

The Forest Steward's Journal

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The MISSION of the Forest Stewardship Foundation is to "provide education and information to forest landowners, natural resource professionals and the general public about the science and ecology of forest lands, the many value derived from forested lands and the principles of sustainable forest land development."

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From the Chair

It's summertime and the forests are alive. Not only are they growing, but they are changing over time. As we witness the changes in our local climate we need to recognize that if we are to have a "resilient forest" we must be always looking ahead. Forest management is like being in a chess game. To win the game we must stay a step ahead of a change in our forest and take appropriate actions to prevent unwanted consequences. Hotter, drier and extreme changes in our weather can change how a tree will function. Species like grand fir in western Montana cannot adjust rapidly to extreme heat changes and we are seeing more dead and distressed trees. Might a heat tolerant species like western larch be more appropriate?

This journal issue gives us suggestions on the following: how to protect our forests from Mountain Pine and Douglas Fir beetles; how secondary beetles can become more of a problem; how chemical applications can help establish new forests and how to control spruce bud worm. Zoe Leake tells us about the successful 2024 Forest Landowner Conference and the numerous informative subjects covered.

As we progress through 2024 we hope to further address the need to help forest landowners and resource professionals deal with insect and disease issues along with more workshops on how we can manage for that more "resilient forest". Mark your calendar for the 2025 Forest Stewardship Conference, which will be held in Helena on May 16th. Note that we have changed the name from the Forest Landowner Conference to better reflect the many subjects of interest to folks other than landowners.

*Ed Levert CF,
Chair*

Landowner Conference 2024

By Zoe Leake, DNRC Forester

The 2024 annual Forest Landowner Conference at the Delta Colonial Hotel in Helena was a great success, with over 75 landowners, students and forestry professionals in attendance. Ed Levert, the Chair of Montana Forest Stewardship Foundation, and Board of Directors member Gary Ellingson gave opening statements before the day of sessions began. The lineup of speakers provided a wide variety of educational opportunities for attendees, ranging from wildfire defense to the numerous grant opportunities currently available for forest landowners.

The opening session was given by keynote speaker Shawn Thomas from the Montana Department of Natural Resource Conservation (DNRC). A University of Montana Forestry graduate, Thomas is the Forestry and Trust Lands Division Administrator State Forester. His presentation provided a review of the many different DNRC divisions and programs. The State Trust Lands division manages the lands designated by congress to fund schools when Montana became a state. The DNRC manages the 5.2 million surface acres and another million subsurface acres to generate this essential revenue. The recent introduction of the Good Neighbor Authority (GNA), authorized under the 2024 Farm Bill, gave the state authority to work on federal land. The program has significantly improved the pace and scale of forest management in Montana. The Fire Protection Bureau is the state of Montana's wildfire response agency in coordination with local and federal partners. Landowners can request a free "home wildfire risk assessment" and a local forester will come to your property to help you learn more about defending your home. The DNRC website is home to a wealth of resources

for education and grant information. The many forestry assistance programs are outlined there to share information about the DNRC's many initiatives improving Montana forests.

Sam Scott from the Bureau of Business and Economic Research gave the annual status of the regional wood products industry. Scott reported that the supply chain of the wood products industry is sixty-percent primary processing and forty-percent wood fiber residuals. The residuals market has a significant impact on the viability of the woods product industry. Liz Burke, Chiara Cipriano, and Lucas Parriman from the Helena Lewis and Clark National Forest gave a presentation on the deadly Mann Gulch wildfire on its seventy-fifth anniversary. The tragic event spurred the birth of the Forest Service Fire Lab Research centers to study into how fires burn and how to fight, manage, and suppress them.

Denver Holt from the Owl Research Center gave an entertaining and informative presentation on the fifteen species of owls that can be found across Montana. Jason Glenn of the Natural Resource Conservation and DNRC forester Eric Warrington discussed the many programs and grant opportunities available for private landowners.

The University of Montana Foresters Club provided a thorough history of the annual Foresters Ball during lunch. The Club has been putting on this incredibly unique event since 1915.

Afternoon sessions began with Firesafe Montana presenting the services they have been providing to communities around the state through their community driven groups. They discussed that currently mortgages and insurance are being heavily influenced by the wildfire crisis.

Scott Fernberg from the Global Change Ecology Lab helped us gain a better understanding of the forest carbon cycle. We should consider forests on a global scale when considering climate, and understand how the forest type and their carbon sequestration value varies.

The final sessions of the day were given by University of Montana professor John Goodburn. He taught us about forest habitat typing – a method of defining forest ecology using tree species and understory plant indicator species. Soil scientists Kelsey Martin and Vince Archer of the Helena-Lewis & Clark National Forest introduced us to forest soils. Different soils will support different vegetation, and there has been a coevolution of forest types and soils types.

The day ended with closing statements by Gary Ellingson and the announcement of silent auction winners. Thank you to our generous sponsors and silent auction donors this year. Sponsorship and the silent auction help make this event possible. Thank you to all our members and guests for your attendance and continued support. Please see our website for more information on how to become a member of the Forest Stewardship Foundation. We look forward to another fulfilling conference May 16th next year in Helena!

Site Preparation - Chemical Uses in your Forest

By Lorrie Woods, Retired Forester from Plum Creek

So, you want to establish conifer regeneration and are looking for tools to provide good site preparation for your seedlings. Let's discuss how chemical use may fill your need.

For natural regeneration, most conifer seeds need some bare mineral soil to become established. So, if your plan is for natural regeneration, chemical site prep alone will have limited value as it will not provide the bare mineral soil needed for the establishment of Western Larch, Ponderosa Pine, Douglas Fir or Lodgepole Pine. You could combine Chemical site prep with mechanical site prep and that would provide a great seed bed for natural regeneration from seed.

For planting conifer seedlings to establish a new forest, chemicals can be a useful tool. Establishing conifer seedlings is an exercise in re-distributing the water and nutrients on the site to aid your seedlings. We reduce the vegetative competition and that allows the seedlings to benefit. Therefore, if the forest flora is causing you issues, select chemicals as a part of your tool box. As with all other forest management actions a **checklist** will help you choose the best alternative. For site preparation the **checklist** should include, but not be limited to: 1) what are your short and long term goals, 2) what species (target species) are causing the issues and their traits, 3) how will plant communities that surround your target species respond to the chemical, 4) how are your desired species (planted conifers) going to respond to your chemical treatment, and 5) determine what chemical can accomplish your short and long term goals.

Once you identify and understand the plants on your site as well as the trees species you want to plant, then look at chemicals. See checklist above. Look at how the plants grow. Plants such as Pinegrass (*Calamagrostis rubescens*) is a common competitor of seedlings and the roots are rhizomatous. If you disturb a pinegrass plant, every broken root can become a new plant. Rhizomatous roots make Pinegrass a good candidate for chemicals. Get to know the growth characteristics of the plants on your landscape.

You will need to research how the tree species are impacted by your chemical of choice and then understand interactions that may occur. Even the soil mixture used by the nurseries can impact how the tree responds to the chemicals. All tree species are not equal and do not respond to chemicals in the same way. Start with the label, ask local foresters and if you don't have enough information, it is a great idea to do a small test plot with your chosen chemical and your planting stock prior to treating a large area.

The use of any chemical needs to be done according to the label. You can find labels on line, on containers of chemicals or contact a chemical representative. The labels are long and

cover a great deal of information and you should read them prior to any use. They will share the rates of chemical that should be used, and the species that will be impacted. The labels often encourage you to check with a local forester who may have knowledge of the successful use of these chemicals. This suggestion comes from the fact that your soil types, amount of organic material, recent fire history and nursery practices can have an impact on your success that just can't be found in a label.

The chemicals utilized in a forest setting in Montana include Velpar (trade name) which has an active ingredient of Hexazinone. It controls woody and herbaceous plants and is tolerated by Ponderosa Pine. With correct timing, it is also tolerated by Douglas Fir and Lodgepole Pine. It is not tolerated by Western Larch. If it is used for site prep, it should be applied prior to planting.

Oust XP (trade name) has the active ingredient of sulfometuron-methyl. It is a preemergence and post emergence herbicide that controls annuals and perennial grasses and broadleaf weeds. If your goal is site prep, it needs to be applied prior to the planting. The label should be consulted for the tree species that you can legally plant into Oust, and your local foresters who have experience should be consulted to determine if there have been any issues with any species. From my personal experience, the soil type, the amount of organic matter and fire history should be considered. In addition, be aware that the material used by the tree nurseries to grow the seedlings will also impact the chemical and how your newly planted seedlings respond. Western Larch can tolerate with lower rates or when site conditions have been factored in.

Garlon 3A (trade name), has an active ingredient of triclopyr and a butoxyethyl ester. There are two basic formulation of triclopyr: a triethylamine salt (Triclopyr amine or salt), and a butoxyethyl ester (triclopyr estr). Research which formulation is best for your site. You will find this chemical marketed in garden shops and hardware stores as Turflon Amine or Brush-B-Gone. This chemical is effective on woody plants, shrubs and small trees. It can be used to kill larger Rocky Mountain Maple (cut and treat stumps). This should be applied prior to planting. See label for entire list of target species and the species of conifers that can be planted into a treated area. Remember all conifers are not alike!

Roundup (one of many trade names) has an active ingredient of Glyphosate. This herbicide is applied to the leaves of plants to kill both broadleaf plants and grasses. There are over 750 products that contain glyphosate- too many to name, except that the most common one is Roundup. Glyphosate is a non-selective herbicide, meaning it will kill most plants. To be more effective on woody species it can be combined with other chemicals. It is best to treat your planting spots prior to planting and mark them with a flag so they can be identified when you plant your trees. If you have to treat your site post planting, then cover your seedlings with a bag prior to application-remember it will impact everything it touches.

Be careful when removing the bag, as an updraft can cause the agent to come into contact with the seedling.

When you purchase a chemical, focus on the active ingredient, not necessarily the trade name. Remember, some chemicals can be applied by anyone, but "restricted herbicides" require you to have a private applicators license. If hiring a contractor to help you with an application, ensure that they have a commercial chemical license in Montana, insurance, and a good working knowledge to correctly apply the chemical.

The above herbicides are the most common—but certainly not the only chemicals used in Montana for Site Prep. Chemicals are a great tool for use in forestry and can be used, not only for site prep but for thinning conifers, treating weeds, and releasing existing conifers.

When you are considering the use of chemicals, use the checklist! Read and follow the labels! Call a chemical representative! Ask a forester! And successfully establish your new conifer seedlings.

Western Spruce Budworm

By Jim Cancroft, Senior Forester with Forestration

Western spruce budworm is the most widely distributed and destructive defoliating insect in the western United States and is common throughout the forests of Montana, especially in central Montana. The primary host species are Douglas-fir, although budworm also resides on subalpine fir, western larch, grand fir, and Engelmann spruce. During the caterpillar phase of the budworm's life, it feeds primarily on the new foliage of trees, often defoliating the needles at the tops and outer branches of host trees. Caterpillars that feed in the tops of mature trees will often drop down onto smaller trees in the forest understory and cause severe defoliation. Research has confirmed that trees repeatedly defoliated from budworm are more susceptible to attack from bark beetle increasing tree mortality. Another effect of budworm is that it feeds on the trees emerging cones and can threaten cone viability, thus impacting future regeneration.



Figure 1. Budworm defoliation on the new growth of a Douglas-fir tree west of Helena, Montana

Life Cycle

Adult budworm moths mate in late July or early August. After 7-10 days the females deposit an average of 150 eggs on the undersides of conifer needles and then die. Larvae hatch approximately 10 days later and then migrate to the underside of the bark to hibernate. In May or June of the following year caterpillars emerge from hibernation and travel to feed in the newly developing buds. As the buds begin to flush, caterpillars feed on the new growth, eventually traveling to adjacent shoots by creating webbing. The caterpillars feed primarily on the new growth but will travel to older needles once the new growth is entirely decimated. After 30 to 40 days in the caterpillar phase, caterpillars will transition to the pupal phase for approximately 10 days and emerge as fully developed moths. If you see a lot of grayish-brown moths flying around your property in mid-August be prepared to see caterpillars feeding on your susceptible trees late next spring.



Figure 2. Helicopter spraying Bt in central Montana

Control

Budworm populations usually are held in check by a combination of predators, parasites, and the weather. Spiders, insects and a variety of birds feed prolifically on the caterpillars during outbreaks. Adverse weather conditions, particularly sudden freezes in late spring, may kill large numbers of caterpillars. Altering forest structure towards an open-spaced, single layer arrangement of trees, accomplished through forest thinning and timber harvesting, can create forest stand conditions that are less susceptible to budworm attack.

Specific treatment options include aerial or ground spraying with a non-toxic bacterium product, Foray 48B (Bt), or the insecticides Carbaryl or Sevin. The aerial spraying of insecticides (Carbaryl and Sevin) is no longer recommended because of their adverse effects on non-targeted species.



Figure 3. Aerial spraying Bt in southwest Montana

Bt

The aerial spraying of Bt to help control budworm is now commonly used throughout Montana. Bt is a microbial insecticide for the control of Lepidoptera larvae (caterpillars), including budworm. Bt is host specific to feeding caterpillars. It is a naturally occurring bacterium and is certified for use in organic farms. Once ingested, the caterpillars stop feeding and die within 2-3 days.

Aerial spraying is conducted with fixed wing aircraft or a helicopter. To effectively use Bt it needs to be applied when new foliage emerges, and when the caterpillars are actively feeding, which occurs during warmer daytime temperatures. In southwest Montana these conditions run from as early as the second week of June to as late as the third week of July. The optimal conditions for successful application of Bt is



Figure 4. Helicopter coming in for loading in the Madison Valley

during early morning hours when there is typically less wind and humidity. In addition, Bt needs at least 6 hours with no rainfall once applied. Aerial spraying needs to be conducted by a certified applicator.

If conducting an aerial spraying on your property let your neighbors know in advance so they are prepared for early morning aircraft activity and aerial spraying.

Secondary Beetles Attacking Stressed Trees

By Amy Gannon, DNRC Entomologist

Large pockets of red, dead trees are increasingly familiar on hillsides around western Montana. Having been through landscape-scale bark beetle outbreaks, we generally assume these dead trees have been attacked by Douglas-fir bark beetle, mountain pine bark beetle, or other common, charismatic *Dendroctonus* beetles.

Douglas-fir beetles bore into weakened, damaged, or unhealthy trees and leave behind orangish-brown dust in bark crevices. Below the bark, beetles create distinct vertical galleries, parallel to the wood grain and fanning out in a feather-like pattern (image 1). Another beetle however, the flatheaded fir borer, has become increasingly common in large trees of all species. The beetle itself is much larger but its presence can be much more subtle. The underlying tunnels are wide and meandering compared to the organized galleries of the Douglas-fir beetle (image 2). Flatheaded fir borer infestations are easiest to spot when woodpeckers chisel bark off the main bole in search of nutritious beetle larvae.

Mountain pine beetle is another familiar beetle that made an indelible impact throughout pine forests during the most recent outbreak (approximately 2009-2015). Pine trees were killed on nearly 6 million acres in Montana with dead trees still bearing the telltale galleries the beetles left behind (image 3). While mountain pine beetle is still present at low levels, much of the current mortality in pine species can be attributed to wood borers, pine engravers, or other secondary beetles.

Secondary beetles successfully attack trees that are stressed by chronic conditions (root disease, drought, etc.) or sudden events (high temperatures, fire scorch, storm damage, etc.).

Independent of the underlying cause, these beetles ultimately kill trees and have been observed in Douglas-fir, ponderosa pine, and western larch. It might seem that Montana is having an outbreak of secondary beetles whereas in fact, the trees are simply succumbing to ongoing or extreme stress and the beetles are the final act.

This phenomenon is not limited to Montana. Other states in the Intermountain West and north into Canada are reporting similar mortality patterns. These observations raise questions about the uptick in woodborer and secondary beetle damage. Is it triggered by long term drought, or by a more specific event such as the “Heat Dome” of 2021? Is this a one-time occurrence or should we expect continued mortality?

Regardless of the cause and forecast, prevention is the most reliable management option. Pheromone packets used to repel Douglas-fir beetles (MCH) or mountain pine beetle (verbenone) are NOT effective against woodborers or other

secondary beetles. The best way to limit tree mortality is by promoting tree vigor and resilience through active forest management such as pre-commercial and commercial thinning, sanitation harvests and creating a diversity of age classes.



Image 1. Organized galleries made by Douglas-fir beetle (A. Gannon, DNRC)



Image 2. Wide, meandering tunnels created by wood borers (C. Foelker, USFS)



Image 3. Persistent galleries left by mountain pine beetle (A. Gannon, DNRC)

Pheromones and Chemicals to Reduce Bark Beetle Impacts

By Sam Gilbert, Retired USFS/Private Silviculturist

Bark Beetles

Montana has a variety of trees species and native bark beetles have developed over time to take advantage of the resources that each species offer. In some cases, the association is very specific such as western pine beetle which is mostly exclusive to ponderosa pine, while mountain pine bark beetles attack all

of the pine species in this area. This article will discuss only the mountain pine and Douglas-fir bark beetles, because they are the ones that cause the most significant amounts of tree mortality.

Both of these beetle species produce just a single generation per year under current environmental conditions. A general rule of thumb is that the new generation of adult Douglas-fir beetles begin to emerge from their host tree in the spring after about six days of 60 degree weather and are mostly done by late July. The mountain pine bark beetles emerge from mid-July through August. The early emergers begin to disperse through the forest seeking the scent of trees that are stressed from factors such as weather damage (drought, wind and snow breakage), non-lethal fires and defoliation by insects such as the western spruce budworm.

When the “scout beetles” find a tree that they believe is susceptible to attack they will chew through the bark to the phloem and cambium layer of the tree and begin to excavate a nuptial gallery. If the tree isn’t strong enough to reject them by pitching them out, they will begin to emit an attractant pheromone “come and help me” that attracts a mate and other beetles to help overcome the trees defenses. It might take as many as a thousand beetles to kill a large tree. As the female excavates the vertical gallery, she mates and begins to lay groups of eggs on each side of the gallery. The eggs soon hatch and the larvae begin to feed horizontally through the phloem and cambium layer, becoming larger over time. If too many beetles attacked a tree, the larvae would eventually feed in competition with each other and few would survive to develop as adults. Therefore, at some point (perhaps due to the sound of chewing), the beetles would switch to a repellent pheromone that tells any approaching beetles to “go find your own tree, this one is full”. The adults are only exposed outside of the bark of their host tree for a few days before entering a new tree.

The larvae grow as they feed and as fall approaches, they begin the transition into pupae and callow adults. During the latter part of fall, they also begin to manufacture “anti-freeze” in their bodies and are thus able to resist cold temperatures during the winter. Notably, during the winter of 1978 in West Yellowstone, a number of nights where temperatures fell to -40 degrees, yet there was still a strong mountain pine bark beetle population when summer arrived. Conversely, in early October of 2013, nighttime temperatures dropped to +15 degrees for a few nights and within a short time I observed numerous dead larvae and pupae under the bark. The surviving beetles then repeat the process when temperatures rise in the spring.

Damage Caused by Bark Beetles

It is the girdling effect of the larval feeding that starts to kill the tree by cutting off the flow of sugars and starches that the crown is producing which move through the phloem to support the root system. For a while, the sapwood of the tree continues to transport water from the roots to the crown. However, blue stain fungi on the bodies of the adult

beetles starts to plug the cells and eventually stops the water transport. The tree doesn’t show obvious signs of mortality until early spring when it starts to turn yellow and then red during the next summer. By the time that the tree is red in color, most of the beetles have left it to find a new host to lay their eggs.

Some species of bark beetles cause only periodic noticeable amounts of tree mortality, while these two species can cause very extensive mortality over significant areas of forest. During the past century, mountain pine beetles have caused major mortality on about a 30 to 35 year interval (mid-1940s, 1977-1985 and 2008-2013 in central Montana). Douglas-fir outbreaks haven’t shown a consistent interval. Areas of forest that have mostly large diameter, older trees and a high percentage of host species are at most risk.

What Options does a Landowner have to Reduce Mortality?

Pheromones Several companies manufacture or distribute artificial pheromones for these two species to disrupt the flight patterns of the beetles. The repellent pheromone is used to protect individual trees or is dispersed throughout a forest stand of trees to confuse the beetles. The attractant pheromone is used to trap beetles or try to attract beetles to a different area. The pheromones are environmentally safe for humans and animals and don’t affect the beetles except to confuse them.

Verbenone packets contain the dispersal pheromone from mountain pine bark beetles and are used to protect pine species. The packets are stapled on the north side of individual trees at a height of about six feet with the bubble containing the agent facing toward the tree to slow the release so that a longer time period is covered. Previous recommendations for high value trees were to place a second packet at about 12 feet in height. That might be a safety issue in forest situations and you are better off to put a packet on an adjacent tree. If the goal is to protect a stand of trees, the packets are placed in a grid at about 40 packets per acre. The objective is to disperse

the odor throughout the stand. A paste formula is also available that is applied in a similar manner. The cost varies by the number of packets ordered, but it is relatively expensive. If beetle populations become too high, they will overwhelm the effect and still attack trees within the area.



Figure 1. Two verbenone packets on a lodgepole pine

MCH packets are used to protect Douglas-fir trees". The packets are placed in the same manner as verbenone. If "doubles" are ordered, the cost is less because fewer packets are needed and less installation time is needed (single 500 mg at 40/acre approximately \$2.99 per packet, double 1000 mg at 20/acre approximately \$4.50 per packet). I have not had any standing trees attacked in treated areas, but if a large tree in the treated area falls due to uprooting or breakage, they have sometimes been attacked.

Powdered or flake configurations of each pheromone have been applied aerially with mixed success.

Baits The attractant pheromone "come help me" has been used in Lindgren funnel traps to sample beetle populations and occasionally for direct control or in a "push-pull arrangement" where repellent pheromones are placed inside the stand to be protected and attractant pheromones are placed outside the area. They are also stapled to trees to draw beetles to accessible areas for later removal of the trees that have been attacked so the brood can be killed by processing the trees before the young beetles are able to fly. These baits are very effective and extreme care must be used to avoid getting beetles into trees that were not intended to be attacked.



Figure 2. A lure to attract mountain pine bark beetles doing its job



Figure 3. Young bull elk checking out a Lindgren funnel trap

Insecticides Bifenthrin, permethrin and carbaryl are active ingredients of insecticides that can be sprayed on trees to prevent the beetles from attacking. They have to be thoroughly applied up to where the diameter of the tree bole is less than four inches. Therefore, it requires gentle ground and a strong pump to get the insecticide to the necessary height. They must be applied before the beetles fly, otherwise the insect is under the bark and safe from contact. Because of the cost and difficulty of application, they are usually used only on trees with high value to the owner.

Onyx and Baseline (trade names) contain bifenthrin as the active ingredient. They have outstanding residual control and are less expensive than carbaryl or permethrin.

Tengard (trade name) contains permethrin as the active ingredient. Overspray that lands on painted surfaces won't stain the paint, as some other ingredients might do. Astro (trade name) also doesn't stain painted surfaces.

Sevin (brand name) has carbaryl as the active ingredient. It has about a 14-day duration. Longer duration can be attained with SevinXLR (brand name) and was popular during the last mountain pine beetle outbreak.

With all insecticides, it is critical to read and follow the label! Some chemicals are only registered for use on specific settings and can vary between forest and landscape settings.

Other Actions Pheromones and chemicals are only holding agents until the factors causing stress to the trees are resolved. They must be applied annually as long as unacceptable population levels of beetles are present.

Thinning helps reduce the impact of beetles by reducing stress for limiting factors such as nutrients, moisture and sunlight. You can also reduce the percentage of host tree species within the area. Thinning also allows greater air movement through the timber stand which dilutes the concentration of the attractant pheromones.

Salvage and sanitation harvests remove dead, dying and stressed trees to reduce the opportunities for population expansion.

Even and uneven-aged regeneration harvests set the stage for regeneration of new age classes of trees over time. This reduces the probability of large areas of older, stressed trees now and in the future.



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The Forest Steward's Journal is a publication of the Forest Stewardship Foundation. Comments, articles and letters to the editor are welcome.

Please Join the Forest Stewardship Foundation

Through memberships of only \$25/year, we have been able to secure grants, publish and distribute the semi/annual the Forest Steward's Journal to over 1200 addresses and co-sponsor the annual Forest Landowner Conference and Insect & Disease workshop. Making forest education happen across the state is what we are all about. Over the past 25+ years these efforts have also included conservation easement and succession planning workshops, sponsorships of forest stewardship workshops along with a host of other efforts.

As a non-profit organization, our board members are not paid, but are passionate about this cause. Your membership means a great deal to our continuing success. Our membership has steadily increased over time to 140 members. Please consider joining the foundation by completing the membership application form/envelope found in each winter edition of the Journal or by going to our website at: <https://www.ForestStewardshipFoundation.org>.

Thanks for your help.

Ed Levert, Chair

Save the Date

May 16, 2025 Helena, MT Forest Stewardship Conference

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