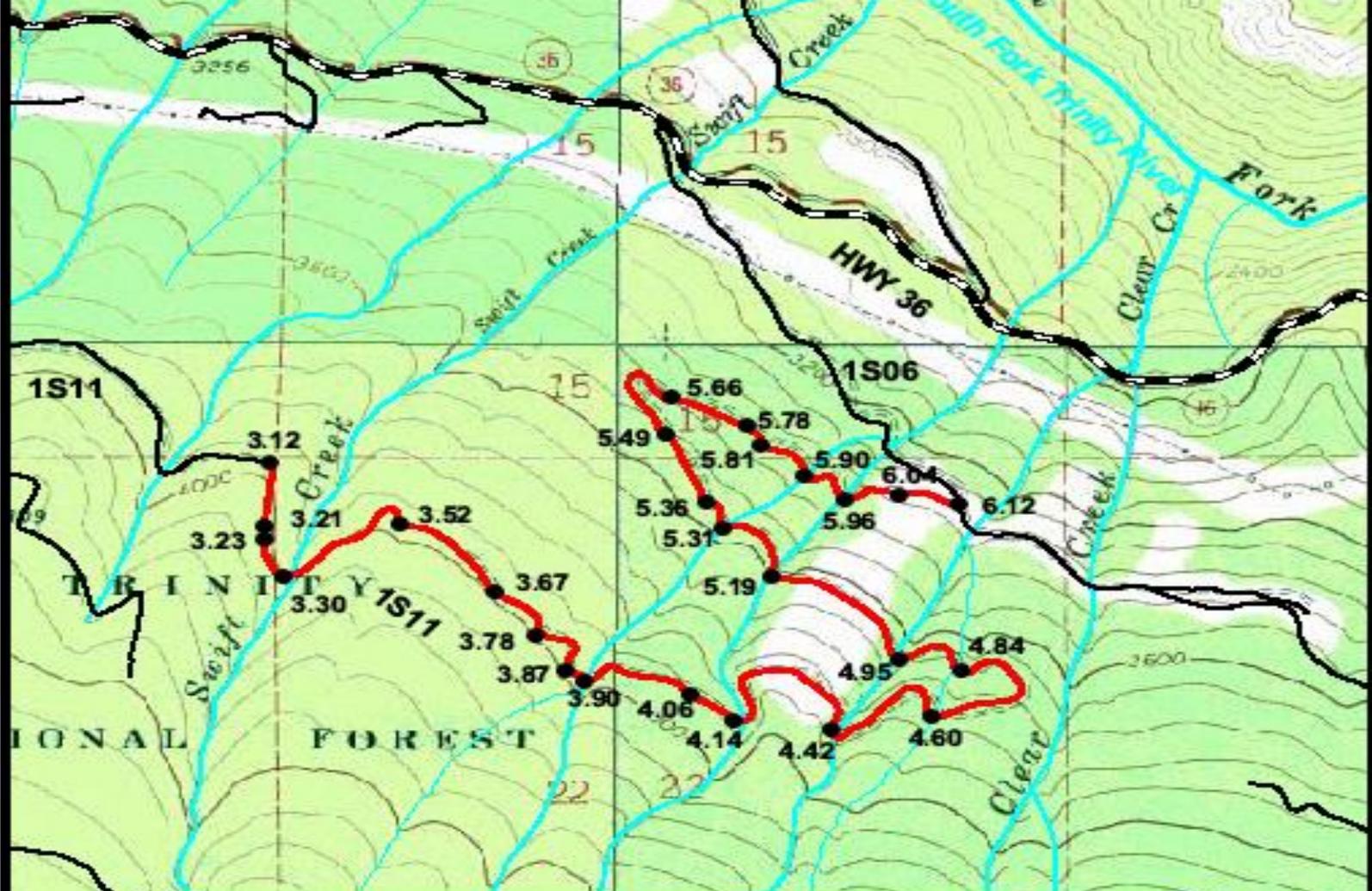
# Shasta-Trinity National Forest

## Trinity Basin

### Road Focused Sediment Source Inventories 2700 miles

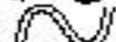
- ▣ **2007-Present: 1432 miles of road inventories were contracted in the Trinity Basin.**
- ▣ **Pre-2007: Nearly 1300 miles of roads were surveyed by RCD.**





### 1S11 Road Decommission

#### Roads & Trails

-  Highway
-  Paved
-  Rocked
-  Native
-  Trail/Undrivable

#### Streams

-  Perennial
-  Intermittent
-  Ephemeral

-  Mile Marker
-  Project Area



0 0.5 Miles

0 200 400 600 Meters

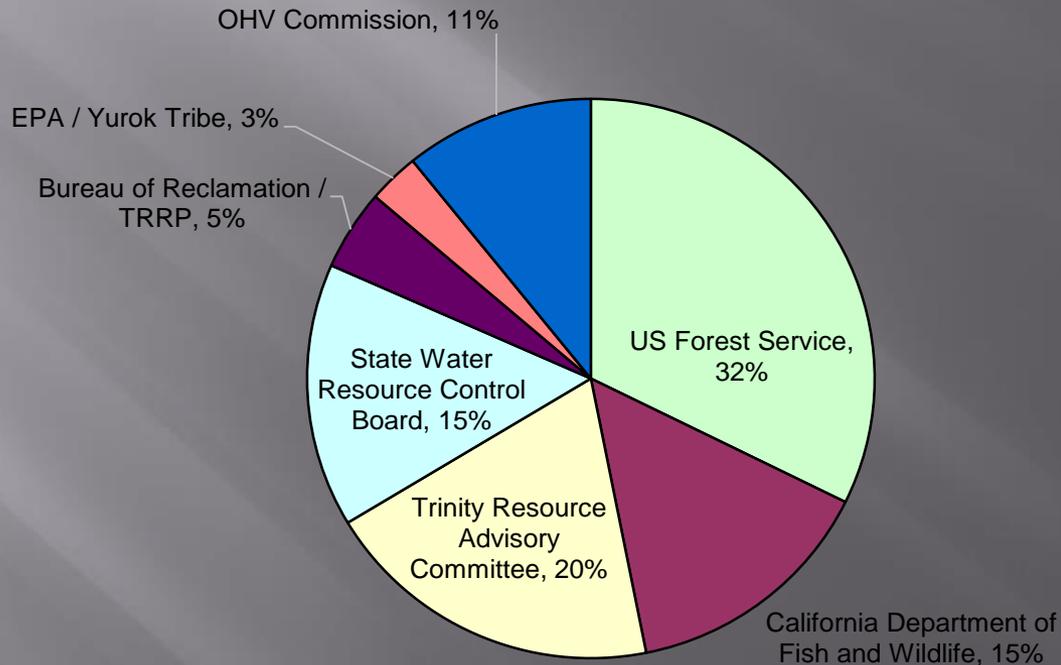
**Culverted stream crossings  
function similarly to  
'dams with holes in them'.**

**The steeper the terrain,  
the larger the fills,  
the bigger the dams!**





**Shasta Trinity NF  
Trinity River Watershed  
Road Decommissioning Funding By Agency  
1995-2015: \$8.7 million**



USFS & TCRCD  
Combined Datasets

















# **TRRP Watershed Co-op Funding Agreement**

**Six Rivers National Forest**

**Decommissioned 58 miles of system roads from 1990 to 2001**

**with \$2,000,000 from TRRP**



# USFS Restoration Needs – Next 20 Years

## Six Rivers NF

South Fork and Lower  
Mainstem Trinity –  
\$18.1 MM

## Shasta-Trinity NF

- ▣ Trinity River  
Mainstem- \$20.1  
MM
- ▣ South Fork Trinity -  
\$72.9 MM

Work Includes Road Obliteration, Stabilization,  
'Storm-proofing', Fish Passage,  
Spawning/Rearing Habitat Enhancement,  
Hazardous Fuels Reduction



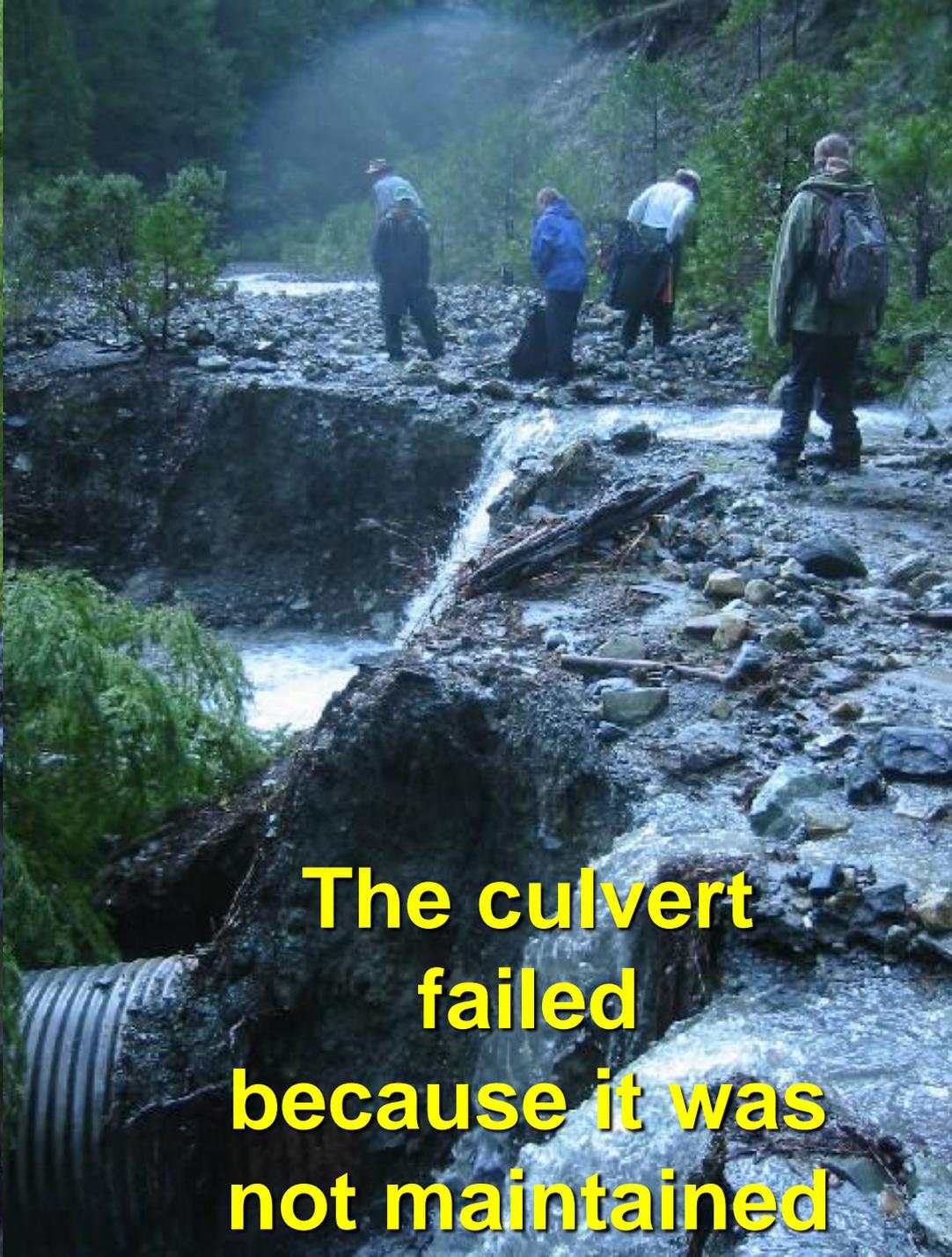
**Road-related problems often begin  
with plugged culverts**





**A 48"  
culvert  
plugs on  
an  
abandoned  
road.**

**Six Rivers  
National  
Forest,  
January 2006**



**The culvert  
failed  
because it was  
not maintained**

**The diverted runoff incises  
into the native hill slope  
where no channel  
previously existed....**



**.... and initiates a new  
landslide!**









**That just about does it my  
friends.**



# Debris Torrent, Mt. Hood Nat'l Forest,

November 2006

Major depositional area upstream of a USFS road.  
Standing trees had limbs stripped off up to 50 feet  
above the ground!



# Mt. Hood Nat'l Forest

November, 2006

**The Little White River is now 20 feet higher above the bridge upstream.**







