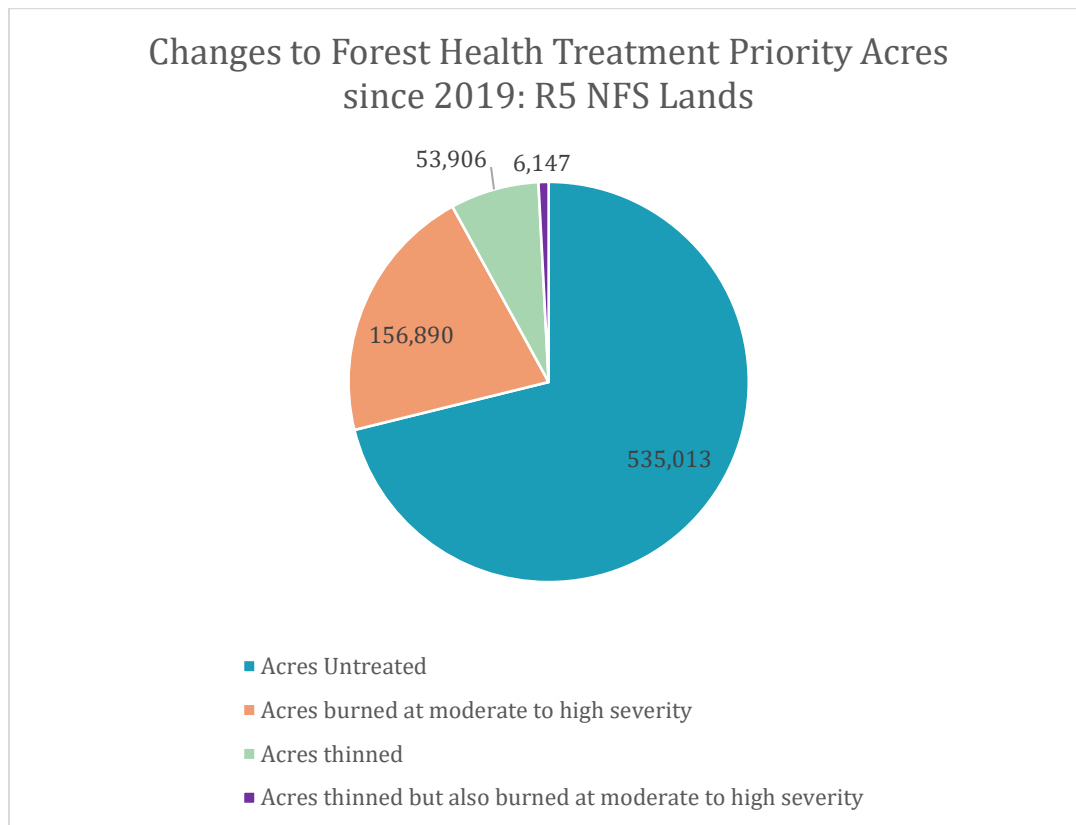




TOPIC: 2026 UPDATE: FOREST HEALTH TREATMENT PRIORITY MAPPING

Starting in 2018, Forest Health Protection has analyzed a variety of readily available corporate GIS data sets to identify areas that are considered most at risk to high levels of bark beetle-caused tree mortality, have a high likelihood of experiencing stand replacing wildfire and are accessible and appropriate for mechanical thinning. The 2026 updated treatment priority geodatabases and webmap include treatment priority areas for all land ownerships in California and all slopes with additional layers to help land managers define areas for analysis. In 2021, we added two new analyses to supplement the treatment priority maps. The first one is the same suite of map layers using a lower threshold of 50% relative density. These areas are at a slightly lower risk for bark beetle-caused mortality but will likely meet the 60% relative density threshold in a few years. The second one highlights dense CWHR size class 3 stands. These stands contain trees of smaller average diameter that are not generally susceptible to high levels of bark beetle-caused mortality, but their overstocked condition reduces growth and leaves them susceptible to stand replacing wildfire. Including all three areas for project planning and implementation will help to achieve meaningful landscape scale treatments that increase long-term forest resilience to insects and fire.

The map has also been updated to reflect changes in acreage due to thinning treatments and wildfires since 2019. To date, 156,890 treatment priority acres (20.1% of total) have been lost to moderate to high severity wildfire over the past six years while thinning treatments to increase resiliency in these areas totaled 53,906 acres (7.2% of total). A portion of thinned acres (11.4%) were also lost to wildfire. A summary of these changes by National Forest is included on page 3.



BACKGROUND

The number of acres of forests burning at high severity in recent years, combined with the recent drought-induced tree mortality events of 2015-2016 and 2021-2022 have more than ever highlighted unsustainable forest health conditions in California. The need for implementing preventative landscape-level tree density and fuels reduction treatments to restore and maintain forest resiliency to wildfires and drought (bark beetles) has never been greater. To accomplish meaningful landscape level treatments, land managers must be able to prioritize areas of highest risk that are conducive to project implementation. Projects need to address forest health issues but also be cost-effective, which generally means ground based mechanical thinning treatments that produce forest products such as sawlogs and biomass. Volume and revenue generated from commercial projects can facilitate pre-commercial thinning and fuels reduction treatments that increase landscape level resilience. This treatment priority map has been used on several R5 National Forests for 5-year planning, identifying cross collaboration, all lands opportunities, and guiding layout of new projects using the Farm Bill insect and disease treatment Categorical Exclusion authority under NEPA.

PRODUCT DEVELOPMENT

Areas to consider for treatment priority were identified using existing GIS data including Region 5 Existing Vegetation, stand density index, California Wildlife Habitat Relationships (CWHR) size class, historic vegetation based on LANDFIRE, vegetation burn severity, land ownership, FACTS data for areas thinned by USFS, data from the University of Maryland's Global Forest Change project for areas of stand-replacing disturbance, and percent slope.

Results were categorized to identify priority treatment areas based on vegetation type and stand density susceptible to bark beetles. The highest priority group consists of overly dense stands of ponderosa and/or Jeffrey pine (>60% of bark beetle limiting stand density index of 365) and pine-dominated mixed conifer stands as well as fir-dominated mixed conifer and white fir stands growing on historically pine-dominated sites (>60% of stand density index of 450). The second priority group consists of overly dense stands of fir-dominated mixed conifer and white fir (>60% of stand density index of 550). Analysis only considered CWHR size classes 4, 5, and 6. All mapped areas exclude 1) moderate and high-severity wildfire areas since at least 1998, 2) areas thinned by USFS since at least 2005 and 3) areas of stand-replacing disturbance, owing to clear-cut or natural mortality, since at least 2005. Two sets of priority areas were mapped: those on slopes $\leq 35\%$ and those on slopes $>35\%$.

The Forest Health Treatment Priority mapping effort is best suited for larger vegetation management projects and landscape-level planning, including Forest Land Management Plans, rather than stand-level planning, as data used to create treatment priority layers are not sufficiently detailed for use at the stand level. Areas mapped on non-NFS lands may not reflect recent management activities. Ground verification of prioritized stands is highly recommended.

ADDITIONAL LAYERS

The treatment priority map is supplemented by additional layers to provide more information for project planning. These layers include Tier 1 and Tier 2 high hazard zones, roadless/wilderness/wild and scenic rivers, USFS road systems and administrative boundaries, state, county, and other federal lands.

LINKS TO MAP PRODUCTS

Treatment priority maps (8.5 x 11 handouts) for Region 5 National Forests

[Region 5 Forest Health Treatment Priority Mapping Homepage](#)

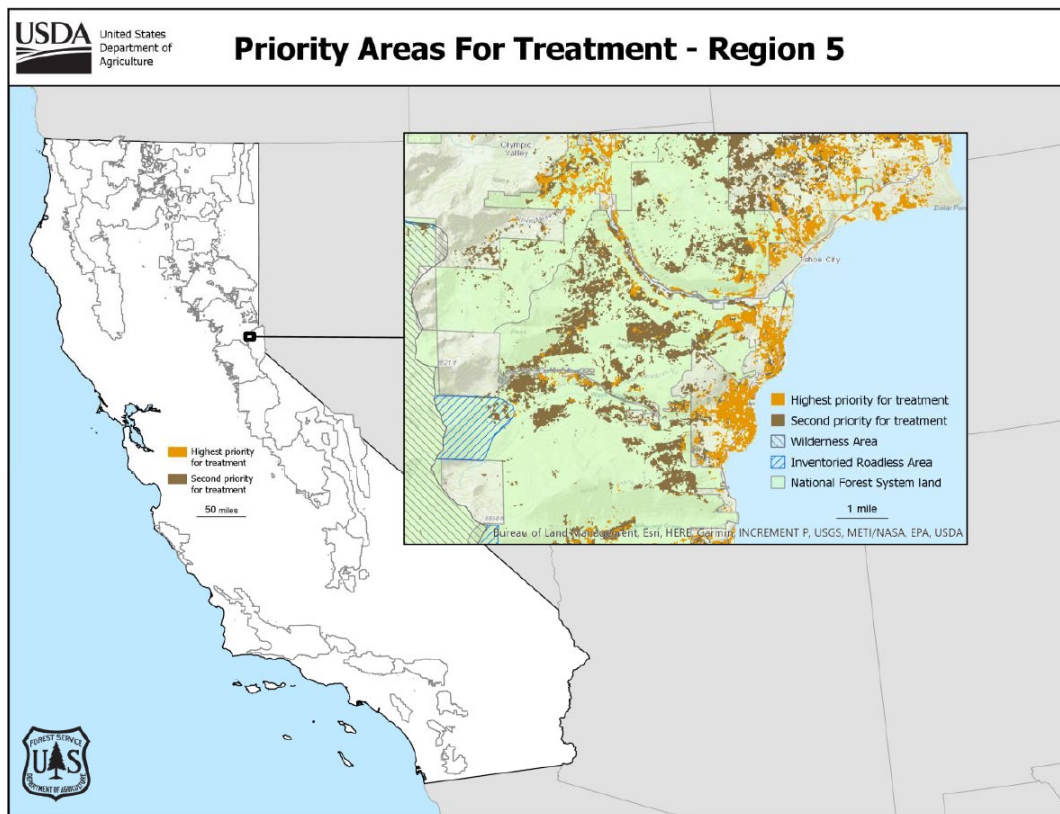
Downloadable treatment priority geodatabases that include both 50% and 60% relative density maps and CWHR size class 3 maps with treatment priority areas defined by R5 existing vegetation type

<https://usfs-public.box.com/shared/static/2g5ldcwm66wd88u30ugfr2ep8f2tbd1s.zip>

Forest Health Treatment Priority Interactive Webmap

[Region 5 Forest Health Treatment Priority Interactive Webmap](#)

MAP EXAMPLE



Change in Forest Health Treatment Priority Acres since 2019

	Priority Acres 2019		Priority Acres 2026		Priority Acres Burned at mod/high severity since 2019		Priority Acres Thinned since 2019		Priority Acres Thinned and Burned at mod/high severity since 2019	
	Highest	Second	Highest	Second	Highest	Second	Highest	Second	Highest	Second
Angeles National Forest	89	2	48	2,026	31	1	9	0	2	0
Cleveland National Forest	3		3	0	0	0	0	0	0	0
Eldorado National Forest	47,309	14,354	21,458	7,858	18,574	3,930	4,581	1,630	1,380	495
Inyo National Forest	9,460	622	8,426	419	269	0	535	195	0	
Klamath National Forest	20,756	18,181	14,339	10,483	4,171	5,627	1,859	268	682	123
Lassen National Forest	75,335	66,160	51,848	39,599	17,048	19,282	3,727	2,764	767	321
Los Padres National Forest	636	7	600	6	0		25	1		
Mendocino National Forest	21,631	2,863	9,666	579	9,017	1,860	177	72	108	48
Modoc National Forest	36,570	23,004	29,667	21,176	2,065	475	3,748	922	46	
Six Rivers National Forest	3,501	4,303	2,092	2,932	962	817	130	8	18	1
Plumas National Forest	83,338	40,436	42,162	24,183	31,290	11,778	5,236	1,161	681	129
San Bernardino National Forest	1,459	23	1,394	21	7	0	36	0	0	
Sequoia National Forest	13,543	5,798	6,369	3,198	5,420	1,911	506	178	175	37
Shasta-Trinity National Forest	60,665	18,861	52,542	17,274	3,502	554	2,361	498	166	40
Sierra National Forest	40,893	19,108	23,252	11,407	11,479	4,846	2,264	1,383	308	280
Stanislaus National Forest	48,466	19,329	37,439	15,540	234	55	8,421	3,119	18	1
Tahoe National Forest	62,168	18,617	53,673	17,045	857	30	5,533	1,057	17	0
Lake Tahoe Basin Management Unit	4,630	4,239	2,861	3,428	576	222	1,041	461	255	49
All R5 CA NFs	530,452	255,907	357,839	177,174	105,502	51,388	40,189	13,717	4,623	1,524

*Highest priority treatment areas include overly dense stands (>60% of maximum stand density index) of pine and pine-dominated mixed conifer stands as well as fir-dominated mixed conifer and white fir stands growing on historically pine-dominated sites. Second priority treatment areas include overly dense stands of fir-dominated mixed conifer and white fir. Mapped areas only include CWHR size classes 4, 5 and 6 stands. Wilderness areas, inventoried roadless areas, wild and scenic areas, moderate to high severity burn areas since 1998, areas thinned since 2005, areas with >35% slope and all non-National Forest System lands were excluded from this analysis.