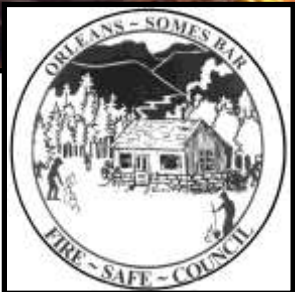




Photo: Thomas Dunklin

Bringing Good Fire Back to the Klamath Mountains:

A Landscape Vision for Restoring Community and Ecosystem Resiliency Against All Odds



Will Harling - Director

Mid Klamath Watershed Council & Orleans/Somes Bar Fire Safe Council

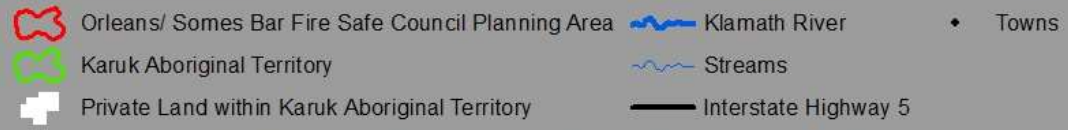
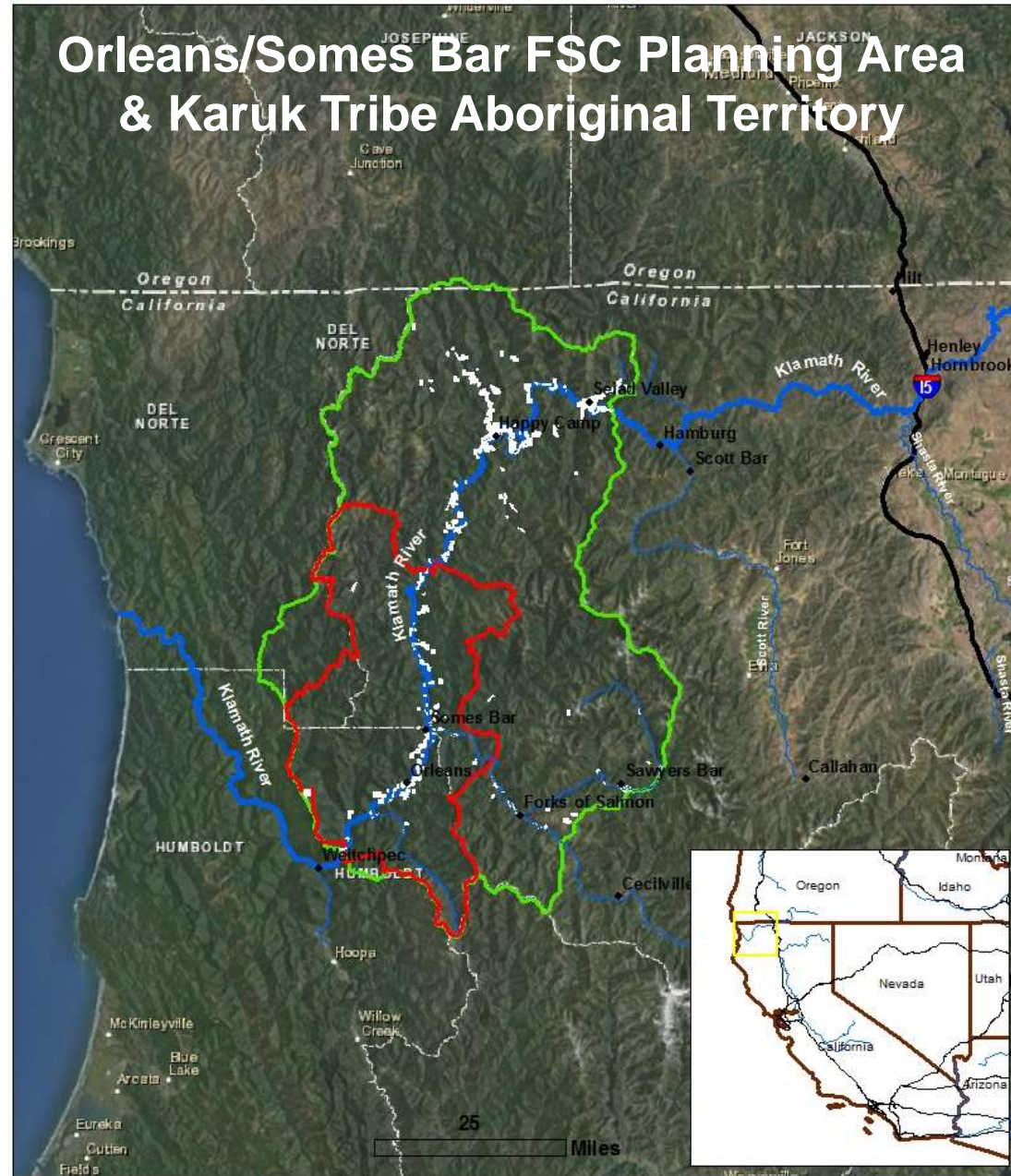


Outline

- Current Fire Situation in the Western Klamath Mountains
- How Did We Get Into This Situation?
- Local Efforts to Bring Good Fire Back to the Landscape
- Western Klamath Restoration Partnership
- Final Thoughts on Restoring Fire Processes

Orleans/Somes Bar FSC Planning Area & Karuk Tribe Aboriginal Territory

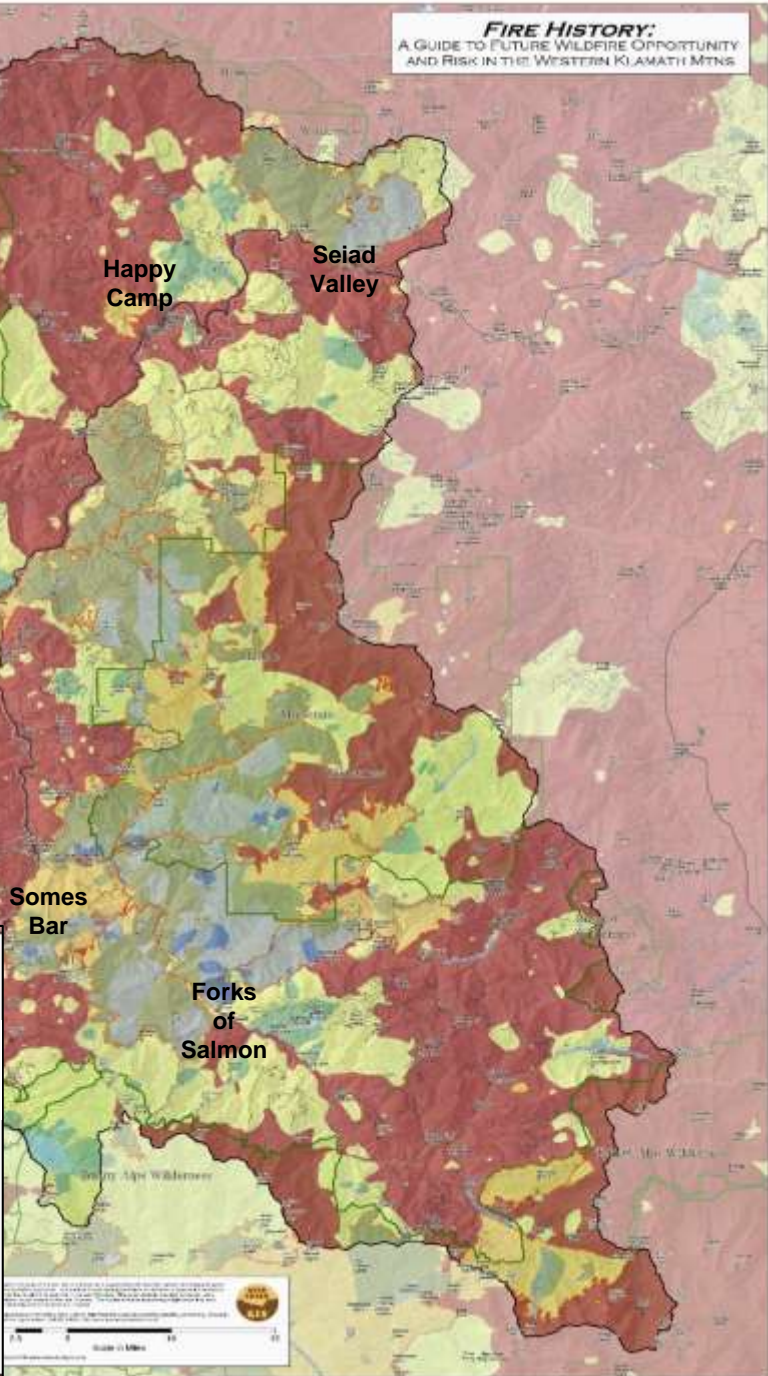
- 95% Federal Ownership (USFS National Forest)
- Rugged topography (500ft – 9000ft)
- Mediterranean climate
- Highest conifer diversity in the world. Highest pyrodiversity?
- Communities incredibly “skookum” when it comes to fire.
- Tribal culture of fire management.



FIRE HISTORY:
A GUIDE TO FUTURE WILDFIRE OPPORTUNITY
AND RISK IN THE WESTERN KLAMATH MTS

Grim Realities and Potential Opportunities From Fire History Analysis

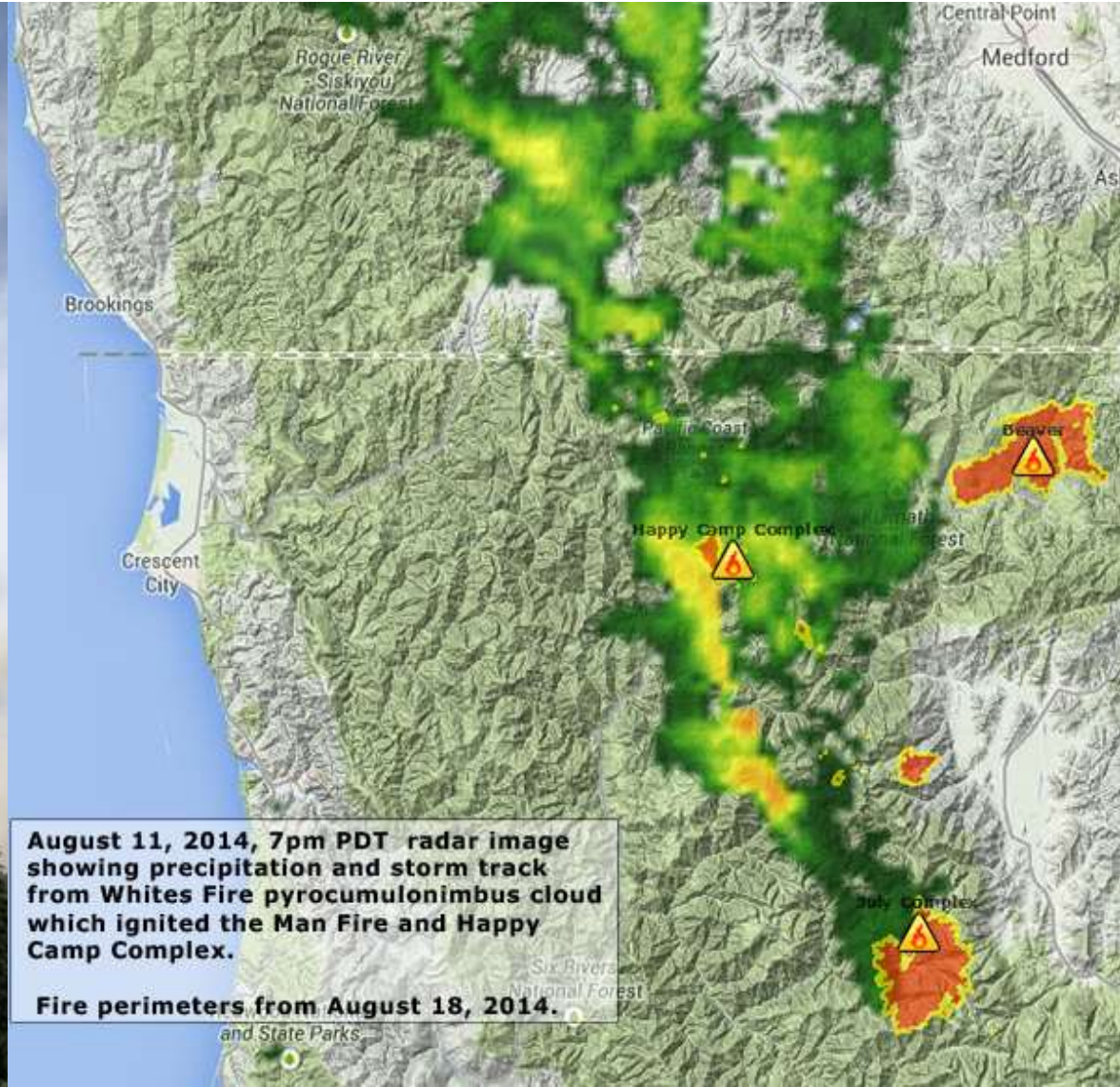
- NO areas are within their historic fire return intervals, or even remotely close.
- With no fire exclusion and continued indigenous burning patterns, we would see smaller self-limiting fire footprints, and some places with 30-100 fire overlaps.



| Overlapping Fires Since 1914 in the Klamath Mountains | | |
|---|----------------|--------------------------|
| Number of Fires | Sum of Acres | Percent of Planning Area |
| 0 | 583,971 | 48.8% |
| 1 | 362,278 | 30.3% |
| 2 | 75,496 | 14.7% |
| 3 | 67,048 | 5.6% |
| 4 | 7,339 | 0.6% |
| 5 | 618 | 0.1% |
| Total Acres | 196,750 | 100% |

2014 Whites Fire

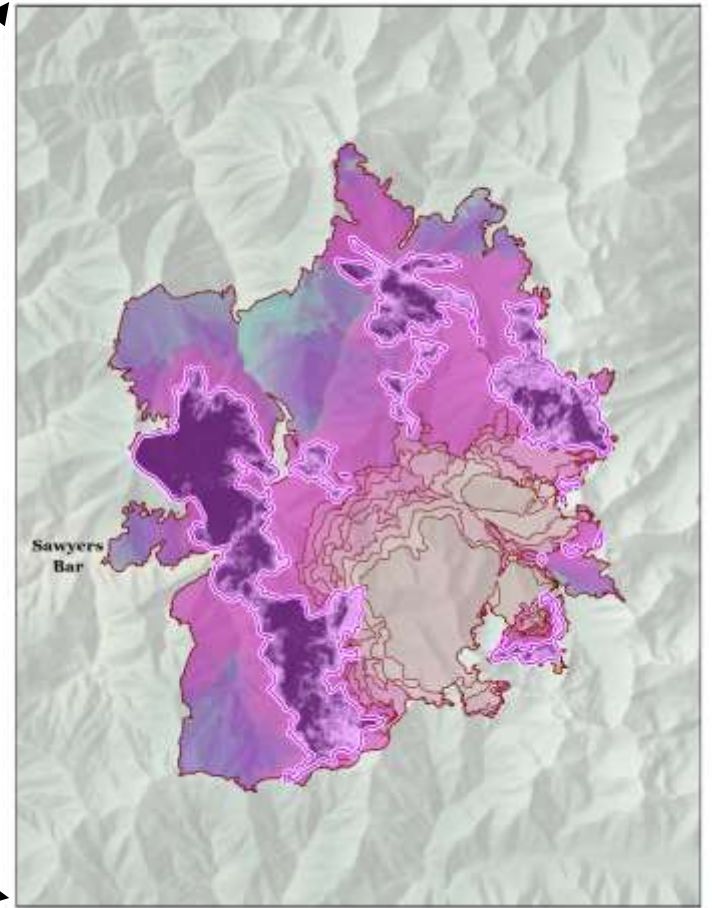
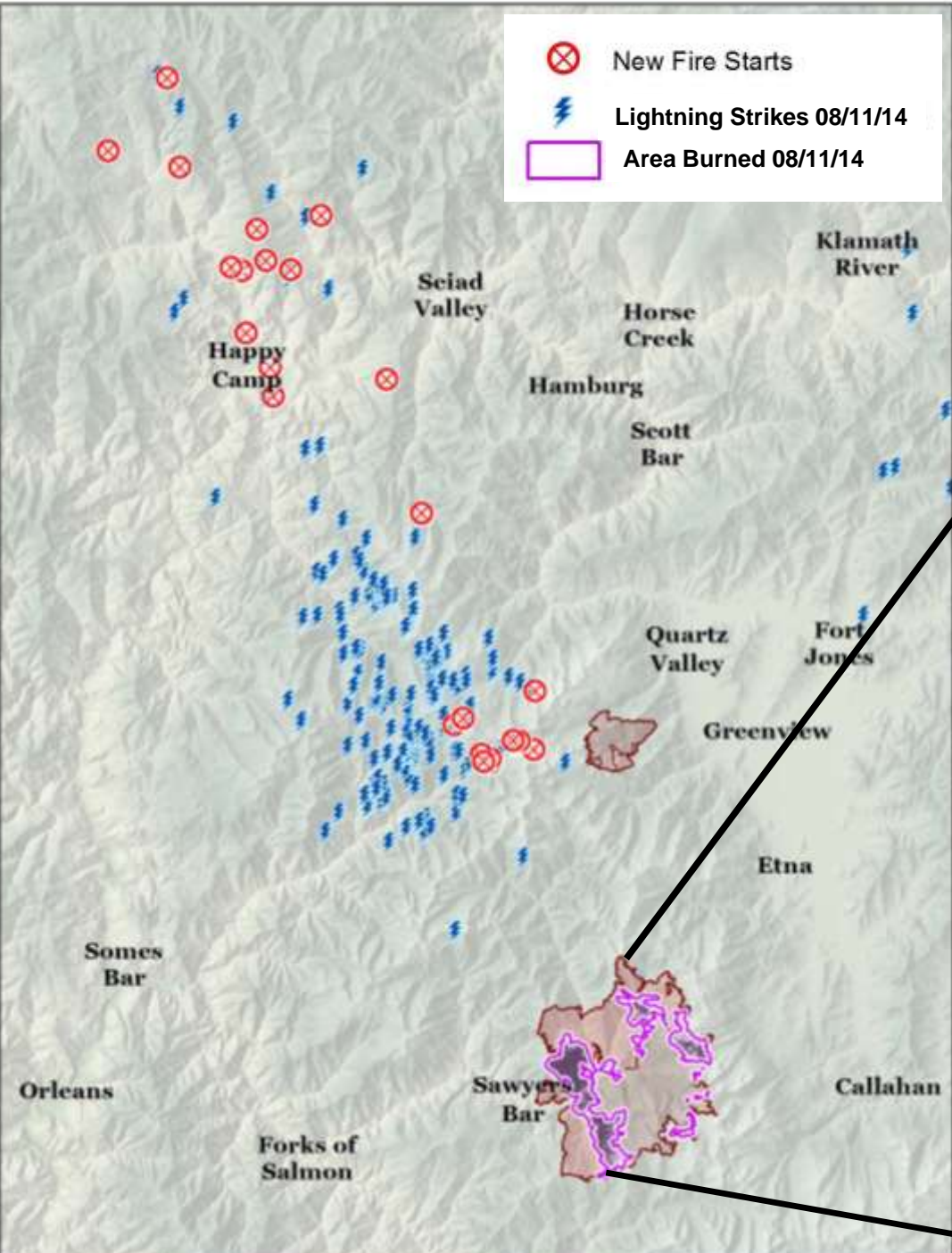
(Re-defining Spot Fires)



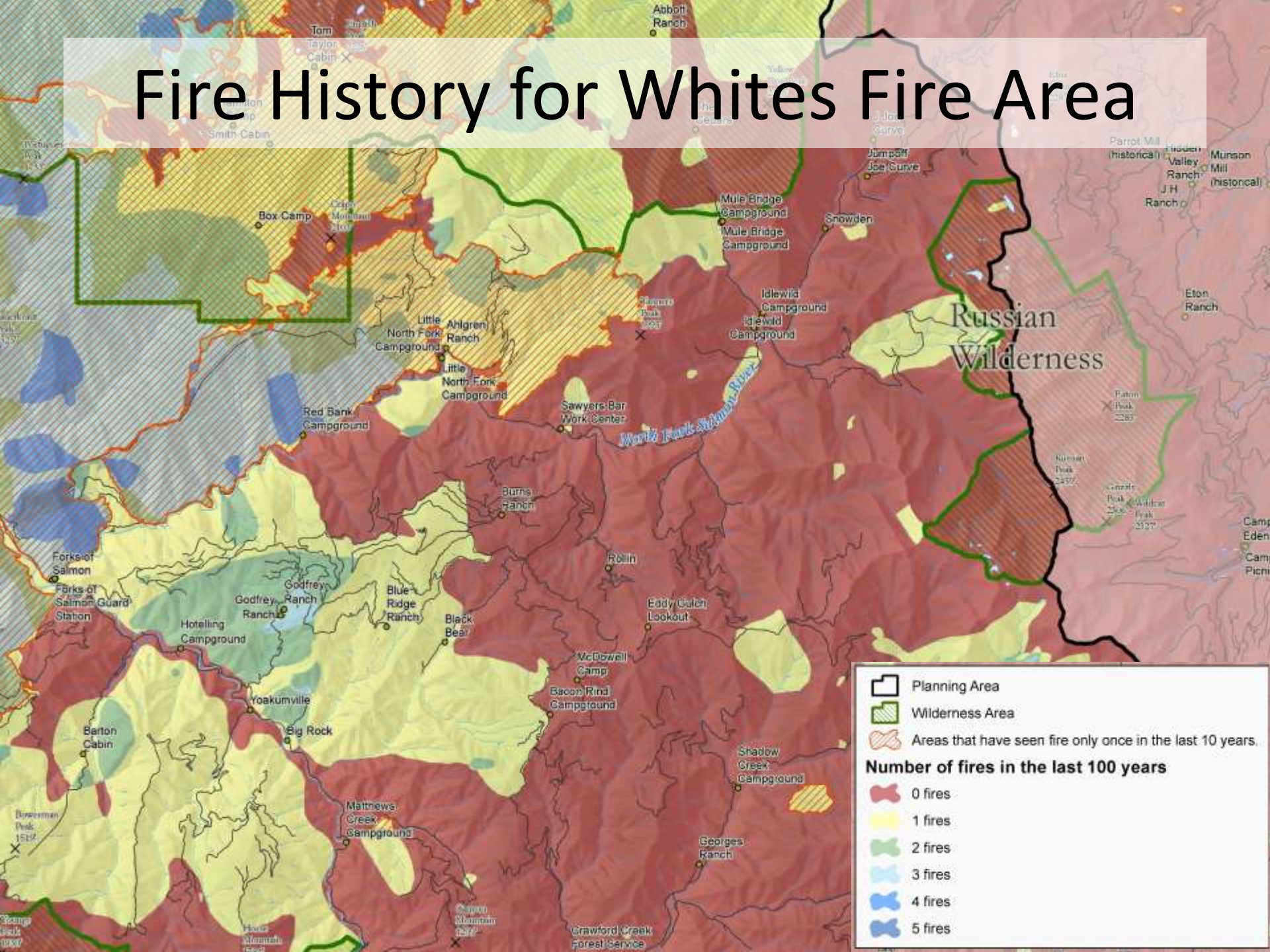
Lightning Fires from Whites Fire Pyrocumulus

Started 2014 Happy Camp Complex and 2014 Man Fire

- ⊗ New Fire Starts
- ⚡ Lightning Strikes 08/11/14
- Area Burned 08/11/14



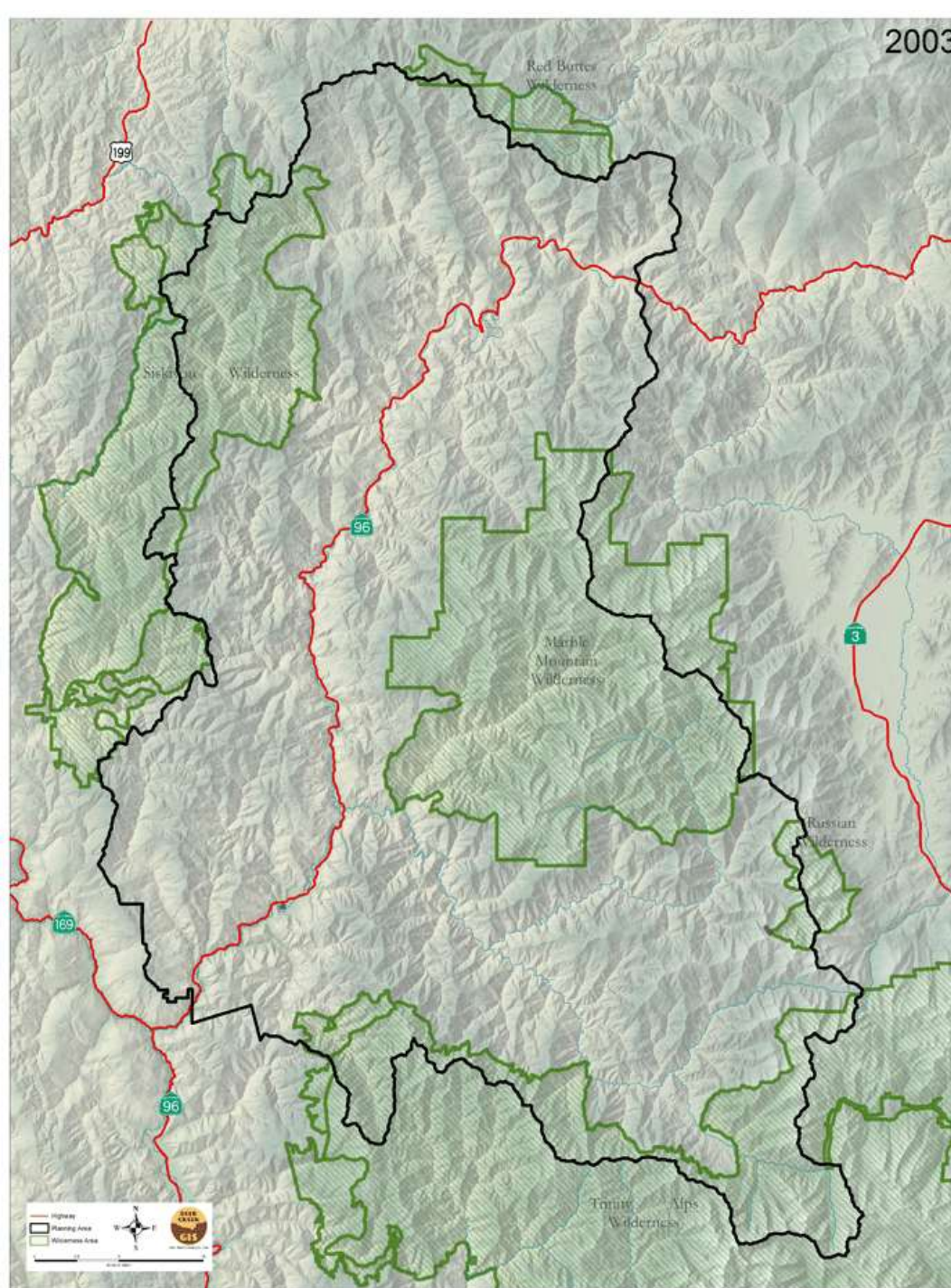
Fire History for Whites Fire Area



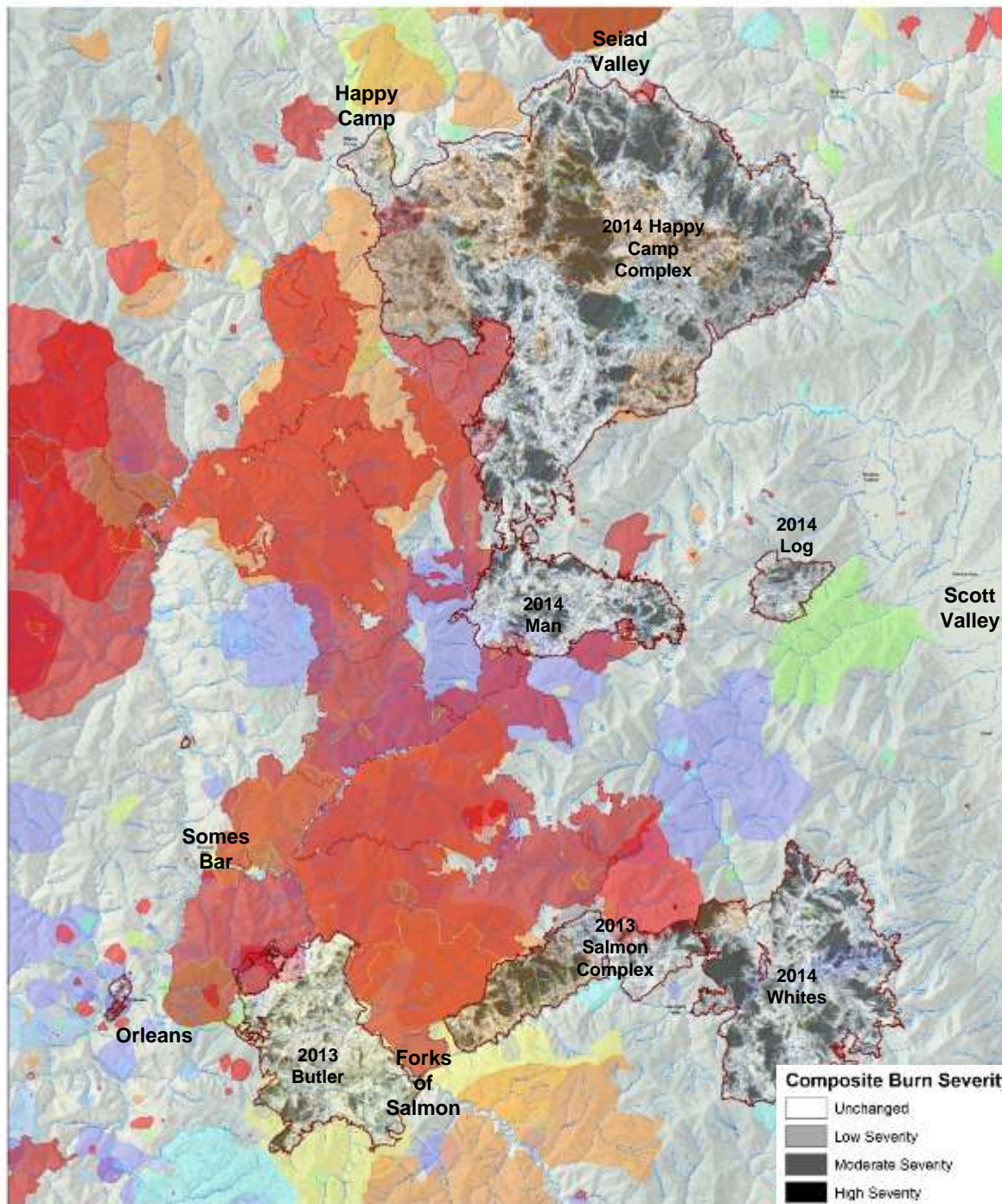
2003

Animation of Wildfires Since 2003

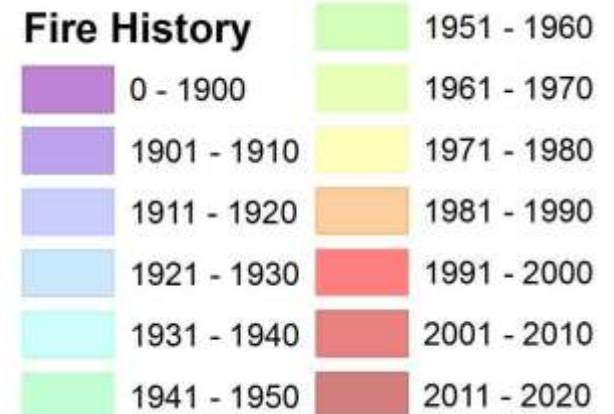
- Large fire footprints in the past 10 years offer an opportunity for fire regime restoration by providing landscape level fuelbreaks to initiate large scale prescribed fires mor manage wildfires with little risk to communities.
- Large fires from 2006 and 2008 are close to becoming a fire hazard instead of a fire break, unless we restore fire to these landscapes. All hands on deck moment.



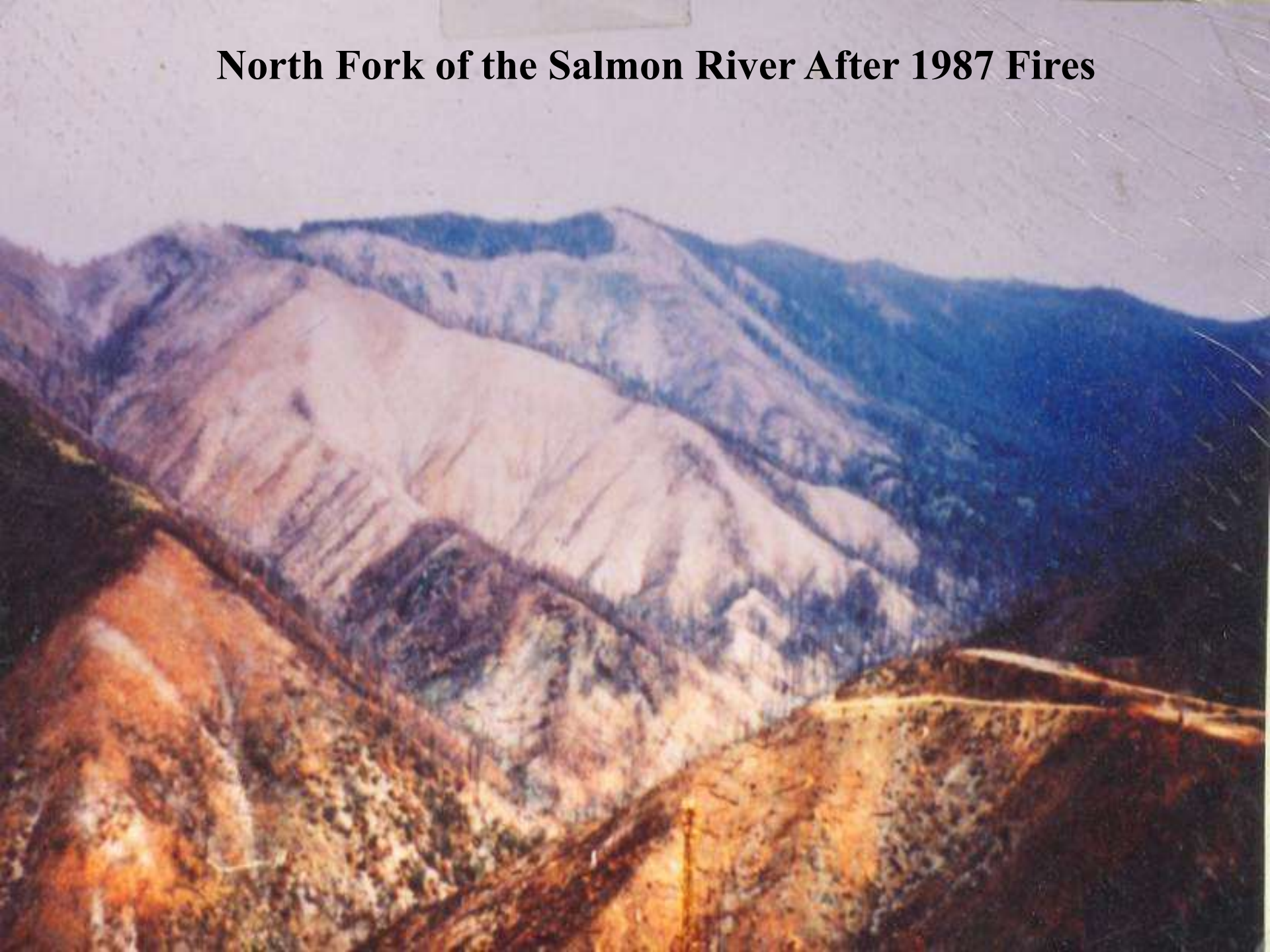
Fire Perimeters by Decade with 2013-2014 Fire Severity



- Size and severity appear to be increasing.
- Only recent fire footprints (<10yrs) are stopping or significantly slowing new fire spread.



North Fork of the Salmon River After 1987 Fires



2008 Panther Fire



2013 Butler Fire:

Pre-emptive Retardant Drops from DC-10 SuperTanker near Somes Mtn

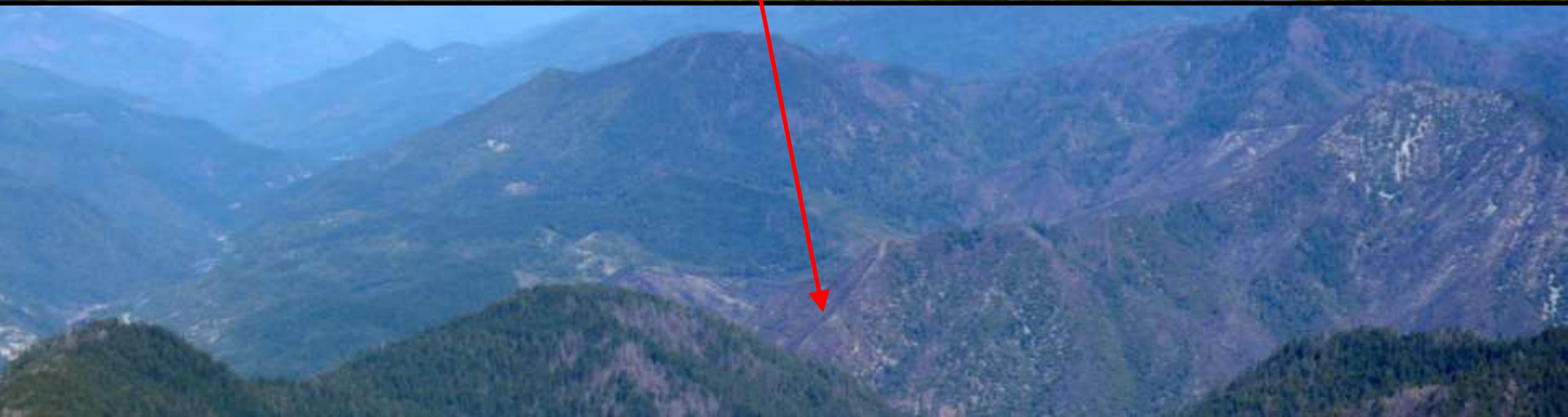




2006 Somes Fire – Hippo Rock Special Use Cabin



East Peak Burnout – July 8, 2008





Current Fire Suppression Policy: Maximizing the Negative Impacts of Fire at the Landscape Level

- 98+ percent of all fire starts are suppressed.
- The few fires that escape suppression typically do so because they start at the hottest, driest times of year.
- > proportion of high intensity fire, > risk to firefighters and communities.

2013 Salmon Complex Fire

- Fire suppression in the Western Klamath Mtns has become the primary threat to communities and wilderness areas.
- Wildfires are doing the “heavy lifting” when it comes to landscape level fuels reduction. But what are we left with?
- Over 400,000 acres burned, \$450 million dollars spent on fire suppression in Western Klamath in past decade.



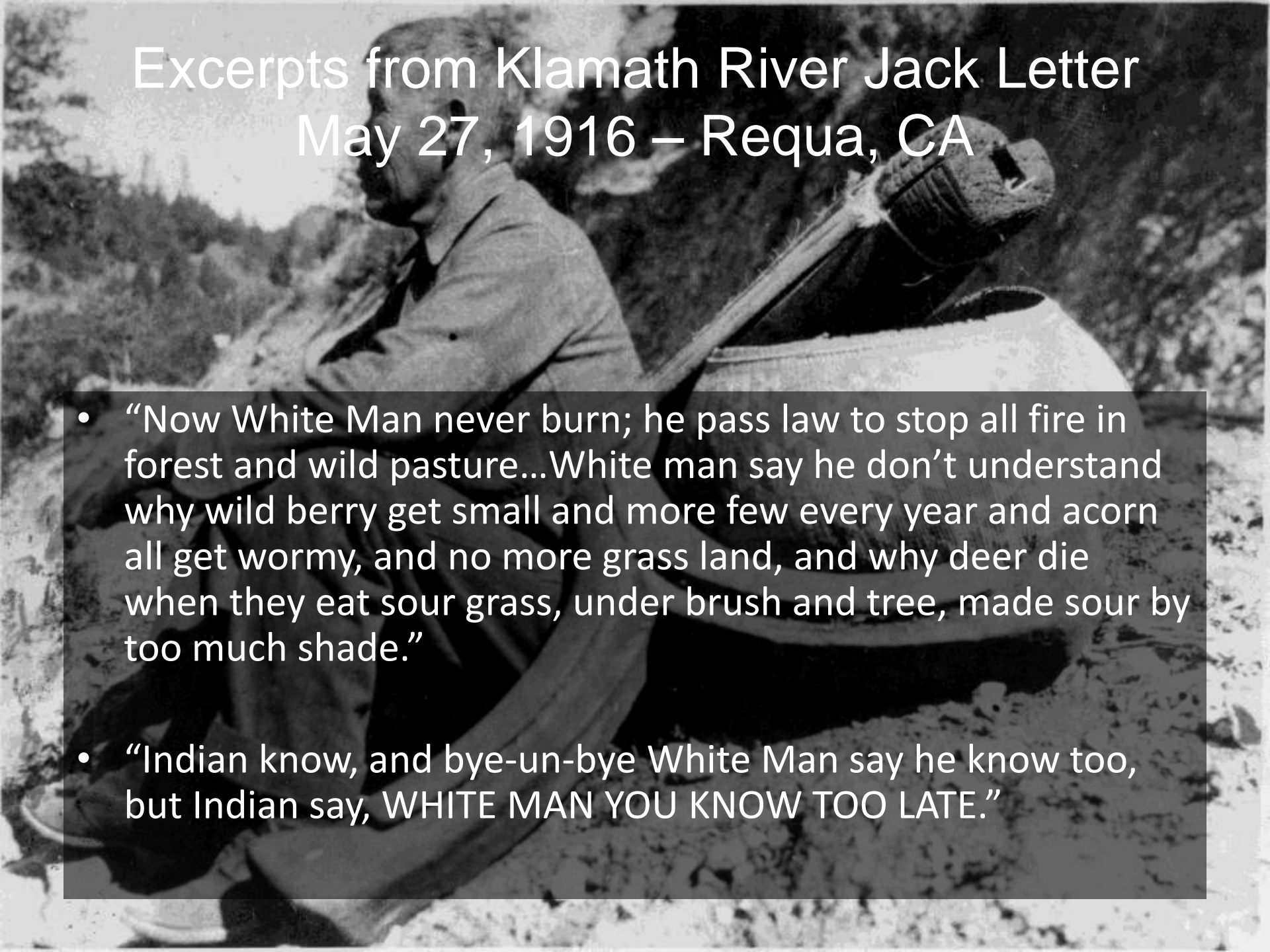
2013 Salmon Complex Fire

Katimin Village Just Upriver From Where Somes Bar Is Today



Fire Suppression and the Persistence of Indian Burning

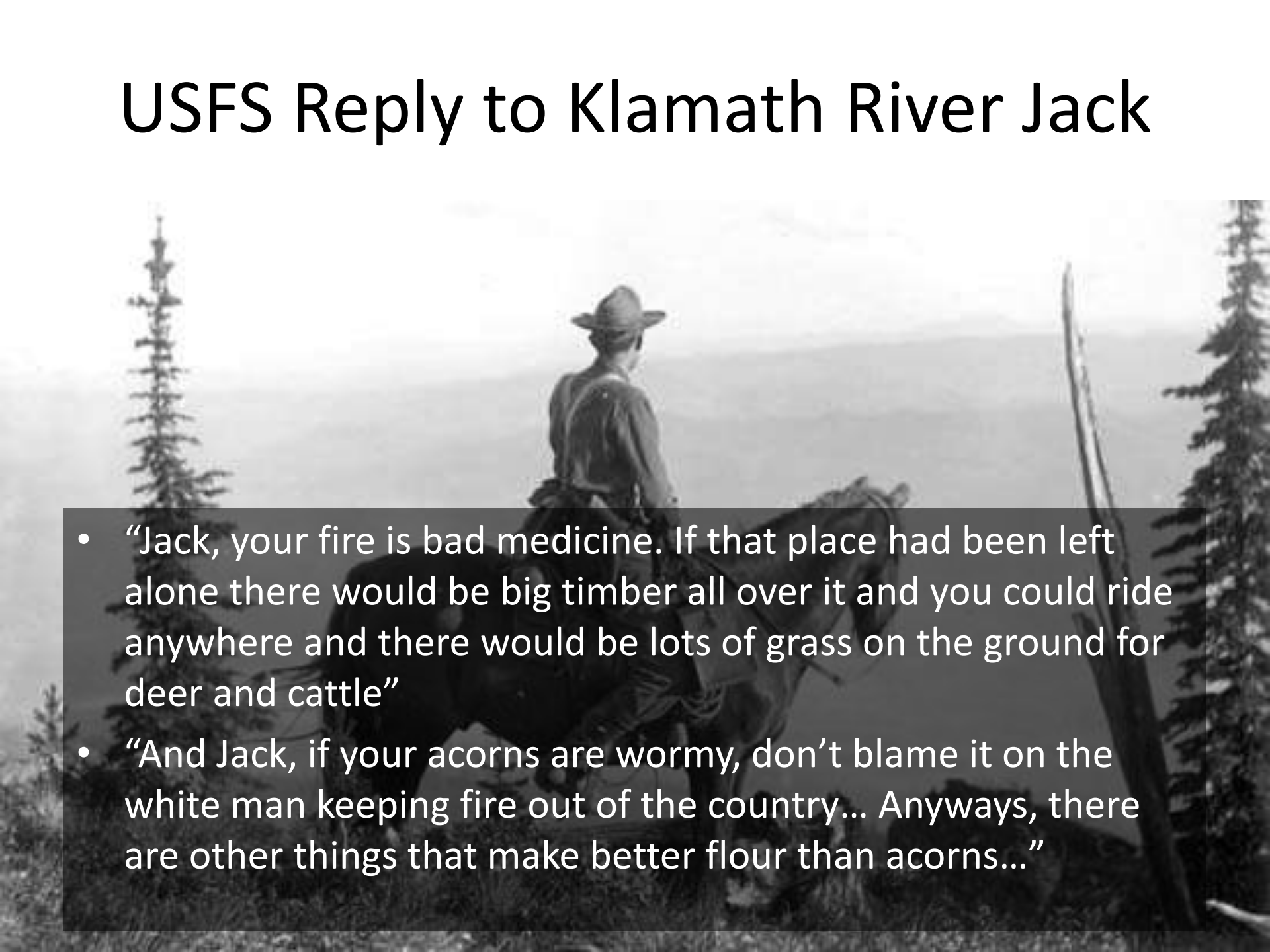
- 1911 – Congress Passes the Weeks Act
- 1916 - Letter from Klamath River Jack and USFS Reply
- 1918 – Letter from Orleans District Ranger Harley to Klamath NF Supervisor – First 7 Years of Fire Suppression
- 1923 – S.B. Show’s “Analytical Study of the First Decade of Fire Suppression in California” and Review of the “Light Burning Theory”



Excerpts from Klamath River Jack Letter May 27, 1916 – Requa, CA

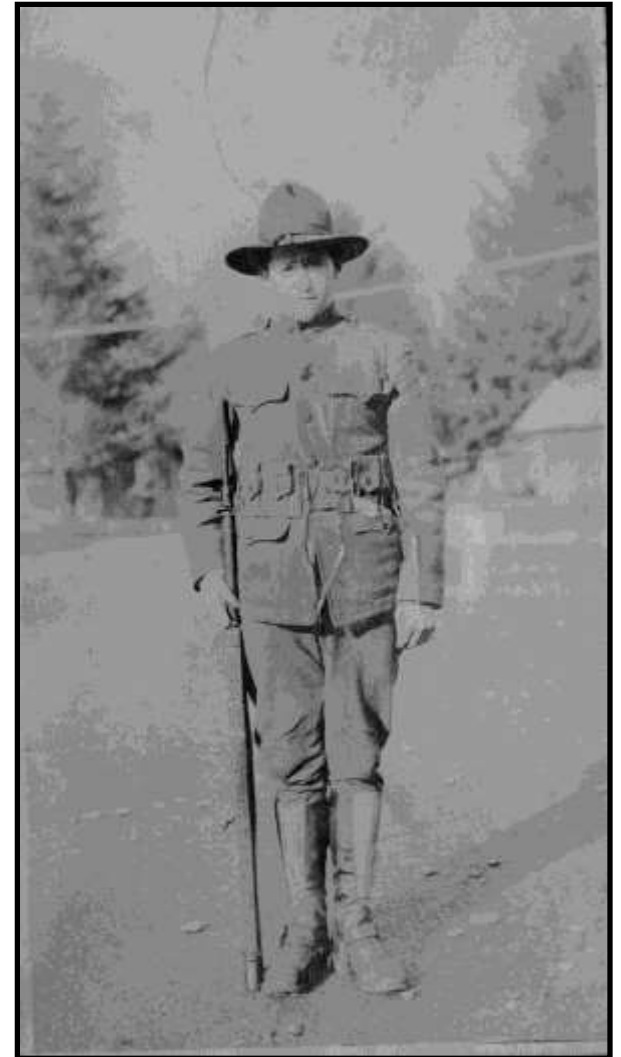
- “Now White Man never burn; he pass law to stop all fire in forest and wild pasture...White man say he don’t understand why wild berry get small and more few every year and acorn all get wormy, and no more grass land, and why deer die when they eat sour grass, under brush and tree, made sour by too much shade.”
- “Indian know, and bye-un-bye White Man say he know too, but Indian say, **WHITE MAN YOU KNOW TOO LATE.**”

USFS Reply to Klamath River Jack

- 
- “Jack, your fire is bad medicine. If that place had been left alone there would be big timber all over it and you could ride anywhere and there would be lots of grass on the ground for deer and cattle”
 - “And Jack, if your acorns are wormy, don’t blame it on the white man keeping fire out of the country... Anyways, there are other things that make better flour than acorns...”

1918 Letter from Orleans District Ranger F.W. Harley to Klamath NF Supervisor Rider

- From 1911-1917 there were 43 fires averaging 5.7 acres
- “[We] are succeeding [at suppression] to a certain extent, and the consequence is, at the present time, there is more thick underbrush, windfalls and general humus as a forest cover than before the service was in effect”.
- “In this district, there is practically no open range, old residents will tell you there used to be lots of open range...”



1931 Fire Perimeters – Hoopa Valley

MAP OF HOOPA VALLEY INDIAN RESERVATION CALIFORNIA

1912

Exec Orders of June 23, 1876 and Oct. 16, 1891.
Scale of Miles

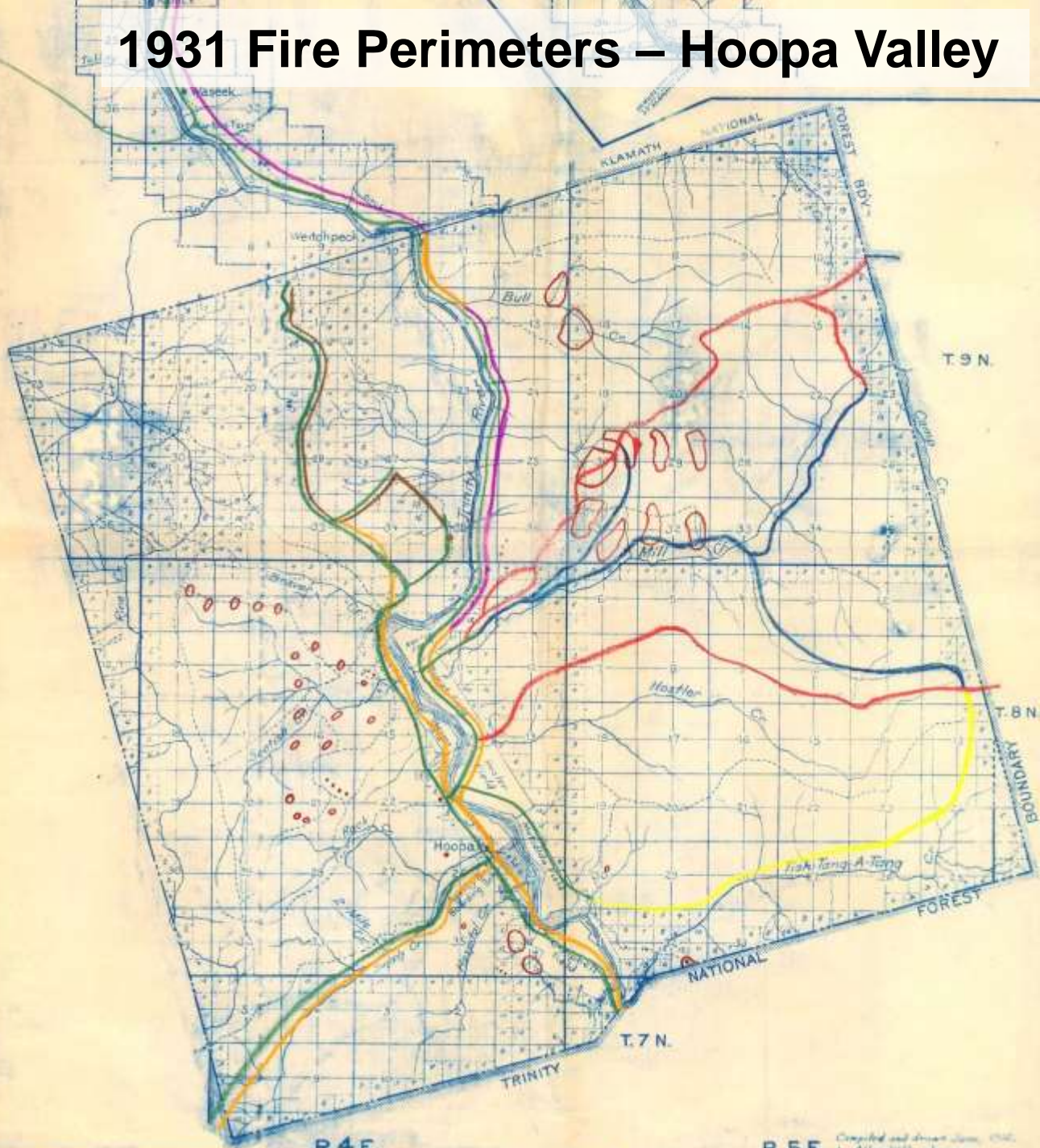


Humboldt Meridian.

DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS
Hon. F.H. Abbott, Acting Commissioner

LEGEND

- Indian Villages
- Swamp Land
- Roads and Trails
- Agency & Boarding School
- Fires 1931
- Roads
- Graded Trails
- Good Paths
- Lines-Copper
- Lines-Iron
- Lines to Rebuild
- Proposed Trail



R.2E.

R.3E.

R.4E.

R.5E.

Copyright and drawn from 1912 by Albert Henderson.

1918 Ranger Harley Letter cont.

- “Cattlemen, Homesteaders, Prospectors, Hunters, and the “Pure Cussed Class” of “Renegade Whites and Indians” continue to light fires. How do we convince them otherwise?”
- Solution 1: Allow burns in certain areas for grazing, introduce goats, and “in the pure cussedness class, the only sure way is to kill them off...”
- Solution 2: Hire Mrs. Watkins, a white missionary, to “travel up and down the river..., stopping at different Indian houses, talking to them in regards to their own welfare, but the principle point to impress on them would be the fire question... My idea is that it be kept a secret that she was in the employ of the service. ”



Will Fire Prevent Fire? A Discussion of Light Burning

USFS R5 Regional Forester S.B. Show

February 1920

- “Fires, even light fires, do destroy young trees. The light burners themselves admit that fact, for do they not state that as a result of the fire exclusion policy tree reproduction has increased immensely?”
- “Now the public, through its manager the Forest Service, unlike the lumbermen, is as vitally interested in the forests of the future as it is in the protection of the present mature stand. And it intends to make sure that the future timber crop, like any other crop, is as heavy (or complete) as can be secured.”

Forest Fires in California, 1911-1920

USFS Regional Forester S.B. Show and E.I. Kotok

February 1923

- “Essentially the past decade of fire protection in California has been an experiment on a tremendous scale..”
- “The demands on the protection organization [to fight] incendiary fires...vary greatly between forests. The Klamath, for example, shows 2.4 times the demand that the Shasta does within its own general group, and 16.9 times as much as the Modoc.
- “Although in the long run education will probably assist in preventing incendiarism, the strong arm of the law must be depended on in the main.”

Douglas fir Encroaching a White Oak Stand – Orleans, CA



Wieslander: Orleans – 1930's



No
**Burning Permit
Required**
for Native Peoples!



103-702 • U.S. Department of Agriculture • Forest Service

Historical photographs: Landscape 1890s to 2006



Left: 1890s. Ericson Right: 2006 Lake
From Big Rock, Orleans, Ca. Looking up the Klamath River

1944 Aerial Photo Near Happy Camp, CA



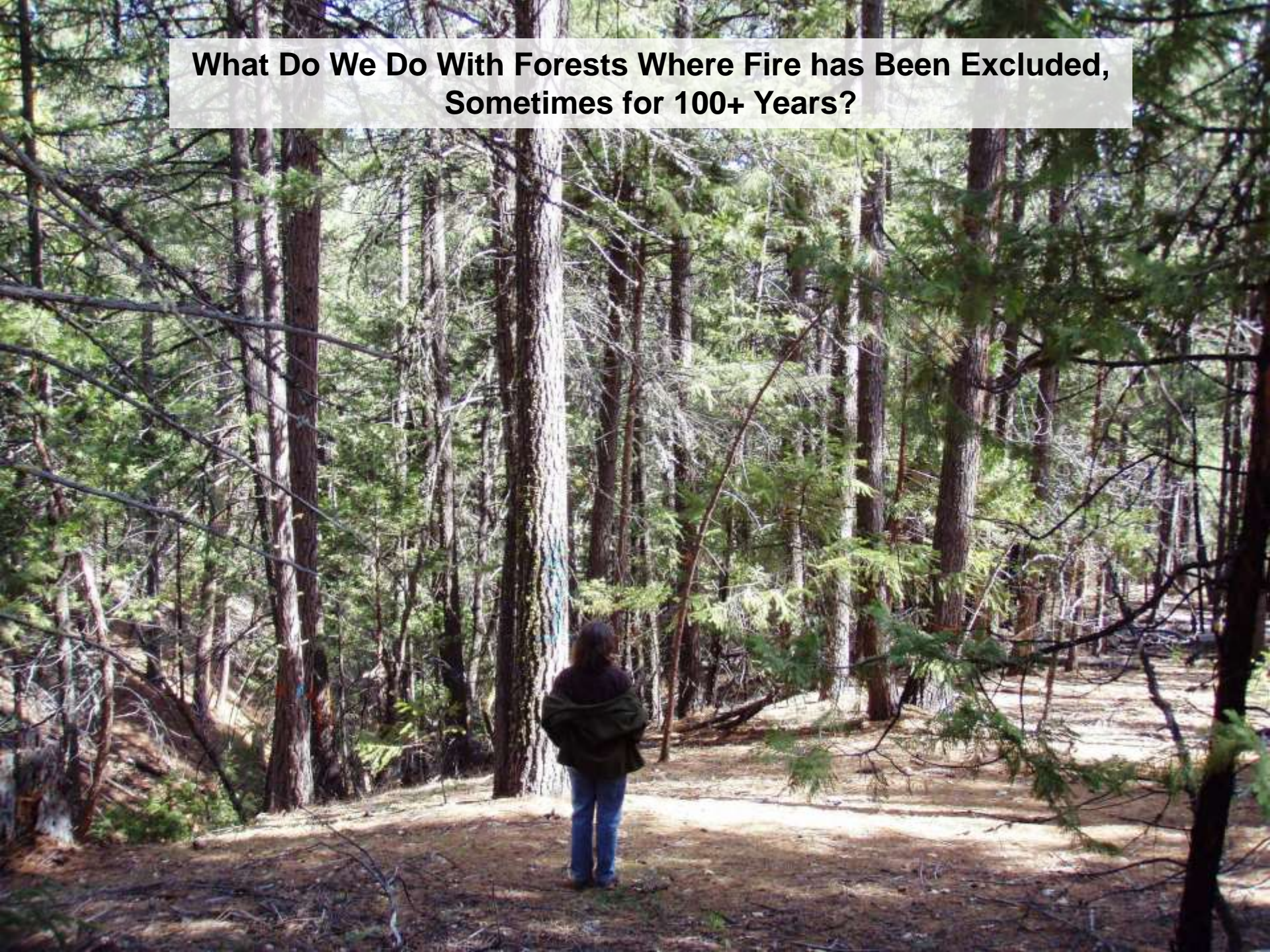
Orleans "Dance" Fire, Orleans, CA - 2001



2013 Orleans Fire



**What Do We Do With Forests Where Fire has Been Excluded,
Sometimes for 100+ Years?**



Godfrey Ranch After 1987 Fires



**How Do We Manage Landscapes That Burn at High Severity,
Especially In the WUI?**

How Do We Reign in the Rising Costs of Fire Suppression While Protecting Communities and Resources?





How Do We Build Local Capacity To Accomplish More Fuel Reduction At the Time Scale It's Needed?

How Can Communities and Agencies Work Together to Ensure Mutually Beneficial Outcomes During Wildfires?



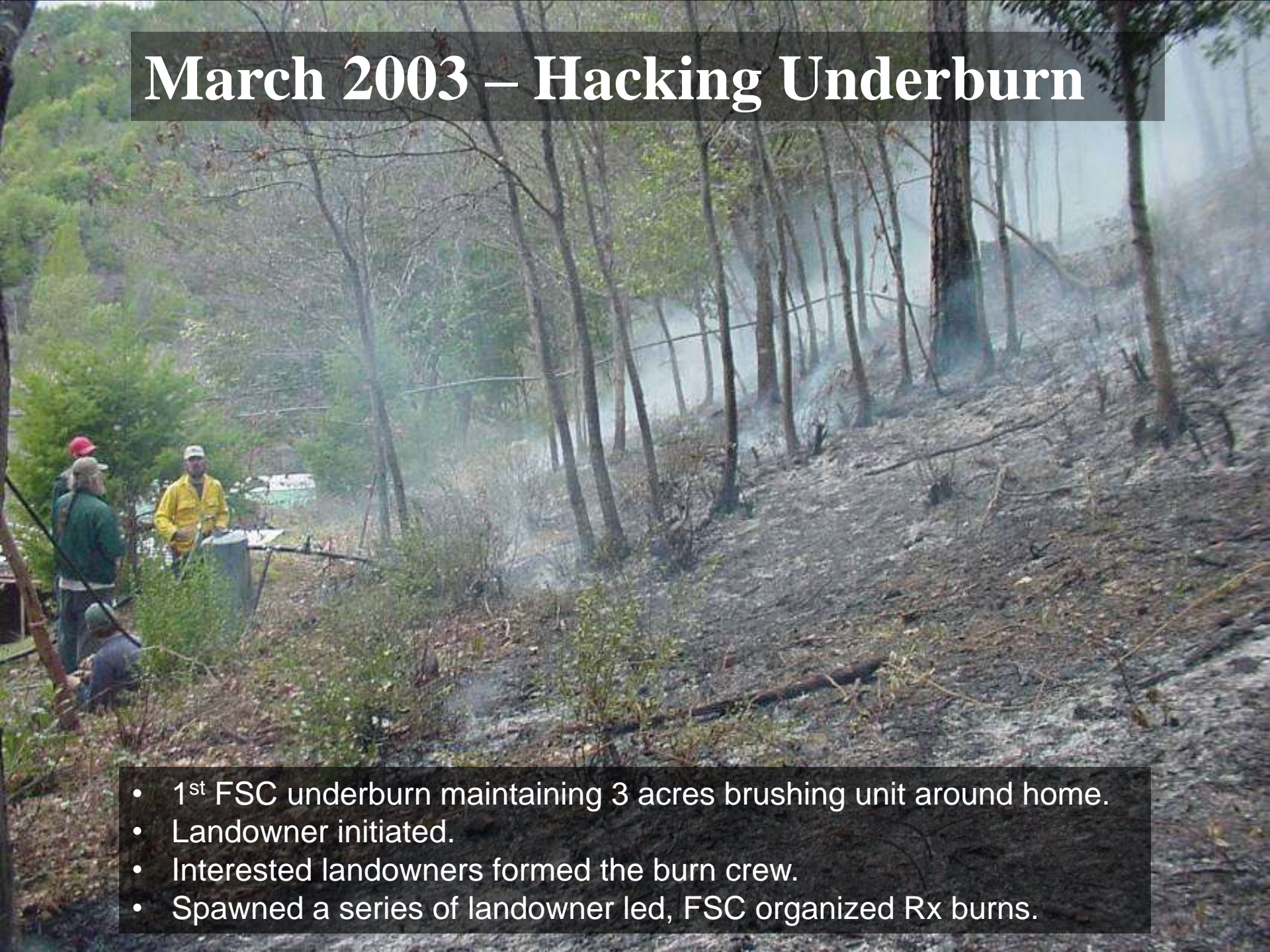
Orleans/Somes Bar Fire Safe Council

Formed April 2001



The purpose of the Orleans / Somes Bar FSC is to help plan, implement, and monitor the reinstatement of historic fire regimes primarily through the use of strategic fuels reduction in a manner that protects life and property, improves forest health, and enhances the resources valued by its stakeholders.

March 2003 – Hacking Underburn



- 1st FSC underburn maintaining 3 acres brushing unit around home.
- Landowner initiated.
- Interested landowners formed the burn crew.
- Spawned a series of landowner led, FSC organized Rx burns.

October 2005 – Bull Pine Underburn



- Low cost per acre burning in blue jeans.
- Liability issues?

Local Brushing Crews (2002-2014)



Prescribed Burn Program (2004-2014)

Overcame obstacles including:

- Liability/Insurance
- Air Quality
- Burn Permitting
- Trained Workforce
- Community Acceptance

2013 Northern CA TREX

Photo: Mary Huffman (TNC)

2013 Nor Cal Prescribed Fire TREN



Fall 2014 Klamath River Prescribed Fire Training Exchange (TREX)



- Burned 240 acres in 10 days around 150 homes in six communities.
- 50+ participants. Half locals that got FFT II quals as part of TREX.
- Half of participants were out of area fire professionals (two RxB I's, four RxB II's, Firestorm engines/crew).
- Organized with Incident Management Team structure, daily Incident Action Plans.



Fall 2014 Klamath River TRES

- Humboldt and Siskiyou CALFIRE units used Public Resource Code exemption to issue LE-5's during district wide burn ban. USFS assisted w permits.
- Direction from CALFIRE state director to issue unit level burn bans vs. state-wide burn ban.
- Sea change of support within communities for prescribed fire use.
- Engaging adjacent FSC's and communities in planning future TRES and rx burns.
- Incredible training opportunity to rapidly increase qualifications. Two USFS RxB II's from Utah got 8 assignments as trainer or trainee in 10 days.
- Combining local, tribal, state and federal funding to increase the quality, scope and scale of future Klamath River TRES.



2014 Klamath River TRENCH Burn Tshanik



Catching Fire

Prescribed Burning in Northern California

Produced by Will Harling and Jenny Staats ~ Narration by Peter Coyote ~ Music by Rex Richardson

This documentary tells a compelling story of how a small but committed group of local, tribal, state and federal land managers are bringing back the use of prescribed fire as a tool to protect communities and ecosystems across Northern California. It examines the use of fire by the Karuk Tribe, and the connection between the rise of megafires across the West and the last century of fire suppression. Drawing on interviews with fire scientists, tribal and federal land managers, and fire savvy residents from across the North State, this film provides insight on how our relationship to fire can be restored through strategic use of fire as a powerful management tool.

TRIBAL FIRE MANAGEMENT



USING FIRE TO MANAGE FIRE



BURNING TOGETHER



EFFECTS OF FIRE SUPPRESSION



IMPEDIMENTS



**KLAMATH
SALMON
MEDIA
COLLABORATIVE**



- 11,370 views on YouTube: Google “Catching Fire Prescribed Burning”
- Distributed over 1,000 DVD’s locally and regionally
- Playing on Public Access TV in Redding, Eureka and Medford for past two years



Management in the post high-severity fire landscape: Balancing wildlife habitat and future fuels

Eric Knapp
U.S. Forest Service
Pacific Southwest Research Station
Redding, CA



NW CA Deciduous Oak Woodlands Learning from 20+ Years of Management on NPS Lands

Eamon English
Fire Ecologist

- Redwood NP
- Whiskeytown NRA
- Oregon Caves NM
- Six Rivers NF

April 16th 2014



Trends in Fire Size & Severity in the Klamath Mts and Implications for Management

Carl N. Skinner
Research Geographer
USDA Forest Service
Pacific Southwest Research Station
Redding, CA



Klamath Fire Ecology Symposia

1997, 2008, 2011, 2014

Presentations online at: www.mkwc.org

The Social Impacts of Fire Exclusion



Paper is forthcoming in *Humboldt Journal of Social Relations*, 36, 2014

Ronald Reed, Karuk Tribe Department of Natural Resources
Dr. Kari Norgaard, University of Oregon



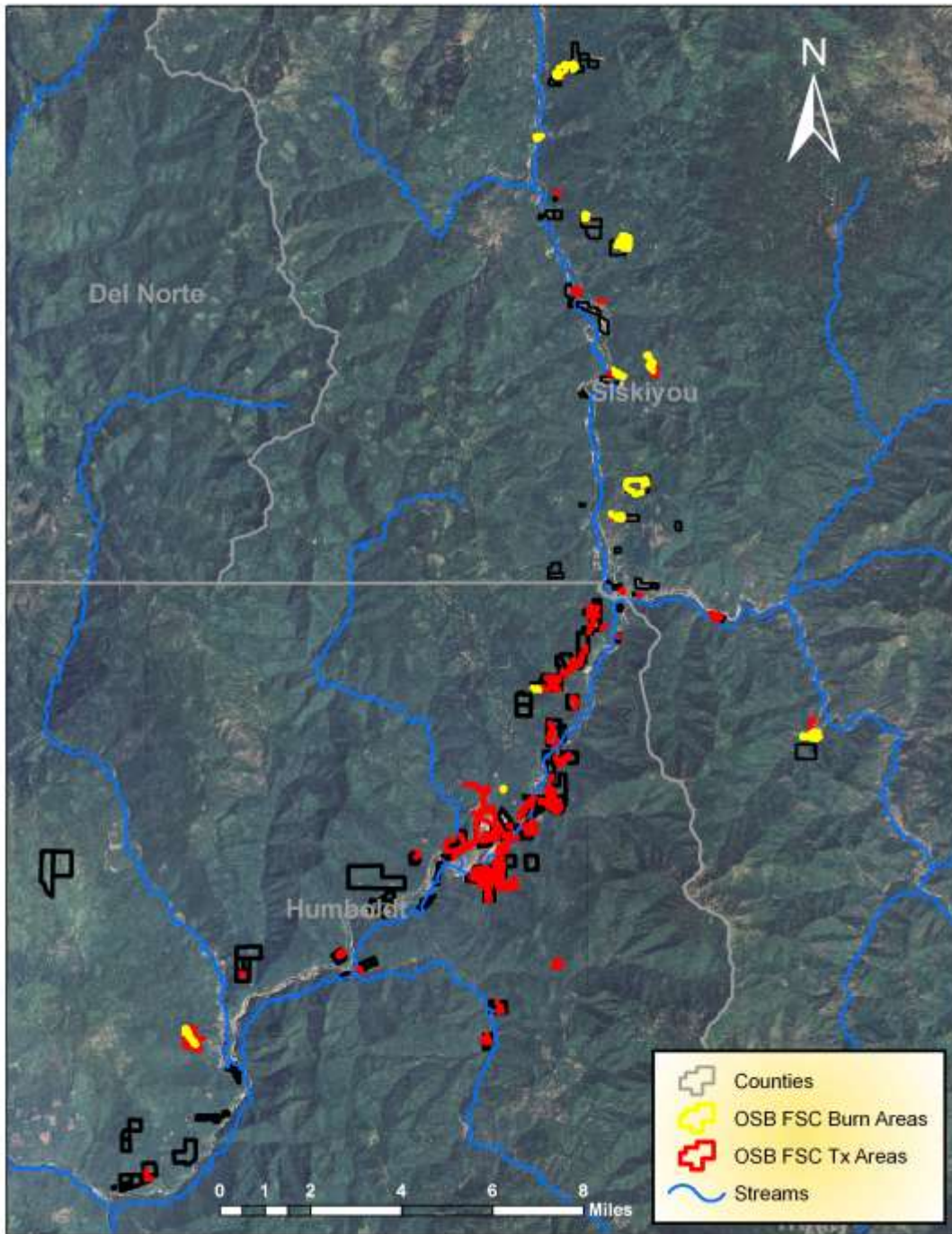
Fire science and management: Bridging the gap in northern California

Lenya Quinn-Davidson
UC Cooperative Extension/Northern California Prescribed Fire Council

Salmon River Fire Safe Council Community Liaison Program Trial By Fire

- History and Inception
- Purpose and Need
- Nuts and Bolts
- Successes
- Improvements
- Success Factors

"They listened and did what they said they would do," a formula for success in any relationship; building trust with communication and follow up action.
-- Cohesive Strategy Success Story on the SR FSC CLP



Orleans/Somes Bar FSC Fuel Treatments and Prescribed Burn Areas:

2001-2014

1500+ acres of fuel reduction

600+ acres of controlled burning

Facilitating Conditions

Tribal burn practices

Built trust using local workforce

Community is “Firewise”

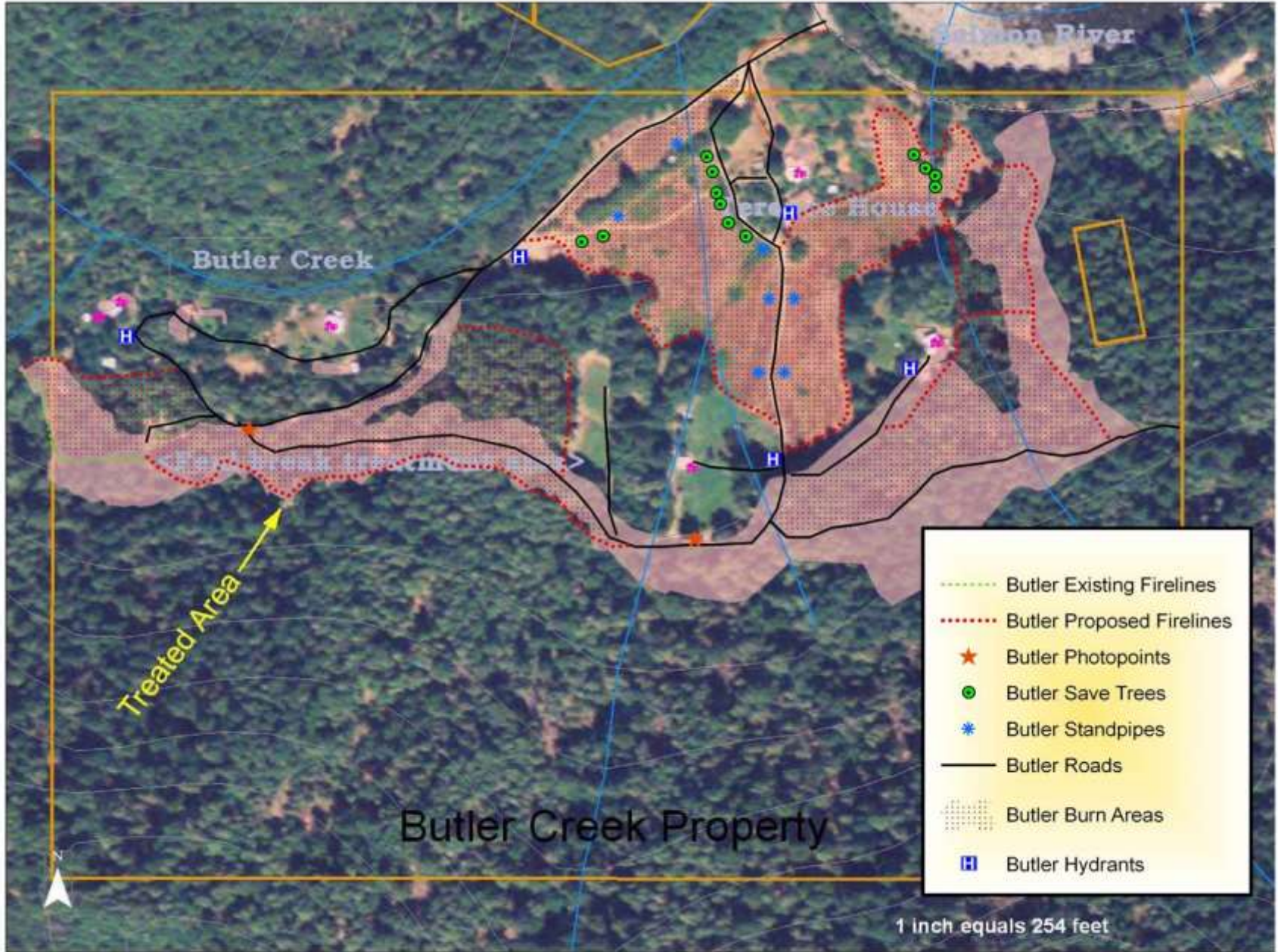
Understand imminent threat from
wildfires



2013 Butler Fire



Photo: Thomas Dunklin





Butler After Snowdown - Winter 2005



Butler After Fuels Tx - Summer 2006



Butler Prescribed Burn Spring 2008

Spanish Firefighters Training Exchange (TREX) Fall 2012



Ukonom Hotshots Holding 2013 Butler Fire Along Constructed Fuelbreak



Butler Fuelbreak After 2013 Butler Fire

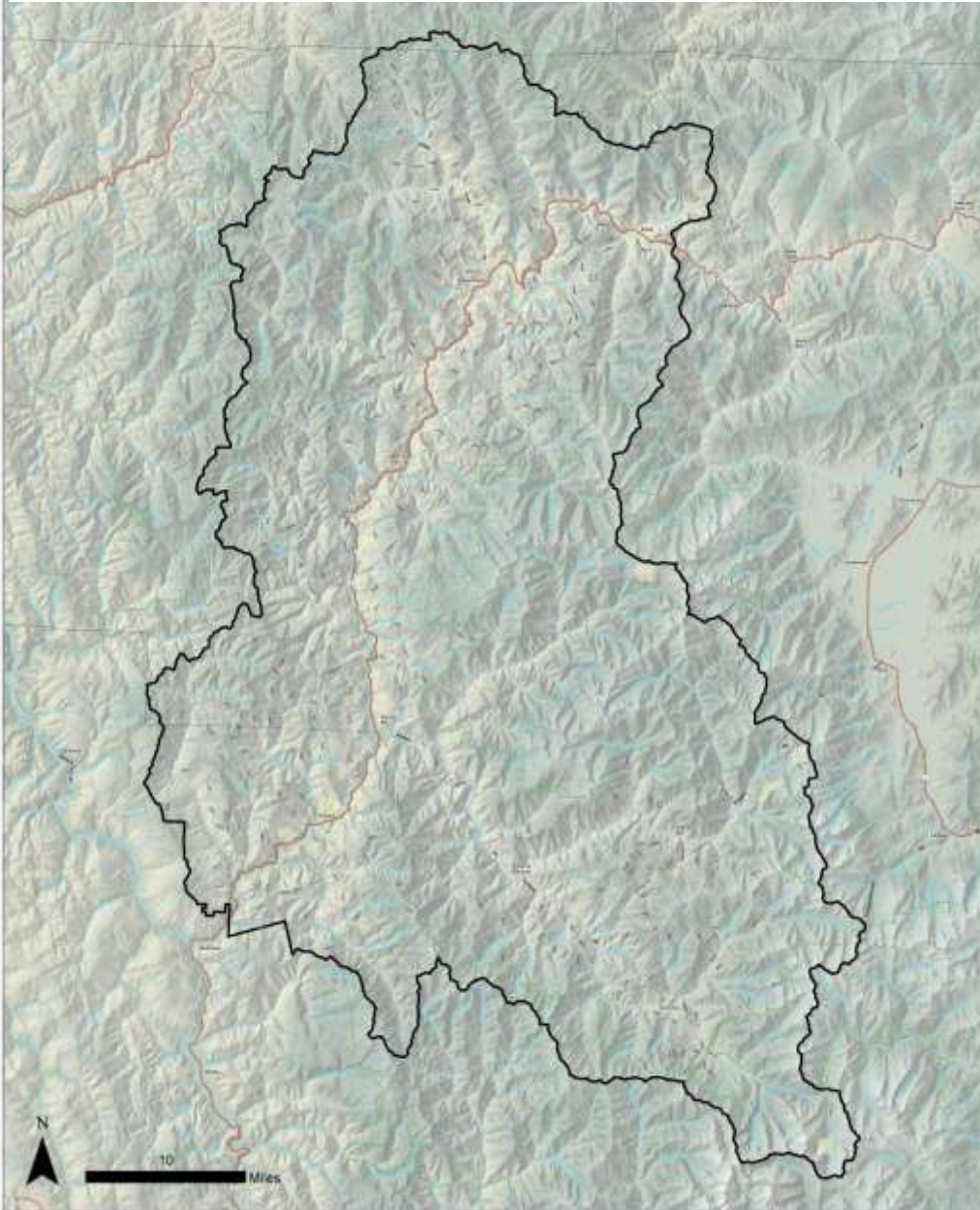


2013 Butler Fire



- 40+ locals worked for one week to prepare for the fire to come.
- Daily meetings with firefighters to coordinate activities.
- Collaborative structure protection plan and evacuation plan.
- Pre-fire planning to protect water systems maintained water for suppression efforts.
- New paradigm for collaboration between firefighters and residents.

Western Klamath Restoration Partnership



- Initial meetings in 2007 w diverse partners
- Focused on Instream Habitat Restoration first (kumbaya!).
- Began facilitated upslope restoration workshops w FLN in Spring 2013
- An open group comprised of Federal, Tribal, Non-governmental Organization (NGO) and local participants utilizing the US FLN facilitated Open Standards Process to identify Zones of Agreement on upslope restoration actions.
- Collaboratively identified planning area (1.2 million acre)
- Ultimate Goal: Restore “historic” fire regimes in the Western Klamath Mtns

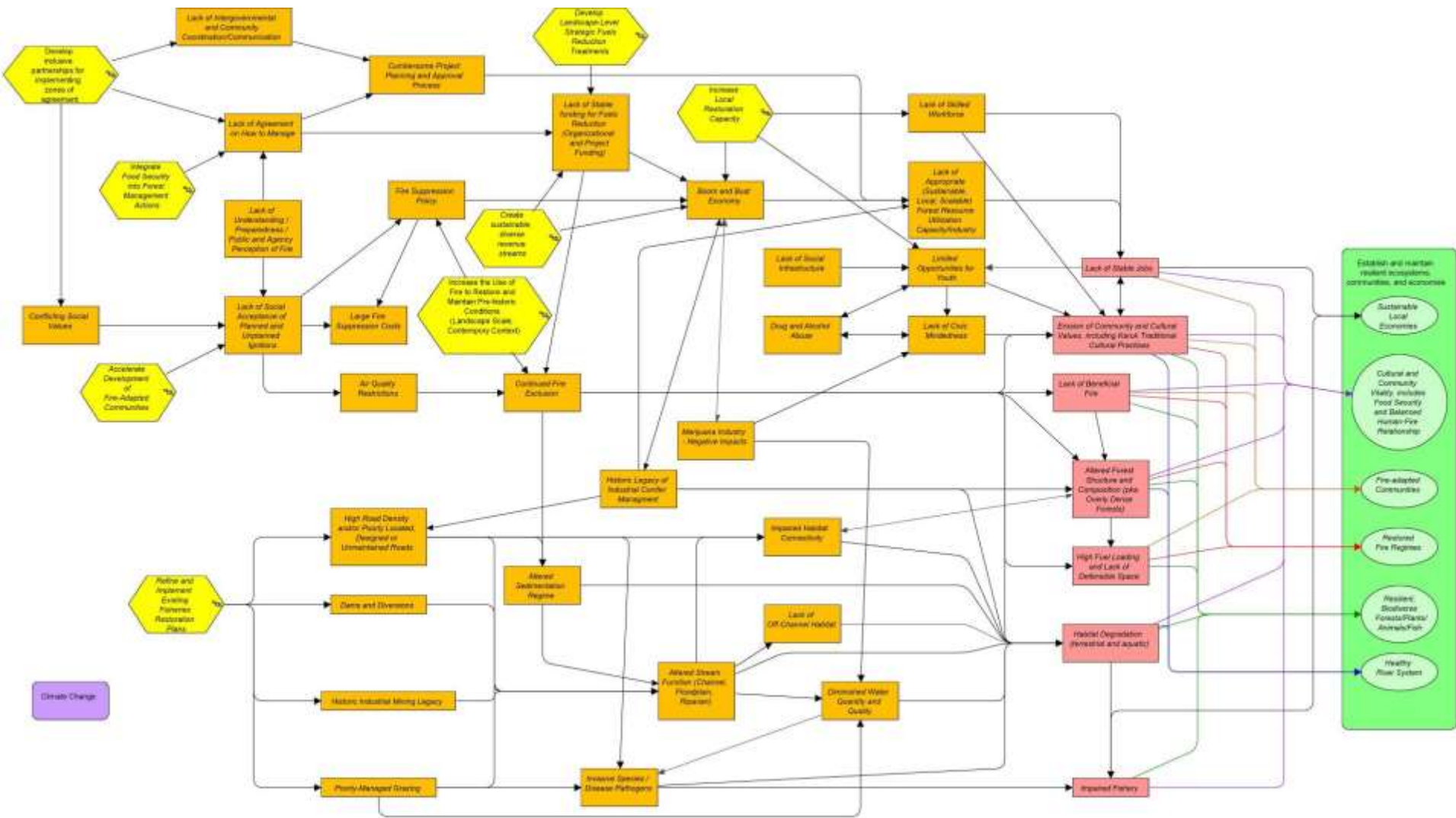
Western Klamath Restoration Partnership



- **Focus on Fire Management from a wholistic perspective: social, cultural, ecological and economic**
- **Currently in Phases 2 and 3:**
 - **Building support for upslope restoration actions to expedite the creation of fire resilient communities and forests.**
 - **Initiating large scale project planning through multi-agency Inter-disciplinary Teams (Agreement in Principle to Agreement in Practice).**
 - **Implementing Rx Fire training exchanges.**



Situation Analysis Diagram – Open Standards Process for Conservation Planning



Western Klamath Restoration Partnership Overlay Assessment

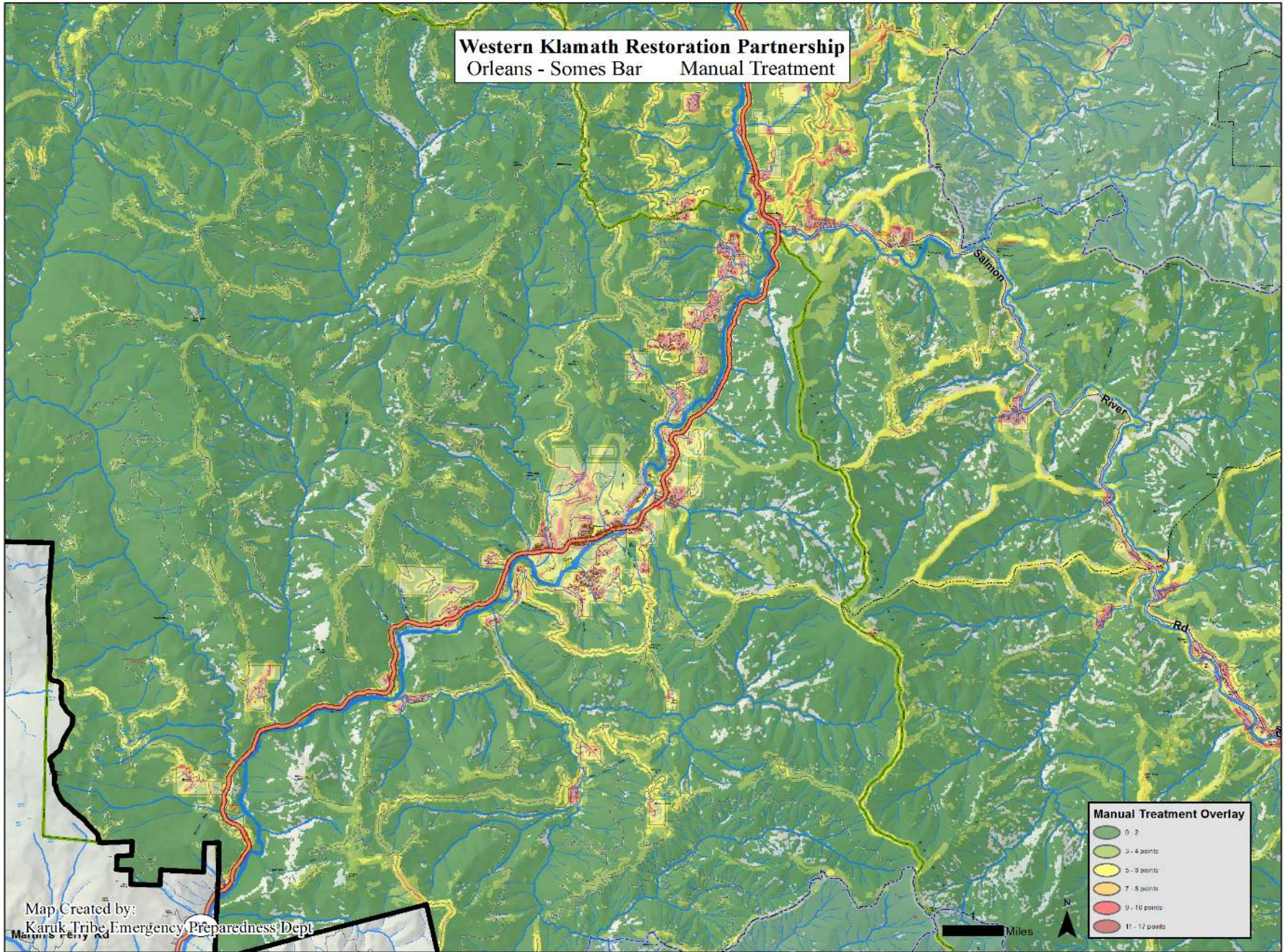


- Prioritizing Manual, Mechanical, and Rx Burn Treatments in 1.2million acres.
- Simple point scale (1-2 points per layer).
- Colors based on number of overlaps.
- Collaborating with Happy Camp FSC, Orleans Somes Bar FSC, Salmon River FSC, Karuk Tribe and USFS.
- Funding: USFS, NFF, FLN, USFWS, NFWF

Ranking Scheme for Treatment Prioritization of Western Klamath Restoration Partnership Planning Area

- Community Wildfire Protection Plan Layers
 - Structures Layers
 - Public/Private Property Boundary Layers
 - Critical Access/Egress Routes
 - Complete Road System (Public and Private)
 - Manual Fuels Treatments (Public and Private)
 - Upper 1/3rd Slopes
 - Existing Firelines
 - Insolation (Solar Heating) - South/Southwest Slopes
- Karuk Eco Cultural Resource Mgmt Plan Layers
 - Historic Trail System Layer
 - Klamath Mixed Evergreen (Tan Oak range)
 - Klamath Siskiyou Lower Montane Serpentine Woodland
 - Black Oak BpS
 - White Oak Bps
- Silvicultural Layers
 - Managed Stands Layer
 - Mid Mature Dense Stands Layer
 - Crown Fire Potential (97th percentile) or Flamelength (0-4', 4-8', 8+)
 - Plantations >40yrs. old
- Wildlife Layers
 - Spotted Owl Nest Sites Buffer
 - Elk Winter Range Restoration Potential Layer

Western Klamath Restoration Partnership
Orleans - Somes Bar Manual Treatment



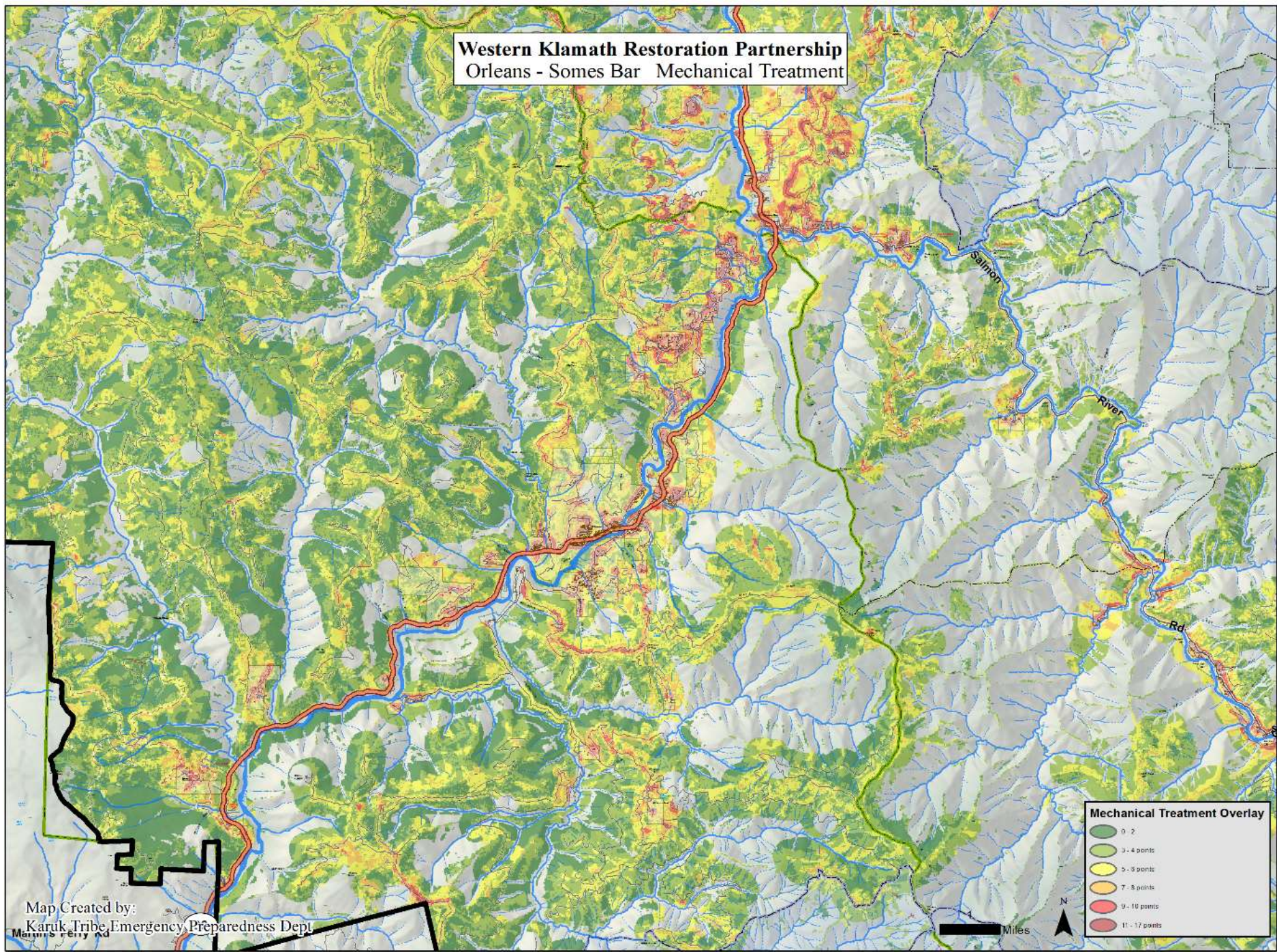
Manual Treatment Overlay

- 0 - 2
- 3 - 4 points
- 5 - 6 points
- 7 - 8 points
- 9 - 10 points
- 11 - 17 points

Map Created by:
Karuk Tribe Emergency Preparedness Dept

Miles

Western Klamath Restoration Partnership
Orleans - Somes Bar Mechanical Treatment



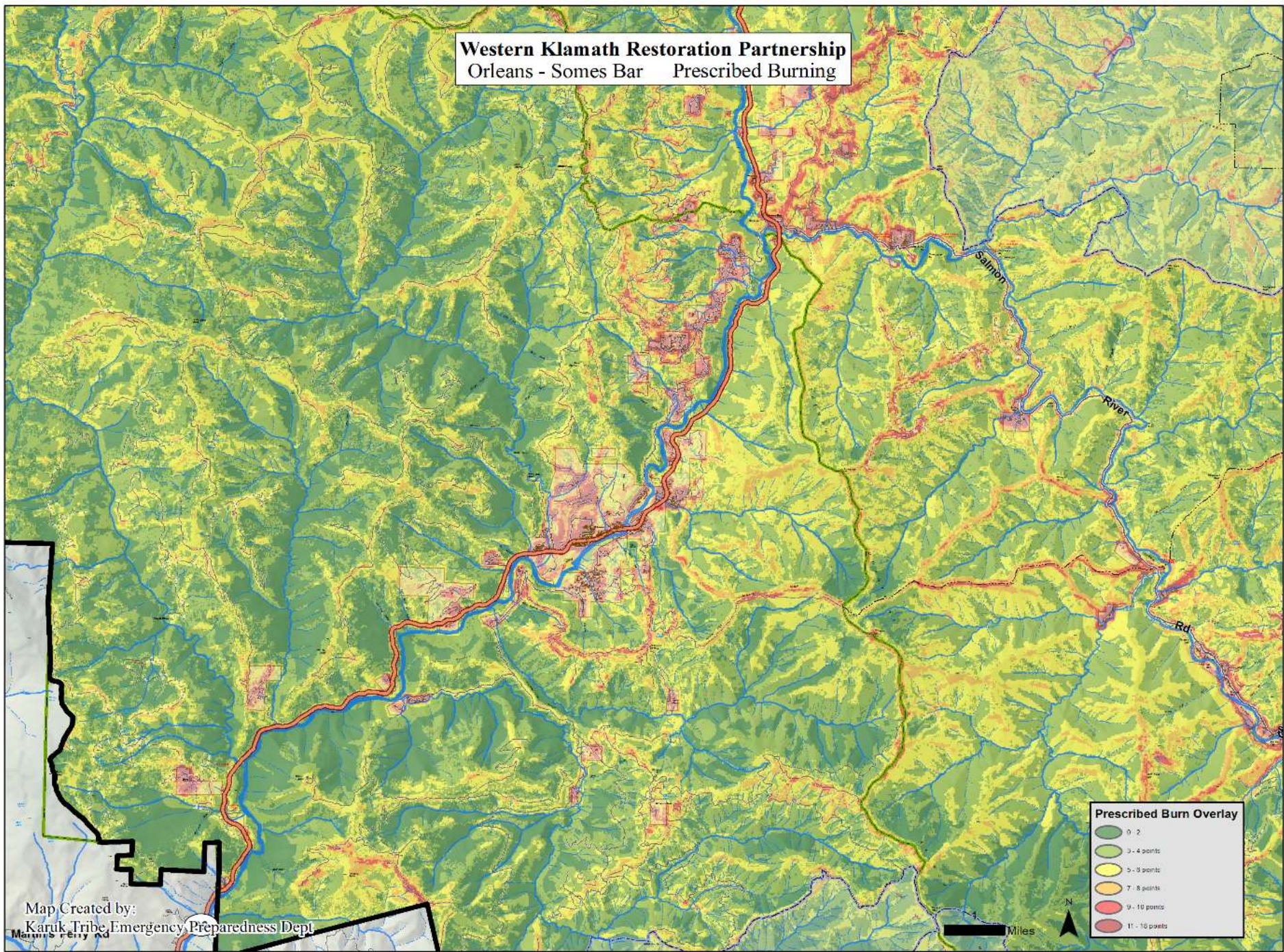
Mechanical Treatment Overlay

| |
|----------------|
| 0 - 2 |
| 3 - 4 points |
| 5 - 6 points |
| 7 - 8 points |
| 9 - 10 points |
| 11 - 17 points |

Map Created by:
Karuk Tribe Emergency Preparedness Dept

0 1 2 Miles

Western Klamath Restoration Partnership
Orleans - Somes Bar Prescribed Burning



Prescribed Burn Overlay

- 0 - 2
- 3 - 4 points
- 5 - 6 points
- 7 - 8 points
- 9 - 10 points
- 11 - 16 points

Map Created by:
Karuk Tribe Emergency Preparedness Dept

0 1 2 Miles

Somes Bar Integrated Fire Management and Capacity Development Project

Bar Fire Safe
Council 2014 CWPP
Update
Manual Treatment Units
Index Page

-  Page Index
-  Planning Area
-  Manual Treatment Unit
-  Ranger District
-  Wilderness

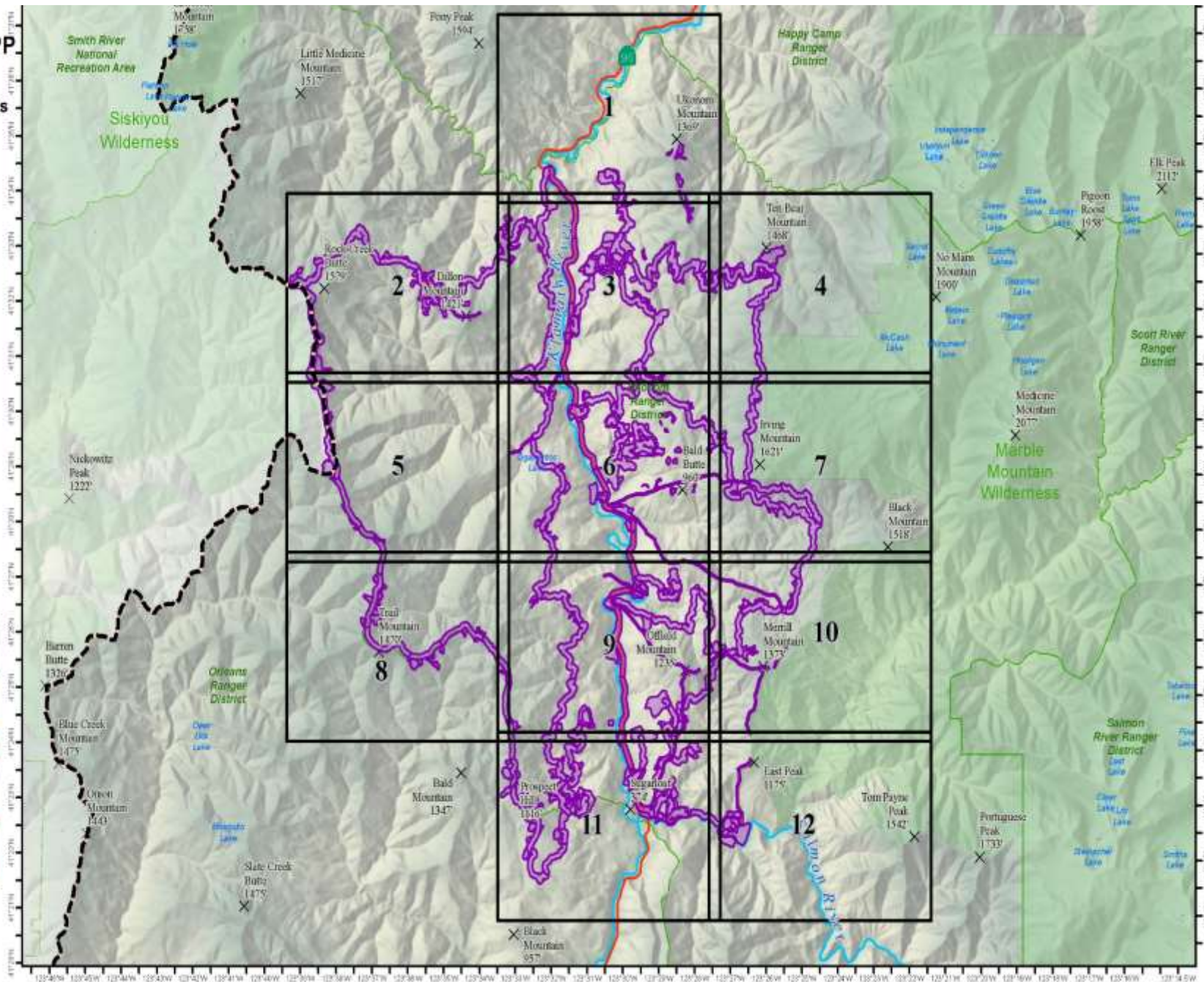


0 1.5 3
Miles

Map Datum: Nad 83 UTM Zone 10N

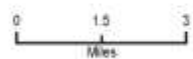


Cartography by Deer Creek GIS

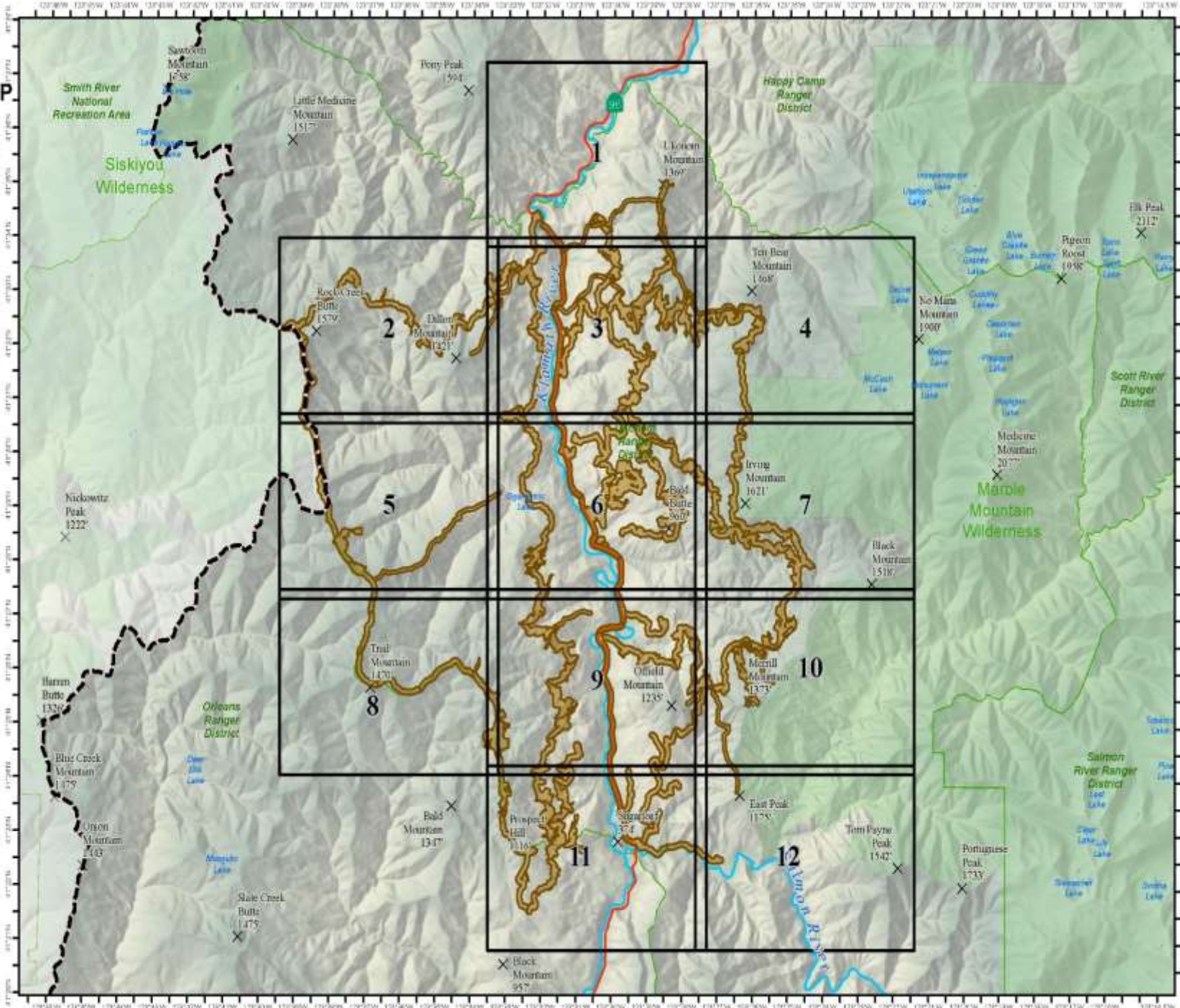


**Orleans Somes
Bar Fire Safe
Council 2014 CWPP
Update
Mechanical Treatment
Units
Index Page**

-  Page Index
-  Planning Area
-  Mechanical Treatment Unit
-  Ranger District
-  Wilderness



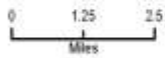
Map Datum: NAD 83 UTM Zone 10N



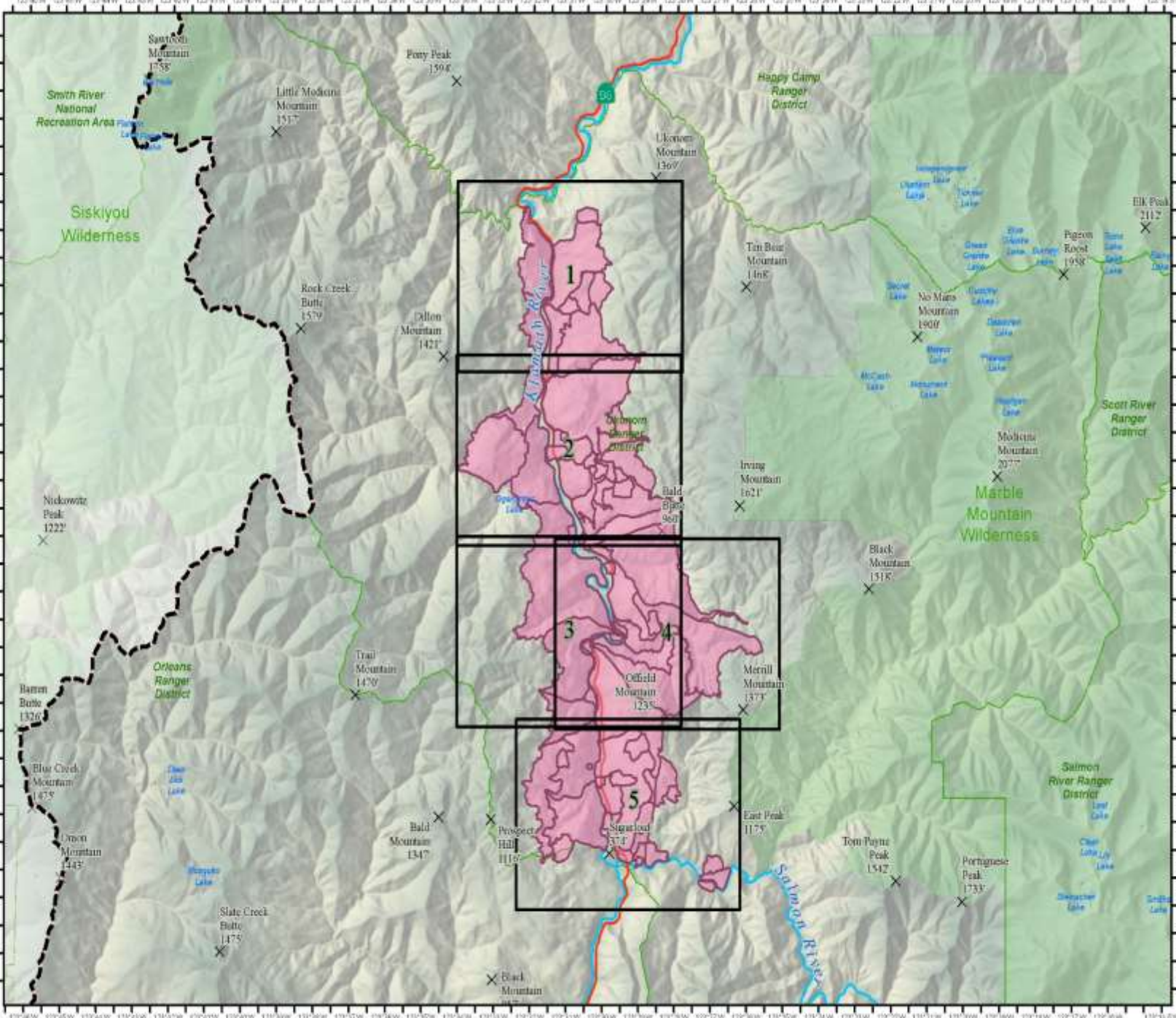
Cartography by Deer Creek GIS

**Orleans Somes
Bar Fire Safe
Council 2014 CWPP
Update
Prescribed Burn Units
Index Page**

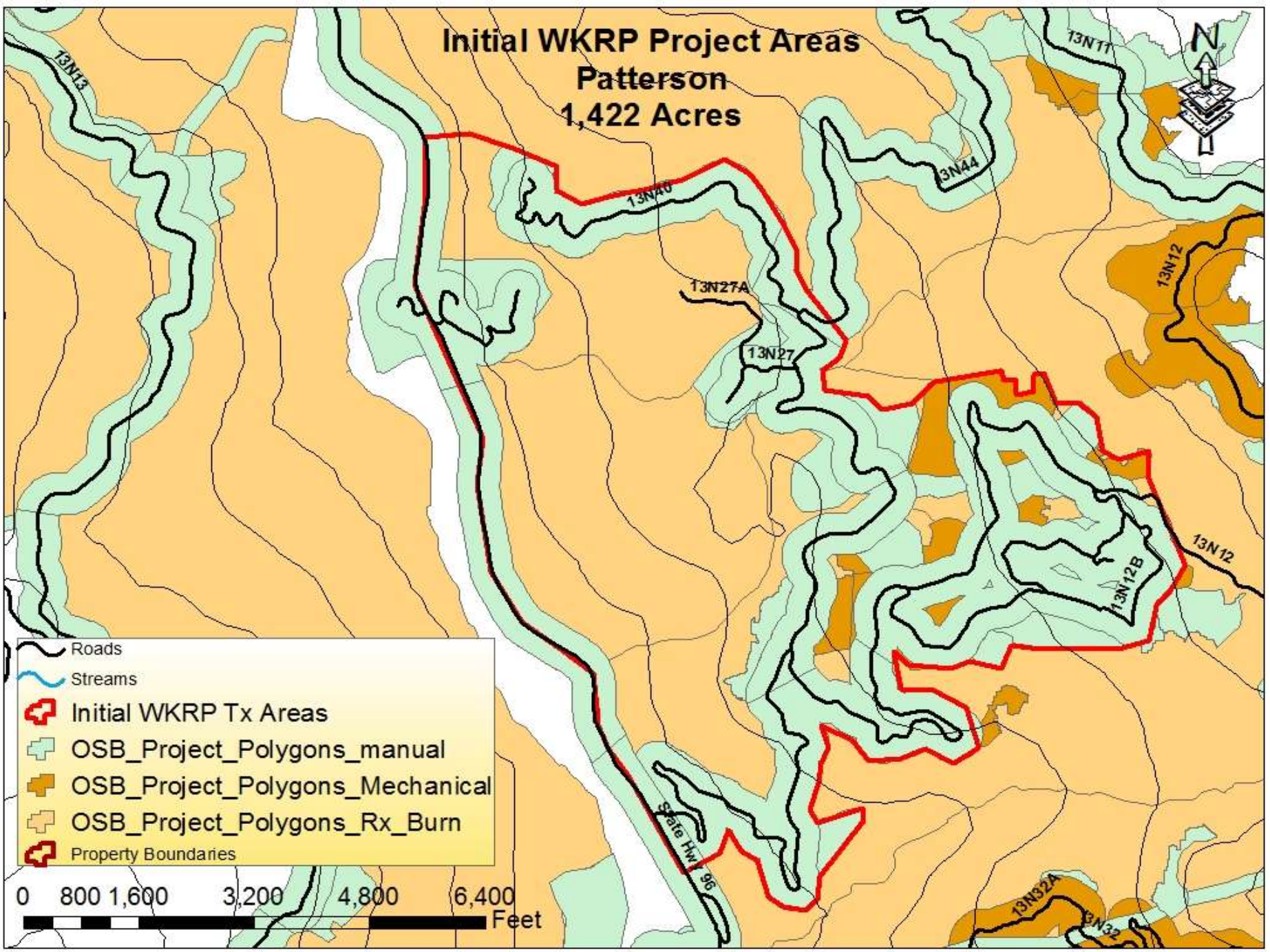
-  Page Index
-  Planning Area
-  Prescribed Burn Unit
-  Ranger District
-  Wilderness



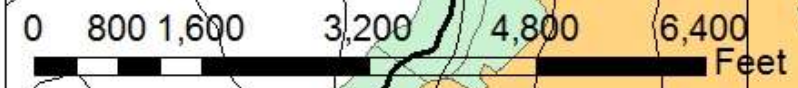
Map Datum: NAD 83 UTM Zone 10N



Initial WKRP Project Areas Patterson 1,422 Acres

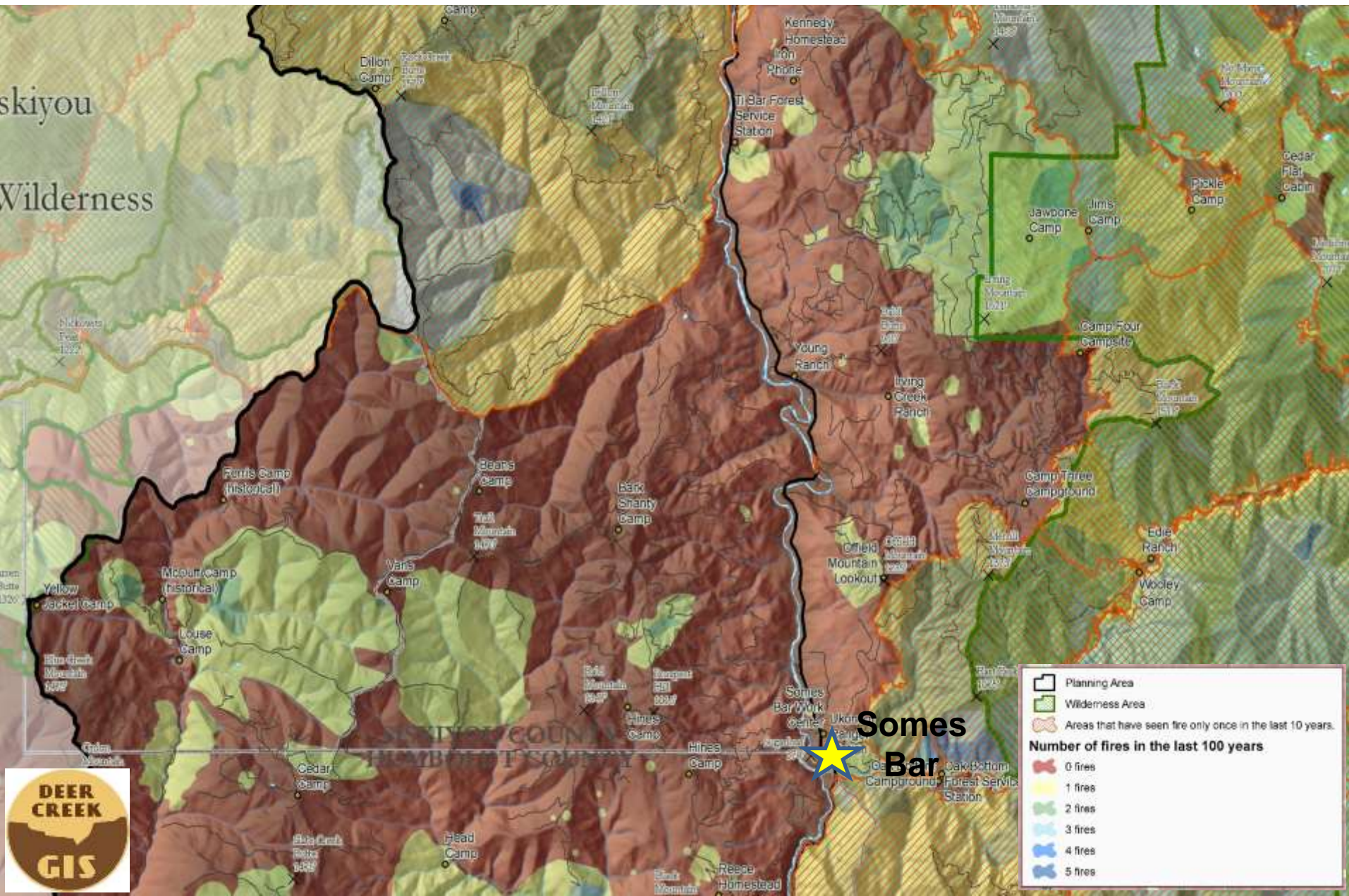


- Roads
- Streams
- Initial WKRP Tx Areas
- OSB_Project_Polygons_manual
- OSB_Project_Polygons_Mechanical
- OSB_Project_Polygons_Rx_Burn
- Property Boundaries



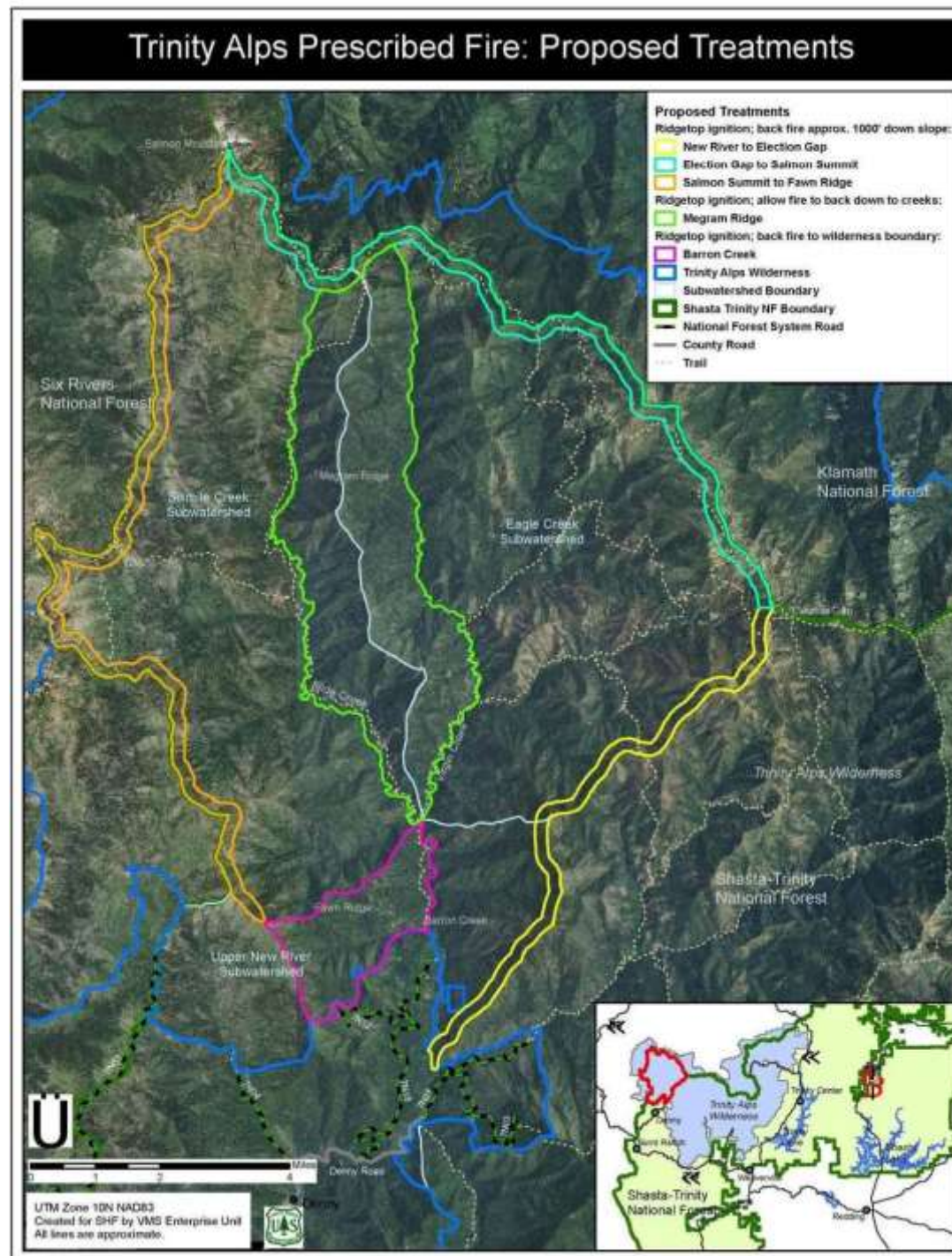
Fire History Analysis

Somes Bar Integrated Fire Management and Capacity Development Project



Fire Mangement Strategies Outside the WUI

- Aerial (or ground based) ignitions along ridge systems in the Fall when good burn windows present themselves, both in the wilderness and NF lands.
- Could cheaply and quickly restore the function of high ridge systems as landscape level fuelbreaks.
- Project has been postponed for many years.

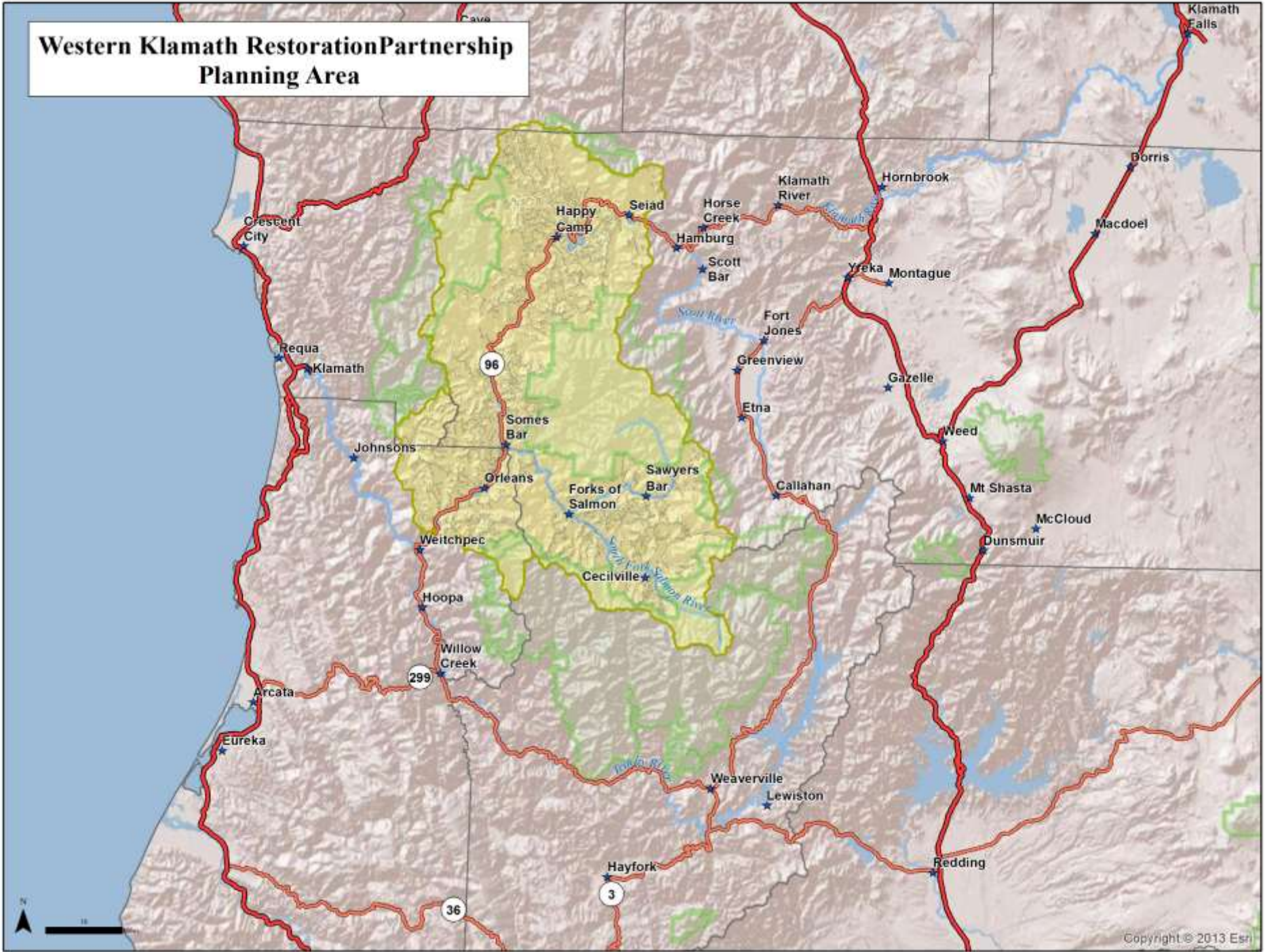


Wilderness areas and recent fire footprints in the Klamath Mtns provide a buffer to allow for prescribed fires or managing wildfires for resource benefits in specific areas across a large landscape...if private lands between them, and encircling them are adequately hardened to fire...



Marble Mountain Wilderness Area From Near Orleans Mtn

Western Klamath Restoration Partnership Planning Area

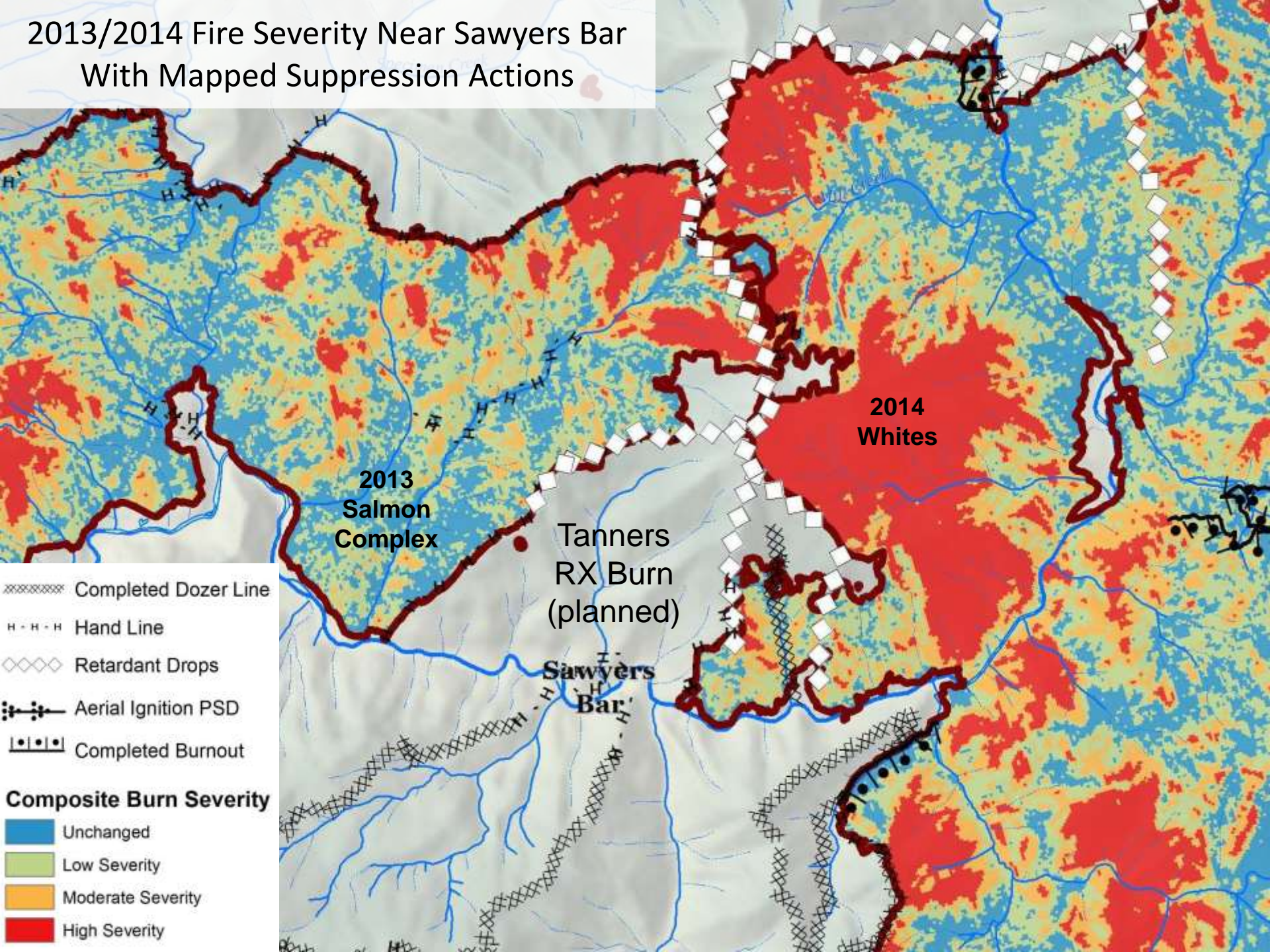


2013 Salmon Complex Fire



Photo: Thomas Dunklin

2013/2014 Fire Severity Near Sawyers Bar With Mapped Suppression Actions



2013
Salmon
Complex

Tanners
RX Burn
(planned)

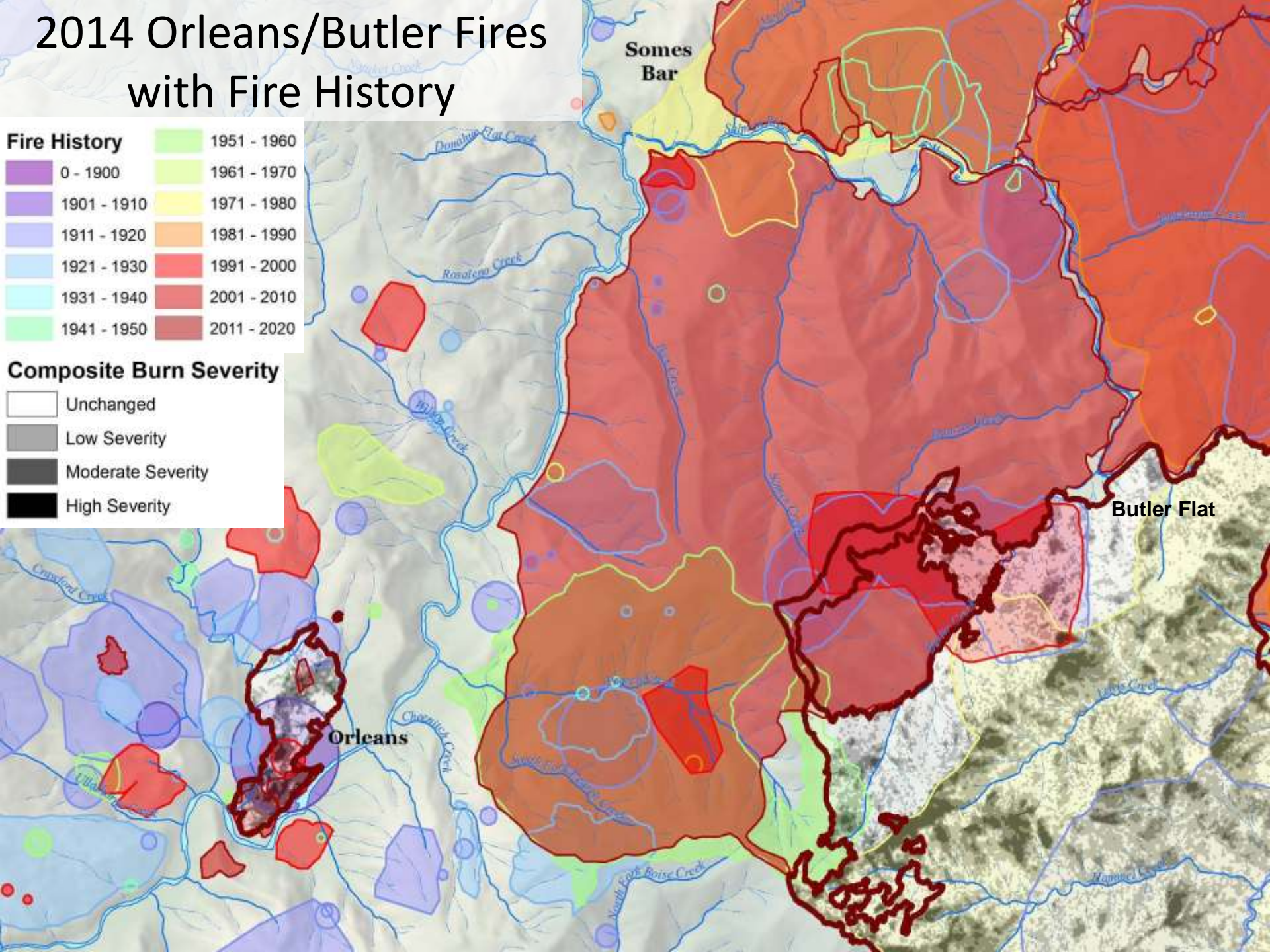
2014
Whites

Sawyers
Bar

- Completed Dozer Line
- Hand Line
- Retardant Drops
- Aerial Ignition PSD
- Completed Burnout

- Composite Burn Severity**
- Unchanged
 - Low Severity
 - Moderate Severity
 - High Severity

2014 Orleans/Butler Fires with Fire History



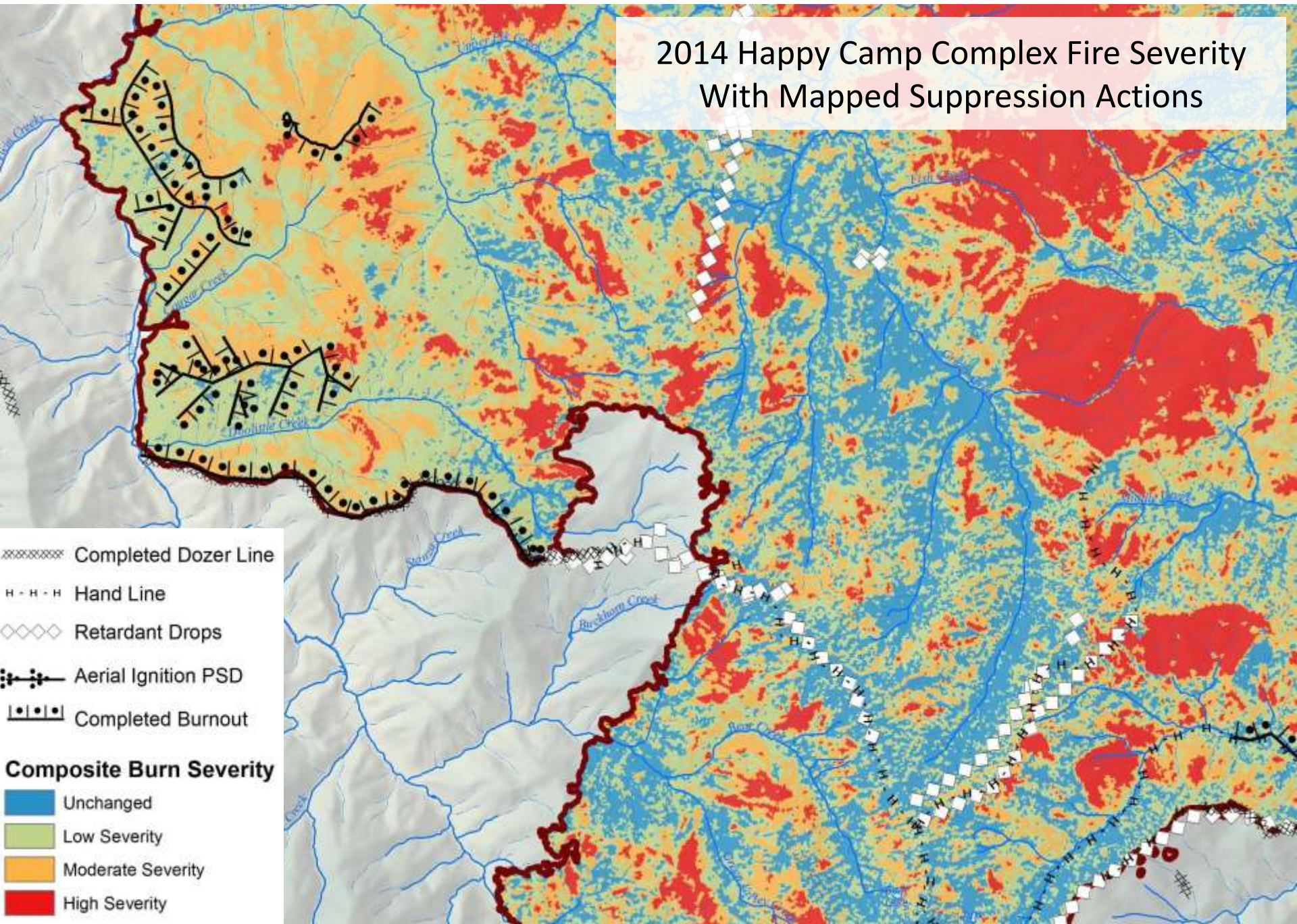
An aerial photograph of a mountain valley. A river winds through the center of the valley. The surrounding hillsides are covered in dense green forest. Several large, irregular areas of brown and tan are visible, indicating fire scars. These scars are located on the left and right slopes of the valley. The text labels are overlaid on the image in semi-transparent boxes.

2008 Ukonom Complex

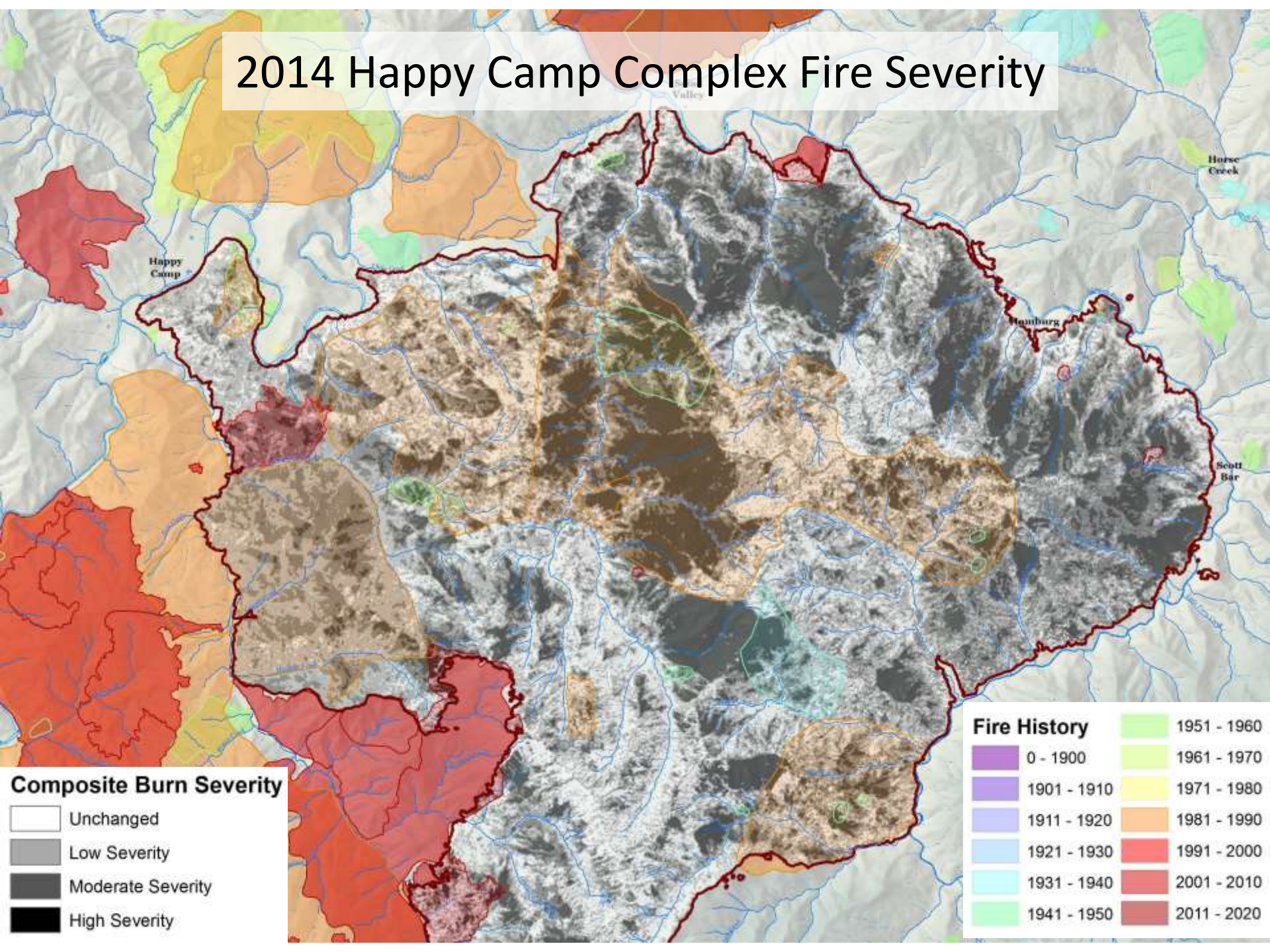
2006 Somes Fire

2013 Butler Fire

2014 Happy Camp Complex Fire Severity With Mapped Suppression Actions



2014 Happy Camp Complex Fire Severity



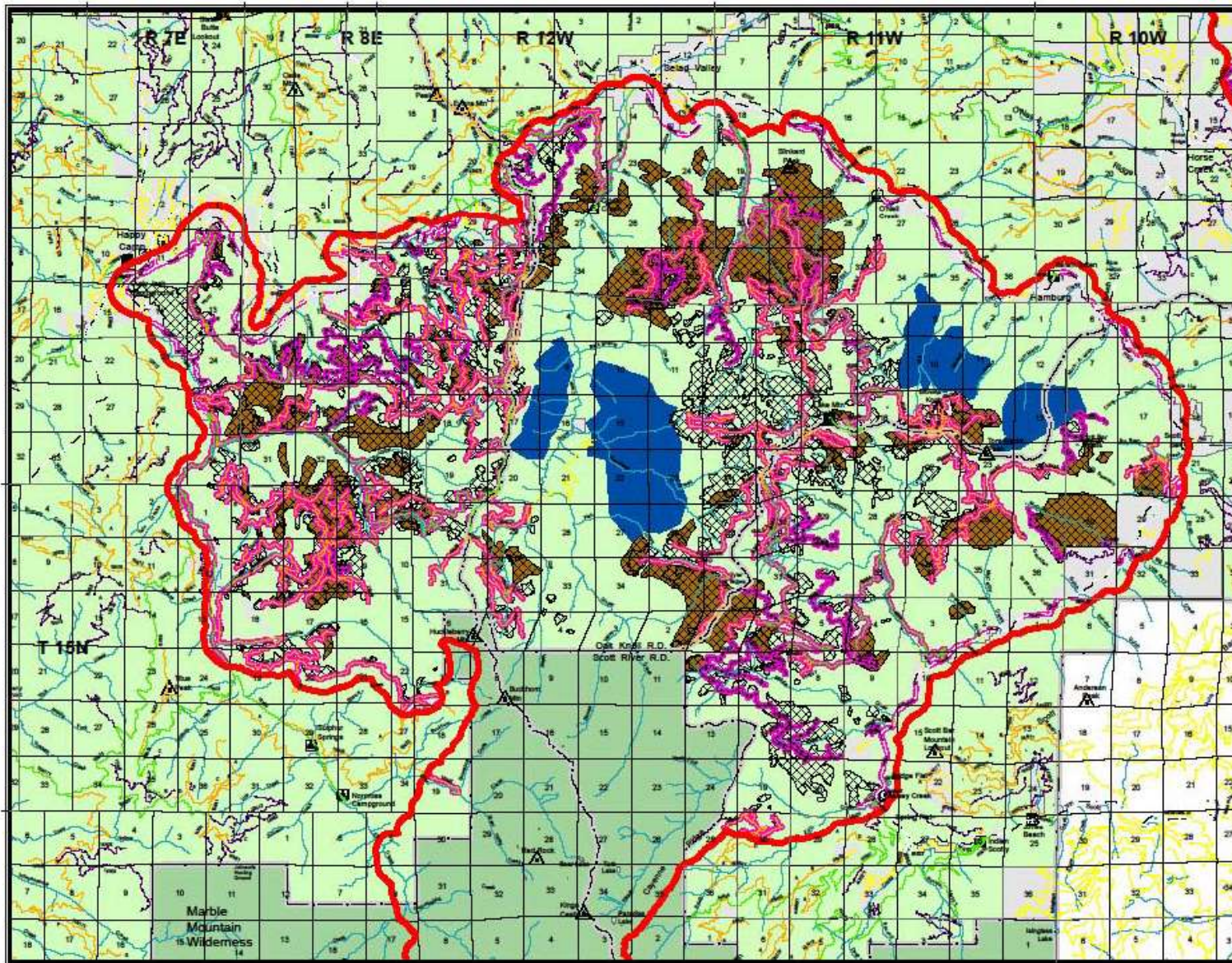
Reflections on 2014 Wildfire Season



- Increasing technology and resources help to contain even the worst fires, but come at a great cost (\$120+ million in 2014 for fires in Western Klamath Mtns)
- Pre-treatments were effective at mitigating the impacts of 2014 fires.
- Local Forests and ICT's continue to evolve and respond to local concerns (Community Liaison Program, tracking burnouts, etc)
- After the smoke clears, how will we manage these burned landscapes?

Westside Fire Recovery Project

Klamath NF

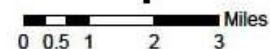


Westside Fire Recovery
Vegetation Treatment Maps
Klamath National Forest
Project Area B
Figure 6
Happy Camp Complex Fire

Legend

- Boundary
 - Roadside Hazard Treatments
 - Site Preparation, Planting and Release
 - Salvage Harvest
 - Planting Only
 - Wilderness
 - NON FOREST SERVICE
 - USDA FOREST SERVICE
- Roads by Maintenance Level**
- Forest Road, ML 1
 - Forest Road, ML 2
 - Forest Road, ML 3, 4, 5
- Roads other than Forest Open System Roads**
- State or US Highway/County Road/Interstate
 - Private/Other Road

| Roadside Hazard Treatments | Miles |
|------------------------------|-------|
| Forest Road ML 1 | 73 |
| Forest Road ML 2 | 185 |
| Forest Road ML 3, ML 4, ML 5 | 74 |
| State and County Roads | 88 |



Forestland Steward

SPRING 2013

**Fire making a comeback
for forest management**

ONLY YOU CAN

PRESCRIBED
BURNING
TODAY

PREVENT
FOREST FIRES







Passing It On: Real Fire Education for the Next Generation





this...



Prevents this...



protects the wildlife...



and forests we love.



Got fire?
?

By
Owen Wilder
Harling