



JACKSON  
DEMONSTRATION  
STATE FOREST 

## Jackson Demonstration State Forest Town Hall

### Meeting Q&A

Below are the responses to the Jackson Demonstration State Forest Town Hall meeting on April 8, 2021. The questions have been broken up into categories for easy reference. Questions are in **bold**. Answers given during the webinar are in *italics*. Further questions, clarifications, comments, or if you would like to schedule a Timber Harvest Plan Tour (Caspar 500, Mitchell Creek, or Little North Fork Big River), please contact the JDSF office at 707-964-5674.

#### **FOREST MANAGEMENT**

##### **Here's a good experiment: don't log JDSF.**

JDSF is mandated by law to conduct research, demonstration, and education of sustainable forestry practices using active forest management, including periodic timber harvests. Management of JDSF is required to address values relating to recreation, watershed, wildlife, fisheries, and aesthetic enjoyment. JDSF is the only public redwood forest in the State of the size and legislative mandate to meet these objectives.

JDSF is an outdoor laboratory. It provides the landscape for researchers from all over the state and nation to study a range of topics including soil, water, wildlife, vegetation, and forest practices. Many of the studies conducted need that landscape scale that JDSF can facilitate. The vast majority of redwood forest is privately owned, therefore, demonstrations and research relevant to management by small and large landowners are widely applicable for improving regional environmental and economic outcomes. JDSF integrates demonstrations to explore the efficiency, economics and feasibility of new technologies, methods and theories. As accessible public land, everyone can see and evaluate the results.

#### **CARBON**

- 1. Second growth Redwood forests which provide critical habitat for threatened and endangered species and constitute the greatest carbon sequestration potential of any forest type on earth. How does JDSF take into account the carbon cost of logging operations?**

JDSF and other organizations that conduct Timber Harvest Plans (THP) are required to discuss and calculate carbon and GHG (greenhouse gases) within the THP as part of the environmental analysis. These analysis show that the carbon removed during operations, including that released from logging and transportation, are recaptured by the site within about 15 years on average. Some of this removed carbon is also stored in long lived wood products and displaces non-renewable alternatives in the economy.

Most of the Forest's carbon is stored in trees, so tree biomass is a useful proxy for tracking carbon storage across the forest. JDSF monitors its inventory of tree species with two long standing inventories, Forest Resource Inventory (FRI) and Continuous Forest Inventory (CFI). The Forest Resource Inventory is conducted by a contracted third party. These inventories show annual increases in volume that far exceeds the limited harvests and natural mortality that occur on JDSF. Properly thinned forests are healthier and growth rates of the trees retained increase, making these carbon gains safer and sustainable.

**2. But don't more trees sequester more carbon?**

It's important to consider the whole redwood forest ecosystem. Since soil moisture, rainfall and sunlight are finite resources, there are limits on the amount of living biomass that a given area can support. Beyond a certain point, growing more trees in a given area will slow the growth of individual trees and, for some species, result in increased mortality. A healthy forest with fewer trees that are vigorously growing can sequester more carbon than an overstocked, unhealthy, stressed and slower growing forest.

**3. The scientific community has rigorously concluded that dangerous climate change impacts will set in within the next 10 to 20 years. How is it that the carbon storage in existing JDSF forests will be exceeded in areas harvested under the planned THPs over this critical \_near-term\_ time horizon?**

The Forest continues to increase the biomass (carbon) in trees at Jackson. *In about one third of the forest designated for Older Forest Structure, selective harvesting will concentrate that biomass on fewer, larger, and healthier trees that are more resilient to wildfire, insects, and disease. In the other portion of the forest, we conduct harvests to create growing space for smaller young trees and to regenerate a new crop of trees. In the case of the regeneration harvests, within 20 years the forests can be optimizing the site resources for growth in addition to the carbon stored in wood products that originated from that harvest.* (Edits by JDSF to explain management plan context. Original answer is in italics.)

**4. With all due respect, the answer to the previous question [question 3 under Carbon] about carbon is not responsive to the question. The technical issue here is timeframes. The concern is near term net releases of carbon, not that in the (very) long run that carbon will be re-sequestered.**

The THP GHG calculator estimates that carbon stocks will be recouped within 15 years of the initial harvest, so by 20 years after harvest, five years of carbon sequestration will have been added after balancing harvest emissions. Typically, JDSF harvests take place approximately every 20 years. Some carbon removed from the initial harvest is still stored in long lived wood products, displacing non-renewable alternatives, at that point in time.

**5. For Joe: What are the specific research demonstration goals of the planned THPs, particularly with respect to carbon management? What peer-reviewed empirical research is available on carbon-sequestration dynamics on JDSF land (vs other parts of the state/country)?**

See response for Question 6

**6. Joe: All your great examples seem focused on water, soils, fish. Where is the research on carbon cycle/storage?**

From JDSF in response to 5 and 6: Understanding redwood growth rates and forest development dynamics have been key to JDSF mission through time. Foundational research used inventory data from JDSF going back to the 1950s. More recently, nuanced carbon centric growth analysis from JDSF samples were evaluated by Jones and O'Hara.  
<https://academic.oup.com/forestry/article/85/1/99/645292?login=true>

Note: Joe Wagenbrenner is a Research Hydrologist with the Pacific Southwest Research Station was discussing the Caspar Creek Experimental Watershed Study, which is primarily focused

evaluating the effects of forest management on streamflow, erosion, and sedimentation. You can learn more about this experiment here: <https://www.fs.fed.us/psw/topics/water/caspar/>

**7. For Michael Jones: Mike P. and Joe weren't aware of much/any carbon-related research within JDSF, are you? As you rightly noted, one can't extend data from other forest types and localities.**

See answer for Question 6. JDSF staff notes there is wealth of carbon related research from young stands to old growth developed through the redwood region. To strategically use limited research funding, JDSF reviews existing research and focuses the funding research on data gaps and key management questions. Due to the robust JDSF data set (inventories) and understanding of redwood forest growth and climate thought the region, additional funding has not been a priority to date. Just this last week (4/12-4/16), JDSF agreed to provide inventory data to develop a Green House Gas Calculation tool for Small Landowners.

**8. Comment re: sequestration (and maybe diameter class) Steve Sillet at HSU has done research on biomass and C sequestration of aboveground redwood forests as well as structural dynamics**

**9. Why do the CALFIRE THPs question human's contributions to climate change?**

JDSF staff assumes that this question refers to language in the past Timber Harvesting Plans (THP) that has since been updated to better represent our current knowledge of the subject. The language in question was part of a general discussion introducing the climate change analysis. A THP level analysis is performed using a widely accepted greenhouse gas emission calculator. Please review the greenhouse gas impact analysis in the cumulative impacts section of our THPs for more specific information.

**10. How does JDSF interact with Governor Newsom's 30x30 goal?**

Changing temperatures, precipitation, disturbance patterns, and management decisions will alter species composition and influence forest conditions. Governor Newsom's Executive Order N-82-20, issued October 7, 2020, established a goal of conserving at least 30 percent of California's land and coastal waters by 2030 (30x30) to fight species loss and ecosystem destruction. This includes enabling conservation measures on a broad range of landscapes, including natural areas and working lands, in partnership with land managers and natural resource user groups. One goal is to build climate resilience in part through active forest management to reduce catastrophic risk of wildfire and restore forest health. Temperate forests, such as those in Northern California and JDSF, have the potential to provide mitigations for carbon emissions across the state and globe through in-forest carbon storage, storage in wood products, and indirect substitution benefits from reduced fossil fuel use. Locally manufacturing wood products reduces transportation emissions associated with importing lumber.

The initial order is described at <https://www.gov.ca.gov/2020/10/07/governor-newsom-launches-innovative-strategies-to-use-california-land-to-fight-climate-change-serve-biodiversity-and-boost-climate-resilience/>. It includes for natural and working lands: "Active forest management to reduce catastrophic risk and restore forest health". This gives an indication that a 'no harvest preserve' would not be required for JDSF to help meet the

Governor's goals. The State is currently soliciting public input to inform its approach to meeting the Governor's 30x30 initiative. Find out how you can participate here:  
<http://www.californianature.ca.gov>.

**11. Does JDSF have any research into the positive benefits of biochar?**

JDSF will be the site of an innovative new biochar production test late this summer. The research, funded by California Climate Investments grants, will utilize logging debris to produce biochar. Pre-work analysis published in a peer reviewed journal, conceded there would be emission benefits of about 2.94 and 1.18 ton CO<sub>2</sub> eq/ton biochar-C but operations and price of carbon will influence feasibility.

<https://www.sciencedirect.com/science/article/pii/S0196890420308438?via%3Dihub>

Both the sources cited in the paper listed above and the work undertaken at Redwood Forest Foundation <https://www.rffi.org/library-resources/> are relevant to JDSF and can be used in evaluating and developing projects.

**12. What would it take for the State of CA to allow JDSF to sell carbon credits?**

Lands owned by the State of California are not eligible to register carbon offsets under the State's Cap and Trade Program. Under this program, carbon credits are issued for additional carbon storage over and above the "business as usual" baseline. Common forest management practices to generate carbon credits such as carrying high levels of inventory, cutting less than growth, and growing trees for longer rotations are already common management practices at JDSF.

More fundamentally, JDSF's value for Research and Demonstration could be compromised if rigid restrictions were implemented. Local demonstrations in the use of carbon credits as part of an active forest management program can be seen by JDSF's neighbor "The Conservation Fund" and the Redwood Forest Foundation.

**Questions submitted after the Town Hall meeting**

**It has been many years since the global scientific community rigorously determined that dangerous human-caused climate change impacts are unequivocal, already manifesting, and worsening. I personally worked on these issues as a contributing scientist within the United Nations International Panel on Climate Change (IPCC). More recent IPCC forecasts show, with high confidence, particularly severe additional impacts within the next 10 years. Thus, management of near-term emissions has become particularly important, and the public sector must lead by example.**

**Given that climate change is a global problem, and also compromises forestry (as expressly stated in California Assembly Bill 32, 2006 -- 15 years ago) as well as water resources, fish habitat, and soils, while elevating wildfire risk, climate change is arguably the single most important environmental planning consideration in JDSF. Thus, best practices would dictate that JDSF have a quantitative carbon inventory and tracking process in place with data open-sourced for researchers and public examination. While the CalFire Town Hall presentations discussed sustainability issues related to water, fish, and to a lesser extent soils/nutrients, they did not offer information on carbon management, aside from highly generalized responses to audience questions. Three of the experts present were not aware of carbon/climate related research or demonstrations within JDSF, but perhaps information is available from others within the organization. My questions are as follows:**

**13. What peer-reviewed empirical research is available on carbon-sequestration dynamics within JDSF lands (versus other parts of the state/country where vegetation and other conditions are different)?**

- a. **Standing timber**
- b. **Slash**
- c. **Other vegetation**
- d. **Root systems**
- e. **Soils**

JDSF as a Demonstration State Forest has been intended as a site for research and demonstration, but is not a research institution. An example of JDSF being used as a research site is CAL FIRE's partnership with PSW, that has provided rich, high quality research in the Caspar Watershed. JDSF's second most substantial body of knowledge is in coastal redwood forest growth, yield and silviculture through the active forest management that JDSF does. JDSF has partnered with PWS, and Professors from UC Berkeley and Humboldt State University to better understand redwood forest. Citations are not exhaustive but intended to show the scope of research. (J.P. Berrill, K. Schneider, C.M. Dagley, L.A. Webb; Understory light predicts stump sprout growth in mixed multiage stands in north coastal California New For. (2018), 10.1007/s11056-018-9636-6)  
[https://www.researchgate.net/publication/323611785\\_Understory\\_light\\_predicts\\_stump\\_sprout\\_growth\\_in\\_mixed\\_multiaged\\_stands\\_in\\_north\\_coastal\\_California](https://www.researchgate.net/publication/323611785_Understory_light_predicts_stump_sprout_growth_in_mixed_multiaged_stands_in_north_coastal_California)

**Standing Timber-Redwood Forest**

JDSF has been in the forefront of quantifying redwood forests with continuous forest inventory dating back to the 1950s. JDSF has participated in the Redwood Yield Research cooperative, which data was used to develop growth modeling dating back to the 1970s. Subsequent silviculture studies have refined understanding of forest growth dynamics. The often-cited study first documenting thinning effects (Oliver W., J. Linqvist and Strothmann R. 1994, Young-Growth Redwood Stands Respond Well to Various Thinning Intensities. Western Journal of Applied Forestry. Vol 9#4106-112) is one. More recently, recruitment dynamics were evaluated from the forest in the article titled "Understory light predicts stump sprout growth in mixed multiaged stand in north coastal California" (Berrill, Schneider, Dagley, and Webb; 2018) (See above hyperlink). Going specifically into carbon, this study looked at wood and whole tree accounting from Jones and O'Hara:  
<https://academic.oup.com/forestry/article/85/1/99/645292?login=true>

Carbon has been explored in water, soils, roots, and large woody debris in other regional studies with JDSF as a replicate. Citations are not included, but topics are listed to illustrate scope of work done using JDSF as a research site.

**14. Carbon inventory and accounting:**

- a. **Has a carbon inventory within the proposed THP areas been compiled?**
- b. **What are the values for standing carbon within the THPs?**
- c. **What fraction of the total pre-harvest carbon inventory will remain within the THP boundaries immediately after the operations?**
- d. **What fraction of removed timber and other vegetation is cull, slash, waste, or otherwise not ultimately ending up as lumber products?**

- e. **How much carbon will be recaptured via regrowth after 10 / 20 / 30 years compared to the incremental capture had the forest been left as is, versus an approach optimized for fire protection versus lumber revenues?**
- f. **Do these values include existing carbon in roots, soils, and non-merchantable vegetation?**
- g. **Are recapture rates assumptions based on historical values or do they consider the almost certainly slower regeneration under anticipated climate change, and associated changes to temperatures, precipitation, and other factors relevant to tree growth?**

JDSF Timber Harvest Plans contain analysis of Green House Gas, while also complying with JDSF Option A- Plan for Achievement of Maximum Sustained Production of High Quality Timber Products. The latter projects harvest and growth by decade over a 100-year period. Growth is projected to exceed harvest, netting an inventory increase of about 50% over that century. Forest Development is the best understood component of forest carbon accounting. The other questions are of interest and some has been investigated as part of watershed or drought research. The variety of forest ages, management history and composition makes JDSF an ideal location to conduct this research. There are opportunities to more completely address details of carbon flux, but the most visible ecosystem component, the conifers, are well understood. Many coastal tree species stump and root systems continue to live after the stem is removed and regenerated by coppice sprouting. JDSF welcomes researchers who wish to study these lesser known aspects of carbon (i.e. roots and soil).

**15. In keeping with JDSF's mission of hosting demonstrations and research, what are the specific demonstration and research goals *with respect to carbon management* within the planned THPs?**

See question 16 response.

**16. Note: In the meeting, CalFire stated that total net carbon (timber only or all vegetation, roots, and soils?) is increasing across the entire JDSF (because overall annualized regrowth across the entire forest exceeds carbon removed in isolated areas during timber harvesting) but it is not clear if this is optimized carbon storage. Key questions center on how to maximize standing storage and marginal storage rates.**

In response to questions 15 and 16: At this point, the current THPs do not contain projects referring to specific “carbon management” measures. Each THP contributes to the long-term management demonstration of growth exceeding harvest, relevant to carbon accounting. Like any management objective, optimizing short term carbon storage could impact larger objectives. Treating harvest activity fuels by lopping and crushing or pile and burn can cycle carbon faster than retention, but can also net lower fire risk. Retaining tanoaks rather than felling them to encourage conifer regeneration may maximize retention short term of carbon retention, but may net larger carbon losses if diseases such as Sudden Oak Death were to spread across the forest.

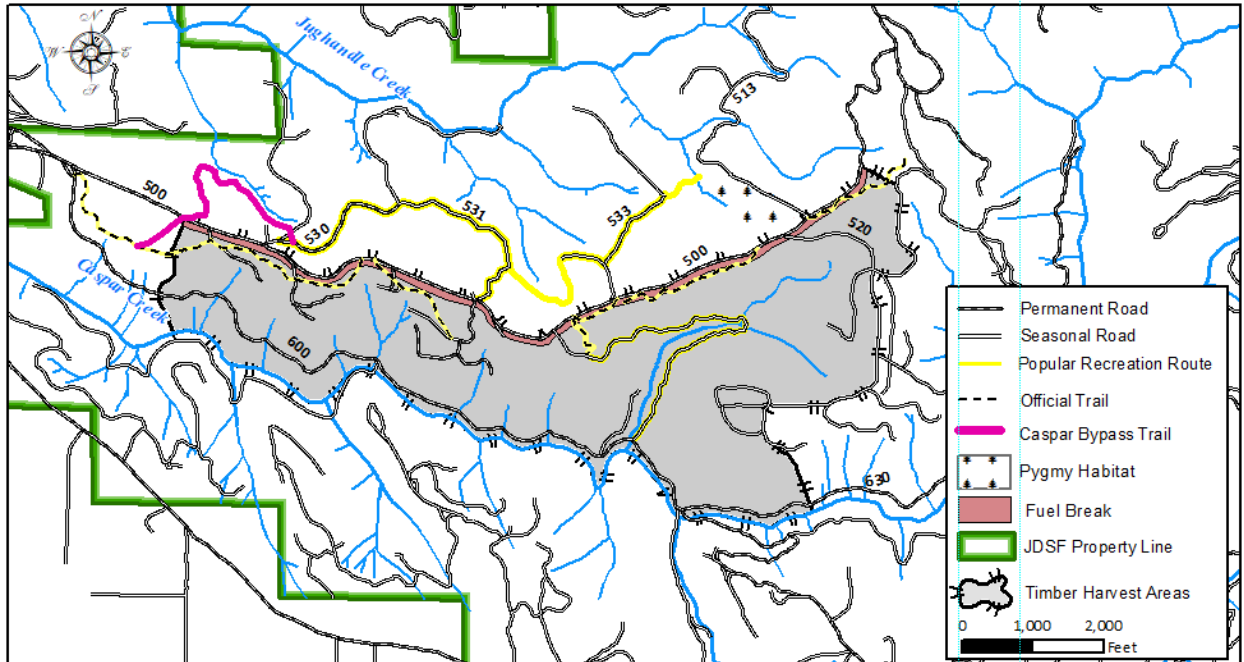
Careful forest management is also directed at creating a healthy and fire resilient forest that will resist a catastrophic wildfire. A forest replacing wildfire and the impacts that has on carbon storage is a concern for forest management.

## RECREATION

### 1. Does that mean you will not be closing bike trails during active logging?

*There may be temporary closures of specific trail segments, but access to the trail network from the trailhead is being preserved by the bypass trail discussed. Closures are being minimized, but some will be necessary for public safety in the immediate harvest area.*

### 2. Any slide/map of these trails? (I know them but others may not)



The map above was created by JDSF staff. Only official trails are shown on this map. The Caspar Bypass trail will be completed prior to start of operations in the Caspar 500 THP.

### 3. I think the financial "hit" you will take will be that from decreased tourism - how much \$\$ does use of the trail system bring in? I know we SPECIFICALLY go to Mendo multiple times a year just for the trails. If the trails are greatly affected, we are not inclined to return.

JDSF does not collect day use fees or recreational user fees except for overnight camping. Use of the trail system brings in no revenue to JDSF, but does contribute to our overall mission of demonstrating the compatibility of recreation and active forest management. We recognize the importance of the JDSF trail system to both the local community and visiting tourists, and strive to limit impacts from the temporary trail closures. Building of the Caspar bypass trail is one example of how JDSF has worked to ensure that there are ample recreation opportunities available during the temporary trail closures. JDSF and the Mendocino Coast have many opportunities for recreation, therefore, regionally there is not an expected decrease in tourism or recreation from the temporary trail closures.

Forest wide, only about 3% of the forest is closed to public use annually because of active management. Within JDSF and locally, recreation is maintained and not significantly interrupted by the implementation of forest management projects on JDSF.

- 4. It's unfortunate that the proposed THP for this year and next are through the most popular recreational trails in Jackson State Forest and that you did not look at the environmental impacts of the THP on recreational use either on a plan basis or overall the total impacts across all 8 THP.**

JDSF practices sustained yield forest management which requires the harvest across the entire Forest (outside of the areas designated by the JDSF Forest Management Plan as reserves). Part of the Cumulative Impacts Analysis (Section IV) of the Timber Harvest Plans assesses recreational impacts. The recreation section considers hiking, biking, mushroom (with permit) collecting, camping, equestrian use, berry-picking, and firewood cutting (with permit). For the Caspar 500 THP specifically, the trails in question are largely user-built and utilized old logging and tractor roads from the 1960's and 1990's timber harvests. Part of the mitigation for temporarily closing the un-official trails within the project area was to formally adopt trails into JDSF official trail network and creating a by-pass trail from the south side of Road 500 to the north side of Road 500. Adopting unofficial trails into the official trail network requires JDSF to maintain the trails and ensure the trails are safe for multi-use recreationalists. Part of the adoption process includes upgrading watercourse crossings on the legacy Road 669 (to be named 'Blue Gum Trail') to accommodate hikers, bikers and equestrian riders. These upgrades include removing the user-built bridges and replacing them with rocked fords and constructing a bridge capable of horse capacity. These upgrades make the trail safe for all users and address erosion concerns. JDSF has been working with the Licensed Timber Operator (LTO) to minimize the trail closures within the area. It is both JDSF and the LTO's hope that the temporary trail closures can work in progression.

For the Redtail THP specifically, the Camp One campground will be open during the high use period that JDSF has documented (end of May to early July). JDSF has found that after the beginning of July, camping within the Forest decreases. There are 63 campsites available on the Forest and the temporary closure of some of the campgrounds during the non-peak season will not have an adverse impact on recreation.

For looking at recreation across the entire Forest, the staff at JDSF work internally to ensure there are ample opportunities for recreation available for the public. At any year, only 3% of the Forest is closed to the public due to active timber operations. In areas that are popular recreation areas, the staff works to plan the Timber Sales in such a way that these areas are not all closed at once. For example, Redtail THP is scheduled to begin operations in April with a break at the end of May until early July to accommodate the high camping season JDSF historically has had between Memorial Day and 4th of July. During this time, Caspar 500 THP area will remain open to the public, with some areas closing mid-June. For times that both areas are closed, JDSF encourages recreationalists to utilize the many other trails available on the forest or explore the many road systems.

- 5. Why are you logging the two forests area that have the most recreational users at this time, namely Caspar 500 and Redtail? These have highly used trail systems? Why didn't you look at the cumulative impact of these timber harvests on recreational users? And why won't you answer this question during your webinar?**

*The next panel will discuss recreation and we can address impacts to recreation then. Thank you.*

See Question 4 response.



**6. Recreation question: The shooting area on Road 408 looks like a dumpsite. Enormous amounts of trash, spent casings, etc., all visible from the road continue to accumulate. Why is this allowed to stay this way?**

JDSF is aware that the rock pit at Road 408 is used as an unofficial shooting area. JDSF staff and volunteers periodically clean up this site. Efforts are made to inform the public about issues related to shooting safety and illegal trash/debris dumping.

**7. Will existing trails be reopened/restored after being closed for logging?**

Trails within the official JDSF trail network and other limited unofficial trails identified in the project that will be adopted into the official network will be reopened and re-established after operations when safe to do so. JDSF is working with the Recreation Task Force and user groups, such as the Mendocino Coast Cyclists, to identify user routes, possible re-routes and upgrades to trails.

Additionally, the Licensed Timber Operator (LTO) is aware of the trail networks on Caspar 500 and is working to minimize impacts to the trail network by avoidance, or in the rare case when that is not feasible, crossing at 90 degree angles.

**8. Recreation is not the only concern**

The Timber Harvest Plans Cumulative Impacts Assessment (Section IV) considers visual impacts as well. The visual experience can be divided into three primary subgroups: 1. driving, biking or otherwise traveling on JDSF Roads, 2. from inside the project area, and 3. distant views from areas within 3 miles. The Silviculture (prescribed treatment) used within the currently proposed plans (Caspar 500, Redtail, Mitchell Creek, Little North Fork Big River, Jug Handle, Old Berry, Boundary Creek) are all un-even aged management which means that JDSF is limited to, by California Forest Practice Rules, Single Tree Selection or Group Selection. Trees have been marked for aesthetic retention along roads and trails. Roads and landings within the project areas will create openings, but will also offer vistas that are not typically found in redwoods. Based on experience, visual impacts from harvest operations will be evident for 3 to 5 years before understory vegetation can fully re-establish, but with the visual buffers left along the roads and trails, the visual impact should be minimal. Additionally, JDSF staff adjusted the Caspar 500 project mark based on public feedback by excluding several hundreds of trees from the harvest that were originally included in the harvest.

**JAG**

**1. It's unfortunate that the JAG is advisory only and that the JAG does not have any real authority or responsibility with regard to management of THPs at JDSF. Its great that you have volunteers committing their time but unfortunate that they don't have any real power.**

The JAG formally reviews each timber harvest plan and votes on whether each plan is in compliance with the management plan. Concerns brought up by the JAG are addressed by staff and project work modified to address issues in compliance with the management plan.

**2. Question for Mike Jani: Aside from the Updated Management Plan (2016), what recommendations from the JAG have actually been implemented or otherwise materially influential in improving JDSF management?**

JDSF answering for Mike Jani, as he is no longer involved. As stated in the response above, the JAG formally reviews each timber harvest plan and votes on whether each plan is in compliance with the JDSF management plan. Many plans have JAG recommendations worked into the

projects. For example, the JAG provided input on development of the Third Experiment for Caspar Watershed. Another example of project recommendations includes the Soda Gulch THP. This THP was originally proposed as a variable retention prescription. After the JAG review, the plan was changed to single tree selection. Changes in 23 Gulch THP were also made at JAG suggestion. Finally, the JAG recommends research ideas to JDSF staff. Based on JAG recommendation, JDSF funded a, now peer reviewed, study of the effects of different hardwood treatments on young redwood.

## **SLASH**

- 1. Fruits! Slash everywhere and clearcuts! Seriously I walk those woods.**  
Please refer to the response for questions 9 and 10 under GENERAL FORESTRY QUESTIONS to address the clearcuts. See slash response below.
- 2. Thank you for discussing wildfire concerns. There are many examples of deep, flammable, and unsightly management of slash and non-merchantable wood and from past THPs in western JDSF. There are also many examples of extremely dense and dry regrowth after prior THPs. Will these practices be unchanged under the proposed THPs? For examples, see <https://www.mendocinotrailstewards.org/gallery-of-slash>**
- 3. Why isn't the slash completely cleaned up after past THP's? The slash could be converted to biochar, perhaps even financed through grants.**

### **Questions submitted after the Town hall meeting**

**Thank you for discussing wildfire concerns at the meeting. There are many examples of deep, flammable, and unsightly management of slash from past THPs in western JDSF. There are also extensive large piles of abandoned non-merchantable logs ("log decks"), which is generally undesirable as firewood, and, even if burned, rapidly accelerates the carbon release. I have seen photographs of many examples at the following website: <https://www.mendocinotrailstewards.org/gallery-of-slash> . There are also many observable examples of extremely dense and dry regrowth after prior THPs which is not subsequently mitigated and which are presumably more flammable than more widely spaced trees prior to the operations.**

- What are the plans to address the excessive slash, stumps, and abandoned logs already present in western JDSF?**
- Will these past/current practices be unchanged under the proposed THPs?**
- If changes are planned, what should we expect to see done differently?**

All projects utilize a combination of treatment for logging residue. These treatments include, mastication, chipping, loop/scatter, and burning. Some slash is utilized for erosion control and to block illegal vehicle access. JDSF has focused treatments in areas of higher risk adjacent to roads. Steep slopes are more challenging because equipment cannot be used. Cull decks will be utilized in different ways; such as firewood, new biochar projects, and in some cases habitat enrichment projects. JDSF recently received state funds to address fire fuel reduction which allows up to potentially re-visit past harvest areas around the forest and treat additional fuels. JDSF staff are always looking for new and innovative techniques to address the topic of fire fuels management.

## **SPECIFIC THP RELATED**

### **1. Where can I find a map of the proposed timber harvest area?**

The JDSF website has a link to Caspar 500 THP, Mitchell Creek THP and Little North Fork Big River THP harvest areas. <https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/demonstration-state-forests/jackson/>

### **2. How much money does this THP stand to net? What percentage of that does JDSF plan to contribute to directly to climate change mitigation; carbon sequestration; recreation; education; ecosystem restoration; public enjoyment; spiritual health?**

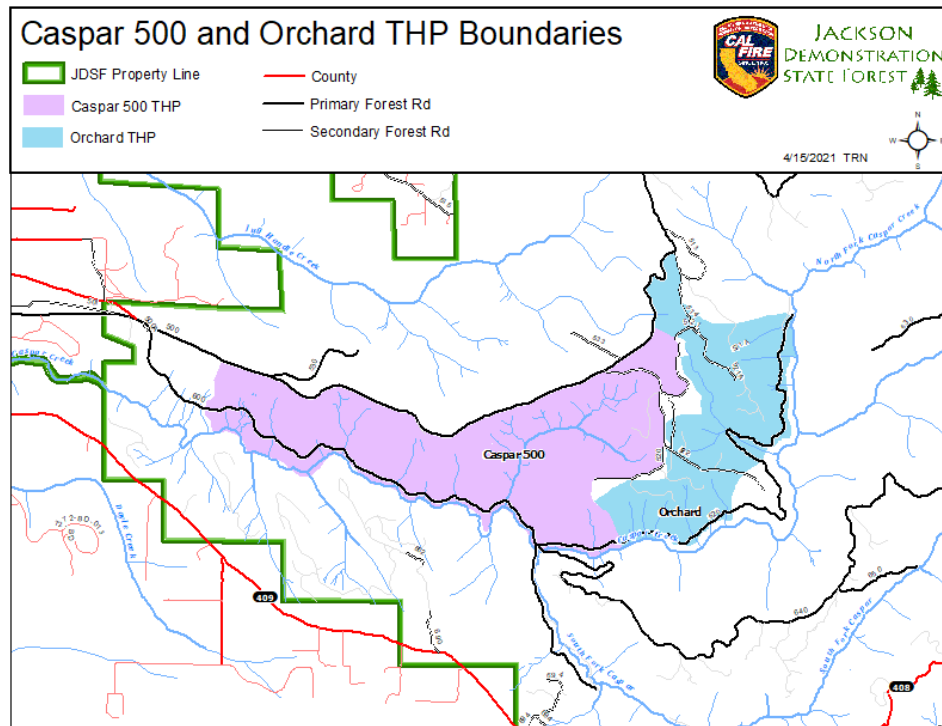
Net proceeds, or revenue, for the Caspar 500 Timber Sale will be \$3,519,577.81. Timber is sold through a competitive bidding process to ensure the State receives fair market value. The timber sale also requires the purchaser to perform road upgrades, trail upgrades, slash treatments, eucalyptus treatments, install a shaded fuel break, and pay timber yield taxes to the County.

By law, all funds generated through timber sales are deposited in the Forest Resource Improvement Fund (FRIF) and only available for management of the Demonstration State Forests. Major expenses include staff salaries, recreation upgrades, road upgrades throughout the Forest, restoration projects on the Forest (tree planting, stream restorations, etc.), fuels treatments, invasive weed management, equipment to better manage the forest, research and demonstration projects, and outreach material. For Caspar 500 THP specifically, there is a \$30,000 recreational bridge that will be installed to accommodate the multi-use 'Blue Gum Trail' being adopted. This price includes the bridge, the staff hours to install the bridge and the cost to deliver the bridge to a difficult to access area.

Unique to State owned properties, Demonstration State Forests are also required to pay "in-lieu" property taxes annually to the County, just as any private timberland owner would.

### **3. Why is the Caspar 500 plan about to be conducted in an area that was entered but 7 years ago? Page 78 of the management plan states that areas of 'single tree selection' management prescription are on a 10-25 year rotation. Why are you rotating back into this area at this time?**

Caspar 500 THP is **NOT** in an area that was entered 7 years ago. Caspar 500 THP is adjacent to Caspar Orchard THP that was harvested 7 years ago (See map for plan boundaries). It shares the same road network which is allowed under the California Forest Practice Rules. Depending on where within the project area you are, the Caspar 500 THP was last entered in 1995 and the 1960's.



**4. Could you please tell the audience about any research projects will be initiated in the upcoming timber harvest areas, including the Caspar harvest?**

*If we don't have time to address this live, each timber harvest has an information sheet posted on our website that discusses the research component of each project.*

*<https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/demonstration-state-forests/jackson/>*

Specific Demonstrations are listed by THP. For further information on these demonstration, please see the weblink above:

Caspar 500 THP Demonstrations

1. Implementing the second entry of gap selection
2. Eucalyptus Treatments
3. Create a shaded fuel break along Road 500 to promote fire preparedness for both the neighboring communities and the Forest.
4. Demonstrating how recreation use can be integrated with timber management activities and be compatible.

Mitchell Creek THP Demonstrations

1. Creating a Shaded Fuel Break along Roads 508, 510 & 511 to promote fire preparedness for both the neighboring communities and the Forest as part of the JDSF Fire Protection Plan.
2. Developing a Mitigating wildfire hazard in the redwoods research project with Pascal Berrill, Yana Valachovic, Robert York, Michael Jones and JDSF Staff.

Little North Fork Big River THP Demonstrations

1. Demonstrating a Late Seral Development silviculture by using timber harvests to enhance forest structure.

2. Highlighting that recreation and timber harvesting are compatible on the landscape.  
Working around trails and re-establishing trails after the completion of timber operations.

#### Redtail THP Demonstrations

1. The Pleiades Uneven-aged Silviculture Demonstration aims to attain a balanced age mix in the short and long term, regulated stocking level, and recruit regeneration long term with a reverse J-shaped diameter distribution. This entry will utilize a cluster selection silviculture to create small openings in the stand for regeneration.
5. **Both the Mitchell Creek area and the LNFBR hasn't been entered by CAL FIRE.**  
The Mitchell Creek area was entered in in the 1960's and in the 1990's. Little North Fork Big River has not been entered since the early 1900's. CALFIRE JDSF is entering this stand to decrease the fire risk to the Forest and our neighbors at Mendocino Woodlands State Park, promote a healthy forest by removing less vigorous trees, and promote redwood regeneration to help establish the complex stand structure that Late Seral Development areas (old growth forests) are known for.

#### GENERAL FORESTRY/HARVEST QUESTIONS

1. **What entity is responsible for the actual logging operations at JDSF?**  
*Our timber is the property of the State of California and is auctioned to the highest bidder. The timber sales with all the associated road work and fuel reduction is designed by CAL FIRE Registered Professional Foresters.*
1. **What % of JDSF resources are aimed at restoration work compared to that aimed at resource extraction?**  
The only resource harvested by JDSF is timber which is a renewable, sustainable resource and therefore not resource extraction. JDSF demonstrates how timber harvesting is sustainable and even with continued harvests throughout the forest, JDSF has an increasing inventory of tree growth that can be equated to carbon. Restoration work is often part of a forest management project, that includes robust environmental review as required by CEQA (California Environmental Quality Act) and is funding by the sustainable harvests.
2. **Aren't the commercially viable trees the larger, healthier trees? These are the ones that are removed in a THP.**  
The trees planned for both retention and harvest are based on JDSF Management Plan. Some areas are designated to develop Older Forest Structure and others are to develop a mixed age structure know as uneven age. The currently proposed plans (Redtail, Caspar 500, Mitchell Creek, Little North Fork Big River, Old Berry, Boundary Creek and Jug Handle) all prescribe uneven aged management. For this method to be sustainable long term, new trees must be recruited either individually, single tree, or in small gaps (groups). When marking, the staff considers many stand characteristics such as defect, disease, age of the tree, wildlife habitat components, tree crowding, and species composition. These stand characteristics are combined with long-term projection of what the stand will look like in 15-20 years. Staff will mark suppressed, less vigorous trees with defect first and then move into other categories depending on the specific stand goals. JDSF has been managed in such a way that there are a high number of large trees across the Forest, which allows the harvest of a percentage of these larger trees so that the next generation of trees can become established. Many times, these larger selected

trees have some defect or some other reason for being removed. Cutting a few larger trees allows space for the remaining trees to grow larger, thus promoting a forest with a mix of tree sizes.

**3. What is the trend in standing volume of trees over 24" (or over 32") in the last 20 years? And projected going forward the next 10 years?**

JDSF has conducted two extensive inventories (>4,000 plots) about a decade apart known as FRI-Forest Resource Inventory. The FRI inventory was done by a contracted third party. Using this data from 2005 to 2016, the gross volume in Board Feet Scribner (BF) increased by 5,881 BF/acre for all species greater than or equal to 36 inches. Including trees larger than or equal to 24 inches the increase was 9,076 BF/acre. This was a net increase which does not include the amount removed by harvests.

The Option A modeled decadal growth and harvests from 2009 to 2109. Its projected decadal growth without harvests was 21% and 10% net after harvests. The actual data shows a 19% increase over a slightly different time span.

There were also questions about species and Quadratic Mean Diameter (QMD). This is Table 5 from the Option A showing modeled increase in QMD forest wide from 2009 to 2109. The QMD, for all species, increased from 20.2 inches in the 2005 to 20.8 inches in 2017. For young redwoods, the QMD increased from 21.2 inches in 2005 to 22.4 inches in 2017.

Period	1	2	3	4	5	6	7	8	9	10	11
Forest wide	14.3	16.3	17.6	18.4	19.0	19.6	20.3	20.9	21.4	22.1	22.2
Matrix	14.2	16.6	17.8	18.2	18.2	18.6	19.0	19.3	19.7	20.3	19.7
WLPZ	15.0	16.5	17.8	19.2	20.4	21.6	22.7	23.8	24.8	25.7	26.6
OFDA	13.9	15.3	16.6	17.9	18.9	19.7	20.4	21.1	21.5	21.9	22.5
LSD	15.9	17.3	18.6	20.0	21.4	22.7	23.9	25.1	26.2	27.2	28.2
Research	15.1	17.6	19.2	18.8	19.5	19.6	20.2	20.0	20.4	21.2	20.5
All Managed Acres	14.4	16.4	17.7	18.4	19.0	19.6	20.3	20.8	21.4	22.0	22.0

**4. Why do you not complete botanical studies prior to approving a THP?**

We endeavor to include a complete botanical report when we submit a THP, but timing can be challenging. Botanical surveys are conducted over multiple seasons (Spring, Summer and Fall) to identify rare species during the appropriate season. JDSF has a long-standing record with completing botanical surveys before the start of operations and protecting species of concern, threatened, endangered and rare species. This commitment includes prioritizing protection of rare plants by controlling invasive weeds that threaten occurrences.

**5. What about the drought? How does removing redwood trees from the forest make it more fire resilient in these dry times?**

JDSF is concerned about the drought as well. By harvesting redwood trees from the forest, we are freeing up resources such as water and nutrients for the remaining trees. Harvesting trees can increase availability of soil water on the landscape until the forest regrows. The Caspar Watershed study showed that summer stream flows increased short term after harvests. An extreme example of this drought / crowded forest issue was in the Sierras several years ago, as

bark beetles killed drought weakened trees. In contrast, the redwood forest did see only limited mortality of some species to date.

The other benefit of removing trees during this dry times is creating space between the trees or a canopy gap. Some crown fires will drop to the ground, where it is easier to control, posing less of a risk to fire fighters and neighboring communities and is potentially less damaging. The road networks throughout the Forest are being upgraded with each Timber Harvest Plan, which allows fire personnel to gain access into these areas more efficiently.

**6. It's designed by CAL FIRE registered RPFs but then the actual logging is performed by the private timber company that purchases the timber sale correct?**

*Correct, our Registered Professional Foresters design and oversee the logging operations. The actual logging contractor is selected through a competitive bidding process to ensure the State gets [a fair price for the trees].*

**7. What are some new methods of forest management that have been developed in the last 5 years?**

Forestry is a science that is ever evolving and adapting. It integrates with restoration, recreation and wildlife biology as well. New technologies and methods are being researched on JDSF and other locations every year. Bear in mind that research takes time to conduct and then publish, which can generally take anywhere from 3 to 8 years, if not longer, to complete. Some examples are below:

1. Light Detection and Ranging (LiDAR) is a remote sensing methods that uses light in the form of pulsed laser to measure ranges (variable distances) to earth. LiDAR technology is being developed to help land managers “look under the trees” to see the topography of the landscape below. The recent Lidar data set has been used by foresters and geologists to more accurately identify unstable features, legacy roads, and other unique features on the landscape. Staff is embracing the canopy models from LiDAR to identify forest structure for wildlife objectives.
2. Drone technology is rapidly advancing, but drone use has inherent risks and can be negative to wildlife and forest visitors. JDSF requires permits and licensing for drone use on the forest. Drones have been used for fine scale LiDAR tree mapping, post-harvest mapping and even to help with logging operations.
3. To better understand amphibian distribution a Washington State University study is using environmental DNA (from streams) along with field surveys. This study will have published results in the coming 2-3 years.
4. Based on JAG recommendation, JDSF funded a, now peer reviewed study, of the effects of different hardwood treatments on young redwood growth.
5. JDSF partnered with local timber industry managers and University Researcher to study how coastal redwood genetics play a role in returning redwood forests to degraded grazing lands that once supported redwoods. The results were published just last month.
6. The Caspar Experimental Watershed, that JDSF conducts in conjunction with the USFS, has produced numerous papers over the last 50 years that have influenced current forestry practices throughout the state. Specifically, underway now are studies of restoring watercourse crossings, abandoned roads, and test the effectiveness of the California Forest Practice Rules as well as soil water/ forest relationships.

7. In the last 5 years, feller bunchers have been utilized more on the coast. Due to the topography and terrain, it is difficult to introduce new equipment into this region. With technology developing and evolving every year, the equipment becomes more efficient. The South Fork Caspar THP used a thinning prescription that was developed considering the subtle differences in yarding by the new equipment.
  8. The Management Plan designates a significant portion of the forest (>30%) as Older Forest Structure Zone. Where harvests are allowed in this area, foresters use nuanced and various techniques to further the goal of increasing wildlife habitat and other old forest attributes.
- 8. Many of the recent (last 4 years) timber harvest areas that I have hiked into and through (off of 409), off of 408 out near Hwy 20. and at the top of the hill before you head down to The Woodlands), have been clear cut. All of the presentations that speak of thinning and selective management sound great, and we need that type of forestry to keep the forest healthy, but that's not what I've seen done. What does clear cutting demonstrate and how is that good forest management?**

See answer below

- 9. This all sounds lovely, unfortunately those of us who have clear cuts in our backyard live a very different reality.**

This response is to both 9 and 10.

JDSF is a unique demonstration forest because it illustrates all aspects of forest management. For JDSF to be relevant for all landowners and those concerned about redwood forests, the management plan allows about 26% of the Forest to use the option for even-aged management (thinning and regeneration harvests). Within that 26%, the JDSF Forest Management Plan, has a cap of 2,700 acres (5.5% of the Forest) per decade that can be managed under even-aged regeneration harvests. Many of the older clear-cuts, and all the recent ones, have a research component. Redwood forest structure is so complex and variable that the uniform structure of clear-cuts is needed to help explore more subtle ecological effects and yield highly creditable research results. JDSF's lands, with old and more recent clear-cuts, have been researched by ecologists to understand how the flora changes with time. Though clear-cuts have declined regionally and at JDSF, the timber industry continues to utilize clear cuts to reestablish forests.

The heavily cut areas off Road 409 and Road 408 are part of a research timber harvest plan within the Caspar Experimental Watershed that is studying the effects of different levels of harvests on the watershed. The research designed specified a range of harvest intensities (0 to 75% stand removal) across the project area. Due to California Practice Rules and the JDSF Management Plan constraints (such as stream and visual buffers), some areas within the plan required higher retentions, which then necessitated removing more trees from specific areas to meet the goals of the study (weighted average density reduction). This intensive harvest removal took place on about eight percent of the harvested South Fork Caspar Watershed. The results from the Caspar Experimental Watershed have influenced the California Forest Practice Rules, land manager decisions and continues to be a source of knowledge.

All the currently proposed plans (Redtail, Caspar 500, Mitchell Creek, Little North Fork Big River, Old Berry, Boundary Creek and Jug Handle) prescribe un-even aged management which limits the treatments to Single Tree Selection and Group Selection. No clear-cuts are proposed in these projects.



## Questions received after Town Hall meeting

1. **Also related to wildfire, the slide showing how the Goat Fire (2020) ceased crowning in one area that had been thinned was fascinating, and presumably a good example of there being particular management practices that can reduce the destructiveness of wildfire.**

- **What was the size of the treated area relative to the size of the area that ultimately did not crown?**
- **What exact type of fuel reduction had been conducted in the area shown to have been resistant to the crown fire?**
- **How does that reduction method compare with what will occur under the JDSF THPs?**

(in response to the 3 bulleted questions above)

The Goat fire was in 2000. The Hog fire burned through the same area in 2020 and was stopped using the same fuel break. Please see the links below for more information on this fuel break. [https://www.fire.ca.gov/media/5585/fuel\\_break\\_case\\_studies\\_03212019.pdf](https://www.fire.ca.gov/media/5585/fuel_break_case_studies_03212019.pdf)  
<https://www.youtube.com/watch?v=OKsbltNlzJY>

In general, thinning creates space between the trees. When tree crowns are touching, fire moves more readily from tree to tree. Reducing the number of trees within the stand creates open space between the trees or “breaks in fuel continuity “, so in many fire conditions, a fire will drop from a crown/canopy fire to the ground where it is easier to control, poses less of a risk to fire fighters and neighboring communities and is potentially less damaging.

Creating shaded fuel breaks in strategic locations across the landscape is a well-established and successful method to reduce fire risk. At JDSF, shaded fuel breaks will be created via commercial thinning in conjunction with fuels treatments, i.e. reducing understory brush, slash from timber operations, and downed woody debris. Specific fuel treatment methods include mastication, chipping, pile burning, and broadcast burning. The fuel treatments either reduce the fuel quantity or change the fuel continuity, or continuousness, both vertically and horizontally. Changing the fuel continuity changes the fire behavior for example reducing flame lengths. Shorter flame lengths can prevent fire from igniting the canopy trees.

JDSF is using a combination of these fuel treatments with the thinning proposed in the currently proposed THP’s (Redtail, Caspar 500, Mitchell Creek, Little North Fork Big River, Old Berry, Boundary Creek and Jug Handle). Each project area has site specific factors and limitations that limit which fuels treatments are appropriate. The number of project areas and treatments presents a unique demonstration opportunity for landowners and the public to see examples of the available options.

2. **Second-growth redwoods have also become rare as a result of past THPs. The remaining second-growth trees comprise significant stores of carbon and providers of other ecosystem services.**

JDSF management focuses on creating and maintaining a range of forest conditions that will continue to conserve and enhance older forest structure on 30% of the forest. Stands of “pure” second growth that have not been harvested again are limited on JDSF, but individual second growth remain very common. In comparison with unthinned forests, JDSF’s light harvests continue to thin second growth stands and have contributed to individual second growth trees of larger size. The Older Forest Structure Zone links old growth groves with management that will provide opportunities for second growth to develop old growth characteristics (Late Seal Development). The Older Forest Development Zone also balances sustained harvests with

enhanced wildlife and aesthetic values that many small private landowners manage for. These areas will be resources to better understand how climate and fire can be addressed on a range of redwood forest management objectives.

The JDSF Management Plan recognize that older trees, especially old growth, have ecological value. In addition, wildlife protections required by State and Federal laws include protections of forest with habitat attributes such as marbled murrelet habitat. The JDSF Management Plan describes, in detail, what is considered an old growth tree. This is used to differentiate between old growth and large second growth trees. Per JDSF Management Plan, “an old growth conifer tree is any live conifer, regardless of size or species that was present in the original stand before the first historic logging on JDSF (1860), based upon the professional judgment of JDSF staff. The evaluation focused on wildlife habitat attributes not only size. Characteristics often found in old-growth trees that can help identify them are: The bark is more deeply furrowed and more weathered on old-growth trees than on young-growth trees, often having a plated appearance. Bark scorching may be heavier on old-growth trees, indicating that they were present during fires that occurred before the first logging in the Forest. A tree size that is larger than would be expected for the stand age, management history, and site quality may indicate an old-growth tree. Limbs often significantly larger in diameter than expected for the stand age, site quality and canopy closure may indicate an old-growth tree. Limbs often extend from the trunk at more of a downward angle than in common in younger trees.”

The plan lists a specific standard (excerpted from the Jackson Demonstration State Forest Management Plan, 2016, Page 104) that builds on the more general description above with:

“Old-growth conifers that also have one or more of the following structural characteristics will be retained unless specified otherwise in the Plan:

- a. DBH greater than 48 inches.
- b. Goose-pen (an opening one foot or more in diameter inside and above the top of the trunk opening).
- c. Platform branches greater than 8 inches in diameter.
- d. Exfoliating flanged bark slabs.
- e. Chimney top (hollowed upper stem).
- f. Dead top at least 16 inches in diameter and 16 feet long”

Thus, a large tree is not necessary considered old growth and it recognizes that a less charismatic tree with a dead top and large limbs has ecological basis for retention.

The Jackson Demonstration State Forest Management Plan designated Older Forest Structure Zone includes: Old Growth Reserves – 459 acres, Watercourse and Lake Protection Zone areas – 7,440 acres, Woodlands Special Treatment Area – 2,511 acres, Late Seral Development and Older Forest Structure Development – 15,801 acres. There are now currently additional limitations or prohibitions on harvest that create an overlay of regulatory wildlife areas: Northern Spotted Owl- 76 Activity Centers/31 Territories; 2,713 acres of no harvest core protection area, Marbled Murrelet Habitat: 43 Potential Habitat Sites; 787 Acres of protection area.

Other protected areas are Pygmy Forest/Jughandle Reserve – 860 acres. Special treatments are required in: Buffers for Neighbors – 875 acres, State Parks Special Treatment Area – 415 acres, and Campground Buffers – 133 acres as well as along road and trail corridors.

**3. How many second-growth redwoods are within the proposed THP boundaries?**

Since second growth redwood stems that sprouted from a single stump can vary from small to large, and that thinning has enhanced the growth of some trees, a second growth tree could be anywhere between the diameters of 8 inches and 80+ inches. Hence some third growth redwoods are now larger than some second growth redwoods. Age alone does not determine ecological value or even economic value. JDSF does not inventory individual trees as second or third growth, and so on.

Within the Caspar 500 THP, the inventory (done by a third party) indicates that there are approximately 68 redwood trees per acre or one every 25 by 25 feet. Caspar 500 THP is 533 acres resulting in approximately 36,137 redwood trees within the THP boundaries.

**4. What percentage are slated to be cut as part of the harvest?**

Within the Caspar 500 THP about 17% of the redwood trees are marked for harvest. The entire Caspar 500 THP is proposing to harvest approximately 30% of the overall stand across all species within the harvest boundaries.

**RESTORATION**

**1. Re. Bunker Gulch and its road decommission, was road 440 decommissioned up to HWY 20? Was Road 445 reconstructed as an alternative?**

JDSF prioritizes improving stream habitat by decommissioning roads near streams and restoring stream habitat. This is done by a combination of grants as described by the Mendocino Land Trust and as part of timber sales. The Bruker Gulch project is a good example. The road decommissioning removed the riparian road portion of the road in collaboration with the Land Trust. Only a short upland segment for access remains. A new ridge top alternate access (Road 490) was developed during prior THPs that also decommissioned a segment of road on Hare Creek upstream from Bunker Gulch. Road 445 crossed landslides so that segment was decommissioned. This is an example of how long term watershed wide planning is needed to address legacy road problems.

**2. Will some of these restoration benefits be diminished by the proposed 5000+ acres of land that is scheduled for logging as well as the miles of new timber roads that will be constructed over the next five years?**

*The timber sales include streamside buffers that restrict heavy equipment and limit tree harvesting. There are also road maintenance on upgrades that occur. These mitigations and improvements are designed to protect aquatic environments, and the restoration benefits [of] the projects you just heard about during timber harvests.*

Both the THP process and the JDSF Management Plan focus on JDSF identifying opportunities within the harvest projects to fix road and stream issues. THPs typically contain projects to reduce road effects on streams; specifically replacing outdated culverts, improving drainage, and insuring fish passage to blocked stream segments. JDSF also has a goal to decommission as many forest roads as feasible to minimize road effects on watersheds. The THP process integrates and subsidizes environmental analysis (CEQA) and funds for road and watercourse,

upgrades, improvements and restoration work. Grants and partnerships complement these efforts.

**3. Where can data be found about the efficacy of the stream restoration project be found? Are the fish responding to these efforts?**

Per Mendocino Land Trust, "Significant changes in the amounts of large wood, complex pools, and predicted Coho Salmon rearing capacity were observed within 1 year of treatment. Six years after treatment, the amount of large wood remained significantly higher than pretreatment levels by 100%, complex pools remained significantly higher than pretreatment levels by 800%, and Coho Salmon rearing capacity remained significantly higher than pretreatment levels by 32%, and the surface area of pools and gravel increased significantly over pretreatment levels by 15% and 8%, respectively."

For clarification, JDSF edited the above statement.

JDSF has played a significant role in pioneering the restoration of large wood to streams, including the Parlin Fork project in 1996. Another example of JDSF being a part of stream restoration research is the comparison of large woody debris vs. no large woody debris with Pudding Creek. The main stem of Caspar Creek was the no treatment control for the well-designed study of large wood addition to Pudding creek (See link below).

[https://www.researchgate.net/profile/Sean\\_Gallagher5/publication/276109744\\_Investigation\\_of\\_the\\_relationship\\_between\\_physical\\_habitat\\_and\\_salmonid\\_abundance\\_in\\_two\\_northern\\_California\\_streams/links/5550de0108ae12808b390d9d/Investigation-of-the-relationship-between-physical-habitat-and-salmonid-abundance-in-two-northern-California-streams.pdf](https://www.researchgate.net/profile/Sean_Gallagher5/publication/276109744_Investigation_of_the_relationship_between_physical_habitat_and_salmonid_abundance_in_two_northern_California_streams/links/5550de0108ae12808b390d9d/Investigation-of-the-relationship-between-physical-habitat-and-salmonid-abundance-in-two-northern-California-streams.pdf)

The links below are publications about large wood as a restoration tool:

<https://www.tandfonline.com/doi/abs/10.1080/00028487.2013.852623#preview>

<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/california/salmon/woodforsalmon/Pages/default.aspx>

**GENERAL QUESTIONS ABOUT WEBINAR**

1. **Will the meeting be recorded and made available to the public?**  
*Yes, it is posted to the Jackson Demonstration State Forest website.*
2. **It is unfortunate that this is given as a webinar- it is a tourniquet to actual discussion with the public.**
3. **Not sure why you are only selectively publishing people's comments. This is not a public dialogue.**
4. **It is nice that you are having this lecture, but it would be nice if you would allow the community to comment on projects that are highly controversial at this time. This feels very one-sided.**
5. **#notatownhall**
6. **no public dialogue**
7. **very unfortunate**
8. **Would you please read the questions to listeners, so we all know exactly what questions are being asked, prior to answering the questions?**

In Response to all questions and comments under General Questions about Webinar

Jackson Demonstration State Forest (JDSF) thanks you for your participation in the Town Hall meeting. JDSF recognizes the in-person conversations are the best form of communication, but to keep everyone in attendance safe and comply with current COVID-19 restrictions we choose the webinar format. This format also allowed attendees who may not have been local to attend.

To keep to the schedule and allow all the speakers their time, the questions were sent through the chat box. An opportunity to comment by using the “raise hand” function of the webinar was provided and presented in the introductory remarks, but no audience members did so. There were many very excellent and complicated questions that came in, that we felt we would do them a dis-service in answering them in 30 seconds. This Question and Answer document is our way of addressing the questions raised.

JDSF is happy to continue this conversation with the public. Please feel free to call our office at 707-964-5674 or schedule a tour of one of our proposed Timber Harvest Plans that is socially distanced and outside.