



February 23, 1992

Dean Cromwell
Executive Officer
California Department of Forestry
P.O. Box 944246
Sacramento, Calif. 94244-2460

Dear Mr. Cromwell,

Below you will find some guidance from the Humboldt Chapter of the American Fisheries Society on needed changes in Forest Practice Rules. Our chapter is a sub-unit of the American Fisheries Society, an international organization representing over 8500 fisheries scientists and professionals. Our territory covers coastal watersheds in California from the Russian River north to the Smith River, including the Klamath and Trinity Basins. These comments were formulated at the request of the Board following a presentation by Mr. Pat Higgins regarding potentially endangered salmonid stocks in our Chapter area and their relationship to Sensitive Watershed designation and management. We will be sending a copy of our full report on stocks of anadromous salmonids in northwestern California at risk of extinction to the Board within 30 days.

Our comments address, in part, the draft rules on Sensitive Watersheds and Old Growth Forests currently under consideration by the Board but we decided to give broader guidance. Much of what we see as needed was difficult to relate in the context of your current rule language. We have defined needed actions or referred the Board to excellent scientific sources of information hoping that the Board will subsequently make attendant changes in the rules. Our members who commented felt that the Board should consider a major re-drafting of the rules to make them more clear and concise. California Forest Practice Rules have failed to protect fisheries resources in northwestern California streams and unless every effort is made to reverse current trends massive extinction of salmon populations can be expected.

Sensitive Watersheds

As noted in our letter of February 2, 1992, we believe that watersheds harboring anadromous salmonid stocks at risk of extinction should definitely fall under the designation of sensitive. We are including the table (#1) of stocks at risk below so that all our comments can be referenced from one document. Sedimentation resulting from logging activities has played a major role in the decline of the majority of stocks on the list.

We have used the convention of the Nehlsen et al (1991) report to categorize stocks in our area. Stocks at "high risk of extinction" or category "A" populations showed continuing spawner declines with fewer than 200 adults. Category "B" stocks were those "at moderate risk

Table 1. Stocks of Pacific anadromous salmonids in northwestern California at risk of extinction. A= high risk of extinction, B= moderate risk of extinction, C= stock of concern.

CHINOOK SALMON

Spring Race

Klamath River (Salmon River) (A)
 South Fork Trinity River (A)
 Smith River (A)*
 Trinity River (C)

Fall Race

Lower Klamath (tribs below Weitchpec) (B)*	Shasta River (A)*
Scott River (C)*	Redwood Creek (C)
Little River (C)	Mad River (C)
Humboldt Bay Tributaries (A)*	Eel River (C)
Bear River (C)	Mattole River (A)*
South Fork Trinity (C)	

COHO SALMON

Trinity River (C)	Scott River (A)
Wilson Creek (C)	Redwood Creek (C)
Lower Klamath (tribs below Weitchpec) (C)	Mad River (A)
Little River (C)	Eel River (C)
Humboldt Bay Tributaries (C)	Mattole River (A)
Bear River (C)	Noyo River (C)
Pudding Creek (A)	Ten Mile River (C)
Big River (C)	Albion River (C)
Navarro River (C)	Gualala River (A)
Garcia River (A)	

STEELHEAD TROUT

Summer Race

Middle Fork Eel River (C)	Mad River (A)*
North Fork Eel River (A)	Redwood Creek (A)*
Van Duzen River (A)	Salmon River (A)
South Fork Trinity River (A)	Clear Creek (A)
North Fork Trinity River (B)	New River (B)

COASTAL CUTTHROAT TROUT

Lower Eel River (C)	Mad River (C)
Lower Klamath (C)	Wilson Creek (C)

* Same designation as list in Pacific Salmonids at the Crossroads

We recommend that timber harvests allowed in any watershed harboring potentially endangered salmonids use off-site mitigation to achieve a "Zero Net Increase" in sediment discharge similar to current agreements on the Mattole River and Grass Valley Creek (Trinity River).

As an alternative, it was suggested that the rules for Sensitive Watersheds might state that within these watersheds, the net effect of management will be an improvement in any limiting factors that caused sensitive classification.

The deleted passages requiring cable logging on slopes of over 50% in sensitive watersheds should be re-inserted (p 12) Six Rivers National Forest uses cable logging in sensitive watersheds on any slope over 35%. Our contributors felt that exemptions for small land holders in sensitive watersheds could be counter-productive. If salmonid stocks are at risk in a watershed, then everyone should share in the responsibility of preserving habitat viability and facilitating their recovery. We feel that the language regarding Sensitive Watersheds needs to reflect the authority of the State Water Resources Control Board, under the Clean Water Act, to designate sensitive watersheds and to specify the maximum daily sediment loads allowed. We believe the Memorandum of Understanding between the BOF and SWRCB clearly states that it is not within the Board's authority to decline such a designation.

Old Growth

Our members who reviewed your draft rules felt that your interchangeable use of Ancient Forest, Old Growth Forest, and Late Seral Stage Forest was confusing. They suggested that Ancient Forests are those which have not had any harvest and will remain in an undisturbed condition. Your current definition of Old Growth actually is functional Late Seral Stage habitat with elements of Old Growth. The definition our experts use for Old Growth is similar to Ancient Forests; large trees that haven't been disturbed by management.

Studies by Nawa et al. (1991) in southern Oregon indicate that the only place where salmon stocks are persisting in streams are in areas where there are islands of undisturbed forests, often in National Forest Roadless Areas. The distribution of remaining viable coho populations in California seems to be conforming to this pattern (Brown and Moyle in press). Lagunitas Creek in Marin County flows from head water areas partially included in state parks and had a run of 500 coho in 1991-92. Elk River, a Humboldt Bay tributary, is reported to have a viable run of coho salmon (Larry Preston personal communication) and also has remnant old Growth in the Headwaters Forest. Little River in Humboldt County also has had a viable run of coho salmon and much of the watershed was in late seral stages from harvest early in the century. This latter population may be jeopardized by recent timber harvest in over 50% of the watershed. Defering timber harvest in watersheds and stream habitats associated with Old Growth Forests or Late Seral Stage Forests might be prudent at this time to help avert stock losses.

Some of our members providing comments are multi-disciplinary, so the following comments are provided on wildlife and Late Seral Stage Forests. The suggestion that 15% of all holdings of any owner be preserved in Late Seral Stage does not address the distribution of these patches which is a critical concern. CDF needs to coordinate between land owners so that large contiguous areas (>10,000 acres) of Late Seral Stage habitat are managed together and then shifted over time. Rules requiring that six trees per acre be retained do not require any understory retention. Our contributors suggest that more guidance is needed in rule language on what characteristics need to be retained to provide "functional" habitat.

Wetlands and Watercourse Protection

We recommend a 100 foot no entry zone along all stream courses and wetland areas. Recent work by Gregory and Ashkenas (1990) as summarized by Frissell (1991) indicates that no scientific justification exists for allowing harvest of trees within this zone. The protection zone should be measured from the high water mark equivalent to that of a 2.5 year interval storm. Ephemeral streams need similar protection because soil compaction and disturbance can cause serious problems with sedimentation in areas downstream during floods. Streamside buffers of undisturbed forest can serve as migration corridors for wildlife species as well (Johnson et al. 1991).

Benefits of a healthy riparian zone to the stream ecosystem include thermal regulation, sediment filtration, bank stability, zones of refuge for fish during floods, and aiding in recruitment of large logs which form important habitat elements when they fall in streams (Seddell et al 1990). Fisheries scientists are also concerned about amphibians, which are treated as fish under California Fish and Game codes. Wetlands away from streams need protection to prevent the loss of these animals (Frissell 1991). Our colleagues who specialize in study of amphibians have appraised us that the Olympic salamander (Rhycatrion olympicus), the tailed frog (Ascaphus truei) and the Del Norte salamander (Plethodon elongatus) may warrant an "at risk" status (Welsh 1990).

The greatest damage to riparian zones in our area, however, actually occur as a result of cumulative effects (ESA 1980, Farrington and Savina 1977). Scouring of the channel and adjacent areas can result from increased runoff in watersheds that have been over-cut (DWR 1982). The worst case scenario is when debris flows emanate from failed roads or landslides on clear cut areas, enter streams and cause additional streamside landslides further downstream (Hagans et al. 1986, Kojan 1976, LaVern and Lahre 1977). Stream beds have been buried 15-30 feet deep in sediment and riparian zones, following such an event, take many decades to recover (Lisle 1981).

Steep streamside zones in northwestern California are extremely prone to mass wasting and most material lost from the slope is contributed directly to the stream (Farrington and Savina 1977). Six Rivers National Forest now has a "no entry" policy in these areas to protect streams and fish. We recommend similar restrictions on private timber lands if slope of the inner gorge is over 65%. Only selective cut cable logging should be allowed in inner gorge areas of lesser slope with a maximum of 50 % removal of trees over 24" in diameter over any 10 year period. Any timber harvest in inner gorges should be subject to very close oversight of CDF, CDFG, and SWRCB. No permanent roads or landings should be allowed in inner gorge areas and all disturbances should be stabilized in these zones of riparian influence.

Activities on Unstable Soil Types

The north coast of California has some of the most unstable geologic terrain in the world (Jordan and Ritter 1964, Kelsey 1980). The catastrophic impacts of harvesting timber without regard to soil instability are well documented (Janda et al. 1975, MacCleery 1974). We believe the California Department of Forestry was in error for not fully integrating the findings of the California Department of Water Resources study: Watershed Management for Erodible Areas in Northern Coastal California (1982). We recommend that the Board direct staff to review the document and implement suggested changes to prevent erosion on unstable soil types by codifying them in the rules. Recognizing unstable soil types and acting in accordance with erosion risk is essential if we are to end the catastrophic loss of soils in our region and the attendant loss of fish stocks.

Roads

Studies have found that road failures can contribute 50-80% of the sediment that enters streams during flood events (Hagans et al 1986). Studies from Oregon indicate that landslide rates associated with roads may be increased from 30 to 300 times those of undisturbed forest slopes (Sidle et al. 1985). Furniss, Roelofs, and Yee authored a chapter entitled Road Construction and Maintenance in a recent AFS publication: Influences of Forest and Range Management on Salmonid Fishes and Their Habitats (1991). We recommend that the Board integrate the information in Furniss et al (1991) into rules in clearly stated language to minimize risk of erosion associated with road building.

The most troubling omission from the current rules draft is the lack of a comprehensive program for road maintenance or abandonment. Mass soil movements triggered by roads can occur decades after the roads are built (Furniss et al. 1991, Frissell and Liss 1986). During field tours of cut-over private lands, our members commonly see many old roads and landings with large cracks or scarps indicating incipient failure. The soil loss from mass wasting due to road failure in the event of another flood could be catastrophic. The highly compacted surface of old roads and landings are also severely impaired with respect to their silvicultural productivity. Future logging operations should minimize roads constructed. All roads that are to remain in use should have rigorous maintenance standards. There is a very pressing need to put all abandoned logging roads "to bed".

Cumulative Effects

We recommend that watersheds need complete inventories and basin assessments combining past, present, and future land use. These maps must include soil types, geologic information, fisheries and wildlife, and other pertinent information. Timber harvest needs to be limited to prevent increases in run off associated with soil compaction and vegetation removal which increases the recurrence intervals of flows damaging to the stream channel (DWR 1982).

The past decade of accelerated timber harvest has left a legacy of extreme erosion risk in numerous north coast watersheds. If we are to truly recover fisheries resources, restoration plans will also have to be formulated in cooperation with CDF and private land holders which address major sediment sources, non-compliant roads and landings, and impacted streams. The erosion risks must be ranked by urgency to potential loss of aquatic habitats. Continuing entry in impacted watersheds should require off-site mitigation to decrease erosion risk in the basins.

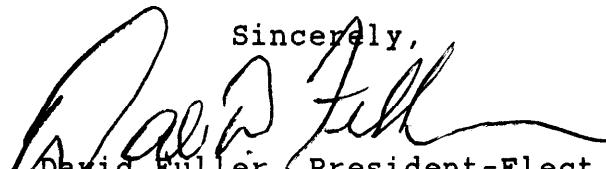
The Need For More Clear and Concise Rule Language

Our members had great difficulty commenting on the sections of the draft rules currently under consideration. Definitions are muddled, the purpose of many passages are unclear, and the document as a whole is fundamentally flawed. The way the rules are written discourages public participation and, we would think, makes the rules of limited utility as a working document for foresters. We suggest that the Board needs to step back and take a fresh look at the rule making process. We concur with the findings of LSA (1991) that the language of the rules is often crafted in deference to industry interest to allow flexibility. We feel that the timber industry in the last decade has abridged trust and taken advantage of loopholes leading to the current crisis.

If we are to control erosion and prevent the mass extinction of salmon and steelhead stocks in northwestern California, CDF needs to use the best scientific information available to craft clear and concise rules. Our members can help in this process, if our input is valued. We feel that, if they accept the challenge, professional foresters can help solve erosion problems while continuing to maintain a viable forest products industry in northwestern California. To truly accomplish this, private timber land managers must fully commit to erosion control and prevention on their land.

Erosion control and prevention could also be a major source of jobs for displaced timber workers and CDF should begin to explore means to fund such efforts. Stabilizing watersheds can save valuable soil, restore silvicultural productivity, and lead to revival of salmon and steelhead stocks. If we fail to take immediate action, wide spread loss of stocks will occur. If cooperation is not forthcoming, protection of many of the stocks at risk may could be sought under the Endangered

Species Act. Involving layers of state and federal bureaucracy, triggered by formal listing, may not bring the best solution to recovering stocks while minimizing impacts on local communities and 1 and owners.

Sincerely,

David Fuller, President-Elect
Humboldt Chapter of the American Fisheries Society

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