

File Code: 1950/2350

Date: March 28, 2017

Subject: Mitigation of Imminent Hazards along Forest Roads

To: Kevin B. Elliott, Forest Supervisor

From: Eric G. La Price, Western Divide District Ranger *EGL*

In 2015, California Governor Edmund G. Brown Jr. declared a state of emergency due to the number of dead and dying trees on state, private, county and federal land. The tree die-off is of such a scale that it significantly worsens wildfire risk in many areas of the state and presents life safety risks from falling trees to Californians living in rural, forested communities.

Due to the tree mortality epidemic, there is a need to respond to the public safety threat that exists along our forest roads. There are numerous dead and dying trees that are imminent hazards to the public that need to be addressed along forest roads shown on Attachment 1. Attachment 2 is a map showing the location of the roads...

The dead and dying trees have the potential to fall and kill or injure visitors and those living in communities surrounded by national forest. The hazard trees also have the potential to damage vehicles and the road infrastructure. These trees need to be felled to mitigate this hazard.

Felling the dead and dying trees will mitigate the falling hazard, but it contributes to a second emergency situation covered in the Governor's State of Emergency declaration that must also be mitigated. Dropping the hazard trees and leaving them in place would not reduce the wildfire risk along the roads. In the event of a wildfire, this fuel buildup along the roads would result in high severity fire that would present a threat to anyone traveling on the road. We need to keep the roads passable for emergency vehicles and for the public in the event a community needs to be evacuated. Additionally, during wildfires, roads are frequently used as fuel breaks and anchor points. If not removed, the fuel buildup from the felled trees would compromise the ability of the roads to be used in this manner.

Therefore, once felled, some trees will need to be removed to reduce the additional fuel loading so that surface fuel is compatible with historic fire return intervals along roads on the Western Divide Ranger District.

None of the hazard trees are giant sequoias. No giant sequoia trees will be cut as part of this emergency response.

The following guidelines are required for resource protection during this imminent hazard response.



Guidelines for Imminent Hazard Response Actions

Once trees are identified, a variety of actions will occur.

- Hazard trees will be identified following “Hazard Tree Guidelines for Forest Service Facilities and Roads in the Pacific Southwest Region.”
- The largest trees will be left on site as large woody debris.
- Some trees and limbs may be chipped and the chips spread on site.
- Some material may be removed through the personal use wood cutting program.
- Some material may be sold as logs, poles, or firewood.
- Some material may be piled and burned.
- Multiple entries into each area may be required as the tree mortality epidemic continues and additional trees become imminent hazards.
- A tally of felled trees will be maintained.

Resource Protection Guidelines for Imminent Hazard Response Actions

- No material will be piled and burned within mountain yellow-legged frog habitat.
- No material will be piled and burned in streamside management zones.
- Maps showing mountain yellow-legged frog habitat and streamside management zones are on file at the district office.
- See Attachment 3 for the specific direction for the felling of hazard trees within 83 feet of perennial or intermittent streams on National Forest System land.

Consistency with Giant Sequoia National Monument Plan during Imminent Hazard Response

Page 89 of the Monument Plan states the following design criteria:

Retain felled trees on the ground where needed to achieve down woody material standards of 10 to 20 tons per acre in logs greater than 12 inches in diameter.

To ensure this design criteria is met, personnel would do a visual estimate of the amount of downed woody material in logs greater than 12 inches in diameter using tables that estimate tonnage based on log size.

Emergency consultation with the US Fish and Wildlife Service will occur to determine if any follow-up actions are needed.

For cultural resources, the Emergency Heritage Resource Guidelines will be followed. No material will be piled and burned on sensitive cultural material.

Trees determined to be imminent hazards would be felled within 300 feet on both sides of the road, depending on location of the tree and its potential to hit the road.

We are working collaboratively with Tulare County and CAL FIRE on the tree mortality response. Both the County and CAL FIRE will assist the Forest Service in mitigating the safety hazards presented by the dead and dying trees, especially around communities. The County and CAL FIRE will supply personnel and equipment.

Pages 81-82 of the Monument Plan lists five criteria to apply when evaluating the need for tree felling in the Monument. The following table shows the evaluation of the criteria and that this emergency response is consistent with the Monument Plan.

Table 1: Tree Felling Criteria		
Criteria	Language	Evaluation
F1 Resiliency	If maintaining one or more standing trees on a site would deplete moisture, light or nutritional resources critical to the health and survival of the plant community or forest	This criterion does not apply to this project. The trees are dead or dying.
F2 Regeneration	If maintaining one or more standing trees on a site would adversely affect the regeneration, longevity, or growth of giant sequoias and other desired species.	This criterion does not apply to this project. The trees are dead or dying.
F3 Heterogeneity	If maintaining one or more standing trees on a site would adversely affect the desired diversity or structure of a stand or forest.	This criterion does not apply to this project. The trees are dead or dying.
F4 Public Safety	If maintaining one or more standing trees on site would create a public safety hazard. Forest Service policy is to mitigate safety hazards from recreation sites, administrative sites and the public transportation system of roads and trails, including trees or tree limbs identified as hazardous (FSM 2330.6(a))	The consequences of leaving these trees to fall are threats to human health and safety. None of the trees to be felled are giant sequoias.
F-5 Recreation and Administrative Sites	Other projects that may be proposed in the Monument that could require tree felling include recreation or administrative site development and maintenance, scenic vistas and road access and parking for these sites.	This criterion does not apply. This decision pertains specifically to travel routes.

Page 83 of the Monument Plan describes a decision tree used to determine which methods of forest restoration and maintenance should apply at different locations. The following table evaluates the four considerations and how they were evaluated. The actions for this imminent hazard response are consistent with the Monument Plan.

Table 2: Decision Tree for Site-Specific Projects in the Monument	
Decision Point	Evaluation Related to Project
1 – Use of Managed Wildfire	Managed wildfire is not feasible for eliminating the dead trees because of the uncertainty of when a wildfire may occur in this specific area. The trees represent a clear and present danger that must be addressed in the short-term.
2 – Use of Prescribed Burning	Prescribed burning would not be feasible due to the fuel loading along the roads. Additionally, burning the trees adds uncertainty regarding how they may fall. The trees need to be felled away from the roads.
3 – Use of Mechanical Treatment without Tree Removal	Mechanical treatment is feasible. Mechanical treatment without tree removal would not meet the purpose and need. Some logs would eventually fall into the road and some would interfere with safe maintenance of the road and right-of-way. Leaving all the felled trees would increase the fuel load along the roads, which would threaten public safety as a fire hazard. This would also increase the amount of surface fuel to a level incompatible with historic fire return intervals.
4 – Use of Mechanical Treatments with Tree Removal	It is necessary to remove some trees to meet the purpose and need. Some trees are so positioned that they will eventually fall into the road if left. Some have to be removed so the road and the right-of-way can be safely maintained. Some of the felled hazard trees would need to be removed to reduce the fuel loading to a level compatible with historic fire return intervals. Removal would be a combination of burning in place, reducing to chips, and hauling off the monument for disposal. Material will also be cut and stacked for the public to take as firewood.

I have determined there is a clear need to remove the trees from Giant Sequoia National Monument to provide for public safety and reduce fuel loading along the roads once the trees are felled. Removal from the Monument as defined in the plan can include chipping, burning or hauling off the Monument. I evaluated the removal criteria on page 81 of the Monument Plan. The applicable criteria are:

Plan Criteria	Determination
<p>Protection of Objects of Interest If keeping one or more trees on site would cause unacceptable fuels accumulation and fire severity effects; if removing trees would reduce the risk of wildfire to the giant sequoia groves, sensitive wildlife habitat, and adjacent communities at risk</p>	<p>I have determined the number of felled trees, if left in place, would increase the amount of surface fuel to a level incompatible with historic fire return intervals thereby increasing the risk of loss to the objects of interest for which the monument was created.</p>
<p>Public Safety If keeping one or more trees on site would create a public safety hazard or attractive nuisance.</p>	<p>I have determined the number of felled trees, if left in place, would increase the amount of surface fuel to a level incompatible with historic fire return intervals. If these fuels are left in place, it would be a public safety hazard in the event of a wildfire. The roads need to be passable for emergency equipment and community evacuations. The roads also need to be usable as anchor points and as fuel breaks in the event of a wildfire</p>

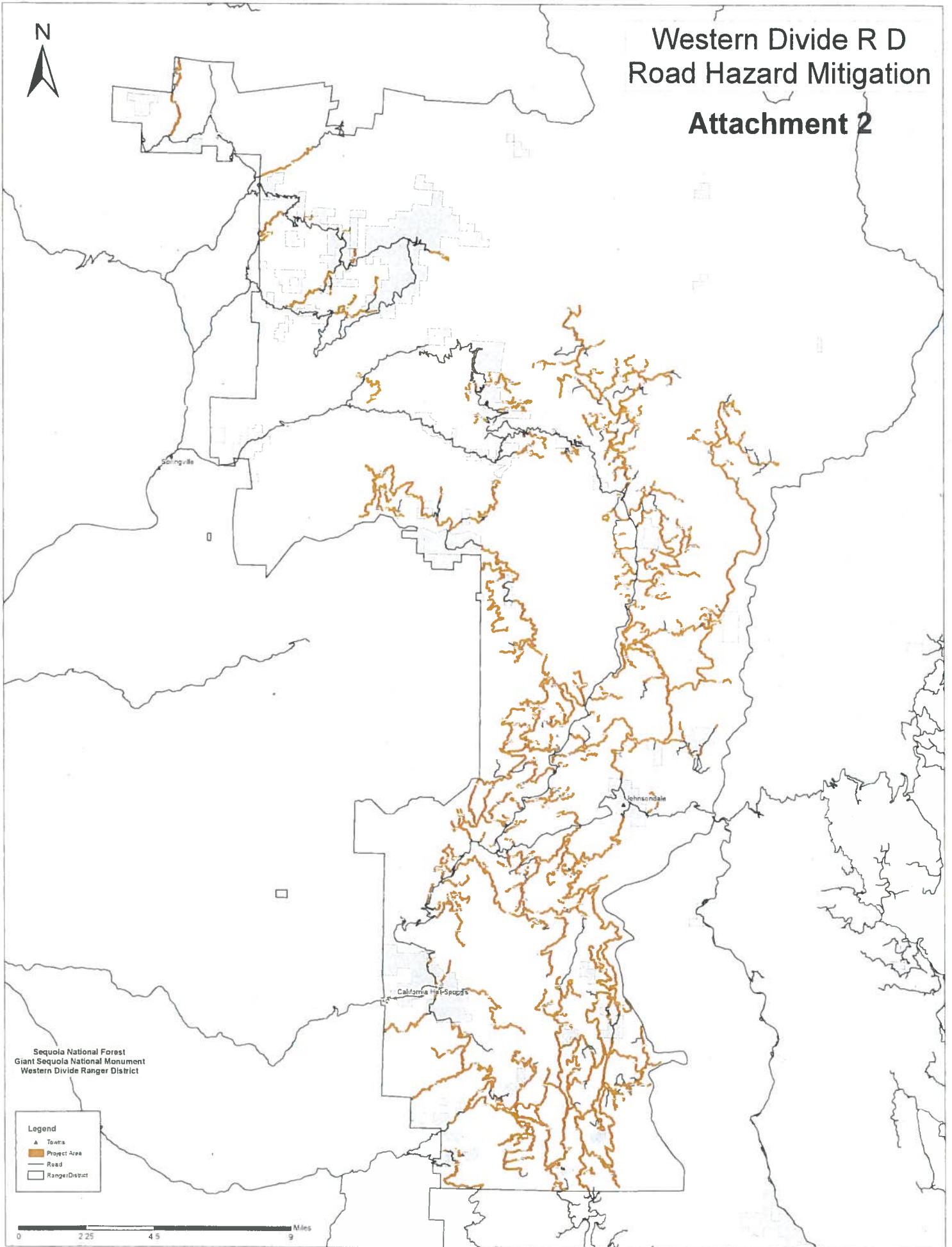
This imminent hazard response may begin immediately.

Attachment 1

Roads	Miles	Roads	Miles	Roads	Miles	Roads	Miles	Roads	Miles
19S03	0.12	20S46	1.42	20S97	0.35	21S54A	0.54	22S08B	0.31
19S04	0.05	20S53	1.34	20S98	0.11	21S54B	0.23	22S08C	0.42
19S05	0.11	20S54	1.31	21S05	2.60	21S58	0.50	22S09	0.09
19S09	2.28	20S55	0.44	21S06	3.44	21S60B	0.67	22S10	3.66
19S10	2.36	20S56	0.22	21S06A	0.60	21S60C	0.50	22S10B	0.31
19S12	0.34	20S56A	0.08	21S06D	0.27	21S60E	0.05	22S11	0.66
19S14	0.41	20S57	0.21	21S07	1.93	21S61	0.37	22S13	0.91
19S17	0.08	20S57A	0.55	21S07A	0.46	21S63	4.11	22S13A	0.25
19S18	0.41	20S63	0.60	21S07C	0.32	21S63A	0.52	22S15	2.22
19S20	0.59	20S64	1.32	21S07D	0.36	21S69	0.64	22S15A	0.16
19S29	0.93	20S64A	0.30	21S09	1.72	21S70	3.36	22S27	0.81
19S36	2.86	20S64B	0.61	21S09A	0.22	21S70A	1.78	22S27A	0.44
19S36A	0.41	20S66	0.18	21S09B	0.29	21S74	2.56	22S31	0.09
2079B	0.62	20S67	2.49	21S12	8.05	21S75	1.18	22S44	0.51
20S02	0.29	20S67A	0.50	21S12B	1.07	21S78	1.64	22S44A	0.13
20S03B	0.11	20S68	0.78	21S21	0.50	21S79	0.96	22S45	0.21
20S04	0.78	20S70	0.75	21S21A	0.18	21S80	5.11	22S47	0.18
20S04A	0.96	20S71	1.18	21S23	0.67	21S88	0.24	22S48	0.71
20S05	0.04	20S71A	0.52	21S23A	0.14	21S90	1.07	22S49	1.05
20S07	0.12	20S73	0.95	21S25	1.79	21S94	13.64	22S50	0.46
20S08	1.57	20S74	0.58	21S25A	1.13	21S94A	0.36	22S53	2.14
20S08A	0.31	20S74A	0.36	21S25B	0.14	21S94B	0.17	22S54	0.60
20S08B	0.61	20S75	2.39	21S25C	0.57	21S95	0.17	22S55	0.04
20S10	1.26	20S75E	0.04	21S27	0.88	21S99A	0.18	22S56	0.65
20S11	1.51	20S77	0.49	21S27A	0.12	22A74A	0.21	22S59	1.49
20S11A	0.09	20S78	0.99	21S49	0.27	22S02	3.78	22S63	1.57
20S11B	0.20	20S78A	0.45	21S49A	0.24	22S03	6.67	22S63A	0.39
20S12	1.07	20S79	2.98	21S50	10.04	22S03C	0.67	22S64	0.06
20S20	0.10	20S81	2.72	21S50A	0.60	22S03D	0.21	22S69	0.11
20S23	0.15	20S85	0.69	21S50B	0.78	22S03H	0.22	22S70	0.07
20S32	1.97	20S86	0.27	21S50C	0.69	22S03J	0.10	22S71	0.04
20S40	0.67	20S88	0.29	21S50D	0.25	22S04	5.37	22S72	2.94
20S40A	0.05	20S88A	0.07	21S50E	0.26	22S04A	0.43	22S72A	0.85
20S41	0.62	20S89	1.02	21S51	0.29	22S06	1.35	22S72B	0.09
20S41A	0.31	20S91	0.07	21S52	0.15	22S06A	0.37	22S73	0.26
20S42	0.54	20S92	2.49	21S53	0.31	22S08	1.59	22S73A	0.22
20S44	0.40	20S93	1.92	21S54	3.12	22S08A	0.03	22S74	2.62

Roads	Miles	Roads	Miles	Roads	Miles	Roads	Miles
23S04	1.70	23S63	2.35	24S05	2.39	24S50B	0.82
23S05	6.20	23S64	8.08	24S07	2.83	24S77	1.38
23S16C	0.49	23S64A	0.55	24S08	1.16	24S80	1.05
23S16D	0.08	23S64B	0.16	24S09	0.25	24S80A	0.62
23S17	0.42	23S64C	0.46	24S10	0.55	24S80C	0.35
23S17A	0.01	23S64E	0.36	24S15	1.25	24S82	1.70
23S18	1.02	23S65	0.92	24S22	2.31	24S82A	0.34
23S18A	0.54	23S65A	0.19	24S23	2.26	24S83	1.20
23S22	0.83	23S65B	1.27	24S23A	2.24	24S86	0.43
23S25	0.44	23S66	0.99	24S24	3.14	24S87	0.10
23S26	0.89	23S66A	0.14	24S25	2.17	24S88	0.81
23S27	1.43	23S66B	0.09	24S27	0.61	24S93	3.99
23S28	1.40	23S66D	0.15	24S28	0.35	24S93A	0.09
23S29	1.35	23S68	2.56	24S29	3.02	24S93B	0.98
23S30	0.38	23S68A	0.22	24S31	1.11	24S94	1.72
23S31	0.09	23S68B	0.18	24S34	1.34	24S94A	0.59
23S32	2.96	23S69	0.10	24S34A	0.23	CO-TCM3	0.72
23S32A	0.88	23S70	0.03	24S35	7.14	CO-TCM50	0.71
23S33	0.84	23S73	4.76	24S35A	0.74	CO-TCM56	0.99
23S50	1.44	23S73A	0.82	24S35C	1.39	CO-TCM9	2.72
23S51	0.68	23S73B	0.18	24S37	1.02	UHL R.S.	0.26
23S52	0.81	23S73C	0.08	24S45	0.43		
23S53	3.47	24S01	2.23	24S46	1.04		
23S57	0.90	24S02	2.82	24S50	6.34		
23S62	1.43	24S03	1.41	24S50A	0.36		

Western Divide R D Road Hazard Mitigation Attachment 2



Sequoia National Forest
Giant Sequoia National Monument
Western Divide Ranger District

Legend

- ▲ Towns
- Project Area
- Road
- Ranger District



