ONCORHYNCHUS KISUTCH AND A THREATENED ECOSYSTEM: THE DISAPPEARANCE OF COHO SALMON IN SANTA CRUZ COUNTY, CALIFORNIA

by

ERIK SCHMIDT

B.A., University of California, San Diego, 1985

A thesis submitted to the

Faculty of the Graduate School of the

University of Colorado in partial fulfillment

of the requirements for the degree of

Master of Arts

Department of Political Science

December 1994

Schmidt, Erik (M.A., Political Science)

Oncorhynchus Kisutch and a Threatened Ecosystem: The Disappearance of Coho Salmon in Santa Cruz County, California

Thesis directed by Professor J. Samuel Fitch and Assistant Professor Charles F. Lester

Due to rapidly failing populations along the West Coast, coho salmon are likely to be proposed for listing shortly as a threatened and/or endangered species under the federal Endangered Species Act. Numerous studies have shown that coho are being driven toward extinction by multiple causes which, cumulatively, are degrading and destroying habitat and overwhelming reproductive capabilities of the once-abundant fish. These causes are primarily anthropogenic in origin, but are exacerbated by adverse natural conditions.

Santa Cruz County, where coho that have historically spawned in a number of creeks and rivers are now highly imperiled, will be included in the scope of the proposed listing. Other species that depend on freshwater habitats in the area's coastal stream ecosystems are also in trouble or are likely to be in the future. With the effects of this potentially powerful law on the horizon — particularly time- and money-consuming legal wrangling and divisive rhetoric about jobs versus fish and other creatures — a window of opportunity for local resource managers exists. City, state, federal and private decision-makers in fields of water use, river and flood management, artificial fish propagation, and land-use planning need to take belated proactive action to restore coho habitat and protect the county's ecologically and aesthetically valuable stream systems.

A comprehensive strategy that addresses all the important causes of coho population declines should include regulatory and non-regulatory components. The threat of litigation — which is supported by a solid legal foundation for reversing current policies — will probably be necessary, but hopefully, negotiation and

cooperation can be successfully employed to improve conditions for the entire coastal stream ecosystem. Education of the local populace and citizen involvement is also crucial.

Most experts believe that there is still a possibility Santa Cruz County stocks of coho can be conserved for the future. This will only be possible if the multiple causes behind the fish's decline are addressed. To achieve this goal, policy makers and citizens alike must make a concerted effort to adapt policies and practices large and small to the needs of natural systems rather than simply our own demands.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to Professor Charles Lester, who made this thesis possible with his enthusiastic support of my research position in Santa Cruz, California, during 1994, and whose efforts as my thesis committee chairman helped improve the final product greatly. Many thanks also to my advisor in the public policy program, Professor Sam Fitch, whose thorough teaching and concern for his students has helped me to reach this point, and to Professors Dennis Eckart and Ron Brunner, whose instruction has sharpened my vision. I am further indebted to Professor Russell Hayes and Mr. Les Strnad of the California Coastal Commission, both of whom very kindly agreed to be part of my thesis committee.

To my cousin Jim Bierman, whose friendship, caring and generosity will be a part of my life always, I cannot possibly express sufficient thanks and appreciation. Our long and frequent conversations were the basis and inspiration for this thesis and much more. I can only hope to someday have the opportunity to pass his gifts along to another young person in need of a hand, and that equal good will come of it.

Most of all, there would be nothing without Annie, who believed in me for so long, and whose encouragement led me down such a meaningful path. Her compassion and patience are behind everything that is written here.

Statement of Acknowledgement

This paper is funded in part by a grant from the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, under grant number NA36RG0537, project number R/MA-35, through the California Sea Grant College. The views expressed herein are those of the author and do not necessarily reflect the views of NOAA or any of its sub-agencies. The U.S. Government is authorized to reproduce and distribute for governmental purposes.