

Pacific Whiting: The Resource, the Industry, and a Management History

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Introduction

Pacific whiting, *Merluccius productus*, also referred to as North Pacific whiting (Federal Register, 1979) and Pacific hake (Robins et al., 1980), is a codlike species which is a major component of the groundfish community off the coasts of California, Oregon, Washington, and British Columbia. The species is most abundant in coastal waters during the summer when large feeding aggregations occur in depths of 30-300 fathoms. Summer surveys by U.S. and U.S.S.R. researchers have provided biomass estimates ranging from 445,000 to 3,440,000 t.

The fishery 25 years ago was characterized by domestic trawlers delivering relatively small quantities of whiting and other low-valued species to shore plants producing meal and animal foods. It has evolved to become dominated by joint-venture and foreign mothership fleets processing large catches at sea for meal and human consumption. Commercial catches have ranged from about 68,000 to 237,000 t annually since 1967. These fisheries operated under management by state and federal agencies in the past and are now managed by the Pacific Fishery Management Council and Canada Department of Fisheries and Oceans.

Early research centered around the species' biology, behavior, and population size as well as the technical aspects of harvesting. Some of the U.S. work was included in the Circular entitled "Pacific Hake" by the Bureau of Commercial Fisheries (1970). As a fledgling U.S. fleet was employing new technology and bringing Pacific whiting to new meal and fish protein concentrate plants in the

mid-1960's, a large Soviet mothership fleet began operating off Washington and Oregon. Catches increased rapidly and the need increased for scientific information on the effects of fishing on the resource.

The demand for resource information, population dynamics studies, processing and preservation research, and management modeling escalated rapidly between 1977 and 1982 as the United States and Canada extended their fishery jurisdictions and developed comprehensive management plans for the Pacific whiting and other groundfishes. The Technical Subcommittee (TSC) of the U.S.-Canada Groundfish Committee convened a meeting of scientists engaged in whiting research in January 1982 to review the state of our knowledge and to consider practical approaches to joint U.S.-Canada fishery management. Recommendations from this group spawned several cooperative studies which included the taxonomy, pathology, and industrial implications of certain whiting parasites; the comparison and refinement of U.S. and Canadian survey methods as a prelude to implementing joint resource assessments; and the development of a model to guide joint management of the resource. The meeting also exposed an array of recent research important to the whiting industry, whiting research, and management.

This compilation of papers in the *Marine Fisheries Review* provides convenient access to information on the Pacific whiting resource and fisheries. These papers review the fisheries, describe Pacific whiting biology, discuss environmental influence on year-class size, examine predator-prey relationships, and summarize harvesting technology. They

also examine processing and preservation methods, parasitism and its effects on product quality, the economics of the U.S. industry, and conclude with results of stock assessment surveys and management modeling studies. Primary emphasis is on the offshore whiting stock but overviews of the Puget Sound-Strait of Georgia stocks are included. Some information has been generalized, but the literature cited provides a comprehensive bibliography for the reader seeking further detail. I hope that these papers will help to define the "state of our knowledge" and facilitate the definition of appropriate future studies needed to improve our understanding of species biology and population dynamics. We may thus increase management effectiveness and enhance the economics of harvesting, processing, and marketing this resource.

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Literature Cited

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