



CALIFORNIA FOREST STEWARDSHIP PROGRAM

Forestland Steward

SPRING 2016



Winter 2001



Spring 2004



Winter 2005



Fall 2008



Summer 2009



Summer 2010



Fall 2011



Winter 2011



Spring 2013



Summer 2014



Fall 2014/Winter 2015



Summer 2015

We're 20!

Cover: Cat Xia



Forestland Steward

Forestland Steward is a joint project of the CA Dept of Forestry and Fire Protection (CAL FIRE), Placer County Resource Conservation District, UC Cooperative Extension, and USDA Forest Service to provide information on the stewardship of private forestlands in California.

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Consult a Registered Professional Forester or a qualified technical advisor (see page 10) for management advice specific to your needs.



Celebrating two decades of thoughtful forest stewardship

by Laurie Litman, editor

Happy birthday to us!! *Forestland Steward* first came out 20 years ago in 1996. These last 20 years have been exciting ones for California forestry. We've witnessed major changes in forest management, culture, issues, technology, threats, knowledge.... Being a conscientious forest steward is more complex today, but remains as rewarding as ever.

In this issue we'll celebrate our 20 years of good stewardship, and look at where we've been and where we're going. We hope you enjoy this trip down memory lane and learn a lot from the articles reprinted here.

What is a Forest Steward?

A steward cares for the land with an eye to the future. Being a good forest steward means making thoughtful management decisions that will maintain and enhance the forest today and for future generations. Forest management is a long-term commitment—the trees you plant, and the decisions you make, will not reach maturity for decades, often not within your lifetime.

Why do we publish *Forestland Steward*?

This newsletter was started to help nonindustrial private forest (NIPF) landowners become knowledgeable stewards of their land.

California forestland is roughly divided between publicly and privately owned land. The private half is again approximately evenly divided between industrial and nonindustrial forest owners. That means that nonindustrial private forests account for about a quarter of the state's forestland!

About 350,000 NIPF owners own less than 5,000 acres each. Studies showed that many of these landowners lacked forest management background or training. This newsletter was started as a vehicle to reach those landowners to ensure the good stewardship of private forestland.

Who publishes the newsletter?

Forestland Steward is a collaborative project of the California Forest Stewardship Program, funded by the US Forest Service and overseen by CAL FIRE. The Forest Stewardship Program also includes the Forest Stewardship website (fire.ca.gov/foreststeward), the Forest Stewardship



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Hotline (1-800-738-TREE), the Forest Legacy Program, and the California State Forest Stewardship Coordinating Committee (SFSCC).

In addition, other organizations and agencies are partners in this newsletter and other aspects of the Stewardship Program. These include UC Cooperative Extension Forestry; Resource Conservation Districts (RCDs), especially the Placer County RCD; Northern California Society of American Foresters; and the Natural Resources Conservation Service (NRCS).

What has changed in 20 years?

This has been a wild time for California forests. When we started this newsletter, the "timber wars" were just beginning to calm down, watershed groups were abundant, and new threats to forests were becoming apparent. Computers were not yet common household items. We were all much younger.

CAL FIRE (California Department of Forestry and Fire Protection) was called CDF at the time. The agency was extremely concerned about the increasing threat of wildfire in the state and the safety of the growing population in the wildland-urban interface (then called the I-Zone). Fire Safe Councils were a new approach to educate landowners about the dangers of overgrown forests. We started talking about conservation easements as a way to protect forestland from development.

Technology has been a big driver of change over the last two decades. In an early article (Fall 1996), I described a new innovation—the internet—and how it could be useful to forest landowners. We started a website in Spring 1998. It was a state-of-the-art website at that time; now it would be considered primitive. PDFs were too complicated to use in those days—too many people didn't have the bandwidth and the act of downloading Acrobat Reader was considered too complicated.

We've come a long way to our fancy e-version publication today. The electronic version of *Forestland Steward* saves money and resources, and also adds a new dimension... links! These links connect to details and resources that are beyond the limitations of a 12-page newsletter. Now our 12 pages offer endless resources if you want to drill down to them. But we still print the hard-copy version because it has its own unique benefits: it's easier to read, can be shared with multiple readers, is used as handouts, and many people simply prefer it.

For years the newsletter was printed in 2 colors, black and green, as full color was prohibitively expensive. As printing technology changed we were finally able to go to a full-color format in Winter 2005, making the newsletter more readable and aesthetically pleasing.

What has remained the same?

It's pretty remarkable to look through the old issues of *Forestland Steward* and see how long we've been covering the issues that are still current today. Of course some articles are dated (and even humorous), but it's surprising to see how many are spot-on. You can still get an excellent background in forestry by reading through past issues.

We recognized from the very first that forests are more than trees. We've had articles on every part of a forest ecosystem, on different types of forests, on management techniques, on threats, economics, succession, and more.

Each individual forest and property also exists within a larger regional landscape. Since many forest management issues go beyond property boundaries (e.g., fire protection, invasive species, wildlife habitat), we also look at watershed- and landscape-scale issues.

We always try to provide information that is as useful to new forest owners as it is to those who have been doing forestry all their lives.

Is there anything left to say?

By now you'd think we've covered every topic and there's nothing left to write about. Sometimes when I write about defensible space for the umpteenth time it feels like that. But, forestry is such a rich topic we'll never cover it all.

First of all, our perceptions of forests and forestry are changing all the time—our attitudes, understanding, relationships, research—as well as the physical changes, threats, and evolving issues in the forests themselves. New studies inform new management techniques and activities. New issues prompt discussion and solutions. Old techniques are adapted to new situations and new ideas are always being conceived. We won't run out of topics.

Also, our audience is changing. About 5 years ago a study found the average age of California forest landowners was over 60 years (Spring 2011). We're now seeing shifts as forests are handed down to the next generation or sold, as those with the greatest knowledge and experience retire or die. This is an important transition time that will affect the overall health of California's forests. Those new owners who want to learn to be thoughtful forest stewards need the information and resources provided in this newsletter.

Finally, forests are changing. Perhaps the biggest threat to California forests as we know them today is the changing climate. Finding ways to manage our forests in the face of drought, extended fire seasons, growing pest populations, and vegetation changes is going to be a challenge and we want to help.

Another 20 years?

Hopefully so, although there will certainly be changes. We are currently in the process of expanding the editorial team. I will continue to be editor and Jill Butler, who many of you know as an extraordinary forester/FAS from Sonoma County, will join me, expanding our expertise and knowledge base to provide an even better newsletter. We look forward to exploring even more facets of forestry with you in the future.

Being a good forest steward means making thoughtful management decisions that will maintain and enhance the forest today and for future generations.

Enjoy the classics

Occasionally we publish an issue that becomes a "classic" because of its popularity. For example, the Summer 2008 issue was reprinted twice to keep up with demand.

This issue of *Forestland Steward* includes some classic articles that are still relevant today. Read them, share them, think about your own forest and your goals. And think about where you want to be in 20 years. Then take the steps to make it happen.

Forestland Steward classics: What is the right thing to do?

by John LeBlanc

Though the question is asked in different ways, my answer has always been a firm, unwavering “It depends.”

The right thing to do on your land very much depends on:

- Your goals and expectations for your land
- The biological and ecological conditions
- Current and expected economic conditions
- The legal setting your property falls under
- The social setting that you work and live within
- The interactions of these elements

With 20 years of resource management experience, I have talked with and listened to literally thousands of forest landowners—owners of 3 acres, 30 acres, and 3,000 acres. We have conducted surveys, workshops, and focus groups, all trying to understand what landowners really need to know to be good forest stewards.

Almost without exception, they all wanted a very simple question answered: “What is the right thing to do on my property?”

Though the question is asked in different ways, “Should I harvest timber?” “How do I plant trees?” “What should I do about this insect problem?” my answer has always been a firm, unwavering “It depends.”

The right thing to do on your land very much depends on:

- Your goals and expectations for your land
- The biological and ecological conditions
- Current and expected economic conditions
- The legal setting your property falls under
- The social setting that you work and live within
- The interactions of these elements

The order of this list is significant. The overwhelming element that needs to be considered when deciding on the right thing for your land is what you want and need from the property.

Whatever your goals, they are the foundation on which to answer, “what is the right thing?”

Several years ago, working on a timber harvest for a landowner, I mapped out the perfect location for a landing—a gathering point for logs and equipment in a timber harvest. It was relatively flat, good soil, far enough away from the stream to be environmentally benign, close to an existing road so road building costs would be minimal, plus it was close to many large mature trees that would surely improve the bottom line.

When describing my plan to the landowner, he surprised me saying that I could not put the landing there. When I pressed, I found myself just about fired. My perfect landing happened to be the spot where my client had first proposed to, and then married, his wife. All of their children were married on that spot, and at least one grandchild hoped to be married there. Needless to say, I found a suitable alternative.

Though the spot was well-suited for a landing from environmental, economic, and legal points of

view, the only viewpoint that ultimately mattered was the landowner’s goals for that particular place. The right thing for this place was to avoid any disturbance at all.

How do you determine, from all of the choices available, what is the right thing for your land? The best way is to create a plan.

As a forest landowner, you should seriously consider creating a plan for your property. This plan will help you make more informed decisions about the future of your property—even if that decision is to do nothing.

The process of planning itself helps you learn about your property. As an owner of forest property, you are expected to abide by laws that govern property ownership—taxes, timber harvest, trespass. You should be familiar with the biology and ecology to keep your forest healthy. You ought to be aware of the social setting, potential laws and regulations that influence the handling of your land. Most landowners want to know about the economic condition of their land.

The first step is documenting what you know already. If you are like most landowners, you probably have a folder or envelope with records that describe activities on your property, deeds, tax forms, receipts, maps, and bills. You also have a great deal of information about the property in your head. Only you know what your goals for the land are. Only you can make the decision about the mix of uses that will occur on your land.

Think of creating a plan as a systematic process for learning about your property and how it fits into an environmental, legal, social, and economic system. The idea here is to learn by doing, answering questions with materials at hand, looking up and learning about new ideas, meeting the right people that can help you do the right thing on your property.

This plan is a method to organize information about your property, point out gaps in that information, and show you how to fill those gaps so that you can make the best decisions about your land.

Having the information on hand, organized and summarized, is worth the effort. It will allow you to make the right decisions, avoid costly mistakes, and maximize the enjoyment of your property.

—abridged from *Forestland Steward*, Spring 1998

Forestland Steward classics:

Step 1: Create a forest management plan

Healthy forests provide long-term benefits for everyone in California: fewer catastrophic fires, improved water quality and quantity, more and better wildlife habitat, healthier rural communities, increased carbon sequestered from the atmosphere... the list goes on and on.

Because of these great benefits to society, several agencies would like to assist you in creating a forest management plan that will help you improve, enhance, and/or restore your forest.

Start with a plan

Any serious endeavor starts with a plan. It is your a roadmap or blueprint, the first step to creating the forest you want. Consider the many advantages of having a forest management plan:

1) Defines your goals and objectives

Your forest management plan is for you. The forester should listen carefully to your ideas for the forest and help you achieve your goals.

Your goals and objectives are the basis of everything you do on your forest. (Note: goals are general statements of your vision; objectives are the measurable actions you take to reach those goals.) The very act of articulating your goals and objectives will help clarify what you are trying to achieve. The process of writing them down will further define what you need to do, what it takes to implement your plans, and how to prioritize multiple objectives.

2) Functions as a business plan

Your forest management plan is also your business plan. Owning forested property is a type of business. There are financial considerations, taxes, expenses and income, and the necessity of keeping accurate records. The forest management plan lays out information that will help you make appropriate business decisions for your land.

3) Communicates effectively with professionals

A good forest management plan is the key to communicating with a host of professionals. Besides your Registered Professional Forester (RPF), you may need to share information about your forest with bankers, accountants, granting agencies, or any of a number of experts and specialists. Your management plan lays out the background of your forest, your objectives, and the steps you have taken or are taking to achieve those objectives. Your plan will show you are serious about forest management.

4) Necessary for funding

The new forest management plan template (see *Forestland Steward Winter 2012*) is designed to be used not only for your own needs, but also for cost-share programs, including CFIP (California Forest Improvement Program) and EQIP (Environmental Quality Incentives Program). When your plan is approved, you will already have the information you need to apply for those programs. With minimum effort you can put together an application and get funding to help implement your objectives.

5) Establishes a relationship with an RPF

A trusting relationship with an RPF is necessary for many of the activities done on forestland. In addition, a long-term relationship with a forester will give you an expert to go to as questions or problems arise. If you don't already work with an RPF, the act of putting together your forest management plan will give you the opportunity to develop such a relationship.

6) Addresses forest succession

Have you thought about what will happen to your forestland when you are no longer able to manage it? There are a lot of financial, emotional, and management considerations when forestland passes to the next generation. Your management plan can help address some of those issues.

7) Provides a legacy for the future

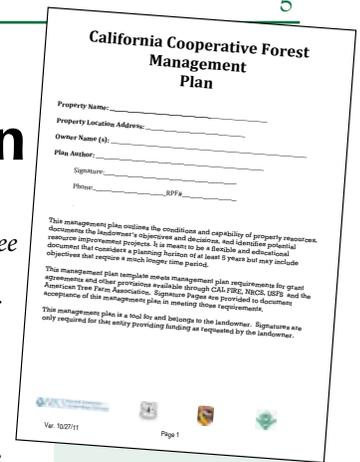
Your forest management plan is a document for posterity. It includes the story of your land, your goals, what you have done or are currently doing, the land's potential, and as much information as you want to share with your heirs or future owners. This allows future owners to understand what you did and why, so they can continue your work.

It's a living document

You are never finished with your management plan...this is not a document that sits on the shelf. Your plan is a living document, designed to be consulted, changed, added to, and thoroughly used until you are ready to make a new one.

When you create a management plan, it's a big win for everyone. You learn about your forest and good stewardship, identify your goals and the steps necessary to reach them, and develop a long-term relationship with an RPF. You are then able to make your forest what you want it to be.

—*Forestland Steward, Winter 2012*



What's in a plan?

Your forest management plan should at least contain information on the following:

- Property description
- History
- Landowner's goals
- Professionals and agencies involved
- Cultural/historic resources
- Fish and wildlife habitat
- Threatened and endangered species
- Soils
- Water, wetlands, riparian areas
- Recreation and aesthetics
- Forestry/ agroforestry
- Cover type
- Forest health and protection
- Projects and schedule
- Assistance available
- Maps
- Other documents/ photos

Sharing values

The heirs of current landowners will determine the future forest landscape. Recent studies suggest that “the next generation will live farther away, have fewer emotional ties to the land, and be less prepared to manage it.” They are more likely to view the land as an economic investment, making them more likely to sell.

The following are tips to help elder landowners pass on their values and knowledge along with the land:

- Talk with your children and grandchildren about why your forestland is important
- Invite them to visit and walk around the forest with you
- Show them how you have improved the land and why
- Share your forest management skills and invite them to participate in forest management decisions to teach your approach

If you are not able to talk with your children and grandchildren, you may want to write an ethical will for the forest. An ethical will is not a legal document, it is a statement of personal values, ideas, and personal reflections that can be very meaningful to your heirs.

Forestland Steward classics:

Forest succession: passing on your land

A recent survey of forest landowners found a shocking statistic: over 70% of California’s forest landowners are 60 years or older!

This means that over the next couple of decades most of these forestlands will change hands. What will happen to the land?

Forests are most vulnerable to conversion and loss when assets are transferred from one generation to the next. Family relationships can face a lot of stress during this time, putting them at risk as well.

Intact forestland is unique in that its value reaches far beyond the benefits to its owners. Healthy forests provide immense social, ecological, and economic benefits to society, including clean air and water, forest products and jobs, wildlife and plant habitat, aesthetic views, recreation, spiritual retreats, and carbon sequestration. These benefits can be degraded or lost when the land is split up and fragmented. Forestland is best left undivided.

Most forest landowners have deep and strong ties to their land. They have worked hard to make the forest what it is and want to preserve it for future generations. But to ensure this legacy continues after death requires planning.

With a sound estate plan your assets will be distributed as you wish, with the least amount lost to taxes and minimal disruption to the forest. In addition, good estate planning can help avoid or minimize family conflicts.

But succession planning is even more challenging. While the terms are often used interchangeably, succession planning can be thought of as a subset of estate planning. Your estate includes all of your assets—home, bank accounts, stocks, life insurance, etc.—including your forestland. Plans for succession of the forest are an integral part of your estate plan but with other dimensions, such as emotional connections and family dynamics.

The future of a forest is dependent not only on the current owner, but also on the heirs—their values, interests, and abilities. Pressures from growing urban populations can increase the value of rural land. This, combined with the fact that family members often live far away from



Photo courtesy Yana Valachovic

The future of a forest is dependent not only on the current owner, but also on the heirs.

the family forest and may not have developed strong emotional attachments to the land or the necessary skills to manage it, makes the next generation less likely to keep their family forest.

Succession planning requires more than simply dividing assets. It takes communication among family members, and involves sharing your values, goals, and knowledge with your children and grandchildren.

If you find that members of your family are not interested in or able to take on the forest management responsibilities, you may want to explore other strategies to ensure the continuity of your forest.

This isn’t something you should do alone. It is important to consult with professionals who are knowledgeable about forest estates: estate planners, lawyers, foresters, appraisers, land trust specialists, and tax professionals, among others.

A few take-home points:

- 1) There is no one-size-fits-all answer to estate or succession planning. Each situation, each forest, and each family is unique.
- 2) There are many options that can allow you to achieve your goals but some may take time to implement so don’t wait to begin the process.
- 3) Start now.

—from *Forestland Steward*, Spring 2011

Forestland Steward classics: Friend and foe: The paradox of fire

It's a hot issue these days. Is fire friend or foe? As the summer fire season approaches, it appears to be a foe. We are reminded to create defensible space and to be fire safe. Smokey doesn't want forest fires.

However, that's only part of the story. There are actually multiple issues involved and the solutions are elusive. At stake is the well-being of our forests and the safety of the people living there.

One issue is that many of our California forests are in an unhealthy condition, one that is ripe for large catastrophic fires. Due in large part to decades of successful fire suppression, fuels (live and dead plant material) in many of our forests have accumulated to unprecedented levels.

The arrangement of the fuels in the forest is also a problem. They are often continuous with fuel ladders, allowing fires to travel long distances and into the crowns of trees. Environmental conditions such as drought and pollution exacerbate the unhealthy conditions.

Another aspect of the fire discussion is the fact that there is an ever-increasing number of people relocating into this forest tinderbox, putting more lives and property at risk. The population in the wildland-urban interface (WUI) increases the difficulty of fighting wildfires and increases the consequences of fires.

But fire is also a friend, a vital and necessary part of the forest ecosystem.

Historically, natural fires swept through forests at relatively frequent intervals. Native Americans used fire as a management tool and increased the frequency even more. Because fuel didn't have time to accumulate, low to moderate intensity fires were the norm.

Fire provides a number of essential ecological functions including:

- Some of our native plants are adapted to fire and won't germinate without heat to release the seeds and prepare the ground.
- Fire cleans up the forest. It removes excess duff, dead wood, overcrowded trees, insect pests, sterilizes the soil of disease organisms, and can help remove some species of exotic weeds.
- Fire impacts are patchy, creating a mosaic of habitats which allows a greater diversity of plants and animals to live in the forest.
- Fire regulates succession, eliminating climax species that shut out the light, opening up areas

to early seral stages. This can encourage wildlife that feed on early successional plants.

- Nutrients are released. The chemical composition of the soil and ash is altered by fire.
- The chance of high-intensity fires is reduced after the forest is thinned by fire. Low and moderate intensity fires are less damaging to the ecosystem.

So how can we restore the necessary functions of fire while protecting life and structures? There is a lot of work going into answering that question.

The study of fire—fire ecology—is in its early stages. What we do understand is that fire is an extremely complex subject and there's much we don't understand.

Fuels management can mimic some of the functions of fire but not all. Mechanical thinning can decrease the chances of catastrophic fire by removing or modifying some of the fuel load. But these methods can't provide all the ecological benefits of fire.

The best fuels management method in that respect is prescribed, or controlled, burning in which areas are burned under conditions that allow us to control it. But prescribed burns have their own drawbacks, most notably the danger of the fire escaping and effects on air quality.

Prescribed burns have to be done under very stringent conditions by a qualified crew. Many forested areas cannot be safely burned because the fuel load is too high. Others are too close to human habitation. Control burns are only possible in limited situations.

It would be nice to have a simple solution to the challenge of fire but there are no easy answers. Fire can be destructive to the environment but it can also be beneficial. It can increase the abundance of native species or favor exotics. It can be good for wildlife or deadly...

So what should you do? You certainly need to protect your immediate home and family: create a defensible space, educate yourself about fire safe issues, and join a Fire Safe Council. It is important to understand that fire is an integral part of the California forest landscape—it won't go away—and there are risks involved in living in the wildlands. You might also want to explore the feasibility of reintroducing fire into your forest.

—*Forestland Steward*, Spring 2002

It's up to you

After decades of urging the public to prevent forest fires, California fire professionals have a new approach: Live with it.

Living with fire does not mean passive acceptance. It means making well-informed, thoughtful decisions when building, landscaping, maintaining your property, and also making good choices when fire threatens, as it inevitably will. Living in the wildlands requires that you accept the reality of fire and take responsibility for your own protection and safety.

What can you do to make your home and property more resistant to fire? Plenty. In this issue we will touch on many of these critical topics. You will be amazed at how much you can do to improve your fire safety and survival, both individually and as a community.

—see *Forestland Steward*, Summer 2008, our most popular issue ever (with 3 printings)

Forestland Steward classics: Water and fire: two key forest stressors

New water and fire regimes are going to be major drivers of forest change in California.

Water

Changes in water quantity, quality, and availability will be a recurrent theme throughout this century. Forests supply much of our water—they accumulate, filter, and store it.

Climate change is expected to alter every aspect of California's water system, including the distribution, volume, timing, and type of precipitation, as well as distribution and timing of release downstream. There will be more frequent and severe droughts, more evapotranspiration, drier soils, more variability in precipitation, more intense storm events, more flooding, and warmer water in streams and lakes.

The winter snowpack is already decreasing due to warmer temperatures, with a greater percentage of annual precipitation falling as rain. This trend is expected to increase over time. Climate models suggest that snowpack loss will occur earlier at lower elevations and in milder areas.

The snowpack, which stores water throughout the winter, is critical to water availability later in the season. Without that storage, periods of high rainfall could result in flooding downstream.

In recent years the snow has also begun melting earlier in the year, again because of the warmer temperatures. This means that peak spring runoff occurs earlier and the summer is drier for a longer period of time. This has major implications for trees, other plants, animals, and fish, and for humans. Water shortages are expected.

Fog along the coast is also expected to decrease. How this will affect redwood forests is not clear.

Fire

Longer dry periods, decreased water availability, and higher temperatures will also have major implications for fire patterns in California, where the forest habitats are adapted to fire. Climate influences the size, severity, duration, and frequency of wildfire, as well as carbon cycling, forest structure, and species composition.

The fire season has been starting earlier and ending later, resulting in an increase of about a month since the 1980s. Increased temperatures and drier conditions, invasive plant species, mortality from insects and other pathogens, and land use patterns are all contributing factors.

Wildfire exacerbates climate change by releasing the carbon stored in the forest into the atmosphere. In addition, after a wildfire forestland is most vulnerable to natural conversion since invasive species can often establish faster than natives, soil losses occur, and seedlings may have trouble regenerating under new climate conditions.

The increasing risk of wildfire can best be addressed through efforts to make forests more resilient. Fuels management to remove excess fuels and ladders and increase spacing between trees can help keep a fire from going into the crowns and out of control. Strategic placement of fuels treatments can increase the effective area treated.

Prescribed burns can, in some cases, provide many of the benefits of fire while decreasing the risk of uncontrolled wildfire. The issue of air quality, one of the major concerns with prescribed burns, must be balanced with the extreme amount of smoke released in the event of an uncontrolled wildfire.

—Forestland Steward, Summer 2012

Warmer weather is expected to result in a smaller snowpack, which will have many implications for water availability in the state.

Photo by Thomas Kriese



Forestland Steward classics: Managing your forest in changing times

Managing a forest is truly a commitment to future generations. The trees you plant, and many of your management goals, won't come to fruition for many years, often decades or longer.

Making decisions for the future is always tricky. Any number of unanticipated things can happen. Markets fluctuate, personal lives and goals change, fires or pest epidemics occur... but generally we have confidence that the fundamental forest characteristics—soil, water, climate, species—will remain stable.

However, this may no longer be true. Scientists say we are heading into a period of major changes in the earth's climate, which is expected to have huge implications for every aspect of forests—species composition, biodiversity, water availability, even basic ecosystem functions such as carbon sequestration and air filtration.

So far the climate hasn't changed too much, an average of less than 1 degree overall, but already we're seeing some effects in California. The snow pack is decreasing, the fire season increasing,

and new pests are cropping up. Studies indicate that these trends will continue and increase in magnitude. How much is not known or even knowable, as this chapter of our future is being written now.

Forests are unique in that they are not only vulnerable to the impacts of climate change, they also hold many of the solutions. Forests are repositories of biodiversity and other ecosystem services that are vital to our well-being. Forests play a major role in sequestering carbon, taking it out of the atmosphere where it can no longer affect the climate. This puts forest landowners in an increasingly important position as stewards of these precious lands.

Sound forest stewardship is also sound climate change stewardship. The steps you take to make your forest healthier and more resilient may also help the forest withstand the many stressors, including climate change, that are expected to occur in California over the next decades.

—*Forestland Steward, Summer 2012*

No Regrets

Generally, good forest stewardship is also good climate change stewardship. Making your forest more resilient, whether for business as usual or changing climate regimes, involves many similar approaches and techniques.

Resilience includes a focus on structural diversity, biodiversity, and redundancy to make sure that ecosystem services continue even if some species decline.

Additionally, constant monitoring and an adaptive management plan are necessary so you can respond quickly to new conditions.

Making decisions today for a different tomorrow

Forest management under climate change has a whole new toolbox. Many of the techniques are familiar, but the basic framework and goals are different. At this time, management recommendations are still in the experimental stage and the state of our understanding is in its infancy. For the time being there is not much to do but accept this state of uncertainty.

Strategies to Address Emerging Threats

Uncertainty is uncomfortable, especially when decisions have to be made. How do you move forward under these conditions? Depending on many factors, both personal and situational, you may decide to:

- Do nothing and wait until the situation and options become clearer,
- Take small steps to address potential future climate-related issues,
- Try new and innovative approaches.

Add Climate Change to Your Plan

We often talk about the importance of your management plan as the blueprint to achieve

your goals and objectives. When you prepare or update your management plan, incorporate climate change planning. Some suggestions:

- Find the best estimates of climate change for your specific property. How much change in temperature is expected? What are the major threats? Are there water issues to consider? What about wildfire, pests, invasive species?
- What steps can you take to protect your forest from the anticipated threats? What are the main vulnerabilities?
- How might climate change affect your management goals and objectives?
- What actions can you take? What are the priorities?
- What are the costs associated with your management for climate change?
- Do you have an adaptive management plan? What do you need to monitor? How will you respond to new information?

—*abridged from Forestland Steward, Summer 2012. Talk with your local UC Extension advisor, FAS, or RPF for more information.*

Learn more

Climate change may be the biggest challenge facing forestland owners today. For more information on this emerging threat, see the following issues of *Forestland Steward*:

- Spring/Summer 2007
- Summer 2012
- Fall 2014/Winter 2015

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Sudden Oak Death still killing trees
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Oak health check
Pilot will assist landowners develop management plans
Oh my aching back, leg, elbow...

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The alphabet soup of forestry assistance

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Roads need protection too
Fire in the redwoods: Lessons Learned
MFRIG helping people help the land
Post fire restoration DOs and DON'Ts
The real dirt on hydrophobic soils
Get all your fire recovery info in one place
Wildfires and wildlife

Summer 2008—It's up to you

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Take the Homeowner Wildfire Assessment
Will a fire engine come to your house?
Water water everywhere...
Create a safety zone...just in case
Stay or leave? Evacuation checklist
Fire Information Engine Toolkit
Wildfire recovery

Fall 2007—Taking it to the next level

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Decisions, decisions
Make your own CCWPP
Sierra Nevada Community Conservation and Wildfire
Protection Plan Guidebook
Conservation Principles (details)
Basic concepts for living with fire in the Sierra
Create your maps with online mapping tool
Fire debate continues 100 years later

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A short primer on forests and climate change
Seeking innovative solutions in California
FAQs on forest carbon
CAL FIRE nursery helps reforestation/global warming
Forest carbon: getting started, keeping up
Steve Hackett: Forest Steward of the Year





Winter 2007—Forest Management Part IV

Fire, pests, disease, and other undesired challenges
 Fire hazard and fuels treatment
 Rogue's gallery of pests, diseases, and troubles
 Dead or dying: how can you tell?
 Aspen—more than just a pretty tree
 Forest management under new conditions

Fall 2006—Forest Management Part III

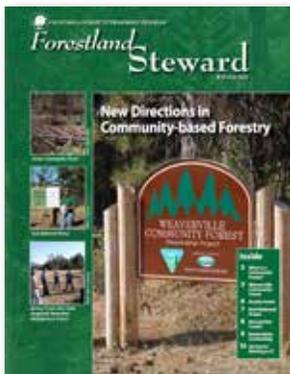
Managing existing stands of trees
 Using silviculture to meet your forest goals
 Adjustments: intermediate treatments
 Steps to growing a new forest
 If restoration is your goal

Spring 2006—Forest Management Part II

How does your forest grow?
 A point in time
 The basics: how does a tree grow?
 Soil: treat with care
 Site quality, site index, and site class
 Estimating site index
 Strange goings on under the soil
 PRC 4291
 More on fire safe landscaping

Winter 2006—Forest Management Part I

Forest management series begins here
 The first step: know your forest
 Measuring your forest
 Tools for the job
 Good recordkeeping a must
 Setting your goals
 Regulations and permits
 More on timber harvest permits
 Tax time and other economic topics
 Some notes on hiring professionals



Fall 2005

Stewardship courses a hit
 Seasonal Stewardship: Basic winter chores
 A Landowner's Perspective (Carson letter)
 Create your stewardship plan
 Entrepreneurs in the forest
 Thoughtful principles for your stewardship plan
 The magnificent red fir

Summer 2005

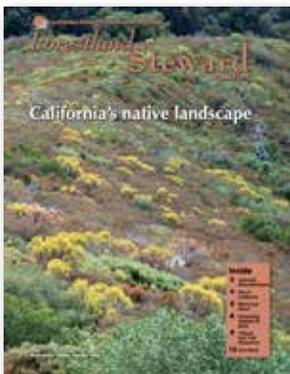
Construction and design considerations to help protect your home
 Fire safe information can be fun
 Well-functioning wetlands best defense against West Nile virus
 Evacuation: Create a plan and practice
 Plan for your animals
 CE advisors--from the campus to the community
 Make your forestland more hospitable to birds
 Fire safe demonstration gardens

Spring 2005

Mechanical fuel reduction around the home
 The story of ticks and Lyme disease
 First step: assess your forest stands
 How to fell trees safely
 Who are we? The Forest Stewardship Program

Winter 2005

Working to reduce the negative effects of roads
 Must-have video for forest roads work
 After planting: what next?
 Practice good hygiene when feeding birds
 State of the forest industry in CA
 Everything you ever wanted to know about timber taxes... and then some
 New conservancy for Sierra Nevada projects



Fall 2004

Special Report: CDF Fire Academy
 Triage: can this house be saved?
 It's that time of year: plan to plant
 Chainsaw common sense

Summer 2004

First steps out of a perilous situation
 Recommendations for reforestation
 Seasonal Stewardship: Quick fixes/pre-fire planning
 Operate your equipment the right way
 The vulnerable parts of your house
 Grow your own: collecting seeds
 Incense-cedar: as lovely as it is useful

Spring 2004

Post-fire response: assess your situation
 Should you help wildlife after a fire?
 Planning ahead: help before, during, and after fire
 Massive plan to guide coho recovery
 Bark beetles a sign of a stressed forest
 Tax time coming: be prepared
 Stewardship course for forest landowners

Summer 2002

Encourage wildlife in your forest
 Francis A. Fritz Riddell
 Why is wildlife important to the forest?
 Rodney Dangerfield of the animal kingdom (bats)
 Build boxes for bats and birds
 Solano County RCD support for wildlife restoration
 Good stewards of the range
 Looking for solutions to forest loss

Spring 2002

Friend and foe: the paradox of fire
 Forest Pest Detection report
 Fuel characteristics
 How to burn piles properly
 FAQs about defensible space
 Numerous options for fuels management
 Meet the masticator
 How to select a tree service
 Look to the past to understand the present
 A brief look at coho

Winter 2002

Maps, photos, and data for all your needs
 Forest incentives
 Bioengineering to control stream bank erosion
 Prune trees for better health and higher value
 Willow family has many uses
 National timber tax website has it all
 Salmonid Stream Habitat Restoration Manual
 Aquatic Restoration Guiding Principles

Fall 2001

Coast live oak management tips for landowners
 Seasonal Stewardship: Order seeds; planting plans
 It's cone season at the nursery
 Get ready to winterize your roads
 Getting a handle on broom (part II)
 Burning Issues CD for teachers
 King of the pines/Queen of the Sierras (sugar pine)

Summer 2001

Weed Management Areas
 Attack your weeds like a wildlife
 Getting a handle on broom
 What is a Registered Professional Forester (RPF)?
 How to choose a competent professional
 Develop an integrated weed management plan
 Steps being taken to isolate Sudden Oak Death

Spring 2001

Fire safe projects: from chipper to chats

New voice on the Forest Stewardship Helpline
 Forming your own Fire Safe Council
 Road rights and responsibilities
 Bigleaf maple
 Forestry Institute for Teachers

Winter 2001

California's Forest Legacy Program expands
 Why the big deal about forests next to streams?
 Some functions of large woody debris
 Red alder: part of the streamside forest
 Landowner's experience: conservation easement
 Thinning for increased forest health and profit
 Get ready—it's that time of year again

Fall 2000

Pest management in perspective
 Let me introduce myself... (Jeff Calvert)
 Oak mortality: Pathogen found, more questions
 Pitch canker continues to be a threat
 CA State Board of Forestry
 New logging regulations
 Tree notes

Summer 2000

Ranch Fire highlights value of pre-fire planning
 Danger spots around your home
 Fire protection and resource management
 Salvage timber harvesting considerations
 Restoring the land after the Pendola Fire
 Fire cycles

Spring 2000

Doerksens create "best forest in the whole world"
 Landowner objectives and the management plan
 Protect your forest from wildfire
 Silviculture: applied forestry
 Intermediate treatments
 Conservation easement FAQs
 The language of silviculture

Winter 2000

Hardwoods coming into their own
 Tanoak dieback affecting coast live oaks too
 Seasonal Stewardship: Protect your seedlings
 CA Hardwoods: opportunities, challenges
 Estate Planning: Consider the future of your land
 Choosing an estate planning lawyer
 Minimize wildlife disturbance when cutting firewood

Fall 1999

What is a healthy watershed?
 How healthy is your stream?
 Stream alterations under Section 1603
 New studies add pieces to the puzzle (Hillslope
 Monitoring Study and WPRC Report)
 Put unneeded roads to bed

Summer 1999

Welcome to the I-Zone
 Programs for CA forest landowners
 Battling the kudzu of the west (cape ivy)
 Ecological principles help predict forest changes
 Seasonal Stewardship: Breaking up fuel continuity
 RC&D or RCD: What's the difference?
 Brush piles can provide vital cover

Spring 1999

Habitat sweet habitat
 An inside look at the 1996 Fire Plan
 Steps to a firewise home
 Firewise landscaping
 Fire resistant trees and shrubs
 Stewards of the past
 Archaeological rules and the THP
 Hot issues in forest planning
 What is a fire hazard?

Winter 1999

Funding assists landowners in fire recovery
 Tree harvest in cases of emergency
 Prune correctly for healthy trees
 Storm repair tips
 A primer on income taxes for forestland owners
 Recordkeeping vital to good tax planning
 Estate planning: integral part of good land stewardship
 Exotic pest plants a growing concern

Fall 1998

Proper road design minimizes stream impacts
 Seasonal Stewardship: An ounce of prevention
 Storm damage safety tips
 Follow these steps for planting success
 Keeping track of TMDLs
 How can you help the fish?
 Five county salmon conservation plan
 A conversation with Gerald Ahlstrom

Summer 1998

Shingletown community success story
 Seasonal Stewardship: Seven steps to creating a defensible space
 Types of dead fuels
 A brief history of RCDs
 Follow the discussion on salmon listings
 Biomass in California: is it a valuable resource?
 Planting: site preparation and species selection
 Chain saw safety is common-sense

Spring 1998

Watersheds: should you care?
 New landowner curriculum is ready
 Planting success requires careful planning
 What is the right thing to do on my property?
 Estimating distances
 Beauty and safety are compatible
 A healthy forest needs bugs
 Visit state forests for good management practices

Winter 1998

Dead and dying trees: part of a healthy forest
 California Stewardship Program
 After the storm / Create snags
 Conservation easements on working forestlands
 Develop your Stewardship Plan
 Writing the Plan
 Encourage wildlife on your forestland

Fall 1997

Landowners can aid in coho recovery
 El Nino expected...prepare for rain
 Quincy Library Group pilot plan to begin
 Pine pitch canker update
 Pine pitch canker Zone of Infestation
 Out on a Limb: Monitoring restoration effectiveness

Summer 1997

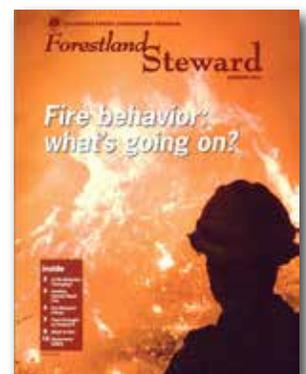
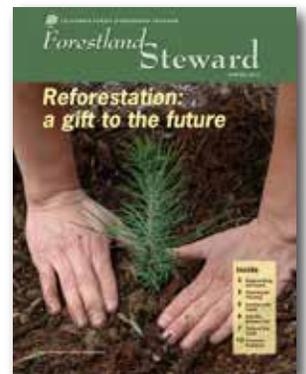
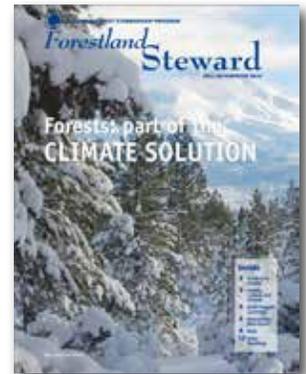
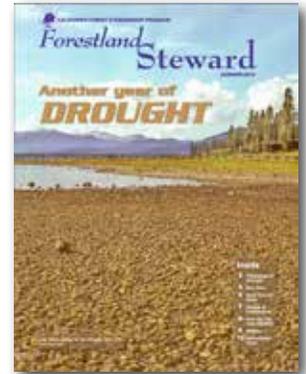
New Year's flood of 1997
 Out on a limb with the extension forester
 It's deja vu all over again (fire safety)
 Fire safe in Descanso
 Seasonal Stewardship: fire season is here
 Learn about pine pitch canker disease

Spring 1997

State Fire Plan tackles complex issues
 Working out the bugs in the Fire Plan
 Prefire planning benefits landowners
 Recognition of Native stewardship

Fall 1996

New challenges, new directions
 Strategies for ecosystem sustainability
 The blind people and the watershed



Resources **Want to learn about your forest?**

Cost-share funds

There may be cost-share funding available to help implement your projects. Contact your local CAL FIRE Forestry Assistance Specialist (FAS) or one of the other agency specialists (*see list below*) to find out whether you qualify and how to get started.

CFIP information at calfire.ca.gov/resource_mgt/resource_mgt_forestryassistance_cfip

Forestland Steward newsletters

Every issue of our newsletter is available online at calfire.ca.gov/foreststeward/newsletter. There's a lot of information here covering an immense range of topics (see index pages 10–13). Look through the list of major articles. Most of these are still timely (although some are definitely dated or even obsolete...ignore those). The 4-issue Forest Management series in 2006 is still worth a read.

One of the benefits of the pdfs found online is that they contain links that allow you to drill down to limitless amounts of information on each issue.

Forest Stewardship series

Created by UC Cooperative Extension, this comprehensive series of brochures covers all the major forestry topics. You can download the entire series at anrcatalog.ucanr.edu/Details.aspx?itemNo=8323 or download individual brochures. This is an excellent place to start to learn about forest management.

Forest Management Video series

If you would rather watch a video than read, you can watch these short videos, also by UC Cooperative Extension. ucanr.edu/sites/forestryonline/Forest_Landowner_Videos_Available/

UC Cooperative Extension forestry website

Current topics and educational events are covered here. University of California provides landowners help with forestry problems. The website contains an immense amount of information, resources, publications, and ideas about how to steward forestland in California. Resources include technical and financial assistance programs, informational websites, and educational opportunities. ucanr.edu/sites/forestry/

UC Extension has also created a self-paced online tool to help you start the process of creating your personal forest management plan at ucanr.edu/sites/forest_learning/.

Technical Assistance

Many agencies are available to provide technical assistance, referrals, information, education, land management plan assistance, and advice.

California Stewardship Helpline

1-800-738-TREE; ncsaf@mcn.org

California Dept of Forestry & Fire Protection

Stewardship Forester
Stewart McMorrow, Stewart.McMorrow@fire.ca.gov

CAL FIRE Forestry Assistance Specialists

(find the FAS for your county at calfire.ca.gov/resource_mgt/downloads/ForestAdvisorList.pdf)

Guy Anderson (Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Mariposa, Merced, Mono, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Tulare, Tuolumne, Ventura) 559-243-4109

Scott Bullock (Santa Cruz) 831-335-6741

Jill Butler (Alameda, Lake, Marin, Napa, San Francisco, San Mateo, Solano, Sonoma, Yolo) 707-576-2935

Brook Darley (Glenn, Shasta, Tehama, Trinity East) 530-224-2438

Damon Denman (Siskiyou) 530-842-3516

Dave Derby (Butte) 530-872-6334

Adam Frese (Stanislaus) 209-532-7424

Ivan Houser (Lassen) 530-257-8503

Mary Huggins (Alpine, Amador, Calaveras, El Dorado, Nevada, Placer, Sacramento, Sierra, Sutter, Tahoe Basin, Yuba) 916-718-6258

Al Klem (Plumas) 530-283-1792

Jonathan Pangburn (San Benito) 559-243-4109

Dawn Peterson (Colusa) 530-528-5199 (

Ed Orre (Contra Costa, Santa Clara) 408-206-3704

Jim Robbins (Del Norte, Humboldt, Trinity West) 707-726-1251

Don Schroeder (Modoc) 530-294-5110

California Association of RCDs

916 457-7904; staff@carcd.org

Natural Resources Conservation Service (NRCS)

State Forester; 530-792-5655

UC Cooperative Extension Forest Advisors

Mike De Lasaux (Plumas, Sierra) 530-283-6125; mjdelasaux@ucdavis.edu

Ryan DeSantis (Shasta, Siskiyou, Trinity); 530-224-4900; rdesantis@ucanr.org

Greg Giusti (Mendocino, Lake) 707-463-4495; gagiusti@ucdavis.edu

Susie Kocher (El Dorado, Amador, Calaveras, Tuolumne) 530-542-2571; sdkocher@ucdavis.edu

Rick Standiford, Specialist 510-643-5428; standifo@berkeley.edu

Bill Stewart, Specialist 510-643-3130, billstewart@berkeley.edu

Yana Valachovic (Humboldt, Del Norte) 707-445-7351; yvala@ucdavis.edu

USDA Forest Service

Paula Randler, Forest Legacy & Stewardship 707-562-8910; pbrandler@fs.fed.us

Calendar

May 10–12

Board of Forestry Meeting

Location: San Diego, CA

Website: bofdata.fire.ca.gov/

May 13

Public Meeting and Solicitation Workshop for the Proposition 1 Restoration Grant Program

Location: Natural Resources Agency Building, Sacramento, CA

Website: www.wcb.ca.gov

Notes: Wildlife Conservation Board (WCB) staff will walk attendees through the draft solicitation and offer insight into the priorities and requirements for the California Stream Flow Enhancement (CSFEP) Grant Program. All welcome.

May 16

Webinar: California Between Two Fires with Stephen Pyne

Website: www.cafiresci.org/events-webinars-source/category/california-between-two-fires

May 17

Using Wood to Make Renewable Energy in Humboldt

Location: Agricultural Center, Eureka, CA

Cost: Free

Contact: Dan Stark/Yana Valachovic 707-445-7351

Website: cehumboldt.ucanr.edu/?calitem=324768&g=22904

Note: Register by May 13

May 19

Using Wood to Make Renewable Energy in Mendocino

Location: Hopland Research Center, CA

Cost: Free

Contact: Kim Rodrigues 707-445-7351

Website: cehumboldt.ucanr.edu/?calitem=324771&g=22904

Note: Register by May 16

June 14–15

Board of Forestry Meeting

Location: Resources Building, Sacramento

Website: bofdata.fire.ca.gov/

June 16

WUI Webinar Series: Butte Fire Case Study & Lessons Learned

Registration: www.cafiresci.org/events-webinars-source/category/wui-webinars-2016

June 17

Workshop on Tree Mortality

Location: El Dorado County Board of Supervisors Chambers, Placerville

Registration: Mark Egbert mark.egbert@

ca.usda.gov 530-295-5633 or Dr. Richard Harris rrharrisconsulting@gmail.com 707-685-5508

Notes: Learn about the extent of tree mortality in El Dorado County and CA. Presentations and a field trip to Sly Park Recreational Area to observe mortality.

July 19–21

Board of Forestry Meeting

Location: TBA (travel)

Website: bofdata.fire.ca.gov/

September 13–15

Coast Redwood Forest Symposium: Past Successes and Future Directions

Location: Sequoia Conference Center, Eureka, CA

Audience: RPFs, landowners, managers, community groups, land trusts, scientists, and policymakers

Website: ucanr.edu/sites/Redwood2016/

October 18–21

Climate Change Adaptation and Natural Areas Management: Turning Words to Action

Location: UC Davis Alumni Center, Davis, CA

Website: naturalareasconference.org

You Choose:
E-version (with links), hard copy (real paper!), or BOTH??

Learn tips and tricks to become a confident and proficient forest steward and keep current on the latest information, funding, and events. Send a note to llitman@pacbell.net and specify whether you wish to receive either the electronic or paper version, or get both.

How can Forestland Steward newsletter serve you?

Comments / Suggestions: _____

Add me to the mailing list / Change my address:

Name _____

Organization _____

Address _____

City, Zip _____ Phone _____

email _____

To save on printing costs and paper, we encourage you to get the e-version of Forestland Steward. Check here for an email copy instead of a hard copy.

Fill out this box and send it to CAL FIRE, Forestry Assistance, P.O. Box 944246, Sacramento, CA 94244-2460. Fax: (916) 653-8957; email: Stewart.McMorrow@fire.ca.gov. For address changes, please send this box or contact Stewart McMorrow...be sure to reference Forestland Steward newsletter.

NOTE: For address updates or to make comments or suggestions about this newsletter, please contact Stewart.McMorrow@fire.ca.gov. A limited number of extra printed copies may be available. Please send your shipping information and the number of copies you would like to Stewart.McMorrow@fire.ca.gov or mail your request directly.

Forestland Steward classics: Quick fixes for fire safety...do them now!

The following fixes are relatively inexpensive and easily accomplished. These should be done immediately; don't wait until a fire is approaching. The bottom line is: keep combustibles away from the house.

Plants very close to your house (within 6 feet) are by far the greatest risk. Consider these four actions:

- Remove older, larger, or dying plants. Vigorous, smaller, and leggy plants are better.
- Maintain drought and fire-resistant plants in good condition. Water as needed, preferably with a drip system to conserve water runoff. Remove dead material.
- Minimize any plants under windows, near decks, or at inside corners.
- Add new plants that are "fire safe" (see UC Extension publication Home Landscaping for Fire, firecenter.berkeley.edu/docs/CE_homelandscaping.pdf).

Other plants and trees on your lot:

- Cut tree branches within 6 feet of your roof (or remove tree if necessary).
- Create islands of vegetation so fire does not have a path to your house.

Make sure there are no large bushes under trees.

- Minimize the depth and area of landscaping bark and mulch.
- Cut annual grasses before they die. Annual grasses are a major hazard in the fall, especially on a slope leading up to your house.

Other combustibles:

- The area around the home is especially hazardous. Do not store firewood or burnable material there, especially under decks or against outside walls.
- Be prepared to move propane tanks far away from the house quickly if a wildfire is reported.
- Keep the roof clear of vegetation and debris and eliminate overhanging branches.
- Protect aging siding by carefully maintaining nearby vegetation (remove dead material, irrigate, etc.).
- Clean gutters regularly, especially after the rainy season. Two areas need special attention: 1) upper-story gutters that are difficult to reach and 2) the portion of lower gutters fed by the roof covering (such as barrel-type tiles) rather than downspouts. Roofs also need to be cleaned of debris (e.g., leaves). Fall cleaning may have to be done repeatedly to minimize debris during peak fire season.
- Make sure your chimney has an approved spark arrester. Sparks from the chimney can ignite your neighbor's (or your) house.
- Add screens to windows. Metal screens provide protection from radiant energy from fires and possibly from wind-blown debris. While fiberglass screens can also reduce radiant energy, they melt easily and are not strong enough for impact protection.

—Forestland Steward, Spring 2010 (For the latest on fire safety see www.cafiresci.org/events-webinars-source/category/landscaping-and-home-design-for-fire-defense)