Pacific Madrone: A Tough Tree, but not Without Issues

Pacific madrone is one of Douglas County’s most abundant tree species, and one of the most abundant trees in terms of questions relating to health. Pacific madrone is found in many areas west of the Cascades, usually on warm sites with shallow rocky soils. These locations lead, at least in part, to why so many questions arise regarding its general health: these marginal sites are a tough place for any tree to grow. Madrone is drought tolerant and well-adapted to survive long, hot summers with little or no rainfall. Extended droughts, however, may reduce tree vigor and increase susceptibility to diseases.

Keep in mind madrone is intolerant of shade which results in the loss of lower branches to shading from the upper portion of the tree’s canopy. Madrone is famous for its rapid resprouting after cutting or a fire and will often be the dominant species for a number of years. Over time, however, other species may crowd or overtop it. At that point, the tree will begin to decline in vigor, show increased symptoms of foliage and other diseases, and may eventually die.

There are three major groups of diseases that affect madrone: foliage diseases, branch dieback and trunk canker diseases, and root diseases. More than a dozen fungal organisms can cause leaf spots and dead regions on the leaves. These diseases may result in unsightly foliage and usually are not serious. What should you do? Prune dead branches and rake fallen leaves before the fall rains may help diminish the spread of spores and infection to new leaves.

The second major group is twig dieback and trunk cankers. These diseases are caused by fungi that kill the cambium (the growth layer inside the bark). Initially, the bark looks discolored, then peels off and reveals blackened, cracked wood that almost looks like it’s been burned. Madrone twig dieback starts at the branch tips and works downward and is associated with drought. Madrone canker occurs on the main trunk or major branches and can also appear on smaller twigs. It usually develops after bark injury, causing cankers to grow around the trunk or branch which may girdle and kill it. Vigorous trees can limit the canker’s spread by a tissue that forms around the margins of the canker. Oftentimes, twig dieback and trunk cankers are present on the same tree. Some trees affected by these diseases may decline rapidly and die in a year or two. Healthier trees may persist with multiple cankers for several years or even decades. Again, what to do? Deep watering may help prevent twig dieback as well as minimizing bark injury.

Third on the list are diseases that affect the roots and tree trunk. Cankers are usually near the base of the tree, but may occur further up the trunk. The infected bark is brown and the sapwood may also be discolored. Loss of foliage, and small, curled leaves are common symptoms. Infected trees often die, sometimes rapidly. Persistent, moist soil conditions favor the fungus so trees growing in poorly drained soils are most susceptible. Other root diseases, such are Armillaria, are often associated with root damage and poor tree health. These are most common on older trees. So what do we do? The main way to avoid root disease problems for trees in your yard is to avoid over-watering. Frequent watering (every day or two) on flat or poorly drained ground, and/or heavy clay soils is great for the grass, but major trouble for your madrone, or just about any other tree for that matter. While some individual madrone trees may do reasonably well in these situations, the risk of developing root disease is much higher. For those extended hot/dry summers, it is best to deep water every few weeks underneath the drip line of the tree and away from the trunk.

Finally, we did not mention insects, normally not a serious threat. The best prescription for pacific madrone health is full sun, not too much water and avoid damaging the trunk.

We are pleased to deliver this material as part of the educational activities of the OSU/Douglas County Extension Service.

Raini Rippy & Steve Bowers
Forestry Extension agents
Publications & Information

Update: Log Buyers Directory

The most recent revision of the Log Buyers Directory is available at the OSU/Douglas County Extension office. This most recent revision was completed in March of 2010. There are currently about 150 (down slightly) entries in the publication. Information includes: company name and address, phone number, log buyer’s name, in addition to office, cell phone and county where the company resides.

It has been stated on various occasions that it is difficult to find a buyer for large diameter logs. The Log Buyers Directory has no less than 50 facilities that will accept a log with a 50” or greater scaling diameter. The largest number of mills accepting large logs are located in Lane, Linn and Douglas counties. These counties also have the largest number of buyers, good news for woodland owners in the southern end of the Willamette Valley and Umpqua basin.

This publication is a must for anyone who plans to sell timber or logs. If not the most, it is certainly one of the most comprehensive buyers list available anywhere. Companies included in the Log Buyers Directory can also be found in the Oregon Forest Industry Directory, a joint effort of the Forestry Extension team at Oregon State University, the Oregon Small Woodlands Association and the Northwest Wood Products Association. The site can be found at www.orforestdirectory.com

Lewis & Clark AND Oregon’s Forests

The Oregon Forest Resources Institute (OFRI) asked forestry experts to use Lewis & Clark as a backdrop for looking at forest conditions prior to their expedition and the effects of development and logging since that time. Assessing the forests that Lewis & Clark encountered provides an opportunity to reflect on how the forest landscape has been shaped by human and natural causes the past 200 years. Understanding these changes over time can help scientists, foresters, policy makers and Oregon’s citizens make sound decisions regarding the future of forest management in our state.

For a free copy of this high quality publication (both in terms of content and display) contact us at the Douglas County Extension office (contact information on the front page).

Fire in Oregon’s Forests

Assessing the Risks, Effects and Treatment Options

There is no such thing as a forest free of fire,” said James Agee, University of Washington professor of forest ecology, in a recent issue of Conservation Biology In Practice. Oregon’s forests bear witness. Many Oregonians still remember the four massive Tillamook Burns from 1933 through 1951 that burned some 360,000 acres. We are reminded of forest fire danger every summer by the frequent fires in southern and eastern Oregon and by the smoke we see in the air.

How has a century of fire prevention and suppression affected Oregon’s forestland? How did our fire policies evolve? Was Smokey Bear wrong? How have fish and wildlife been affected by fire or its absence? Are some of our laws in conflict? What does the new National Fire Plan mean for Oregon?

This special report looks at these and other questions related to fire in Oregon’s forests – its role in the forest ecosystem, the ways our policies have altered the natural environment and how Oregon citizens can work together with forest professionals and scientists to keep the state’s forestland healthy and sustainable.

If you’d like a copy of Oregon Forest Facts & Figures, contact us at the Douglas County Extension office (contact information on the front page).

Fallers Logging Safety

The Oregon Health & Science University brings you an Oregon Fatality Assessment and Control Evaluation. This publication was initially developed as a safety manual to help train new timber fallers, the most dangerous job in Oregon. The manual will assist trainers and trainees understand safety issues and remember key points to felling a tree. The manual is also an excellent source of information for woodland owners utilizing a chain saw by covering information on assessing an area, assessment of the tree, establishing a safe work area, felling the tree, getting in the clear and a glossary of terms. Free copies are available at the Douglas County Extension office during regular business hours.
New American Tree Farm (ATF) Certification Standards Available for Review

Many woodland owners in Douglas County have a certified management plan for their property(s). This is important because a plan is required to qualify for some of the cost share programs available to woodland owners and the necessity of a written management plan, or selection of a certified logger, to sell logs and timber. For more information on how to develop a written management plan, contact us at the information listed below. For those with plans, the following information is of importance.

The American Forest Foundation (AFF) released updated Standards of Sustainability for Forest Certification, for use with its Tree Farm program. The 2010-2015 AFF Standards (revision occurs every 5 years) were developed by an independent panel of experts representing academia, conservation organizations, government, private landowners and foresters. Founded in 1941, the ATF certification program is the oldest in America and is constantly working to improve standards to fit new conservation forestry practices and consumer expectations. Consumers want to be able to rely on “green” brands, and the ATFS brand meets that demand.

The 6 things AFF wants you to know about the new Standards

1) Designed for small woodland owners: These Standards were developed specifically for small woodland owners. The independent panel took care to ensure that the requirements were appropriate for the scale of management practiced on family woodlands across the United States. Industrial companies who manage large landscapes are excluded from participating.

2) Management plan: The management plan requirements help streamline the process for Tree Farmers to participate in USDA conservation incentive programs. The management plan requirements under the 2010-2015 Standards correlate with the US Forest Service guidelines for forest stewardship program forest management plans. The AFF is also working with the Natural Resource Conservation Service (NRCS) which is of importance to many woodland owners because of the high amount of forestry related cost-share money available through the NRCS.

3) Special Sites: As with past standards, the 2010-2015 Standards require maintenance of special cultural and environmental sites. ATFS will be introducing new tools on the Tree Farm website to help landowners research special sites in their state and on their certified Tree Farms (www.treefarmsystem.org/woodlandresources).

4) Monitoring: Periodic monitoring has been added to encourage landowners to monitor their woodlands for changes that could interfere with their management objectives. Things to be on the lookout for include pest outbreaks, invasive species and indications of trespass.

5) Invasive Species: Tree Farmers are encouraged to make practical efforts to prevent, eradicate or otherwise control invasive species using a range of integrated pest management methods. Integrated pest management methods may include pesticides, physical removal methods and preventative methods.

6) One year to implement: The new Standards were released January 1, 2010, and Tree Farmers will have one year to ensure their management plans and management activities meet the Standards. Volunteer inspectors will be retrained to the new Standards. The new Standards can be found at: http://www.forestfoundation.org/cff_standards.html.

More detailed information is provided in the March/April Tree Farmer magazine, this year’s complimentary issue.

Q&A Webinars on the new 2010-2015 Standards
Tree Farm is offering a series of Internet-based webinars this year that will feature additional information for landowners, volunteers, and forestry consultants. The one-hour webinar will cover how the new Standards will impact current forest management practices.

Mark you calendar with the following webinar dates and register now to join one or more of these webinars

Tuesday, September 14 from 1:00-2:00pm
Tuesday, October 12 from 1:00-2:00pm
Tuesday, November 9 from 1:00-2:00pm
To Kill or Not to Kill: That is the Question

Trees located around buildings, driveways and other man-made structures tend to have more “issues” than their counterparts in the undisturbed forest. This is due in large part to mechanical damage and improper care. Below is a list of 24 ways to kill a tree. Generally, an individual item on the list will not lead to tree mortality, but a combination of several small issues leads to stress and an increasing probability of killing the tree in question.

How to kill a tree:
1. Top the tree to reduce height and/or encourage denser growth.
2. Retain multiple leaders to encourage a “V” growth, thus increased probability of damage during wind and/or ice storms.
3. Leave crossing branches to rub bark and expose the cambium (the growth area inside the bark).
4. Ignore insect and/or disease damage thinking the tree will heal itself over time.
5. Coat pruning or wounds with paint or sealer.
7. Spray unapproved herbicides around tree root area.
8. Damage trunk and roots with lawn mower.
9. Damage roots when digging trenches.
10. Plant too close to structures thus restricting future growth of crown and/or roots.
11. Attach items such as wire or rope to trunk and/or limbs that damages bark and girdles the tree.
12. Random pruning that leaves branch “stubs.”
13. Prune flush with the bole of the tree thus damaging the cambium area.
14. Leave trees staked until wire or rope girdles the trunk.
15. Leave root wrap intact when transplanting thus inhibiting root growth and rope used in root wrap in place thus girdling trunk.
16. Removing bottom only of plastic container or root wrap that makes transplanting easier but restricts root growth.
17. Apply excessive mulch around tree that encourages rodents and discourages root health.
18. Place non-porous mat under mulch.
19. Stack items around tree that causes soil compaction.
20. Plant near downspout resulting in excessive water.
21. Water lightly/often thus encouraging shallow root growth.
22. Leave tree protection devices such as wire or plastic around tree that will eventually girdle trunk.
23. Dig transplanting hole too narrow and not slightly amending backfill thus discouraging root development.
24. Dig hole too deep and backfill over roots thus collecting too much water and drowning roots.

And here are 24 ways how NOT to kill a tree.
1. Do not top trees. Height and shape of tree should be through selection of species, not trying to manipulate normal growth.
2. When young, select dominant branch or sprout and cut-off the rest.
3. Remove branches that cross or rub the main stem of the tree.
5. Do not use paint or sealers to cover pruning cuts or wounds.
6. Cut broken branches off at the branch bark collar.
7. Spray area around tree with herbicides that will not damage tree by checking with professionals.
8. Mulch (no more than 3 inches) around tree to avoid damaging trunk with mower or edger and protect surface roots.
9. Dig around roots when possible. When not possible, make a clean pruning cut on the tree side of the root.
10. Insert an aluminum nail or screw in tree to attach wire or line in support of tree. Aluminum will not rust, thus reducing impact on the tree.
11. Know the eventual size (height and width) of the tree and allow appropriate space for future growth.
12. Prune branches back to the branch collar and avoid longer stub that will die back.
13. By cutting at branch collar, die back is minimized and cambium is not affected. Preferably done when tree is dormant (sap is not flowing).
14. If tree is staked, remove after one year, or if deemed necessary, two years at the most.
15. If animals are a problem, do not wrap the trunk and use protection that does not come in contact with the tree stem.
16. Do not put any fabric or plastic under mulch or over grass.
17. Do not stack items around tree to avoid compaction and aeration of soil.
18. Remove root wrap and roping around tree when transplanting to avoid girdling of stem and/or roots.
19. If tree is in a container, remove entire container to encourage root growth.
20. Water deep and infrequently to encourage root health and development.
21. After removing tree wrap or from a container, gently “rough-up” the sides of the ball to free bound-up roots.
22. Dig hole larger than container to encourage lateral root growth.
23. Slightly amend soil in over-sized hole and gradually integrate native soil. Do not leave a stark line between amended soil and native soil as this can cause a perched water table.
24. Dig hole deep enough to allow for mulching.
Special thanks to Mr. A.B. Recknagel of Cornell University. He speaks on the need for local Extension foresters and specialists, when the present day finds our state legislators and respective county commissioners contemplating reducing or eliminating funding for Extension programming. He also elaborates on forestry practices swayed by “passing expediency or popular appeal.” It’s good to know this perspective exists on the east coast as well as here in Oregon.

Like the poor, we have always with us the farm woodlots, or, as we now prefer to call them, the farm woodlands - millions of acres, mostly mismanaged, “high hatted” by the profession except for a few devoted extension foresters. The forestry schools give them no consideration in their curriculum. Yet they are potentially very productive and, because of their integration with going farms, are often easily brought under proper forest management than is the case with larger forest properties.

I would urge upon the forestry schools the need for, and the opportunity of, training men for the rapidly expanding field of extension workers in forestry, farm forest specialists, and teachers, and the coming jobs of county foresters. Here is a fallow field ready for planting. It will not do to leave this training to the colleges of agriculture - even to those having professional schools of forestry - the need and the duty for such training rests upon each and every forestry school.

After all, what the forestry schools need is a more realistic approach to the whole problem of getting forestry out of the books and into the woods. It is dreadful to think of the mass of unapplied theory which is crowded into the minds of our forestry students. They learn their “materia medica” but when it comes to chances to apply what they have learned in practice, they are frustrated by lack of opportunity.

The farm woodland problem is one that offers itself as a great opportunity for the schools, their graduates, and for the profession as a whole. The Society of American Foresters through the Division of Education can help gain recognition of the farm woodlands as a part of the professional curriculum, to the lasting benefit of its members and to the country as a whole.

Oh, did I forget to mention? Mr. Recknagel writes us from Cornell…. In 1942. Once again, proof of the old axiom; the more things change, the more they remain the same.

The 2010 fire season has arrived and whether we like it or not, there is one guarantee for this summer: there will be fires on our forestland in Douglas County and there will be a loss in timber and/or building structures. Thus far, 2010 is a near mirror image of last year.

The late winter/early spring started off dry and below normal winter rainfall continuing into early spring, so the summer was shaping up to be a dry one. The saving grace was maybe not an extreme one due to the lack of spring rains and the corresponding growth in potential fuel loads.

However, spring thunderstorms, heavy/intermittent showers, (looked more like rain to me) the past few weeks has resulted in optimal growing conditions for herbs, grasses and forest understory. The result, extremely lush vegetation during the spring months, but a catastrophe in terms of potential fuel loads waiting to ignite this summer.

The secret to any fire suppression is a rapid and aggressive initial attack that hopefully will keep small fires from reaching catastrophic proportions. This is done through near immediate identification and announcement of a forestland fire coupled with no pending delays in reaching the fire: road access.

If not planning a timber harvest, some of us will neglect woodland road maintenance. As woodland owners, it is very important to take the necessary time to assure roads accessing your property are open during the fire season. This is important not only in terms of access for the current fire season, but also in terms of soil erosion and potential stream sedimentation that will accompany the coming fall rains.

When removing trees and/or debris from your roads, remember to clean accompanying ditches and relief culverts. When performing these tasks, you need to keep in mind the requirements for fire fighting equipment. Equipment trailers and large water tankers require a wider road than a pickup truck.

A rapid response to a fire can be the difference between a minimal environmental and financial impact versus a major cost in terms of forestland, personnel and money. If not already accomplished, clear those roads and ditches and abide by the Forest Practices Act for fire prevention.

We will endeavor to provide public accessibility to services, programs, and activities for people with disabilities. If accommodation is needed to participate at any meeting, please contact Steve Bowers or Raini Rippy at the Douglas County office of OSU Extension Service at 541-672-4461 at least 2 weeks prior to the scheduled meeting time.
The replacement of organic materials by mineral deposits and even allowing for tree species identification. The petrified beds, both locations where sudden events precipitated rapid and massive displacements of soil via floods and/or ash.

The petrification of driftwood is the formation of stone where wood has been replaced by mineral deposits through the sediment deposits minerals in the plant’s cells and as the plant’s lignin and cellulose decay, a stone mould forms in its place. The replacement of organic materials by mineral deposits is so precise as to retain cell structure, i.e. tree rings remain visible and even allowing for tree species identification. The petrified wood you see lying atop the ground has become exposed by years of uplift and erosion.

In a prior NW, we discussed the various colors emitted when burning driftwood. The same process holds true with petrified wood: copper being a greenish/blue, manganese a pink/orange, and iron consisting of red or yellow. The process is often associated with prehistoric times, and it is true much of our petrified wood has been in that state for thousands or millions of years. However, under optimal conditions, wood can take less than 100 years to petrify. There are examples of petrified wood containing axe hues, further evidence it does not take eons to petrify. Water of the “right” chemical composition is key to the process with silica being the best chemical for replacing the wood.

If eliminating oxygen was the only requirement to petrifying wood, then all those farmer’s posts would petrify over time, saving them a lot of work. However, the wood’s interface with the soil and air is conducive to optimal decaying conditions (plenty of moisture and oxygen) which is why we see a post rot at the surface of the ground while the wood below ground level remains solid. Another myth we need to dispel involves volcanoes. Many believe these phenomenon are a pre-requisite to the formulation of petrified wood. Indeed, much of the world’s petrified wood is located in volcanic areas, along with ancient and existing riverbeds, both locations where sudden events precipitated rapid and massive displacements of soil via floods and/or ash.

And studying the chemical process involved with petrified wood allows us to answer another question. Judging by many of the forest policy decisions of our state and federal bureaucrats leads many to believe these individuals have rocks in their heads. Treeman stands in their defense and states this is not true! It is merely a lack of oxygen to their brain that turned their decision making process involving wood into stone: too dense for us to understand.

Dear Treeman,

I was wondering where or how the nitrogen from lightening spreads into the ground during a storm, since I have heard that there is a lot of it in a strike. Is this true? I haven't seen fertilizer burn after a strike, so what gives?

Joanna

Dear bitsy,

The majority of Earth’s atmosphere is nitrogen (approximately 78-80%). However, atmospheric nitrogen is unavailable for biological use, one of the reasons for a lack of nitrogen, along with other nutrients, in many of our forests. Lightning plays a minor part in the fixation of atmospheric nitrogen. The extreme heat of a lightning flash causes nitrogen to combine with oxygen in the air which then forms nitrogen oxides. The oxides combine with moisture in the air and is carried by rain in the form of nitrates that can be used by plants, and one reason our lawns “green-up” so fast after an autumn thunderstorm when our sprinklers failed to do the job.

Lightening is only one of the processes that contributes to nitrogen fixation. Considering all of the possible biological and non-biological fixation processes, lightening accounts for about five percent of Earth’s nitrogen availability to plants. Natural biological nitrogen fixation processes account for about half of the total nitrogen on Earth. Synthetic fertilizers make-up over a third, legumes and manure about five percent and the burning of fossil fuels comprise approximately five percent. Alas, the internal combustion engine is a nitrogen fixer. Take that Al Gore!

You mentioned not seeing fertilizer burn after a strike, but there certainly is a “burn.” When lightning strikes the ground, it fuses dirt and clays into silicas. Oftentimes, this makes a black, glassy rock (called a fulgurite). There is often damage to grasses along the path, leading some to believe this phenomenon a fertilizer burn. As a side-note: when lightning strikes a tree, it travels down the trunk turns and turns the water to steam. If it travels under the bark into the wood, the rapidly expanding steam can blast pieces of bark from the tree, and the wood along the path is often killed. So, good question.

Treeman
Spring 2010 has been, and continues to be, an interesting time in forecasting log values. If you would have spoken with log buyers last year or a few months ago, many would have told you that we would likely see a small advance in the market this spring to fill depleted inventories. Demand could not be sustained through the coming summer because of the weakness of the general economy.

Then ask some of the same people the past weeks and several are thinking we’re ready to take-off on a major increase in supply and demand. Prices may well continue to increase, or at least remain at current levels throughout the summer, which would be good news for the dirt loggers. Reasons include depleted inventories, projected increases in housing and the current effect of log exports bound for China. The China export is a lower quality log, the type of material that usually remains available for domestic mills. So with anticipated increases in lumber and a decrease in log supply, prices should continue on the rise.

Well, not so fast. Witnessing these gyrations in future log values usually means something is underway, but no one knows for sure whether it is good or bad. When a market has remained steady for such a long time (a bad one in our case) and then decides to do something, everyone goes a little wild & crazy. It’s sort of like spring: the soil has been tilled, seeds of hope planted, and now we wait to see what comes-up. Weeds or flowers?

Personally, I’ll bet on the weeds. Perhaps not noxious ones, but weeds nonetheless. Historically, we see log values climb just before the warm/dry weather appears, then begin a gradual decline throughout the remainder of the summer (see accompanying chart). Will that happen? If so, anyone planning a harvest best have a signed purchase order in hand, or find themselves reading this report with the “hay already in the barn.”

Douglas-fir sawlogs might have peaked around April or early May at about $550/MBF. At the time of this report, Douglas-fir sawlogs are bringing around $520-$530/MBF in many of the Douglas and Lane County locations. We are having an extraordinarily wet spring and this might help in holding these values due to access issues (supply). However, recent drops in Random Lengths (demand) has log buyers nervous about future log prices. No one is sure what the future holds and this concept tends to initiate a downward trend on values.

The pole market has shown a little bit of life. Early last spring, a Westside pole buyer was unable to determine whether they would be in the market until well into the summer. Currently, they are back on the market seeking the 40’ to 50’ material.

This shorter material to be valued in the low to mid $600/MBF range, which is about a $100 premium over generic sawlogs. Keep in mind poles comprise a small percentage of any timber harvest, so it is imperative to consult a buyer before bucking any of those trees.

Chips have shown a little bit of life. We looked at low $20/ton values for quite some time and current values are running at $30/ton. Owners having small/straight material that is acceptable to the chip & saw operations can expect to obtain substantially more than straight chip values, so be sure to shop around.

Alder sawlogs outpaced Doug-fir for the better part of the past two years, but have now fallen back and stabilized at about $500 camp run for a 6”+ sort. Anyone having better/larger diameter material will be well-served to seek a diameter price breakdown. For those of you unfamiliar with merchandising any type of hardwoods need to keep in mind there are different scaling procedures than those incorporated in the ubiquitous Doug-fir. Alder sawlogs don’t have to be (and they aren’t) long and straight, so don’t go chopping something up into firewood until you’ve done your homework. And hardwood buyers are actively seeking material.

Export material has not seen the variability of the domestic market the past few months. First, export was higher than domestic...then lower...now again a bit higher. Destination locations in the southern end of the Willamette Valley will bring a 12”+ sawlog with ring count in the mid to upper $500/MBF range. The China market is hot at the current time, accepting a low quality #2 Doug-fir type sawlog valued in the mid $500/MBF range. Yes, sorry to say that is at the docks in Longview, so this was pretty much just an FYI.

Clean redcedar is strong up north, going for as much as $1000/MBF. However, the prevalent wormy material typically found in these parts is pretty much dead-on-arrival. So thanks for ‘listening’ and we’ll ‘talk’ again.
Join OSWA Today

If not already a member, would you be interested in joining thousands of other small woodland owners to better enhance, manage and protect your woodland investment? Are you interested in learning more about forest management? Do you have management goals and ideas you would like to share with others?

Oregon Small Woodlands Association (OSWA) is a group of forestland owners dedicated to the protection, management, and enhancement of Oregon’s forest resources. OSWA has many educational programs and forest tours, oftentimes in conjunction with OSU Forestry Extension. For a membership application contact: oswa@oswa.org
Or visit their website at http://www.oswa.org

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