

To: NCRWOCB Staff 5/10/2001

Robert Wunner
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1) I am a biologist and have worked on fishery and watershed restoration projects on Jacoby Creek since 1977. In this period I have had similar work on other Northcoast watersheds; also I have worked as a botanical consultant in the San Joaquin Valley, Mojave Desert, and the Territory of Guam. I have a BS. Degree in Wildlife Management, a MA. in Biology from Humboldt State College, and have done additional graduate studies at the U. of Montana and the U. of Kansas.

The experience of the following projects are pertinent to my comments.

1977 Project Director--Jacoby Creek Watershed Study. Survey of soil, water quality and salmon and steelhead resources of the Jacoby Creek watershed. Sponsored by Humboldt State University Center For Community Development and Jacoby Creek Canyon Community.

1979 Project Director--Airstrip Creek Rehabilitation Project. Watershed restoration Redwood National Park.

1979 Investigator--Trinity River Restoration. Surveyed salmon and steelhead fisheries habitat restoration needs of the Trinity River Watershed for Humboldt Co.

1981 Project Director--South Fork Trinity River Fisheries Assistance Team. Surveyed and delineated problem areas on the Grouse Creek watershed and outlined needs for action throughout the South Fork Trinity watershed

1983-1989 Project Supervisor, Redwood Community Action Agency. Erosion control and riparian revegetation restoration on McDonald, Little Larabee and Jacoby Creeks. Projects funded by CA Dept. of Fish and Game, Fish and Wildlife Conservation Board, CA Div. of Forestry, CA Coastal Conservancy.

1987. Researcher. Monitoring Study of LSA Eelgrass transplant project , Humboldt Bay.

1988-89. Lathyrus biflorus Field Search. Challenge Cost Share. CNPS & Six Rivers NF.

1988 Effect of deer browsing and feral pig rooting on streamside vegetation on Bull Creek, Humboldt Redwoods State Park

1989. Project Director, Twin Parks Lumber Company. Jacoby Creek Blue Slide. Designed and coordinated project using heavy equipment and revegetation to reduce erosion from a road (and RR) activated slide. Funded by CA Dept. of Fish and Game.

1990. Rare and Sensitive Plants, and Plant Communities Lassics Botanical Area.
Challenge Cost Share CNPS & Six Rivers NF.

1991 Botanical Survey Rare and Endangered Plants Mojave Desert, to southwest San
Joaquin Valley. Biosystems, Inc.

1991 Dock Hand. UNOCAL Humboldt Bay. Monitored off-loading of gasoline from
tankers

1992. Timber Harvest Assessment Consultant. Coastal Headwaters Assoc.

1992. Botanist. Wetlands Delineation, Guam. Winzler & Kelly

1992-94. Botanical Inventory & Consultant. Sanctuary Forest Land Trust.

1993. Consultant. Biological Management Plan: Weston Ranch, S. Fk Eel River.

1993. Notes on Vascular Plants of High Plateau & Long Ridge, Del Norte County, CA.
Challenge Cost Share, Six Rivers NF.

1991. Project Director, Twin Parks Lumber Company. Jacoby Creek N. Fk. restoration.
Designed and coordinated project using heavy equipment to remove a log landing
(3000 cubic yards) built over the stream channel, revegetated with native plants from
the surrounding area. Funded by CA Dept. of Fish and Game.

1994. Consultant. Riparian Forest Vegetation of the Lower Eel River. Eel River
Resource Conservation District.

1997. Consultant. Biol. Characteristics Moore Ranch, Kneeland Prairie

1997-98. Consultant. A Significant Natural Area Conservation Strategy for Jacoby
Creek Land Trust. funded by CA Coastal Conservancy.

I have written: "The Jacoby Creek Watershed Study," "Jacoby Creek Past, Present and
Future", "Long Term Improvement of the Jacoby Creek Watershed," and "A
Conservation Strategy for the Jacoby Creek Watershed"

I have served on the City of Arcata Forest Advisory Committee,
Arcata Parks and Recreation Commission, and the Humboldt County Dunes Advisory
Committee. I was a founding member of the Jacoby Creek Land Trust.
I am presently a member of the Arcata Open Space Committee.

2) I documented the loss of fish habitat caused by culverts blocking fish migration
along the Jacoby Creek Road.

3) I conducted a study of salmonid fish habitat which showed that salmonid populations were limited by the shallowness of pools which made juvenile fish vulnerable to predation. The result of shallower pools is that fish habitat and dependent fish populations and biological diversity are reduced.

4) I observed and documented the sedimentation of pools along Jacoby Creek. Pools were shallower in recent times based on old-time accounts. Sedimentation was related to the following factors--documented by Pillsbury, NH. (1972), and Tuttle and Dickert, (1987):

The incidence of surface debris slides as measured from aerial photographs has more than doubled between 1941 and 1978, with 3 times more slides associated with roads than with unroaded sites.

Over 60% of the upper headwaters was clearcut prior to the 1973 revision of the California Forest Practices Act, resulting in severe soil and stream channel disturbances.

A five-fold increase in residential development occurred between 1970 and 1978.

5) Large plugs of sediment are moved down Jacoby Creek during major storm events. These sediments, besides affecting instream habitat described in paragraphs 3 and 4 above, degrade wetland habitat in Humboldt Bay. The sediments form a delta. The development of lobes of the delta can be seen on aerial photographs. The lobes are composed of coarse materials (Thompson, R.W., 1971) carried downstream by rainy season runoff and spread on an out wash fan; the lobes correspond with the 1955, 1972 and 1975 storms (Tuttle and Dickert, 1986). In the delta area the raised elevations are subject to less tidal inundation and thus have a different biota. When sediment rise above a certain tidal elevation they become vegetated with creates a more terrestrial ecosystem. The delta extending beyond the established marsh has been shown (Tuttle and Dickert, 1986) to have grown by 18 acres, of which nearly 8 acres have become vegetated.

6) I have concerns of cumulative impacts to wetlands also because sediment yield from housing and road construction are not considered with sediment yield from past and present timber harvest and other activities

7) As almost all residents of the Jacoby Creek watershed use septic tanks, I am concerned about Nitrogen pollution of the creek, Humboldt Bay and the near shore waters of the Pacific Ocean from leaking or overfull septic tanks, including the so-called Wisconsin Mounds (employed so low land soils sites, that will not pass the Perc test, can be developed). Nitrogen is known to be of paramount importance in both causing and controlling marine eutrophication. Nutrient over-enrichment is a significant problem for U.S. coastal regions. Abundance of Nitrogen has been demonstrated to lead to the loss of seagrass beds, changes in marine biodiversity and distribution of species, depletion of dissolved oxygen, and associated die-off of marine life. A Nationwide Strategy to address nutrient over-enrichment has been formulated. This strategy strives to protect coastal waters. A goal is to ensure that no "healthy" coastal areas develop symptoms related to nutrient over-

enrichment to 2020. Recognizing Jacoby Creek as an impaired watershed would raise awareness to address this concern.

8) I am concerned that herbicide and petrochemical poison groundwater plumes runoff into Jacoby Creek and Humboldt Bay from the Bayside Golf Course and Rogers Garage.

Robert Wunner

References:

Murray, A. G. and R.C. Wunner, 1980. A Study of the Jacoby Creek Watershed. 84 p. Report on File at HSU Library.

Pillsbury, N.H. 1972. Sediment Transport and Stream Flow Characteristics for Jacoby Creek California. MA Humboldt State University, Arcata, California.

Thompson, R.W. 1971. Recent Sediments of Humboldt Bay, Eureka California. Final Report PRF #789-G2. Humboldt State University, Arcata, California. School of Natural Resources. 62 p

Tuttle, A.E. 1985, Cumulative Impacts Assessment in Coastal Wetland Watersheds: Jacoby Creek, Humboldt County, CA. Ph.D. thesis. UC Berkeley

Tuttle, A.E. and T.G. Dickert. 1987. Assessing Cumulative Impacts in Wetland Watersheds. Coastal Zone 87. Seattle. Soc. of American Engineers. Pg. 1760-1774