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OSU Research Forests Newsletter

In This Issue

Unless otherwise noted, newsletter articles written by student employee Blair Ruffing
Newsletter edited by Blair Ruffing and Ryan Brown.

Forest Manager, Brent Klumph, with a freshly caught Rainbow Trout

A Letter from Forest Manager Brent Klumph

What is the Timber Management Program, and how are decisions made? Brent Klumph explains the program he manages and answers frequently asked questions.

Greetings Forest Visitors,

Every year, we get a number of questions from visitors and neighbors about forest management activities on the Research Forests— and they are often directed toward timber harvesting. How do we decide what, when and where to harvest? What factors are considered and weighed in choosing an area? What is involved in the planning process? What recreation interests are taken into account? Why do many road and trail closures sometimes occur at the same time?

There are many factors that go into answering the questions above. I will cover a few of them in this article by taking you through the process for planning one of our harvest units scheduled for 2017 on the McDonald Forest, the Quick Draw Thin and Clearcut.

Forestry and forest management on the Research Forests do not include "short term" projects. The decisions that we, as managers, make today will set specific areas on trajectories to reach their desired conditions in a number of decades. Forestry is unique in that the results of an intentional management action may never be seen by manager that created them. The decisions we make today

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A Letter from Forest Manager Brent Klumph (continued from p. 1)

will have long term implications for the forest. The decision of when to harvest a certain stand of trees and what that harvest will look like is not made the year of the harvest, but was determined often decades before, to occur when the forest stand reached a certain developmental milestone.

Each stand of trees has its own goals, which were generally set for it at the time of planting, and most often focus on answering research questions, producing revenue in a sustainable fashion, or promoting specific habitat types. Along with each of these goals is a long-term prescription, which includes management actions to be taken at each milestone in the forest stand's development.

How do we decide where to harvest?

OSU Research Forests manage over 15,000 acres spread across Oregon. It is a challenge deciding where to harvest because our forests are managed for multiple uses beyond timber production. Specifically on the McDonald & Dunn Forests, we look at a number of different factors to determine if the stand is ready for its next treatment, including stand age, stocking density, trajectory (what do we want that area to look like in the future), and health and vigor. We also consider research opportunities, cultural and natural resources, revenue generation, impacts to recreation and neighbors, and road access.

The McDonald & Dunn Forests are broken down into smaller areas that are categorized as stands (see green outlines shown in map at right). Each stand has information cataloged into an inventory: age, trees per acre, species composition, stocking, etc. This information is updated periodically to help managers track how stands change over time. This information is extremely valuable in helping us determine if the stand has reached the next milestone and if it is ready for its next treatment.

In looking at the inventory for the area shown on the right, we determined that a number of stands were overstocked with conifers and were showing signs of tree death and suppressed growth. Many trees in this area also received damage during the November 2014 ice storm. Forest staff field-verified this data and decided to conduct a thinning operation—a standard silvicultural treatment at this stage in a forest's growth—to reduce the number of trees per acre by removing the suppressed, broken, or deformed trees and leaving the healthy, vigorous trees to continue to grow.

The 2017 harvest unit boundary (shown in pink below) encompasses a number of stands, not just one. When we take the time and effort to carefully

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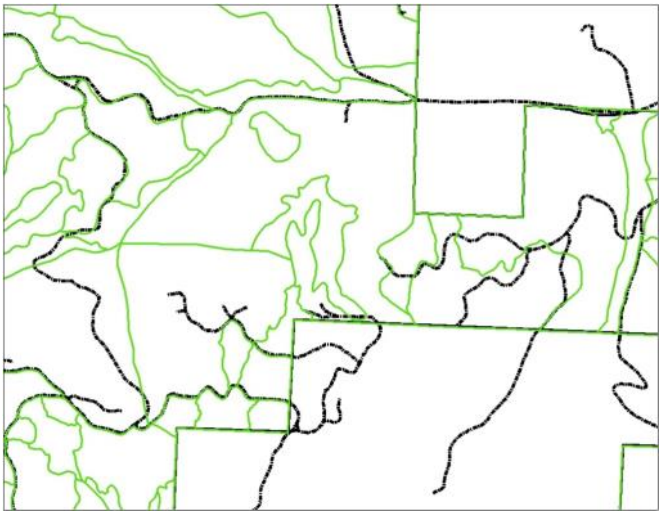
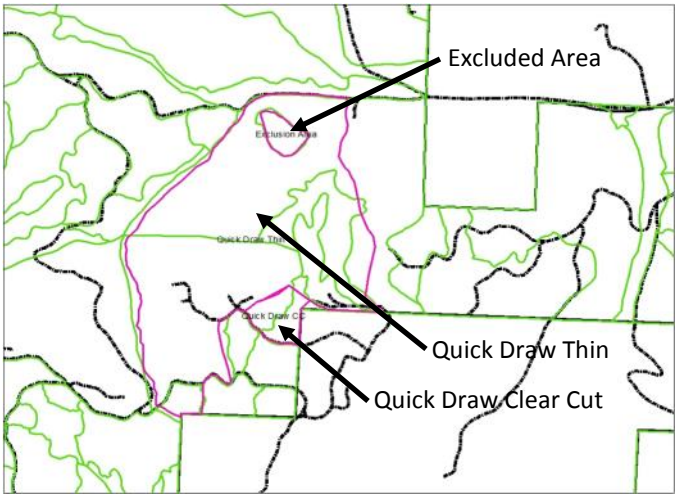


Forest "stands," indicated by green boundaries in this map, are managed as separate units.



Harvest operations such as the Quick Draw Thin and Clearcut can include more than one stand, as indicated by the pink line above.

A Letter from Forest Manager Brent Klumph (continued from p. 2)

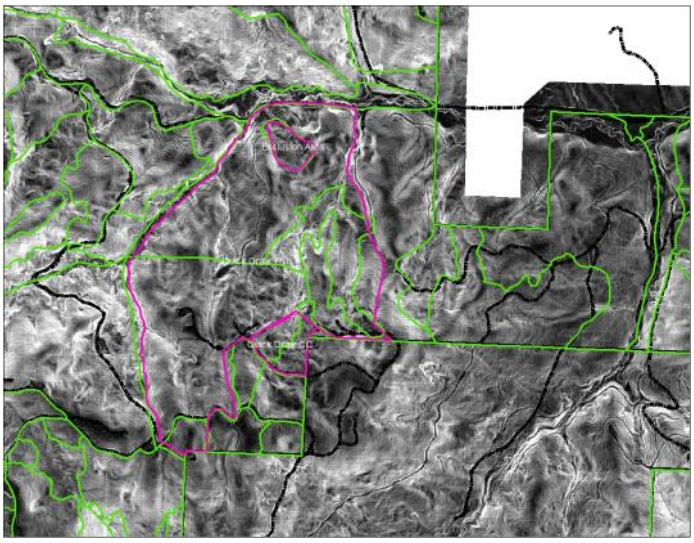
thin a stand, we want to spread the benefit of this treatment out as much as possible, while minimizing the substantial financial costs associated with moving equipment and operators into an area to work. We can reduce costs and impacts by combining nearby stands (in need of treatment) and harvestable volume into the same operation.

How do we decide what to harvest?

What is the purpose of this stand? That helps determine the objectives of the harvest. If restoration is the goal, the type of trees harvested will be drastically different then if revenue generation or forest health were the primary goals. In 2017, the "Quick Draw Thin" (141 acres), is designed to thin the suppressed trees and create more sunlight, allowing the live crowns of the remaining trees to increase. Within the same harvest unit, we also plan a 7.1-acre clearcut to generate revenue for the College of Forestry. This stand will be replanted to create the beginning of a new forest stand. If you look closely on the maps on the previous page, you can see that one stand is excluded from harvest. A non-commercial thinning operation took place in that area in 2013. Our re-entry period for this stand is 15-20 years, meaning we do not plan to re-enter that small area until at least 2028.

How do we decide on harvest method?

The Research Forests use several methods for timber harvesting, including steep slope cable systems in thinning and clearcuts, as well as ground -based systems used for thinning and clearcuts. The term 'ground-based' refers to wheeled or tracked machines that remove logs to a landing. To do this safely and minimize resource damage (soil compaction, ruts, etc.), it can only be done on gentle slopes with minimal topographic breaks. When slopes in a harvest unit exceed 30-50%, we require a cable yarding system, which carries trees out of the unit suspended on one end along a cable.



LIDAR technology shows slides, streams, and old roads present in this harvest unit. Lidar is a great tool to help verify streams, roads, ground slumps and soil movement.

We utilize LIDAR and field verification to determine which type of harvest method to use in each unit based on topography, and we take into account soil moisture, equipment capabilities, safety, residual stand damage, and much more.

How do we decide when to harvest?

The OSU Research Forests has over 100 miles of roads, some of which were designed as dry weather roads only. Others were designed to be wet weather roads, and contain more and larger rock. Access to harvest units via wet weather roads allow us more flexibility in timing harvests, as dry weather roads cannot withstand wet season use.

Similarly, weather plays a significant role in determining harvest timing. Just recently, we completed our 670 clear harvest unit, a 26 acre clear cut near Oak Creek. We designated this area as a ground-based clear cut and required that the operators perform the work during the dry summer months to minimize soil compaction and to allow for slash to be piled prior to wet weather so it can be burned, then replanted in winter of 2017.

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A Letter from Forest Manager Brent Klumph (continued from p. 1)

The time of year is also important in thinning operations to prevent damage to the trees remaining after the harvest, and we work closely with logging contractors to prevent this. Conifer trees are particularly prone to damage during sap flow, which occurs from March through August, so we try to avoid thinning during this time. In many cases, we will time clear cut operations during the summer months and continue with thinning operations into the late summer and fall.

Who makes the decision to harvest?

Each year, the Dean of the College of Forestry informs the Forest Director of the revenue needed to support the College of Forestry; other goals such as restoration and research support are established at that point as well. The Timber Program Manager then does the legwork to find appropriate stands that will meet all of the needs identified above. A program of work is then proposed to the Dean of the College of Forestry for review and approval.

What about impacts to recreation?

Forest Management activities on the Research Forests hasn't necessarily increased over the past decade, but management has shifted into areas that historically haven't seen many timber operations—specifically McDonald Forest. This increased harvest in a popular recreation area has also resulted in more impacts to visitors. Trails and roads are often closed for weeks or months, and visitors are sometimes emotionally impacted by the change in landscape resulting from timber harvests in favorite areas. Some of the unauthorized (unofficial) trails on the forest end up impassible following timber harvest operations. These trails are not restored because we don't manage them or condone their use.

Offering high quality recreation opportunities is important to us, and we support our visitors during our timber harvests by:

- Protecting and restoring official/authorized trails, signs, benches and other features from logging impacts
- Designing trail buffers, resulting in lighter harvest along authorized trails or sometimes visual buffers
- Placement of snags near trails to support wildlife viewing
- Providing accurate public information regarding closures, both on-site and online

We rely on input from the Forest Recreation Advisory Council, as well as our relationships with our visitors to let us know of unforeseen impacts to recreation use so we can best address them. I remain committed to keeping you informed of our harvest management plans and to supporting and protecting our recreation resources.

Brent Klumph
Forest Manager and Timber Program Manager
OSU Research Forests

Trees, Tunes, and BBQ

New and returning College of Forestry students joined alumni, families, faculty, and staff on Thursday, September 29th from 5:00pm- 8:00pm at the Peavy Arboretum Forestry Club Cabin to celebrate the beginning of another school year. The evening featured food, fun, and a live performance from the Willamette Valley based band, Scruggs & The Steel Benders. The sound of laughter echoed through the trees as the children of students, alumni, and faculty hopped about in the bouncy castle and old friends reunited after the summer break. With cookies and burgers in hand, old and new faces discussed upcoming fall events and past summer endeavors.

Stephen Fitzgerald, director of the OSU Research Forest, enjoyed the outdoor occasion stating, “It’s a great event for the students to come out and experience the forest and the camaraderie between the students and staff.” This annual back to school bash proved to be a great start to the new Fall term and a great introduction for new and returning College of Forestry students to the OSU Research Forests.

View of the event featuring the bouncy castle and the Forestry Club Cabin

New and returning students of the College of Forestry enjoying a conversation by the warm fire

Scruggs & The Steel Benders playing their set to their fans and fellow students at the event

CoF students enjoying their burgers and hot dogs thanks to the wonderful OSU Catering staff

Research Forests Staff Profiles

Blair Ruffing

Blair grew up in Dallas, Texas, where she lived with her mom and two cats, JJ and Maggie. She always felt a connection with the Pacific Northwest when she and her mom would take summer trips to places like Seattle, Washington and Whistler, B.C. So when it came to selecting a university with a good Natural Resources Program, Oregon State was a no brainer. She is currently in her third year at OSU, studying Natural Resource Management with an Individualized Specialty Option in Economic Soil Resource Management and minors in both Soil Science and Resource Economics.

Blair is brand new to the OSU Research Forest Staff. She is currently working as the Student Outreach Assistant in our Communications Department, contributing to the Research Forests' newsletter, media posts, and other forest projects. In a separate position, she works with the OSU Challenge Course as a High Course Technician and as their Program Scheduler. She hopes to utilize her experience in Outdoor Leadership and Education at the forest. Blair hopes to volunteer for the Peace Corps after graduating, assisting in sustainable agriculture projects in a third world country. She then has hopes to attain a Masters Degree in Soil Science either abroad or right at home in Corvallis.

Genna Mettler

Genna is originally from Portland, Oregon. She is in her third year at OSU studying Graphic Design with a minor in Visual Arts. She is currently two years into the Professional Graphic Design Program, so we are lucky to have her as our new student graphic designer at the forest! In her spare time, her favorite outdoor activity is snowboarding, but when the sun is shining and the mountains are bare, she is either on the golf course or putting her fishing pole in her back seat.

Genna works on any graphic needs for the forest, creating things like interpretive signs, brochures, and trail maps. She has also had opportunities to work with our trail crew and CORE volunteers to help maintain the Peavy Arboretum. After graduation, she sees herself working for outdoor or athletic companies like Nike, GoPro, or Patagonia as a designer and eventually a brander.

Winter is Coming...

The air is getting cooler, the clouds are getting darker, and the leaves have all but left the trees. That can only mean one thing: winter is coming. With winter comes the rain here in the foothills of the Coast Range, so it is important to talk about winter trail use at the OSU Research Forests.

All winter long, visitors are welcome to recreate on the 114 miles of gravel roads and the majority of our trails, no matter what the weather conditions. Some of our trails are a little more sensitive however, with restrictions on wet weather use.

The goals of great trail design are to create a trail that effectively sheds water at all points, while providing the opportunity for a great visitor experience. Our newer trails, like Dave's and Vineyard Mountain Trails, are built with a more sustainable design, utilizing rolling grade dips (see diagram on the right). With this design, the trail traverses a slope to prevent erosion by allowing each drop of water to drain directly to the lowest point – off the trail. When used properly, the rolling grade dip system can prevent tread erosion and cut down on trail maintenance needs.[2]

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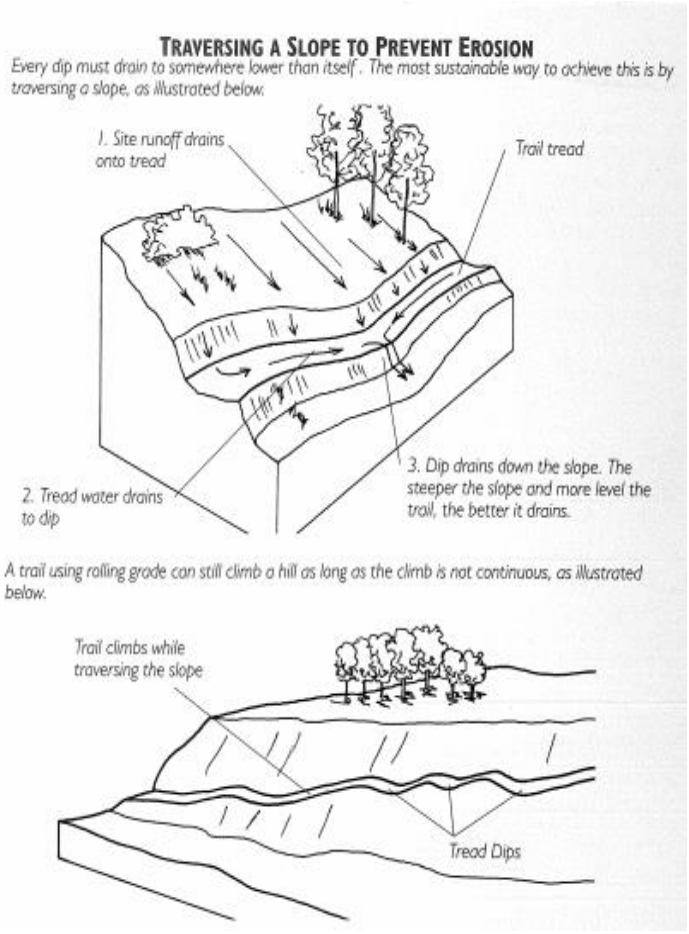

How Soils Get Through the Winter

Trails are dynamic and change with the seasons and weather conditions. During most of the year, the mineral soils that make up good hardened trails are fairly stable. However, winter is the most sensitive time for our trails, making them vulnerable to erosion and long term damage. Using trails during this weak point in their cycle can cause soils to be churned up, allowing gravity and the sheeting action of rain to wash them away. If the trail is soft, mountain bike wheels may leave sunken tracks called ruts, which can become channels for rain to carry the soils away instead of allowing the water to flow off of the trail as intended. Horse hooves or even human shoes can dig deeply into trails and push soil down the hill when trails are in this sensitive condition. [1]

Winter is Coming (cont. from page 7)

Dos and Don'ts for Winter Trail Use

DO travel through puddles rather than around them to avoid widening the trail—that's what your waterproof shoes are for!

DON'T cut switchbacks—stay on the main trail route

DO travel single file unless the trail is wide enough so that neither person is walking on the trail edge

DON'T ride (bikes or horses) or walk/run on a muddy trail*

DON'T skid your tires! Loose powdery dirt from skidding tires, even in the drier months, is easily washed away during rain events

When encountering a horse, DO announce your presence to the rider, then step off the trail to the downhill side

When safe to do so, DO climb over obstacles like fallen trees, rather than traveling around them (and report fallen trees to Forest Staff)

DO share friendly greetings with fellow trail users!

Winter Trail Restrictions

Seasonal Closures for bikes and horses
(11/1-4/14)
Calloway Creek
Extendo
Intensive Management

Closed for Winter 2016/2017 to all uses (new trails)
Dave's Trail
Newest (northern) segment of Vineyard Mountain Trail

***Closed When Wet**
Vineyard Mountain Trail
Firehouse Trail
Beautiful Trail

*Use of trails in the "Closed When Wet" category is not allowed when travel will result in leaving a track in the mud, or when there is significant standing water on the trail. If trail damage occurs during winter months, seasonal restrictions will be implemented.

This is a new policy that relies on your judgment and cooperation to be successful. Help us try it out this winter to see if it works!

Links used in this article:

⇒ [1] "Soil Genesis and Development: Processes of Weathering" *Plant and Soil Sciences ELibrary*

⇒ [2] Trail Planning, Design, and Development Guidelines. Minnesota Dept. of Natural Resources, Trails and Waterways

⇒ [3] "Important Winter Trail Information" Friends of Off Road Cycling RSS

⇒ [4] "Rules for Rainy Season Riding" Hilltromper Santa Cruz

Stay informed about trail closures and forest updates!

⇒ **"Like" us on Facebook**

⇒ **To receive e-mail updates, click here to join our Constant Contact Listserv**

⇒ **Visit our Current Activities webpage**

Dave's Trail

Dave "Condor" Bateham (1960-2011)

Volunteers helping build the new Dave's Trail.

We are pleased to announce the completion of the first segment of Dave's Trail, which now links the Davies and Nettleton Roads. The official "grand opening" for this trail occurred at the Condor 25K Trail Run, Sunday, 10/2/2016, where many of the individuals who made this trail possible competed.

This first segment of Dave's Trail was made possible through the efforts of the Corvallis Trail Runners and the Condor 25K Trail Run. This annual race is coordinated by community members as a fundraiser for trail construction and maintenance on the OSU Research Forests in memory of their friend, Dave "Condor" Bateham (1960-2011). Dave was a Corvallis ultramarathon runner who shared his love of the hills and trails with friends and the wider community. Dave's legacy will surely impart a love of trails and nature to generations of users of this new trail.

Corvallis Trail Runners and other community volunteers also donated considerable time to making this trail a reality through their hard work digging the trail. Additional support for Dave's Trail came via a Recreation Trails Program Grant from the Oregon Parks and Recreation Department, which paid for the Northwest Youth Corps to use their trail building expertise and human-power for building much of the trail.

Dave's trail also passes through sections of a mature forest study that has been going on since 1993. By monitoring percent cover, this long-term ecological research project examines vegetation growth over time in response to different forest management treatments. The intention of the study is to inform managers about how to create late-seral habitat while also managing to produce timber revenue. When the trail opens back up, visitors will have a chance to learn about this study through on-site interpretive signs.

In the meantime, kudos to our Recreation Field Coordinator Matt McPharlin for his excellent trail design skills and ability to coordinate all of the moving pieces involved in trail construction.

Thank you also to student employees and core volunteers of the OSU Research Forests who contributed their time, ideas, and muscles to pulling off this project. And of course, a giant thanks to our community members, Corvallis Trail Runners, and the runners of the Condor 25K Trail Run for your multiple contributions to this project!

Trail Closed, for Now...

This trail utilizes a natural surface of dirt instead of gravel. Because of this, Dave's Trail will be closed for the rainy winter season. Once the trail has settled in and the weather has dried out, we'll open it for everyone to explore!

Upcoming Volunteer Opportunities

Group	Work	Date
OSU Research Forests	**Trail work—Open to the Community**	12/17, 1/14, 2/18, 3/11
Team Dirt**	**Trail work—No Secret Trail**	12/17, 1/14, 2/18, 3/11

Volunteers doing trail work on the new Dave's Trail

What Should I Bring?

- Closed-toed shoes or boots
- Long pants
- Long-sleeved shirt
- Water Bottle
- Rain Gear

What Will Be Provided?

- Water and snacks
- Gloves and safety gear
- Tools

Sign up!

"Open to the community" work parties are open to everyone and will occur on the third Saturday of every month, unless plans change. Keep your eyes open for email and Facebook announcements to sign up for these workparties as the dates get closer!

Contact Recreation Field Coordinator Matt McPharlin if...

- You are interested in joining our elite team of CORE volunteers!
- Your group (club, class, organization, etc.) is interested in signing up for a workparty!

matt.mcpharlin@oregonstate.edu
(541) 737-6730

****Volunteering with Team Dirt**

To help out with building the McDonald Forest's first primary use mountain bike trail, contact Dan Coyle with Team Dirt: danielcoyle@hotmail.com. For more information, see the Team Dirt events calendar.

Volunteers doing trail work on the Vineyard Mountain Trail

Volunteers doing trail work on the Beautiful Trail

Tails on Trails — Updates and Reminders

You may remember our dog campaign last fall, "Tails on Trails." Let's just say it involved spray paint, media coverage, and lots of poop. The sanitation situation on the forest trails has been better overall, but unfortunately became a noticeable issue once again in late summer. During the weekend of October 29th-30th, we hosted a community dog poop pick-up weekend at our popular trailheads, with self-service supplies available for anyone who wanted to be involved in cleaning up the trails.

Collectively, forest community members picked up 84 pounds of dog poop in our most popular areas, which will not be washed into waterways nor pose a health risk to pets or forest visitors. Thank you to everyone who picked up some extra piles to keep this forest beautiful and healthy! Our hope is that folks will continue the momentum to keep our trails in great shape.

See the text boxes on this page for a clarification of OSU policy regarding dogs on/off leash on the OSURF. We appreciate that most dogs on the forest, the majority of the time, are very well behaved and carefully attended by their humans. Thank you for keeping the forest beautiful, clean and safe!

A dog under competent vocal command:

⇒ Is in sight of its guardian at all times, with only brief lapses, regardless of distractions to the dog (such as wildlife, vehicles, other animals, other people or noise)

⇒ Does not bark at, jump on, act aggressively toward, or advance on people or other animals

⇒ Will consistently come to its guardian immediately upon command

If your dog is not able to consistently meet the above requirements, he/she is required to be on a leash while on the OSU Research Forests.

What Can You Do?

Please remember your plastic bags, and dispose of dog waste in a trash bin or in one of the sanitary stations provided at or near popular trailheads.

OSU Research Forests Rules and Tips for Dogs

⇒ **Your dog is required to be under vocal command or on a leash.** Owners may be cited for trespass onto OSU property by the Benton County Sheriff's Department for not complying.

⇒ **To report an incident** relating to a dog on the OSU Research Forests, contact Benton County Animal Control at (541)766-6858.

⇒ Even if you think your dog would never attack another dog, it is very important to **keep them in sight** at all times to protect your dog from injury in the forest or attack by another animal.

⇒ **Do not let an unleashed dog approach a leashed one,** as this creates a potentially dangerous dynamic in dog psychology which can result in unpredictable behavior. People have their dogs leashed for multiple reasons, which could include aggressive behavior or to protect their dog from others. Check with the owner of the leashed dog before allowing your dog to approach with permission. Be sure to check with the owner of any dog before letting a child approach.

⇒ **Likewise, many humans have valid reasons for not wanting to interact with dogs while on the forest,** including allergies, poison oak, mud, personal boundaries, or even traumatic past experiences with dogs. Prevent your dog from approaching other people you meet in the forest unless invited.

Long Term Cavity Nesting Bird Research

Graduate student Amy Barry spends a lot of time standing still, looking up, and being quiet. She also spends a lot of time staring at trees and watching for critters that would rather not be seen. Last spring, she and two field technicians set to the task of observing dead standing trees, called snags, on the McDonald Forest, looking for signs of feathered life. Despite appearances, the researchers are doing more than seeking out a little peace and quiet in the woods – they're busy working!

Amy Barry and Dr. Mark Harmon examine a created snag for signs of decay. Photo by Dr. Jim Rivers.

Barry, Dr. Joan Hagar (United States Geological Survey) and Dr. Jim Rivers (OSU College of Forestry) are trying to find out how birds use intentionally created snags (dead standing trees) on the McDonald Forest, and how this use changes over time. They are investigating whether use by birds is increasing or decreasing, as well as changes in prevalence by species. In addition, the team is assessing decay and other snag characteristics in order to detect any patterns between species prevalence, snag decay, and stand change over time. This information will provide important insight about how long created snags are useful as bird habitat.

Study Goals:

1. Quantify snag characteristics
2. Quantify the use of created snags by birds
3. Assess changes in the use of snags over time

Their data will add to a longer, ongoing ecological study on the forest. As part of the College of Forestry Integrated Research Project (CFIRP), founded in 1989, about 30 different units were identified on the McDonald and Dunn Forests to receive one of three harvest treatments of varying intensities. Each unit received one of two created snag arrangements. This means forest managers actually created about 930 snags from live trees by cutting their tops off with chainsaws.

CFIRP goals include monitoring how different harvest types affect vegetation, wildlife, and created snag arrangements, and Barry and her colleagues are contributing to this research. Last spring, they conducted focal observations on 135 randomly selected snags, watching each dead tree for 7 ½ minutes in one position, and then repeating that stint of staring from another spot. They recorded all bird activity observed, including perching, foraging, and nesting, and repeated observations for each snag once a week for about 10 weeks. In total this amounted to more than 305 hours of observations for the 135 snags. That's a lot of staring!

The work Barry and her team did in 2015 was only the first part of their study, but she does have some preliminary results to share. These results showed nesting occurred in 9.6% of the snags observed – more than a 50% reduction from results obtained from a similar study in 2011, which found 20% of observed snags supported active nests. (Continued on page 13)

There are two main groups of cavity-nesting birds:

1. **Primary cavity-nesters** have strong bills for drilling through wood. They usually form a new cavity each year

2. **Secondary cavity-nesters** are weak excavators, meaning their bills are only for picking chunks of soft wood out of decaying snags.

Long Term Cavity Nesting Birds Research (cont. from page 12)

This year, Barry, Hagar, and Rivers are resurveying the snags and increasing their sample size to account for variation they may have missed in the first round of data collection. They will also begin using point counts and playback surveys in order to better understand what communities of birds are present in the study areas.

Locations for the point counts are selected at random, and then Barry stands at each spot and records all birds that she sees or hears, documenting their distances from her up to 100 meters from the established center point. The purpose of this method is to understand what the community of birds looks like that are using the area.

An adult pygmy owl nesting in a cavity in a created snag.

Although snag creation has been an accepted aspect of forest management for about 45 years, little is known about how this practice influences wildlife habitat in the long term. When Barry and her fellow researchers release their final results in 2017, they will be adding to that field of knowledge by providing us with a look at how these created snags on the Research Forests have fared as bird habitat since they were created 25 years ago. We are looking forward to the final results and learning more about the role of created snags as wildlife habitat in the forests we love!

History of Created Snags

Historically snags were much more frequent in forests. Without the help of today's harvesting equipment, it took loggers more time and human strength to cut a single tree. This often meant fewer trees were cut, and the ones left standing helped create a more variable-aged stand with habitat for a variety of wildlife species. Now, harvest practices often include taking more trees off the land at a given time, and snags are often removed for the safety of the harvest crew. The stands are rotated more frequently, which means the snags left behind are smaller.

There are ways to compensate for these more intense harvesting practices, and in 1971 the Oregon Forest Practices Act was passed. The rules put forth in this act continue to change over the years to reflect changes in scientific understanding of ecological processes. About 45 years ago, as part of this new movement to manage timber stands for more than just timber (expanding to controlling invasive plants, enhancing stream health, reducing soil erosion, and protecting wildlife habitat), some forest managers began creating snags out of live trees. One way this is done is through girdling, where someone cuts all the way around the tree, severing the vascular tissue that transports nutrients from the roots to the rest of the tree. Another method is topping, where the top of the tree is cut off, killing the tree.

On the OSU Research Forests, snags and other older trees with complex structure are identified for protection during harvest operations, and are kept standing to provide wildlife habitat into the future.

Timber Management from a Newbie's Perspective

by Blair Ruffing

With a bright orange hard hat in hand and a foggy road ahead, I set off with Brent Klumph, Forest Manager, and Genna Mettler, our graphic design student, towards a potential harvest stand for the students involved with the OSU Student Logging Training Program (SLTP). My name is Blair Ruffing, and I am a newly hired Natural Resources Student who has a primary focus in Soil Science and Resource Economics. Like many students in the College of Forestry at OSU, Forestry is not specifically my area of study. I work in our communication program at the forest, so this endeavor was meant for me to learn about the other departments within the Research Forests. Before this outing, I had experience with the economic aspect of timber management because of my minor in Resource Economics at Oregon State, but I had very little knowledge and experience when it came to the actual application and management aspect of running a successful timber operation.

View of the entrance to Peavy Arboretum

As we drove through the rain and fog towards the potential harvest site in the Dunn Forest, I couldn't help but be amazed by the magnitude of the forest and think about how much effort must go into a large-scale operation like this. Brent explained to the two of us that the McDonald and Dunn forest produce around 4 to 4.5 million board-feet of a timber a year, bringing in revenue for both the College of Forestry and the day-to-day operations at the Research Forests. That being said, the timber management program at the Research Forest is a dynamic dance of providing for multiple uses, generating revenue, and supporting an environment for the surrounding community, the animals that call this place home, and the organisms that make it all possible. As Klumph puts it, "there is no single priority."

Maintenance in a managed stand is critical in order to protect the trees against potential weather destruction, overcrowding, and mortality. The most typical way to maintain a timber stand is through the action of thinning. Proper spacing can reduce overcrowding and relieve tree stress, strengthening the health and vigor of the remaining trees. From an aesthetic perspective, thinning helps create a more open forest stand, which also often increases the likelihood of wildlife through improved forest habitat.

For a thinning to take place, Brent described his

(Continued on page 15)

Klumph leading us to the potential harvest site

Timber Management from an Newbie's Perspective

(cont. from page 14)

process as: "you must cruise the area, set up a boundary, decide how many trees to keep and how many to take, and mark the trees respectively." Many of the trees we were looking at in this particular area had damage to their tops due to an ice storm that occurred in the area about three years ago, so those trees would most likely be marked with paint signaling for them to be cut down. In most thinning operations, it is common to leave the "best of the best" to continue growing, and thin (cut) the "worst of the worst."

There is another harvesting method, however, that does not always get the best reception in the public eye. Yes, we are talking about clear-cuts. Typical buzzwords and phrases that come to mind when talking about clear-cuts include 'eye-sore', 'habitat destroyer', 'money maker', etc. Just like our Timber Management Program, clear-cuts are a dynamic dance that come with their own nuances and individual specificities—here are some details about this particular timber management tool.

When an area is clear cut, it is typically done in a wide range of patch sizes. Replanting after a clear-cut generally leads to a single-species forest – in our case, Douglas-fir. Each clear-cut is the beginning of a new forest stand, and the start of another habitat development cycle. Over time, the landscape contains a patchwork of clear-cuts, younger stands, middle-aged stands, and older stands. This provides increased habitat diversity, leading to a wide variety of resident and migratory wildlife species living in the differently aged forests. You can usually find several stages of forest development somewhere in the landscape; and each of these forest types support different groups of wildlife species.

That being said, there are certain concerns that forest managers have to take into consideration when deciding to pursue a clear-cut. These include, but are not limited to, changes in available habitat and recreation value as well as the potential for riparian erosion and disruption of ecosystem processes. Clear-cuts continue to be used as a timber management tool throughout the world for several reasons. All of that wide-open space that may not look very appealing when taking your weekend drive to the coast actually allows the most sun for tree species that require full-sun conditions, like Douglas fir, to thrive. If Douglas fir doesn't get enough access to sun, it inhibits the photosynthesis process, causing branches to die and fall off, and trees to grow very slowly or die. In some situations, it may be possible to do a heavy thinning where you remove more stems per acre, though Douglas-fir are particularly vulnerable to being blown over when too thinly spaced. An aggressive thin would

View from the potential harvest site in the Dunn Forest

allow enough light into the stand to regenerate the trees, but a clear-cut allows you to receive a higher return on your investment along with that greater access to sunlight. Since a clear-cut receives more sunlight, growing conditions for the new tree seedlings and sun-loving shrubs, herbs and grasses thrive and provide forage and habitat for early seral species like elk, deer, and birds. Clear-cutting also represents the most efficient and economical method of harvesting a large group of trees; you get the most bang for your buck. For example, a forest will generate roughly $450,000 off of a 26 acre clear-cut and only $40,000 on a 50 acre thinning. Finally,

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Timber Management from an Newbie's Perspective

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by just entering the forest stand once, instead of multiple times over a series of thinnings, there are fewer disturbances to the forest.

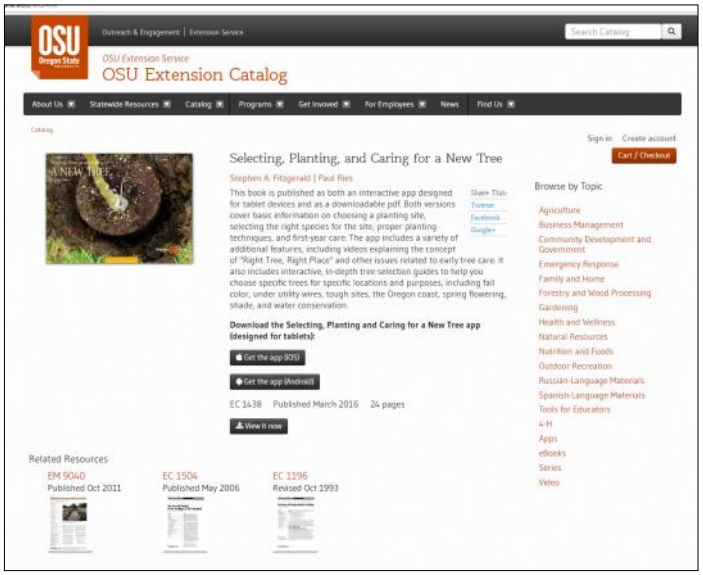
Typical industrial logging practices clearcut and replant on 40-60-year rotations in order to maximize profits; however, here at the Research Forests, we work on 90-100 year rotation plans in order to satisfy both the revenue goals and the environmental goals for the forest, since older forests provide more diversity of habitat and ecosystem services. Industrial practices in Oregon typically clearcut up to 100 acres at a time. The size of a clear-cut on the OSU Research Forests can be as small as 1.5 acres, and are typically about 25-30 acres to provide for diverse forest habitats and minimize the aesthetic impacts.

It is these considerations, along with pressing environmental factors that effect the health of a forest stand such as ice and wind damage, that make Klumph's job a complex one with lots of difficult decisions that change on a stand by stand basis. Being able to 'play forest manager' for a day was eye-opening and allowed me to step in the shoes of an individual who has to make crucial decisions on a daily basis that affect not only the forest but also the community.

Need Help Selecting the Right Tree? There's an App for That!

Want to plant a tree in your yard? Want to plant the *right* tree, in the *right* place? There's an app for that! The app, called "Selecting, Planting, and Caring for a New Tree," has been introduced by Oregon State University Extension Services and is authored by Paul Ries and Steve Fitzgerald. Ries is an OSU Extension Specialist in Urban Forestry, and Fitzgerald is the Research Forests Director and an Extension Specialist of Silviculture.

Their app, designed for tablets, helps users make smart decisions about what tree species to purchase for a particular location and purpose. The free app, which works on Android and iOS systems, includes videos and interactive guides. You can also view much of the same information in a PDF format through your web browser.



Trail Building Slowing Down for 2017

You may have noticed that quite a few trails popped onto our maps in the past couple of years! Thanks to volunteer efforts, grant funding, and dedicated staff, we've made a ton of progress in building new trails and bringing trails onto the system.

Right now is the time of year we finalize our budget and priorities for 2017. After carefully looking at our task list, capacity, and priorities, we have decided to focus our resources on "fixing" some known issues on our trail system this year, instead of stretching the program to add additional trail miles. Among the projects we plan to take on are to fix the tread on Horse Trail, improve Extendo Trail for year-round use, put the finishing touches on our newest batch of trails, install non-stick coating on all of our bridge decking, and improving the way-finding signage on trails.

We do have a couple of new projects this year, funded by a Recreation Trails Program grant from Oregon Department of Parks and Recreation. Another segment of Dave's Trail will be constructed as part of the connection between Lewisburg Saddle and Peavy Arboretum. Also funded through this grant are some significant improvements in parking at Lewisburg Saddle, designed to improve safety.

As you can see, we still have quite a lot on the plate for 2017, and we expect to be back in the saddle building more trails in 2018.

View from the bridge on the Homestead Trail

Did You Know?

We are applying for a Conditional Use Permit with Benton County to allow us to continue developing recreation opportunities on the OSU Research Forests. We recently discovered that the zone "Forest Conservation," does not automatically allow for management of recreation. We have submitted our application and expect a land use hearing with Benton County Planning Commission.

When this date is set, we will provide more information regarding our intended developments, as well as information regarding how you can contribute your thoughts to the Benton County Planning Commission on the proposed developments.

We will need the continued support of our community volunteers and partners to pull off our projects this year! Please continue to stay involved through volunteering, and help us use this year to bring our existing trail system up to snuff!

View along the Nettleton (500) Road

"Let the Rich Life Run to the Roots Again"

In Memory of Ann Rhodes

If you have recently hiked on the newly opened Beautiful Trail, you might have come across a commemorative bench dedicated to the late Ann Rhodes placed among the oaks. Ann was born in rural, southern Missouri, and moved all over the country to places like San Francisco, Arizona, Maine, Alaska, and even spent time with the Peace Corps in rural Honduras. Ann had four children: Steven, Mark, Ron, and Julianne. It was her daughter, Julianne, who had this bench installed in her mother's memory with the help from family members and local walking clubs including the Albany Fitwalkers.

The new bench is located in a serene section of the McDonald Forest along the Beautiful Trail with nice views of the valley within a recently restored oak savannah—a place where Ann would have liked to spend some time.

Anne Rhodes Memorial Bench, inscribed: "*Let the Rich Life Run to the Roots Again* - Robinson Jeffers"

Thank you to those involved in this process including the volunteers and staff who built the bench and the generous donors that made it all possible.

Sponsor a Bench in Peavy Arboretum

Randal Pond becomes a color show in the fall. This is the view from the spot where the new bench will be placed.

If you are interested in donating a commemorative bench to be placed on the forest, please contact Ryan Brown at:
ryan.brown@oregonstate.edu
541-737-6702

Randal Pond in Peavy Arboretum is in need of a new bench, and you could be the one to dedicate it! This is a great opportunity to honor a loved one, organization, or event while making a donation that supports trails, signs, and other recreation and engagement opportunities on the forest.

The bench will face Randal Pond and take the place of the old bench, which was finally overcome by the forces of nature and time this summer.

All commemorative benches are handmade by OSU Research Forests staff and volunteers using logs from the Forests. Bench installations include a customized commemorative plaque.

To learn more about commemorative benches on the forest, see our Commemorative Bench Flier. For general information about giving back to the forest you love, check out our membership-based fundraising program, Forest Connection.

Give the Gift of a Walk in the Woods...

During this season of giving, please consider donating to our Recreation and Engagement Program. Your tax-deductible donation goes toward supporting our trails and recreation facilities and providing services to enable great outdoor adventures.

Funds donated through the Forest Connection program are used to support new initiatives and developments in the Recreation and Engagement program. If you like the things you've been seeing out on the forest recently—newer trails, increased communication, and new interpretive signs—you might consider donating to help us create more.

When you join Forest Connection, not only do you give back to the trails and support learning on the Forests you love, you will also receive a thank you gift to show your connection to the Forests.

Forest Connection

Click here for the program flier!

Your Donation Helps to Fund...

- New trail construction
- Improvements to directional signage
- Fabrication of new interpretive signs
- Improvements to bridges/other trail structures
- Dog waste stations and bags
- More projects in support of recreation and engagement on the OSU Research Forests!

Support Recreation, Trails and Engagement in two easy steps:

(10 minutes of your time):

1. Sign up for the program by clicking here! Tell us a little about yourself and indicate your level of giving.
2. Make your donation through the OSU Foundation by clicking here...

Choose Option # 1 – I'm Making a Gift

- Enter the gift amount you selected in Step 1
- Under ***I Want to Give to*** copy and paste the following into the field labeled ***Area you'd like to support***: "4100-404100 - Research Forest Recreation Fund"
- Provide the requested information to make your donation via credit card
- **Or write a check** made payable to "OSU Foundation," including "4100-404100 - Research Forest Recreation Fund" in the memo line. Mail your check to:

  OSU Foundation
  850 SW 35th St.
  Corvallis, OR 97333

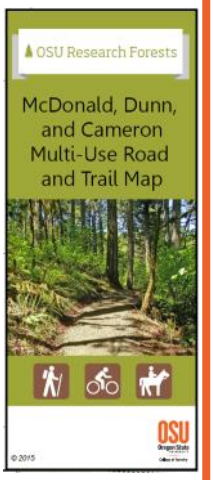
Soon after signing up, you will receive a thank you email from us and information on when to expect your gift!

If the links above do not work, copy and paste the following address into your browser: http://cf.forestry.oregonstate.edu/forest-connection

And a Giant Thank You to our 2016 Forest Connection Members!

Large Format OSU Research Forests Maps

Map Features—



- Data updated to reflect current information
- 100 ft. contours and shaded elevation relief
- Waterproof, tear-proof paper
- UTMs
- Table of trail lengths and allowed uses

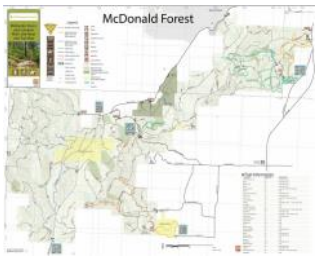
Available for purchase at—

Corvallis: Five Star Sports, Bike N' Hike, Peak Sports, Browsers' Bookstore, First Alternative Natural Foods Co-op (North Store), and the Book Bin
Albany: No garbage Books and Bike N' Hike

Forest maps continue to fly off the shelves at local businesses! We will continue to update the map with each new printing to reflect new trails and changing conditions. If you have feedback on the new trail map, please feel free to contact us about it at any time.

Lower resolution versions of these maps can be downloaded from our website at:

http://cf.forestry.oregonstate.edu/osu-research-forests-maps



Contact Us!

OSU Research Forests

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Corvallis, OR 97330
Phone: 541-737-4452
Fax: 541-745-2519

Website:
http://cf.forestry.oregonstate.edu

Like us on Facebook!
www.Facebook.com/OSUResearchForests

For questions regarding any recreation-related topic, please contact Recreation and Engagement Program Manager:

Ryan Brown
ryan.brown@oregonstate.edu
541-737-6702

Foggy view from the top of the Powder House Trail