



Overview/Background Information

The Upper Ninemile Forest Health (UNFH) Targeted Implementation Plan (TIP) includes all the private, non-industrial forested lands beginning south from Butler Creek and extending north to the remaining private parcels at the upper end of the Ninemile Creek Drainage. The total acreage of private forested lands within the Upper Ninemile TIP boundary is 8,359 acres. Pasture, cropland and riparian areas along the mainstem of upper Ninemile Creek total 2,372 acres. These associated agricultural land acres are included in the TIP boundary but are not addressed in this TIP proposal. Additionally, 7,157 acres located along the periphery of the TIP boundary is federal land associated with the Lolo National Forest (Figure 2).

Although the UNFH TIP boundary is a relatively large area at 17,888 total acres. It's important to note that acres eligible for treatment, landowners willing to participate in Farm Bill Programs, as well as landowners who meet the eligibility criteria for Farm Bill programs represent about 30 percent of the total acreage in the area and are fragmented within the TIP boundary. This percentage is derived from data and information garnered from public outreach events along with NRCS technical assistance work previously provided to landowners who reside in the Ninemile Creek Drainage. In an effort to target a contiguous area for public outreach efforts and not exclude small acreage landowners, the focus area boundary was expanded to include known ineligible areas.

The primary forest habitat types identified in the focus area include Ponderosa pine/snowberry and Douglas fir/ninebark at elevations below 4,000 feet (where private property tends to be found), transitioning to Douglas fir and Western larch stands as elevation increases. Ninemile Creek and its tributaries flow through the focus area and support a variety of species including bull trout and westslope cutthroat trout. The Upper Ninemile TIP will work to preserve the integrity of timber and agricultural production, as well as upland and aquatic habitat by improving the health of local plant communities and working to ensure that a healthy and defensible buffer is maintained around these sensitive surface water resources.

The vast majority of private forested land within the project area had been commercially logged in the 20th century, either by current or past ownership. Most of the stands were heavily cut when harvested, leaving an open landscape or un-marketable trees. In areas where the stand had a more moderate treatment, the regeneration has not been thinned and now stand health is in decline due to the over population of young trees. The forested landscape today in the Upper Ninemile is characterized by both well managed and properly stocked private forested units as well as forested units with heavily stocked regeneration and suppressed leave trees. Many of the acres of the suppressed stands have multiple tree species that have been negatively impacted by disease and insects, resulting in reduced forest health and increased fire risks associated with accumulating dead or downed dried fuels. Disease and insects have also reduced viability, or in severe cases, caused mortality in several stands. Pine beetle, spruce budworm, mistletoe, fir engraver, western gall-rust, and root disease account for most of the reduced viability and tree mortality. These disease and insect pressures will continue to spread, leading to a continued increase in tree mortality and the creation of fuels until more resistant species are managed for or the individual infected trees are removed from the landscape.



Missoula County is heavily forested making forest health and fire preparedness among some of the most prevalent concerns in the county. The Natural Resources Conservation Service (NRCS) Missoula Field Office and U.S. Forest Service (USFS) has been very active in planning and implementation of forest management projects throughout the county for many years. In addition to NRCS and USFS efforts, the Montana Department of Natural Resources (DNRC) and Missoula Conservation District (MCD) have also worked with private landowners to reduce hazardous fuels on properties throughout the county, including property within the focus area.

The Upper Ninemile focus area will complement the Wildfire Adapted Missoula (WAM) project, submitted under the Joint Chiefs Initiative in October 2018, and supports the county wide Community Wildfire Protection Plan (CWPP), which was developed through the collaborative efforts of Missoula County local government, and Rocky Mountain Research Station. The CWPP wildfire risk assessment process focuses on the areas identified as elevated risk in the CWPP and the community & general protection zones within the National Forest. CWPP planning identified that the Ninemile area has a high to very high burn probability and has a significant number of homesites intermixed throughout the wildland-urban interface (WUI) as well. The Ninemile Road (a two-lane county road) serves as the primary access into and out of the area, and in the event of a wildfire would serve as the only practical egress for the public to evacuate, and ingress for firefighting activities. This presents a significant public safety issue.

The project area has been chosen because of the residents' interest in forest health and fire safe practices. Initial interest was gauged at a local landowner meeting for the group in early 2020. The focus area was identified and delineated in cooperation with both landowners and partners from a variety of stakeholders within the county with the objective of complementing on-going or planned forest health partner projects within the Ninemile Creek Drainage. The overall goals and objectives of the TIP are to improve forest health, and wildlife habitat, reduce wildfire hazard, and improve fire preparedness while reducing insect and disease pressures on good quality leave trees growing within private forested acres. The Missoula NRCS Field Office along with partners including the DNRC, MCD, USFS, Missoula County Local Working Group (MCLWG), Missoula County Office of Emergency Management (MCOEM), Missoula County Weed District, and Montana Tree Farm, have identified the Ninemile Creek Drainage area as a priority for this effort.



Upper Ninemile Forest Health TIP Proposal

For: Missoula County, Montana

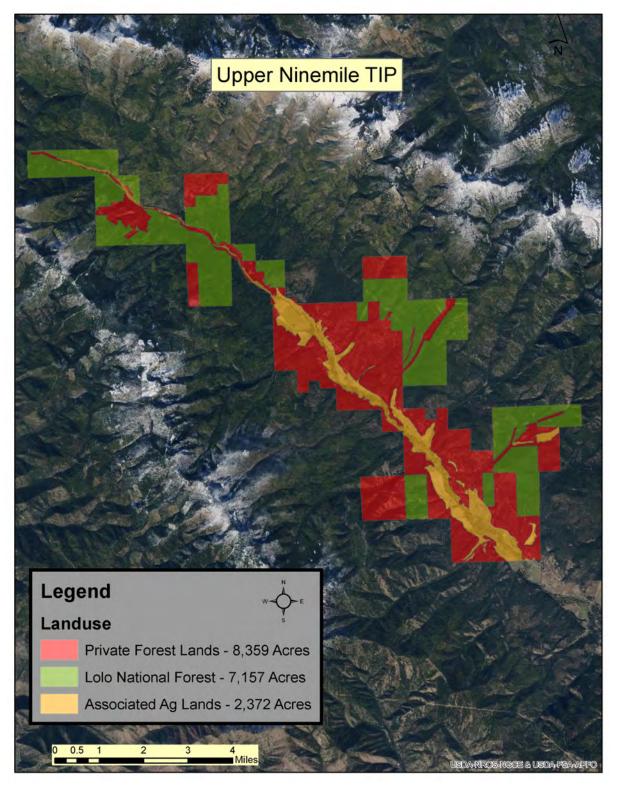


Figure 2: Upper Ninemile TIP project area



Problem Statement

The **primary resource concern** in the Upper Ninemile focus area is **plant productivity and health.** Secondary resource concerns identified for this proposal include plant structure and composition, plant pest pressure, along with wildfire hazard from biomass accumulation. Forest landowners who reside in the Upper Ninemile are experiencing increased pressure from threats such as insects, disease, wildfires, extreme weather and drought on their land and resources. For plants that grow within a forested ecosystem to produce the expected yields and help create preferred timber related products they must be adapted to the site on which they are growing and be provided with the appropriate amounts of nutrients, water, and sunlight and be resilient to weeds, insects, and disease pressures.

Wildfires and declining health of forestlands are a growing concern amongst citizens of Missoula County. Tree stands within the Upper Ninemile focus area have historically experienced frequent, low intensity wildfires characterized by low stem densities of shade-intolerant species such as ponderosa pine. Decades of fire suppression has allowed stem densities of shade-tolerant species to greatly increase. The high number of trees per acre has resulted in competitive stress through competition for growing space, water, nutrients, and sunlight. The health and vigor of these forests substantially decrease when trees are stressed from overcrowding. The overcrowding has been a result of previous forest management or lack thereof. Trees that are stressed grow slower and take longer to mature into a merchantable product. Tree stress is further exacerbated by moderate to severe western spruce budworm defoliation and Douglas-fir dwarf mistletoe. Competitive stress and poor tree vigor provide opportunities for insects and disease such as Douglas-fir beetle and mountain pine beetle to establish and spread. This disease and insect caused mortality adds to the fuel load and makes fire suppression activities more difficult.

Wildfires, especially low intensity fires, are natural in warm dry forest ecosystems. These types of fires leave live trees and a forest that can recover and regenerate after the fire. Fire management along with forest management in the past century has emphasized fire suppression, which has shifted the forests from fire resilient forests to densely stocked forests that are more susceptible to stand replacing fire events. Shifting species composition and a buildup of hazardous fuels has caused Missoula County to see more frequent catastrophic large fires than it has in the past. With wildfires also comes the concern of people living within the WUI and their knowledge of wildfires and how they can prepare for a wildfire on their property. It is important for people that live in a WUI to know how they can decrease the likelihood of their homes and structures from being destroyed in a wildfire. This awareness is both important for the community members and firefighters who can better manage fires around structure if the proper precautions are taken.

In addition, the prevalence of noxious weeds within some forest stands can limit the growth of desirable understory plants, negatively affecting key wildlife species. Supportive practices such as herbaceous weed treatment can also be implemented within forested acres to reduce the spread of noxious weeds. Where disease and insect pressure are a concern, the intermediate silvicultural treatment scenarios can address root rot disease, or trees affected by pine beetles by reducing competitive stress and creating forest stands that are more resilient to disturbance.



Goals and Objectives

- 1) Improve forest health, increasing stand resilience to insects and diseases.
 - a. The Missoula NRCS Field Office along with the Montana Department of Natural Resources and Conservation (DNRC) will collaborate to develop Forest Management Plans (FMP) with silvicultural prescriptions for each participant with consideration for long-term forest health and resiliency.
 - b. Work with partners, primarily DNRC, to identify insect and disease outbreaks in the project area that may have damaging effects on forest health and cause an increase in hazardous fuels.
 - c. Complete at least 1,450 acres of treatment over five years leveraging the assistance of multiple partners
- 2) Reduce hazardous fuels to minimize wildfire impacts and decrease the likelihood of stand replacing fire events.
 - a. This objective will go hand in hand with the above objective as many NRCS practices can be used to help make forest stands resilient to both wildfire and insects and disease. The Missoula Field Office will use NRCS practices to achieve this goal along with help from DNRC with creating FMP's that emphasize forest wildfire resilience.
 - b. Improve wildfire resiliency through decreased fuel loads.
 - c. Progress will be measured by overall acres treated while also looking at stand density.
- 3) Increase wildfire preparedness through education and outreach activities.
 - a. Partner with DNRC to facilitate forester visits, management plan development, and fire risk assessments on homes and properties for program participants.
 - b. The Missoula County Office of Emergency Management will be collaborating with NRCS onsite by conducting fuels mitigation assessments and assisting landowners with creating defensible spaces by implementing fuel breaks around homes and structures using the County Fire Hazard Reduction Program as an additional complimentary funding mechanism.
 - c. Promote and participate in the forest stewardship workshop hosted by MSU Extension on an annual basis.
 - d. Progress will be measured by communicating with partners on how many community members they have conducted outreach to and have signed up for their programs.
 - e. The desired outcome is to increase awareness of fire safe practices while also increasing the number of community members that implement these practices around their homes and structures on their property.
- 4) Address existing populations of noxious weeds.
 - a. Partner with Missoula County Weed District to coordinate education, outreach, and training regarding noxious weed related issues that exist in the upper Ninemile Creek Drainage.
 - b. To help prevent the spread of noxious weeds both on the project site and also on adjoining parcels. Identified noxious weeds will be controlled through the application where applicable.



- c. Progress will be evaluated on a per acre treated basis and relying on the landowners to conduct follow-up applications where necessary to continue to reduce noxious weed presence.
- 5) Collaborate with partners to increase landowner education regarding general forest health, noxious weed control, and improving wildlife habitat.
 - a. Partner with the DNRC to provide outreach to potential clients and develop FMP's.
 - b. Partner with the USFS Lolo National Forest, Ninemile Ranger District to coordinate efforts on private and public lands.
 - c. Work with MCD to conduct outreach to potential clients and promote education.
 - d. Partner with the Missoula Weed District to collaborate on weed suppression activities and promote weed management education within the Ninemile Creek Drainage.
 - e. Partner with the Ninemile Wildlife Work Group and Rocky Mountain Elk Foundation to improve habitat condition that will further support a multitude of wildlife species within the drainage.

Alternatives

Alternative 1: No action will result in forest health continuing to deteriorate. Forest health will continue to decline in the short and long term due to overstocking, insects, disease, declining wildlife habitat, and undesirable tree species. Forest fuels will likely continue to increase which will increase the susceptibility to catastrophic fire events.

Alternative 2: (Preferred) Implement a suite of forestry practices to address resource concerns. Use NRCS financial and technical assistance along with partner assistance to address resources concerns. NRCS cost-share practices will include Forest Stand Improvement (666), Woody Residue Treatment (384), and Herbaceous Weed Treatment (315). Landowners will gain knowledge of the site potential of their forest, its role in the landscape, and have a management direction to sustain benefits into the future. Short-term and long-term benefits of forestry improvements will reduce the risk of catastrophic fire, improve forest health and productivity and improve wildlife habitats.

Alternatives will be analyzed in compliance with the National Environmental Policy Act (NEPA). All practices chosen for implementation will meet NEPA requirements. Special consideration will be given for practices affecting T/E species, such as Canada Lynx and Bull Trout, to meet all federal regulations and NRCS policy requirements. Any cultural resources present will be identified and avoided during the planning and implementation of practices involving any federal action.

Proposed Solutions and Actions

To make improvements to these substantial and complex resource challenges we propose employing a comprehensive approach that engages private landowners, leverages partnerships, and utilizes a suite of available NRCS forestry practices to achieve desirable results. We believe that this approach gives us the best chance of achieving a measurable outcome. We will utilize program participants and new applicants who have expressed interest in additional opportunities to help spread the word to other community members. Specific actions will depend on the silvicultural treatment recommended by



technical experts which will be outlined in a site-specific Forest Management Plan. The resource concerns addressed through the implementation of NRCS conservation practices will complement work being done in the same vicinity on the Ninemile Ranger District of the Lolo National Forest. This project has already gained much interest in the Ninemile community and can be used to gain more engagement as this project continues for the proposed 5 years.

Selected Practices will include:

Forest Stand Improvement (666) — can be used for several silvicultural treatments including pre-commercial thinning, sanitation harvests for stands with substantial insects and disease outbreaks, and others. Most of this work will be completed by NRCS with management plans mostly being written by the DNRC Service Forester in Missoula. **(Primary Practice)**

Woody Residue Treatment (384) - can be used to aide with the reduction or elimination of slash. Options will include piling and burning, chipping, shredding, and removal for utilization. Most of this work will be done through NRCS contracts. **(Primary Practice)**

Herbaceous Weed Treatment (315) – can be used to treat noxious weed infestation that can occur with forestry activities. Treatment can include chemical or biological application. This will be done through NRCS funding and technical assistance. **(Supportive Practice)**

A combination of these practices can be used throughout the project area according to the goals and objectives of each participant and their forest management plan. Overall benefits from implementation of these practices will include a more healthy and productive forest that aligns with the participants forest management plan.

Participants can also benefit by working with partner organizations to meet management goals. Specifically creating defensible spaces around homes by using funding and technical assistance through the Missoula County Office of Emergency Management.

Partnerships

The Upper Ninemile Forest Health Project consists of the following partners:

- Montana Department of Natural Resources & Conservation (DNRC)
- Missoula County Office of Emergency Management (MCOEM)
- Missoula County Weed District (MCWD)
- Missoula Conservation District (MCD)
- US Forest Service, Ninemile Ranger District (USFS)
- Missoula County Local Working Group (MCLWG)
- Montana Tree Farm

In January and February 2020, two landowner meetings were held to discuss the Upper Ninemile TIP proposal. In attendance were representatives from NRCS, MCOEM, MCD, Montana Tree Farm and several landowners who reside in the Ninemile Creek Drainage. The meetings were convened to



garner interest and support for forest management activities and initiate a working collaboration between landowners and partner agencies/organizations aimed at addressing forest health issues that exist on privately held parcels within the Ninemile Drainage system. At the end of the second meeting, NRCS received unanimous support from the attendees for this TIP. EQIP applications for the Upper Ninemile TIP proposal were submitted to NRCS by the landowners in attendance along with a commitment from various partner groups willing to assist with forest health related activities.

Missoula County Office of Emergency Management has an on-going fire hazard reduction program that has been in existence and available for private landowners who reside in Missoula County for the last several years. Their program focuses strictly on structure protection and fuels mitigation on smaller forested parcels. The Missoula County Office of Emergency Management has teamed up with *United Way of Missoula*, and *Montana Conservation Corps (MCC)* to focus on reducing risk and catastrophic losses to resources and property on private property throughout Missoula County. This partnership provides homeowners the opportunity to reduce home ignition zone vulnerabilities to wildfire through their own cost-share program. The homeowner will pay the initial upfront cost of work and be reimbursed for 50% of the labor cost incurred by MCC. NRCS and Missoula County's fire hazard reduction program will complement each other where applicable to this proposal. NRCS and MCOEM have both agreed to share information about each other's programs with clients and potential clients and provide complimentary assistance whenever necessary (i.e. NRCS may assist with large-scale forest improvements while MCOEM focuses their resources specifically on the protection of structures).

Missoula Conservation District has a long history working with the NRCS in Missoula County to promote conservation and restoration projects. The CD staff is an excellent asset for technical information and client referrals/networking with other government agencies and NGOs. MCD has agreed to assist with outreach and education for this project. Additionally, MCD has a riparian planting mini-grant available for landowners who reside within the Ninemile Creek Drainage system. This grant program is designed to promote the maintenance and restoration of riparian areas along Missoula County streams and rivers. Available funding of up to \$500/applicant for native woody plantings and native grass/sedge revegetation would complement the Upper Ninemile Forest Health TIP project and provide a funding avenue to help protect sensitive riparian areas that are occupied by native westslope cutthroat trout and bull trout fish species.

Montana Department of Natural Resources & Conservation's Service Forester and NRCS in Missoula County have recently built a strong working relationship to meet the forestry needs of Missoula County residents. The Service Forester is an important component in referring clients to the NRCS, writing forest management plans, and mutual technical information exchange.

Missoula County Weed District has provided coordination, education, outreach, and training to address the needs of the public in Missoula County. They have for many years provided landowners in the Ninemile Creek Drainage integrated weed management, vegetation mapping, research, and hands-on training to assist with reducing the spread of noxious weeds. The MCWD has agreed to increase educational and outreach efforts and will be coordinating with NRCS to further assist landowners within the Upper Ninemile TIP Boundary. The emphasis will be on education/eradication of new invasive plant species, and the creation of new biological insectary sites on private lands along the Ninemile corridor.



The US Forest Service, Ninemile Ranger District strongly supports this proposal. According to both the District Ranger and District Fire Management Officer, this proposal will benefit homeowners and landowners but will also provide for firefighter and public safety in the future. The Ninemile Ranger District is also working to address forest health and community protection on the Lolo National Forest through the Soldier and Butler Creek projects, which border private property on the east side of the Ninemile Creek Drainage. The project area consists of 45,000 total acres, which includes approximately 10,000 acres planned for vegetative treatment, to include harvest, thinning, activity unit burns and ecosystem management burns, planned for implementation over the next few years. Active NRCS project work along with several additional landowners within the TIP boundary are located congruent to this management area, with ongoing planning and implementation work in progress.

In addition, watershed restoration has also been an ongoing focus within the Ninemile, and continues with the Upper Ninemile Watershed Restoration project, which is a partnership between the Lolo NF, *Missoula County*, and *Trout Unlimited* to reclaim past mining damage in the Upper Ninemile Creek. The project has restored 100 acres of floodplain and two miles of stream, connecting important habitat for native aquatic species. Reclamation activities are ongoing in the Upper Ninemile Watershed as funding becomes available, with planning currently focused on the confluence of McCormick and Little McCormick creeks. The Upper Ninemile TIP further supports these activities by enhancing the productivity, health, and vigor of native plant communities, and reducing the potential for wildfire in the area- serving to maintain the local surface water quality.

Montana Tree Farm System and the Missoula NRCS Field Office have recently forged a working relationship to coordinate forest stewardship efforts within the Ninemile Creek Drainage. Members of Tree Farm who reside in the Ninemile have expressed a strong interest in collaborating with NRCS to provide landowners within the TIP Boundary stewardship education, assistance with creating forest stewardship plans, and will refer clients to the NRCS as well as provide mutual technical information exchange.

Implementation

Management is key to maintaining plant productivity and health, which subsequently has been identified as the primary resource concern for this proposal. Forest management activities that include Forest Stand Improvement, Woody Residue Treatment, and Herbaceous Weed Treatment can provide landowners who reside in the Upper Ninemile focus area with an opportunity to adapt their forests to multiple threats including drought, invasive species infestation, disease, and wildfires while concurrently improving the productivity and health of selected leave trees as well as the native understory vegetation. These management practices can provide an improved environment for maximizing a site's growth potential which can result in larger healthier trees and more valuable timber. In addition, thinning allows for the continued growth of the healthiest preferred species within a forested stand while removing the suppressed, diseased, genetically inferior, and low vigor trees that can reduce the overall health of a stand. Maintaining proper stand density is essential for mitigating disease and insect susceptibility within a forested stand while minimizing catastrophic fire risk. The proposed treatment of forested acres through the implementation of this TIP in conjunction with recently completed and on-going forest management activities that have occurred within the focus area by both private landowners and partner agencies have the potential to collectively and positively impact forest health on a broadscale within the Upper Ninemile while addressing the



resource concerns identified in this proposal. In addition, utilizing an integrated approach to forest management activities on a landscape level within the focus area has the potential to spur additional partner participation, contributions, and landowner interest both with and without Farm Bill program assistance. Ultimately, this collaborate approach to conservation within the Upper Ninemile drainage could lead to implemented results that far exceed the projected outcomes outlined in this document.

This TIP will be implemented over five years. Partners have been consulted and interest from potential program participants is strong. The Missoula Field Office will continue to work with partners to increase participation in the project. By completing preliminary outreach and working with partners, the NRCS has already developed a comprehensive list of potential program participants within the project area.

Missoula County's Fire Hazard Reduction Program is already in place and will focus their work within the project area adjacent to structures for home defensibility whereas NRCS will focus their efforts on forest health outside of the area that applies to the County's program.

The DNRC Service Forester is available to assist with outreach, information sharing with potential clients and with writing forest management plans as needed for landowners.

Missoula Field Office staff will be responsible for accepting applications, conducting fieldwork to gather necessary information, writing silvicultural prescriptions, developing and administering contracts, and certification and payment.

Table 1. Anticipated NRCS Deliverables

Activities	2021	2022	2023	2024	2025	Total
Forest Stand Improvement (CPS-666)	200 ac	300 ac	350 ac	350 ac	250 ac	1,450 ac
Woody Residue Treatment (CPS-384)	200 ac	300 ac	350 ac	350 ac	250 ac	1,450 ac
Herbaceous Weed Treatment (CPS-315)	20 ac	30 ac	35 ac	35 ac	25 ac	145 ac

Table 2. Practice Cost Rate Estimates Used for Projections

Practice	Estimated Payment Rate/Acre		
Forest Stand Improvement - CPS 666	\$607.00		
Woody Residue Treatment - CPS 384	\$417.00		
Herbaceous Weed Treatment - CPS 315	\$108.00		

Budget projections are based on an average of \$1,100/ac extrapolated from the NRCS-Montana 2020 cost list. Actual costs may vary from year to year based on changes to the cost list and individual



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practices selected. Future budget projections have been conservatively estimated using anticipated producer interest, average property sizes, and engagement with landowners to date.

Table 3. NRCS Budget Projections

CONTRIBUTIONS	2021	2022	2023	2024	2025	TOTAL
NRCS EQIP FA	\$220,000	\$330,000	\$385,000	\$385,000	\$275,000	\$1,595,000

Table 4. Projected NRCS/Partner TA Contributions

CONTRIBUTIONS (HRS)	2021	2022	2023	2024	2025	TOTAL
Outreach	20	30	35	35	25	145
Plan Development	40	60	70	70	50	290
Contracting	30	45	60	60	40	235
Implementation/Certifications	120	170	200	200	150	840
Forest Management Plan	100	150	175	175	125	725
Development						
Totals	310	455	540	540	390	2235

Ranking

A screening tool and ranking questions will be used to prioritize projects based upon conservation benefit and the feasibility for the project to be completed in the scheduled timeframe to ensure the proposed projects meet our objectives.

Ranking Questions (200 points total):

- 1. Has the applicant implemented management within the last 3-years that is restoring the native forest plant community on the property before applying for NRCS financial assistance? (demonstrates a commitment to project objectives)
- 2. Does the current owner and planned forest management activities follow sustainable forest stewardship practices?
- 3. Are the planned acres of Forest Stand Improvement (666) located adjacent to properties on which previously completed pre-commercial thinning activities have taken place within the last 5-years (private, industrial, state, or federal lands all apply)?
- **4.** Does the application include stands that have three or more identified disease or insect problems present?



Progress Evaluation and Monitoring

NRCS annually will analyze the TIP interest level and monitor implementation of active contracts, to plan and direct workloads of staff. A stand level forest inventory will be completed before contract obligation to document stand conditions and to develop a silvicultural prescription. The silvicultural prescription will be used to determine practices to include in the contract and for practice certification when conditions in the prescription have been attained. Inventory will include documentation of the existing species composition within stand, stand density and tree spacing as well as disease and forest-health attributes. Pre and post-treatment photos will be used to visually show stand improvements. Each treatment area will have at least one georeferenced pre and post-treatment photo-point. Each active contract will be overseen by NRCS field office staff. All contract items will be certified with an on-site field visit, with photos and maps to document the conditions at practice certification. After contract completion, the landowner is responsible for monitoring and documenting stand conditions during Tree Farm/Forest Stewardship forest management plan updates, and NRCS field staff will assist if requested.

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