



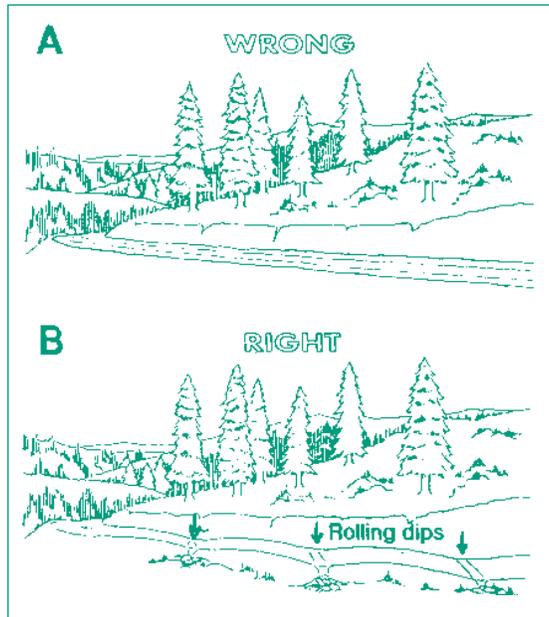
FORESTLAND STEWARD

Proper road design minimizes stream impacts

Roads that have been properly located and constructed need not threaten the water quality of streams. In fact, the entire process of designing, constructing, and maintaining forest roads can be looked at as a creative challenge that combines technical knowledge, experience, common-sense, and good judgment to achieve the desired goal: an efficient, low-cost, low-impact road that has a minimal effect on a watershed.

Poorly planned roads, on the other hand, can cause excess runoff and erosion, leading to sedimentation that can pollute water supplies, increase flooding potential, and trigger landslides. Aquatic life may be threatened and riparian vegetation damaged, resulting in loss of food and cover for fish and wildlife.

In choosing the best road design, a number of factors need to be considered. The physical environment (slope, soils, and drainage) will determine the best choice for road location. Avoid wetlands as they are highly sensitive to disturbance and require special protective measures. Efforts should also be made to minimize stream crossings (bridges are the least damaging choice here). Buffer strips of undisturbed vegetation should be left between roads and nearby streams to act as a filter to catch any sediment from road runoff. Time



Installing rolling dips, or "rolling the grade" of an outsloped road helps guarantee that surface runoff will not concentrate on the road surface and erode the roadbed.

construction activities for the dry season to reduce soil erosion and allow vegetation to become established before the rains. Other important factors include safety, intended use, cost, ability to maintain the road, and regulatory constraints.

Adequate road drainage is a vital consideration in good road design. Road drainage includes runoff from both the road surface and hillslope.

Culverts are only one of several alternatives for providing adequate road drainage. A culvert that is not properly maintained or is under-sized can easily blow out, leading to greater problems.

Insloped and crowned roads drain runoff to the inside of the road bed, often into a ditch. This concentrated flow is then discharged through culverts.

Outsloped roads are typically less expensive to construct and less difficult to maintain than insloped roads. Rolling dips, depressions in the road grade, are most frequently used on outsloped roads to drain and disperse road surface runoff. Rolling dips are installed in the road bed as needed to drain the road surface and prevent erosion. They require very little maintenance if properly constructed.

Waterbars (or waterbreaks) are dips built at an oblique angle across the road with a berm at the end. Waterbars are high maintenance drainage structures that are effective only on roads with little or no traffic.

A thoughtful approach to road planning and maintenance will be rewarded with a healthier watershed. For more details on roads, consult the *Handbook for Forest and Ranch Roads* (see page 10) from which this information was taken.

California Dept. of Forestry & Fire Protection
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Helpline Update

Meet Claralynn: the woman behind the Helpline

Claralynn Nunamaker

I am pleased to introduce myself to you as the new Education/Stewardship Coordinator for the Forest Stewardship Helpline.

I am coming to this position having spent two years as a partner in a forestry consulting business in Laytonville, Mendocino County. Previously, I spent several years working with another private consulting firm in Eureka and Willits, as well as stints with the Forest Service in Happy Camp, Covelo, and Eureka. My experience has primarily been in the field, specifically in the preparation of numerous THPs, NTMPs, and timber cruises in Humboldt, Mendocino, and El Dorado Counties. As an RPF and resident landowner (40 acres), I have worked with landowners holding 10 to 5,000 acres.

Humboldt State University has granted me two degrees, an MS in Natural Resources–Forestry and a second MS in Environmental Engineering–International Development Technology. My thesis research was done in China (in Chinese) on tree planting patterns and preferences of small forest landowners. In total I spent about a year working with the Chinese Academy of Forestry in Beijing and a small forestry college in southern China.

As the Stewardship/Education Coordinator, I hope to accomplish three things. First, to increase outreach to forest landowners so that all of you know that you can call our number with any kind of forestry-related question and receive a helpful response or referral. Establishing new links and maintaining current cooperative efforts with professional and landowners associations such as Forest Landowners of California (FLC), California Licensed Foresters Association (CLFA), and Association of Consulting Foresters (ACF) can help us get information about the Forest Stewardship



Claralynn Nunamaker

Helpline out to various memberships. I hope that you, as well as resource professionals, will relay information about the Helpline and newsletter to individual landowners. If you like the newsletter or the Helpline, pass on the word to others!

Second, I would like to see this office promote collaborative local forest management efforts. My experience both nationally and internationally has solidified my belief that grassroots efforts are ultimately much more effective than top-down approaches. Resource Conservation Districts (RCDs), for example, offer great potential in providing information and leadership to forest landowners and landowner groups. I would like this office to be an information clearinghouse, referring landowners to groups such as their local RCDs, as well as passing along relevant information to those groups. I welcome suggestions as to how to provide support (within the scope of our small office) for local groups.

Third, I intend to continue and expand the efforts of this office to promote forestry education. This includes facilitating the smooth operation of existing educational programs like the Forestry Institute for Teachers and Forest Conservation Days. This focus can be expanded to include education of a broader public through, for example, programs such as ElderHostel that could concentrate on forest management and related topics. Again, I welcome your suggestions re-

garding worthwhile programs that could benefit from the efforts of this office.

My first days as the Coordinator have been hectic and wonderful, getting to know some of the people and programs in place that are committed to facilitating forest stewardship here in California. The office is now located in Laytonville. Please note the new mailing address and e-mail address. The Forest Helpline number, 1-800-738-TREE remains the same. I feel fortunate to have this opportunity to serve the Stewardship Helpline and look forward to the pleasure of working with all of you.

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FORESTLAND STEWARD

Forestland Steward is a publication of the California Forest Stewardship Program
P.O. Box 944246
Sacramento, CA 94244-2460
(916) 653-8286
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Seasonal Stewardship

An ounce of prevention...

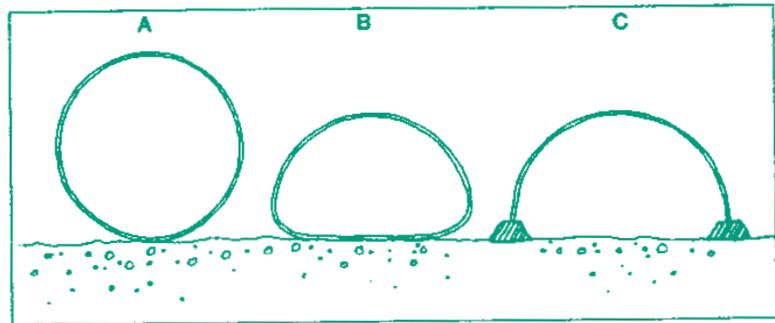
It seems as if the sun just came out, but here it is time again to prepare for the winter. Winterizing roads consists of maintenance and erosion work for proper drainage.

- ◆ Check your existing culverts. A good time to do this is during the first rain. Go out in your rain gear, take a shovel, and clear out any debris and place it where it cannot get back into the watercourse. Sediment deposits that threaten to plug the culvert may need to be excavated. Bent or damaged culvert ends should be straightened and re-opened. Outlets experiencing erosion can be armored or fitted with a downspout, and culverts that experience overflow problems may need a larger or second overflow pipe.

- ◆ Look at the drainage of the whole road. Besides culverts, check waterbars, outsloping, and ditches for problems. Clear out trash barriers, culvert inlet basins, and pipe inlets. Ditches should be cleaned and heavy vegetation trimmed. Excavate all unstable or potentially unstable fills and sidecast.

- ◆ Waterbars can be constructed on unsurfaced roads where little or no traffic will occur. These are high maintenance structures that must be built and maintained properly (detailed information on waterbar design can be found in the *Handbook for Forest and Ranch Roads* [see page 10] or at the Forest Stewardship website at <http://ceres.ca.gov/foreststeward>).

- ◆ Seasonal, unsurfaced roads can be badly damaged by even occasional use during wet periods when the road bed is soft. Once seasonal and temporary roads have been winterized, they should be gated and closed to “non-essential” traffic.



*Three common types of stream crossing culverts are used in forestland road construction: A) round culvert; B) pipe arch culvert; and C) plate arch “culvert.” For stream crossings where fish passage must be accommodated and a bridge cannot be installed, plate arch culverts are preferred. Round culverts are the least preferred culverting method where fish passage is important (from *Handbook for Forest and Ranch Roads*).*

Storm Damage Safety Tips

Tom Schott

Plan Ahead!

The old adage of “be prepared” couldn’t be more true when avoiding natural hazards after a storm. This means developing a hazard analysis or plan before a major storm strikes. Identify hazard trees, geologically unstable soils or rock faces, or vulnerable, “flashy” stream crossings near access routes. Treat those areas in advance of the storm if possible through strategic tree or branch removal, erosion and drainage control including the placement of larger culverts or bridges. If possible, your analysis should consider alternate transportation routes in case of road failures or flooding.

Enhance Culvert Performance!

If you’ve adequately sized your culvert, you can help to ensure it will perform as designed by constructing a debris/trash rack above the culvert inlet. Drive 2–3 metal fence posts into the channel a few feet above the pipe inlet. This will help to prevent limbs from blocking your pipe and provide you with a safer zone to remove accumulated debris. Before the storm, remove floatable debris within 100’ of the pipe inlet. Pipe flow efficiency can be increased by cutting the pipe inlet to a 45° angle from the

bottom of the pipe at the channel to the top of the pipe. Many forestland owners mark their culvert inlets with a metal T fence post in order to locate it should it become plugged. If you are attempting to open a plugged inlet beware of the suction power of the flow once an opening is made. Shovels and digging bars can strike you when yanked from your grip, or worse, you can be pulled in by the flow. Make sure you have solid footing and never work alone during a storm. Bent inlets can be reopened by using a vehicle hydraulic jack to pry the inlet open to its original dimensions.

Watch Out—Falling Rocks!

More landslides occur during peak storms, especially later in the season when the soil is saturated with water. Drainage headwall zones above steep gradients and large stream inner gorge areas are particularly vulnerable to landslides. A road surface peppered with rocks and boulders may be an indication of an impending failure in the slope above rather than just road cutbank erosion, so be aware.

—Tom Schott is the District Conservationist in Ukiah.



Landowner Curriculum

Follow these steps for planting success

The best time to plant varies with the type of planting stock, soil condition, climate, and your location in the state.

Ideal planting days are cool and cloudy with little or no wind. The soil should be moist, at field capacity to a depth of at least 12 inches. (Field capacity is the maximum water the soil can store.) This will require about 2 inches of rainfall for most timber soil types. The soil temperature should be at 40° F or higher and on a warming trend. These moisture and temperature requirements are essential for root growth to occur.

Many small landowners report best survival when seedlings are planted during a light rain or drizzle. Avoid planting during extended warm and dry periods, or when frost or extreme winds are likely. At higher elevations, plant when the snow is gone and the chance of frost is unlikely.

How many seedlings do you need?

1. Calculate the number of square feet per tree from the spacing. For example, a 10 x 10 feet spacing equals 100 square feet per tree ($10 \times 10 = 100$).
2. Divide the number of square feet in 1 acre (43,560) by the number of square feet per tree. Example: $43,560 \text{ sq. ft. per acre} / 100 \text{ sq. ft. per tree} = 435.6 \text{ trees per acre}$.
3. Multiply the number of trees per acre by the number of acres in your planting area to get the total number of trees you need to order. Nurseries usually sell trees in lots of 100 or 500 trees so round up to what you need.

Stocking and Spacing

The number of seedlings to plant depends on the size of the planting area and the spacing you will use. (Use the calculations in the box below to determine how many seedlings you will need.) Spacing depends on your objectives. If you space trees widely, they usually grow to merchantable size earlier than when they are planted close together. Closer spacing is necessary if poor survival is expected. Timber is usually grown at spacings from 8 x 8 feet to 12 x 12 feet. Christmas trees are planted closer, commonly 5 x 5 feet or 6 by 6 feet.

Nurseries need to plan at least a year in advance, so make your plans early—another reason for stewardship planning—and send in your order.

Seedling Care

Seedling care is of paramount importance. Make sure the roots are never allowed to become dry. Planters should carry only about three hours worth (about 50) trees at a time. Bareroot seedlings should be carried in a waterproof bag or bucket with plenty of moist material packed around the roots to keep them damp. The trees remaining in the boxes should be kept protected in a cool,

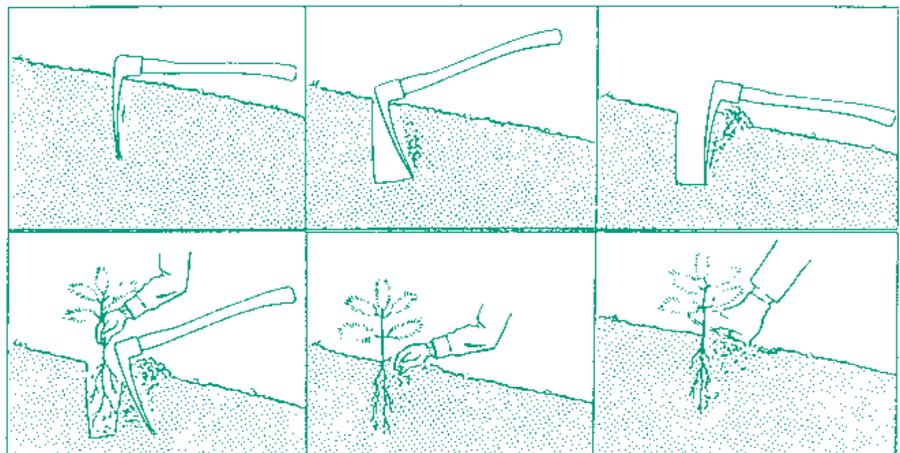
shady place with boxes closed. Ideally, bareroot boxes should be kept refrigerated or packed in ice or snow.

Planting Tools

Various hand and power tools and machines are used for planting. Planting bars, hoe-dads (also called western planting tools), and mattocks are used with easily worked soil. The hoe-dad is generally the most effective in rough terrain with rocky soils. Power driven augers are used to dig holes in compacted soils or soils with a hardpan. Planting machines are limited to fairly level sites with careful site preparation. These machines are cost effective only when planting large areas.

How to Plant

- ◆ Choose areas free from competition by weeds, grass, brush, or other trees or clear at least three-foot square before planting. Seedlings should not be planted under the crown of existing trees, or closer than 6 feet to existing brush.
- ◆ With regard to spacing, it is better to pick a planting spot shaded by a stump, log or rock, than to strictly follow recommended spacings.
- ◆ Brush aside loose organic material



—from *Planting California Forest Land*, UC Extension Leaflet #2925 (see page 10)



such as leaves, grass, etc., from the planting spot to expose mineral soil. If organic matter gets into the planting hole, it can decompose and leave air spaces. Roots will dry out when they grow into these spaces.

◆ Open up the hole, making sure it is deep enough for the roots to be fully extended. If roots are curled or bunched, the tree will not be able to take up water correctly, may weaken and die, or blow down later due to poor root structure.

◆ Take a tree out of the planting bag or bucket only after the hole is ready. When exposed, the fine roots can dry out in as little as 30 seconds. Remember to remove the container before planting a containerized tree.

◆ Hold the seedling in place in the hole, making sure the roots are straight, fully extended and that the tree is neither too shallow nor too deep in the hole.

◆ Fill the hole, allowing soil to fall in around the roots. Tamp with hands or your heel. Fill with more soil, if necessary, and tamp. Tamping is important. If soil is not firmly packed around the roots, there will be air pockets that can dry out the roots, and the seedlings may be weakly anchored. (Addition of fertilizer and plant vitamins at the time of planting is not generally necessary.)

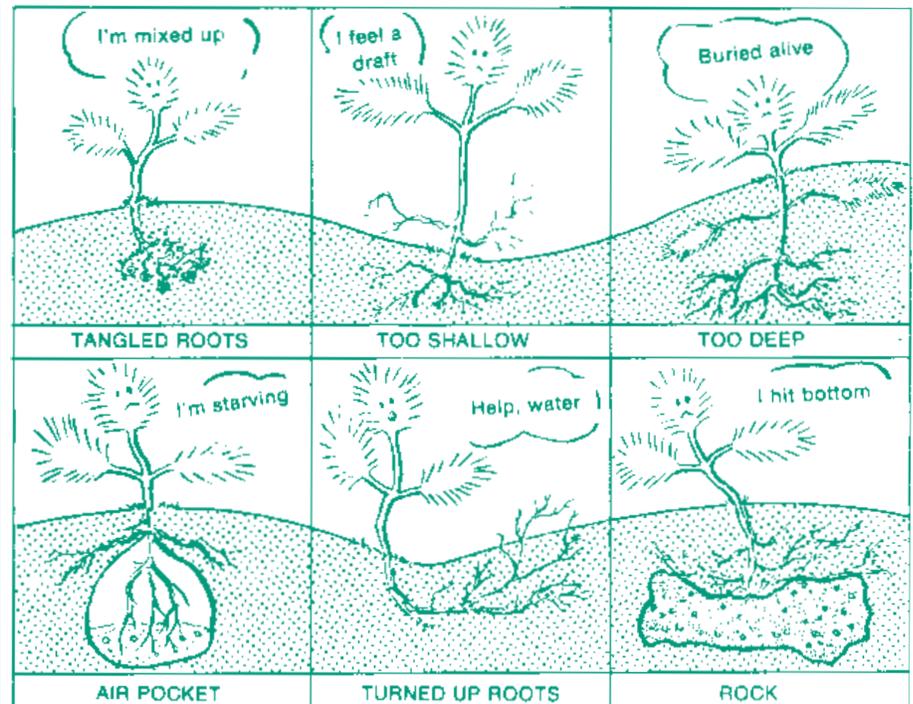
Experienced planters can plant 350–700+ trees per day, depending on conditions. However, if this is your first planting project it is a good idea to start with a small area the first year and then move on to larger plantings after you have gained more experience. Care in planting is more important than speed.

Care following planting

All planting should be followed by regular inspections. You should check for survival and plan for replacement trees. Regeneration surveys should be completed after the first and second year at least, and every other year until year ten.

Look for yellowing or drooping foliage or other signs of poor health. Your Extension Advisor can help diagnose the problem.

Animals can be a major cause of damage to young trees. Porcupines,



—from *Planting California Forest Land*, UC Extension Leaflet #2925 (see page 10)

gophers, rabbits, deer, and cattle are the most frequent source of damage.

Assess the need for releasing the trees from competing vegetation. This is commonly done by mowing, mulching, spraying, or a combination of these treatments. Hand work is hard work that may be financially viable on small areas. Safety is an important consideration. Working with sharp tools or machines on steep sites can be dangerous, especially when one is unaccustomed to strenuous activity. Herbicides are an alternative that may be less expensive and more effective when treating large acreages. When using herbicides, obtain the advice of a licensed pest control advisor and always read the label and follow instructions.

Overwatering is a common problem in irrigated plantations. You probably won't need to water more frequently than every 7–10 days. Give your trees a very thorough, deep soak and then let the soil dry out before the next watering. This encourages the roots to grow down in search of water. Frequent, shallow watering encourages root growth near the surface and the trees are more depend-

ent on irrigation and less windfirm.

It is easier to take successful corrective action if a problem is detected early.

Conclusion

Planting represents a large investment that is carried over the life of a stand. A successful plantation increases the value of your property to potential buyers. It is in your best interests to:

1. Plan regeneration operations carefully.
2. Prepare your planting site.
3. Take proper care of your planting stock.
4. Closely supervise your planting crew.
5. Follow through with regeneration surveys indicating replanting and brush maintenance where necessary.

The success of your planting effort depends on each of these steps. Your planting operation can only be as successful as the weakest link.

—This article is taken from *Working in the Woods: A Guide for California's Forest Landowners*, and *CDF Guide to Planting Seedlings*. For more information, contact the Forest Stewardship Helpline at 1-800-738-TREE.



Clean Water

Keeping track of TMDLs in California

Kim Rodrigues and Gary Markegard

One of the newest acronyms to be added to the bureaucratic alphabet soup is "TMDL" or Total Maximum Daily Load.

The TMDL process was established by the Clean Water Act, Section 303(d) to guide application of state standards to protect the designated "beneficial uses" (e.g. fishing, swimming, drinking, fish habitat, agriculture, aesthetic, etc.) of individual water bodies/watersheds.

TMDL is a process as well as an outcome, and may be a confusing term for summarizing pollutant allocations in most of our watersheds. The sum of pollutants from all sources cannot be simply defined by any measure of daily load(s) and be rational or meaningful. The preferred title for the outcome of the TMDL process is now the "Water Quality Attainment Strategy."

What are TMDLs?

A TMDL is an estimate of the maximum amount of a specific pollutant a body of water can receive and still meet water quality standards for its designated use. TMDL is established to identify reduction targets for two types of water pollution sources in rivers and streams:

1. **Point source** pollution such as discharges from manufacturing industries.
2. **Nonpoint source** pollution such as runoff from range and forestland.

While point sources of water pollution are regulated by discharge permits, nonpoint sources require Best Management Practices (BMPs). A BMP is a practice that the state has deemed the most effective way to prevent or reduce pollution levels. For example, leaving a buffer strip of undeveloped land between a paved road and a stream to filter out sediment is a BMP.

Who develops the TMDLs?

The State Water Resources Control Board and US Environmental Protection Agency (EPA) have the authority to

establish TMDLs under the Clean Water Act. However, "third parties" such as landowners or watershed groups are encouraged to take the lead in developing TMDLs for approval by EPA.

Why has this become an issue?

Recently a lawsuit was brought against the EPA stating that the agency was not enforcing the Clean Water Act. In the settlement, the EPA made a legal commitment guaranteeing that TMDLs will be established for 18 river basins by the year 2007. These TMDLs must be created by either the EPA and/or the State Regional Water Quality Control Board. Many North Coast California rivers have been listed as "water quality limited" due to sediment and/or temperature impacts to fish.

Please do not let these new terms and processes intimidate you. Further, do not let the threats of further government intervention and regulation keep you from becoming actively involved in local TMDL discussions and development. There is a limited opportunity for landowners and land managers to develop voluntary Best Management Practices to meet the water quality attainment strategy within a given watershed.

In fact, local commitments by Water Quality staff and EPA in Redwood Creek indicate that the agencies are willing to relieve landowners of regulation related to instream targets if landowners continue voluntary efforts. Local staff reiterated the importance of the UC Extension Ranch Water Quality Shortcourse as a "good faith" effort to deal with these issues.

If we focus on *controllable* sources of waste loads that may result in negative water quality (primarily sediment and/or temperature in N. California watersheds), we can more effectively address the issues and improve water quality.

What can you do?

Landowners are encouraged to assess their lands for water quality problems and prepare a conservation plan to implement

appropriate BMPs. An example of a BMP for a ranch that borders on a waterway is providing a water source for the livestock away from the riparian area. This keeps the stream banks from being broken down and eroded into the streams. (*See page 7 for other suggestions.*)

We may not reach consensus on all aspects of the TMDL process, but we should all be able to assess our land management practices and improve them where necessary. And we can reach consensus on our shared desire for clean water and our positive contributions towards maintaining clean water through continued stewardship using BMPs.

Kim Rodrigues is Forest Advisor and Gary Markegard is Farm Advisor in Humboldt County. For more information, contact your local UC Extension office or the Forest Stewardship Helpline, 1-800-738-TREE.

Where will TMDLs be developed?

Garcia River (1997)
 South Fork Trinity River (1998)
 Redwood Creek (1998)
 Noyo River (1999)
 Van Duzen River (1999)
 Eel River South Fork—above and below Garberville (1999)
 Ten Mile River (2000)
 Navarro River (2000)
 Trinity River (2001)
 Albion River (2001)
 Gualala River (2001)
 Big River (2001)
 Mattole River (2002)
 Eel River—North Fork (2002)
 Eel River—Upper Main Fork (2004)
 Klamath River (2004)
 Scott River (2005)
 Shasta River (2005)
 Eel River—Delta (2006)
 Mad River (2007)



Fish Friendly Practices



How can you help the fish?

Here are a number of ways to help protect fish and to improve instream and riparian habitats. Take a look at your land for changes you can make. Are there flood plain or wetland roads you no longer use? Consider removing or relocating them. Is the river traveling in a diked channel through or beside your property? Consider removing or changing a dike that could create a wetland and restore some natural channel flow to the river. Contact foresters, hydrologists or biologists for advice.

General

◆ Sometimes you can help best by leaving good natural features alone. Beaver ponds, natural side channels, and large woody debris are important rearing areas for young salmon, steelhead and cutthroat trout.

◆ Trees and shrubs growing alongside streams help stabilize the banks, filter out sediments from runoff and provide cooling shade for the stream.

Roads/Construction

◆ Check areas where your roads cross streams. If your culverts have a drop or are above the stream channel, they could be barriers to fish passage. Consider redesigning problem culverts or replace them completely with a bridge structure. Well-designed culverts and bridge structures are also less likely to blow out during floods.

◆ Poorly placed or maintained forest roads can be a major source of sediment. Mud from runoff or washouts can destroy spawning beds and kill older fish as well. Make sure your road drainage systems are working properly. If you don't really need that road anymore, consider putting it "to bed."

◆ Road building or other construction

near a stream, river or estuary can create serious fish habitat damage if the work is not done properly. Use best management practices (BMPs) to help protect waterways while you work. In many cases, construction or in-stream work may require a permit if you plan to remove material, such as gravel, from a stream or add material to the waterway.

◆ Avoid operating heavy equipment in streams. Bulldozers or heavy trucks can ruin spawning beds, create sediment problems, and cause long-term damage to a stream.

Logging

◆ The Forest Practices Rules give practical direction about logging methods that protect the aquatic environment. Get expert advice if you have questions or concerns about potential impacts of your operation.

◆ Limit your impacts on waterways to only those essential to your operation. Diking, channelizing, water diversions, dredging, and removing material from bays or rivers is tightly regulated. Do not place any artificial structure in a stream or river that blocks fish passage.

◆ Construction can cause serious sediment problems, even well away

from a waterway, if stormwater runoff is not properly contained.

Animal Management

◆ Create riparian pastures that can be managed for grazing during times when livestock will prefer pasture grasses over riparian trees and shrubs. Provide a trough or watering tank away from the stream. You will be surprised how quickly streamside growth returns. You can even plant willows or other shrubs and trees along your waterway.

◆ If riparian pastures are not viable options for your operation, consider using fencing to keep animals away from the water's edge. Inexpensive offstream water can and should be provided.

◆ Wetlands serve as a filter to clean runoff water before it enters a stream. Time grazing on pastures that contain wetlands so they achieve good vegetative growth prior to runoff. If this timing is not feasible, consider using fencing to exclude grazing from the wetlands portions of your pastures.

◆ Protect wetlands, rivers and estuaries through careful animal waste management.

Chemicals

◆ Pay very close attention to product directions when you apply fertilizer or herbicides. If herbicides and insecticides get into streams, they can kill aquatic insects which are food for fish. Fertilizer runoff can cause unwanted plant growth in streams which can then rob the water of oxygen.

◆ Anything that goes into the storm drain can end up in our waterways

(continued next page)



Fish friendly *(cont. from page 7)*

Dispose of chemicals such as used motor oil, antifreeze, pesticides, paints etc. at approved collection facilities in your local area.

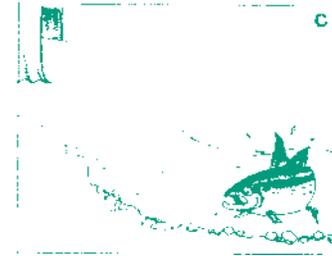
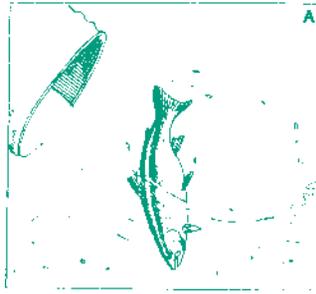
Waste

◆ Keep fill, manure and garbage out of wetlands. These areas function as filters only when not clogged with contaminants and debris. Water from these areas moves into streams or into groundwater. You could even contaminate your own water supply.

◆ Human waste disposal is a concern. If possible, homeowners and businesses should connect to a regulated sewage treatment and disposal facility. Poorly performing septic tanks can contaminate groundwater and nearby streams, lakes and bays. If you must use a septic tank, be certain it is properly designed, located and well maintained.

Local conservation districts, extension offices, and natural resource agencies all have information that can help you help fish.

—adapted from For the Sake of the Salmon at <http://www.4sos.org/homepage/salmon/howhelp.html>



Incorrect culvert installation can impede or prevent fish passage through a streamcrossing. Culvert conditions that block fish passage include: A) water velocities too great; B) water depths too shallow; C) insufficient resting area or jumping pool depth at culvert outlet; and D) culvert outlets that are too high above the streambed (Furniss, et al. in Handbook for Forest and Ranch Roads).

Alphabet Soup

Here are a few more letters to help make sense of discussions around you.

BMP (Best Management Practices)

—a practice the state has deemed to be the most effective way to prevent or reduce pollution levels from nonpoint sources.

CMP (Corrugated Metal Pipe)

—often used synonymously with culvert. Metal culverts are typically made from galvanized steel or aluminum.

DP (Diversion Potential)—a stream crossing has a diversion potential if, when the culvert plugs, the stream

would back up and flow down the road rather than directly over the fill crossing and back into the natural drainage channel.

EHR (Erosion Hazard Rating)

—a calculated measure of the susceptibility of soils to erosion by raindrop impact and surface runoff. According to the California Forest Practice Rules, EHR is calculated using a defined field methodology, and the resulting rating (low, moderate, high, extreme) influence the land management practices that can be implemented.

THP (Timber Harvest Plan)—required for timber operations on land

other than federal land. Timber operations include the cutting or removal of both timber or other solid wood forest products for commercial purposes. Article 7 of the Z'berg-Nejedly Forest Practice Act of 1973.

WLPZ (Watercourse and Lake Protection Zone) and SPZ (Stream Protection Zone)

—a strip of land along both sides of a watercourse or the circumference of a lake or spring where additional practices may be required for protection of the quality and beneficial uses of water, fish and riparian wildlife habitat, other resources, and for controlling erosion.



Out on a Limb

The Five County Salmon Conservation Plan

Richard Harris
UC Extension Forester

Five counties in northern California—Humboldt, Del Norte, Siskiyou, Trinity and Mendocino—have joined together in a unique conservation planning project.

These five counties are within the "Transboundary Evolutionarily Significant Unit (ESU)" for the coho salmon. Being so, land use and development activities occurring within them could be subject to constraint due to the federal Endangered Species Act.

Soon after the listing of the coho salmon, elected supervisors from the five counties met and concluded that the economies of the counties were at stake unless they developed a conservation plan that would meet the requirements of the National Marine Fisheries Service. A memorandum of understanding was developed to formally join the counties for the purposes of evaluating strategies for protecting anadromous fish and their habitats while minimizing disruptive impacts on local land uses and economies. The result is the ongoing five county salmon conservation planning effort.

The five county plan is a joint project of the University of California, Cooperative Extension and the five counties. Funding for the work has been provided by the State Resources Agency. The effort has two elements. Cooperative Extension is performing an assessment of existing county policies and procedures in terms of their potential impacts on anadromous (those who spend part of their lives in streams and part in the ocean such as salmon) fish and their habitats. This involves review of written policies (e.g., general plans, ordinances, etc.), review

of development project case studies (e.g., subdivisions and commercial projects), and field assessment of county road and flood control maintenance practices. The field assessment is performed by a team consisting of county planning and public works personnel, fisheries biologist, geologist and UC scientists. The second element, which is being done by the counties and depends in part on Cooperative Extension's findings, is the development of inventory, management and educational programs for improving fish habitat conditions. These two elements will dovetail into a comprehensive plan due for completion late this year.

The five county conservation plan is an innovative approach to solve endangered species management problems from the local level rather than from the top down. It is viewed by many observers as a model for other counties

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and states. In fact, a similar approach will be used in the five counties comprising the central California ESU: Sonoma, Marin, San Mateo, Santa Cruz and Monterey. Interested readers should contact Richard Harris for more information, (510) 642-2360; rrharris@nature.berkeley.edu.

Watercourse Classification for Forestry Purposes

CLASS I—watercourses or springs serving as domestic water supplies, onsite and/or within 1000 feet downstream of the operations area, and/or those watercourses where fish are always or seasonally present, including habitat to sustain fish migration and spawning.

CLASS II—those watercourses where fish are always or seasonally present offsite within 1000 feet downstream, and/or watercourses which contain aquatic habitat for non-fish aquatic species. Class III watercourses that are tributary to Class I watercourses (hence within 1000 feet of a fish-bearing watercourse) are specifically excluded.

CLASS III—watercourses that have no aquatic life present, but still show evidence of being capable of sediment transport downstream to Class I or Class II watercourses under normal high water flow conditions after completion of timber operations.

CLASS IV—human-made watercourses, usually supplying downstream established domestic, agricultural, hydroelectric or other beneficial uses.



Resources

The best road book around

The *Handbook for Forest and Ranch Roads: A guide for planning, designing, constructing, reconstructing, maintaining and closing wildland roads* by William E. Weaver and Danny K. Hagans is the definitive guide for forestland owners who maintain and/or construct roads. Surprisingly for a technical manual, it is written in a friendly and readable manner that makes sense, even to those of us with no background in the subject.

The 160+ pages are filled with great detail on planning, field reconnaissance & location, design, drainage, construction, reconstruction, maintenance, and closure & abandonment. Thanks to the

many pictures and diagrams, the basic concepts are easy to follow. Those who desire more depth of information will find a wealth of technical description, tables, appendices, and calculations over which to puzzle.

The authors emphasize that proper planning, design, and construction will help to avoid future problems. The manual "is aimed at producing efficient, low-cost, low-impact roads that have a minimal effect on the streams of a watershed."

This book is a must-have for any landowner library. To get your own copy, contact the Mendocino County RCD, 405 Orchard Ave, Ukiah, CA 95482. (707) 468-9223. Cost is \$20.

CD-ROM available!

Get your free copy of *Working in the Woods: A Guide for California Forest Landowners* by calling the Forest Stewardship Helpline, 1-800-738-TREE.

The CD-ROM helps you develop a plan for your property with topics such as ecology, laws and regulations, economics, tool, and techniques. The files come in various formats (ClarisWorks is recommended) and work with either Macintosh or Windows. The disk also contains the 1998 Forest Practice Rules, Estate Planning for Forest Landowners, and more.

Oldie but goodie

Last revised in 1976, *Planting California Forest Land* (UC Extension Leaflet #2925) is still a classic reference for forestland owners. It is short and easy to read with lots of photos and graphics. The four main sections—planning, acquiring seeds and seedlings, doing the job, and follow-up—cover the basics of planting.

You can get a copy for \$3 from UC Extension. Call 1-800-994-8849 or (510) 642-2431 or write to Univ. of Calif., DANR Communication Service, 6701 San Pablo Ave., Oakland, CA 94608.

NOTE: The UC Extension catalog of over 700 publications, etc. is online at <http://commserv.ucdavis.edu/ucce/products/default.html>.

Back issues at our website

<http://ceres.ca.gov/foreststeward>

Back issues of *Forestland Steward* are available on the internet. You can find complete issues in PDF format plus the articles arranged by topic (e.g., fire safety, management practices, salmon issues, taxes, and more). Besides articles, the calendar is updated monthly and there are links to other sites.

Technical Assistance Resources

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

California Department of Forestry and Fire Protection

Forestry Assistance Program

Jim Geiger
(916) 653-8286
jim_geiger@fire.ca.gov

California Association of RCDs

Thomas Wehri
(916) 447-7237
carcd@ns.net

California Resources Agency: California Environmental Resources Evaluation System (CERES)

Deanne DiPietro
(916) 653-8614
deanne@ceres.ca.gov

Farm Service Agency

Larry Plumb
(916) 498-5300

Natural Resources Conservation Service

Jerry Reioux
(916) 757-8256

(209) 946-6229
jerry.reioux@ca.nrcs.usda.gov

California Dept of Fish & Game

Terry Mansfield
(916) 653-1921
tmansfie@hq.dfg.ca.gov

U.C. Cooperative Extension Forestry

John LeBlanc
(510) 642-6678
jleblanc@nature.berkeley.edu

Richard Harris
(510) 642-2360
rrharris@nature.berkeley.edu

Gary Nakamura
(530) 224-4902
gmnakamura@ucdavis.edu

USDA Forest Service

Sandra Stone
(415) 705-2587
sstone/r5@fs.fed.us

California Stewardship Helpline

(800) 738-TREE



Calendar

October 1–January 15, 1999

Watershed Mgmt.: A Distributed Learning Course over the Internet
Univ. of British Columbia Inst. for Resources & Environment
Prof. H. Schreier, IRE, UBC, CA
star@unixg.ubc.ca
Graduate level course for mature students & professionals; \$627
<http://www.cstudies.ubc.ca/dipcert/watersh1.htm>
<http://rmes.cstudies.ubc.ca>

October 2–3, 1998

Family Forest Management Conference
Santa Rosa
Forest Landowners of California
Dan Weldon 916-972-0273
dweldon@forestlandowners.org
<http://www.forestlandowners.org>

October 2–3, 1998

NorCal SAF Fall Field Tour
High Sierras, Fresno
NorCal Society of American Foresters
Claralynn Nunamaker 1-800-738-8733
ncsaf@mcn.org

October 2–4, 1998

CaLEPPC Symposium '98, Working Smart, Working Together
Ontario
Cal. Exotic Pest Plant Council (CaLEPPC)
Sally Davis 714-888-8347
sallydavis@aol.com; \$40-\$75

October 4–7, 1998

N. American Conference on Enterprise Development through Agroforestry: Farming the Agroforest for Specialty Products
Minneapolis, MN
Nat'l Agroforestry Ctr., USDA FS, CINRAM, MN Inst. for Sustainable Ag. & Assn. for Temperate Agroforestry
Scott J. Josiah 612-698-4673
josia001@maroon.tc.umn.edu

October 19–22, 1998

Western Watersheds: Science, Sense, & Strategies "What We Can Learn from Each Other"

Boise, ID
Watershed Mgmt. Council
Dr. Charles Slaughter 208-422-0722
cslaugh@nwrc.ars.pn.usbr.gov
<http://watershed.org/tomc/index.html>

October 21–22, 1998

California Water Policy VIII: Alchemy, Anarchy or Accountability?
Los Angeles
Public Officials for Water & Environmental Reform
Debbi Dodson 619-272-9627
ddodson@cts.com; \$60 - \$325

November 6, 1998

Vegetative and Stock Pond Management Workshop
Coarsegold
Workshop is designed to instruct landowners in the maintenance of their stock ponds
\$15.00 includes handouts and lunch
Nancy Beaver 209-877-2973 to pre-register

November 8–10, 1998

California Association for Conservation Districts (CARCD) Annual Meeting and Conference
Palm Springs
(916) 447-7237; *cared@ns.net*

November 11–13, 1998

Facilitating and Mediating Effective Environmental Agreements
Berkeley, CA
CONCUR
510-649-8008; fax 510-649-1980
concur@igc.apc.org; \$8-\$23
<http://www.concurinc.com>

November 16–19, 1998

The Role of Information Technology in Fire Management
San Diego, CA
UC Davis Extension
Sandra Cooper 530-757-8948; Dorothy Albright 916-364-2823; Mike McCoy 530-754-9171 *mccoy@ucdavis.edu*; \$245
<http://universityextension.ucdavis.edu>

November 17–18, 1998

Integrated Vegetation Management Conference
Portland, OR
Integrated Vegetation Mgmt. Assn. &

OSU Veg. Mgmt. Research Coop.
541-737-2329; \$125

December 1–3, 1998

Monitoring for Forest Land Managers: Managing the Process
Corvallis, OR
Western Forestry and Conservation Assn.
Richard Zabel 503-226-4562
richard@westernforestry.org; \$265

January 15–17, 1999

NorCal Society of American Foresters Annual Winter Meeting
NorCal Society of Am. Foresters (SAF)
John Nicoles 510-834-8953

January 19–21, 1999

20th Forest Vegetation Management Conference: Healthy Forests for the 21st Century, New Technologies & Integrated Vegetation Management
Redding
Forest Veg. Management Conference
Sherry Cooper 530-224-4902
shcooper@ucdavis.edu

January 20–23, 1999

Calif. Forestry Assn. Annual Meeting
Napa
California Forestry Assn.
Eleanor Anderson 916-444-6592
eanderson@cwo.com

January 30, 1999

CLFA Gil Murray Memorial Ski Race
Mt. Shasta, CA
California Licensed Foresters Assn.
Hazel Jackson 209-293-7323
clfa@volcano.net

For more information, call the number given or the Forest Stewardship Helpline, 1-800-738-TREE. To submit an event or to receive this calendar by e-mail, contact Sherry Cooper, shcooper@ucdavis.edu

ONLINE CALENDAR!

A more comprehensive calendar of events is updated each month on the California Forest Stewardship website at <http://ceres.ca.gov/foreststeward>

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Current Events

**A Conversation with Gerald Ahlstrom,
Staff Chief for Forest Practice Program, CDF**



Gerald Ahlstrom

Can you tell us about the review of the Forest Practice Rules in relation to the salmon listings?

The National Marine Fisheries Service (NMFS) independently reviewed and commented on the California Forest Practice Rules. We took a look at their comments and the Resources Agency has written a letter with responses to their concerns. The Resources Agency has taken the lead in responding to NMFS so that we don't have separate responses from the Calif. Dept. of Forestry & Fire Protection and the Calif. Dept. of Fish & Game, etc.

How is this going to resolve itself?

I guess it would be hard to speculate on what will happen. I think NMFS has inadequately considered the entire THP (Timber Harvest Plan) review process. We think that the Rules as currently utilized and enforced are adequate. The rules, coupled with court rulings and CEQA (California Environmental Quality Act) require us to mitigate all significant impacts. The rules are a minimum and THPs often have

mitigations going well beyond the rules, but only when needed. NMFS fails to recognize this site specific evaluation process. We continue to work with NMFS on these issues. It's hard to speculate on where it will go.

Should landowners be concerned?

Yes, I think landowners should be concerned because regulatory changes affect them.

Is there a way for landowners to be involved in this process?

There is no real forum for landowners to be involved in this because the discussions are between agencies. If landowners want to follow the discussion they can contact NMFS for their comments and the Resources Agency for their response.

There is talk of THP fees coming down. What do you know about that issue?

As far as I know, some talk about THP fees went on early in the legislative

budget process. There's no longer any consideration of that.

What else is coming down the pipeline that would be of interest to forestland owners?

The main thing is that the area of endangered species continues to evolve. Oregon has had a couple of interesting court cases that have ramifications for us in California.

The State of Oregon tried to provide an alternative approach to the federal salmon listings. They worked out an agreement with private industries to provide money for restoration projects and the State would oversee the projects. In exchange, NMFS agreed not to list the northern salmon species in Oregon. But the federal district court said no, you can't do that.

Oregon also adopted as their own the federal regulatory scheme for spotted owls that the U.S. Fish and Wildlife Service had put forth. The Oregon Supreme Court ruled against the State calling it a taking of private property and gave a timber company more than \$1.5 million in damages.

So what does that mean to California?

These rulings make California wary of accepting what NMFS says. In the one case, the Court ruled that NMFS has no authority to do a deal with the State. In the other, they ruled that if the State simply adopts NMFS' rules as our own, the State takes on a liability.

This is an ever-evolving process that hasn't settled down yet. The whole endangered species thing can go on and on—there's no end in sight.

How can the *Forestland Steward* newsletter help you?

I'd like to see more information on _____

My suggestion is _____

Add me to the mailing list / change my address:

Name _____

Address _____

City, Zip _____ Phone _____

Send to CDF, Forestry Assistance, P.O. Box 944246, Sacramento, CA 94244-2460.
Phone: (916) 653-8286; Fax: (916) 653-8957; e-mail: jim_geiger@fire.ca.gov