

M e m o r a n d u m

MATTOLE DOCUMENT #9

Date : June 13, 1990

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California Department of Forestry
and Fire Protection
Region I
P.O. Box 670
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From: Dept. of Fish and Game - Region 1
601 Locust Street, Redding 96001

Subject: Department of Fish and Game Concerns Over Cumulative
Adverse Impacts to Fishery Resources in the Mattole River
Drainage

The Department of Fish and Game (DFG) has recently completed an analysis of available data regarding anadromous fish stocks and habitat conditions in the Mattole River watershed. We have found that fish populations in the drainage are severely depressed because the carrying capacity of the habitat has been seriously degraded. This degradation is most likely due to cumulative adverse impacts caused by a variety of land use practices. These include timber operations, residential development, private road construction, agricultural operations and others. Natural events such as large wildfires and flood events have no doubt also played a major role. The primary impacts to the fishery has resulted from sedimentation problems caused by erosion in this sensitive watershed, loss of large woody debris for instream cover and increased summer water temperatures due to removal of protective streamside shade canopy.

Based on our analysis and first hand knowledge of the area, the Mattole River drainage appears to be severely impacted. Many of its tributaries have sediment in storage and continue to erode due to land management practices and natural processes. In some areas, there is evidence of siltation of spawning gravels as well as in-filling of pools and streambed aggradation. Water temperatures are warm due to the absence of, or a significant reduction in, shade canopy. Water flow over silted gravels which absorb solar radiation also contributes to the problem. The lack of large woody debris stream results in fewer plunge pool habitats for supporting fish during low flow periods. Domestic water use appears to be responsible for decreasing flows in some tributaries. Some streams still contain moderate migration barriers occasionally preventing fish from reaching suitable habitat upstream. Many streams that now support steelhead, which can tolerate warmer water temperatures, would and should be supporting salmon except for the above conditions.

Coho salmon are the most habitat-limited species in the Mattole. They require cool ponds scoured by water flow over woody debris or rock outcrops. Because much of this habitat has been lost in the lower reaches of the Mattole, most of the remaining coho population exists in the headwaters and its tributaries as well as Mill Creek near Petrolia.

studies of the Mattole estuary are being conducted as part of a cooperative research effort between the United States Bureau of Land Management and Humboldt State University which began in 1984 and will continue until 1991. Preliminary evaluation of this data indicates that the estuary habitat is severely limited for over-summering chinook in the coastal lagoon. Lower Mattole water temperatures are too warm to provide refuge for chinook or coho, and pool habitat is limited. These conditions add to the overall inability of fish to survive in the Mattole system.

Salmon spawning counts are made by the Mattole Watershed Salmon Support Group (MWSSG) in conjunction with Coastal Headwaters Association personnel, often with DFG administered funds. The data consists of actual fish counts which are reflective of population trends.

The Mattole adult chinook and coho escapement data as presented by the MWSSG for the period of 1981-1989 is as follows: (Klamath river fall-run chinook escapement are included for comparison).

Year	Mattole R i v e r		Klamath River
	Chinook	Coho	Chinook
1981	3,000.	500	77,300
1982	1,800	600	65,000
1983	1,200	240	56,800
1984	1,000	350	45,600
1985	600	300	63,400
1986	800	275	192,400
1987	1,500	1,000	204,100
1988	600	275	186,200
1989	150	50	122,500

Clearly a decline is evident for Mattole stocks over the decade when compared to the Klamath River stocks.

The lack of increase in Mattole stocks indicates the fishery is not responding to reduced harvest quotas in the ocean fishery like the Klamath stocks did. This and other information leads us to conclude that present degraded habitat conditions in the Mattole are a critical key factor causing decline in the fish population.

We recommend that when reviewing timber harvest plans (THPs), including those currently in the review process, all of the reviewing agencies should be looking for the maximum protection possible to avoid any erosion resulting in subsequent

sedimentation of streams, loss of any existing large woody debris (including potential sources for recruitment) for instream cover and any increased water temperatures. We also recommend that THP submitters be requested to provide plans for eliminating or significantly decreasing existing erosion and discharge of sediment from areas occurring both within the THP area or site. Such action would help offset sediment discharge that is normally expected to come off a THP site even when all of the available best management practices are in place and presumably implemented on the ground.

In the THP review process, we recommend an overall objective which achieves at the very least a net zero discharge of sediment to watercourses, retention of existing large woody debris (including potential sources for recruitment) and no further increases in summer water temperatures within the Mattole system.

The DFG believes these extraordinary measures are now necessary because it appears the anadromous fishery resource dependent on the Mattole River watershed is very sensitive to further degradation. The legislature has directed us by specific mandate (SB2261) to double existing anadromous fishery resources within this State by the year 2000. Maintaining and ultimately restoring the Mattole River watershed for that purpose is crucial for achieving that goal.

This approach must be a cooperative effort among all of the various federal, state and local agencies, private landowners and the public interest groups, all of which stand to benefit from the protection and restoration of the Mattole watershed. To this end we will be contacting other agencies and interested parties in the near future to begin recommending a similar protective approach as an integral part of their regulatory or management activities.

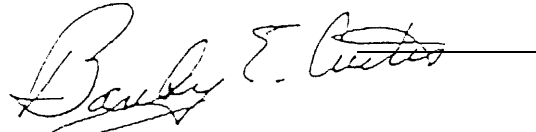
The position we have taken here regarding impacts to the Mattole River watershed and the condition of the fishery is based on the best available information we have at this time. We will further analyze and refine our position as additional and more current information becomes available concerning this drainage.

Mr William Imboden

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If you have any questions regarding these comments, please contact me directly at ATSS 442-2363 or Gary Stacey of my staff at ATSS 442-2371.



Banky E. Curtis
Regional Manager

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