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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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TO: Dayton L. Alverson, Center Director, NWAFC, F11
THRU: *Murray L. Hayes* Murray L. Hayes, Division Director, RACE, NWAFC, F111
FROM: *Steven Hughes* Steven Hughes, Leader, Latent Resources Task, RACE, NWAFC, F111
SUBJECT: Summary of Bering Sea Survey results for North Pacific Fishery Management Council meeting, August 1977

The joint industry/NMFS/State of Alaska survey of subtidal clam resources in the S.E. Bering Sea was completed August 10, 1977. The complex study involved participation and/or funding by four industry groups, National Marine Fisheries Service, Alaska Department of Commerce, and the U.S. Food and Drug Administration. Steve Hughes (NWAFC, RACE Division) was Chief Scientist for the joint venture. The 32-day survey was conducted from the 96' F/V Smaragd captained by Eagle Ellingson.

Primary objectives were assessment of subtidal clam resources within a pre-determined survey region (target species Spisula polynyma), biological studies to determine population parameters, tests for paralytic shellfish poisoning (PSP), tests for bacteria counts, evaluation of clam product quality, and investigation of environmental impacts of an hydraulic dredge in the benthic environment.

The gear employed was a 12,000-lb. east coast style hydraulic clam dredge 7 feet wide and 18 feet long. The fishing width (knife width) was 3 feet.

Two hundred and thirty tows were completed during the survey. Forty five tows completed in the offshore survey areas of the S.E. Bering Sea indicated extremely low abundance of any clam species. The remaining 185 tows were completed along the Alaska Peninsula. A large concentration of Alaska surf clams (Spisula polynyma) was encountered in this region ^{and} delineated over a 1,000+ square mile region. Small amounts of four other clam species were obtained periodically within this region. They were the cockles Serripes laperasii, Serripes greenlandicus, the razor clam Siliqua alba, and the Alaskan tellin Tellina lutea. Several other species were obtained only occasionally and are pending identification.

Biological data was collected from many thousands of clams and will provide a wealth of information on life history and population dynamics. About 125 clam samples representative of the survey area were retained for PSP and microbiological tests. The micro tests were completed at sea aboard the



NOAA R/V Discoverer and indicated very low total bacteria counts. About one third of the PSP samples have been tested and no indication of PSP detected to date. Evaluation of general clam quality has been favorable. Complete tests of product quality will be undertaken following favorable completion of the PSP tests. NMFS scientists aboard the R/V Discoverer using the remote underwater camera system (RUFAS) worked with the F/V Smaragd and photographed the seabed in an area where clamming was conducted. An excellent set of photographs and video coverage were obtained for evaluation of impacts.

The data analysis is underway and no detailed results or projections can be given at present. Better catches of surf clams along the Peninsula ranged from 200-400 lbs. in 10-minute tows. Extrapolations of these catch rates to a commercial-sized dredge with a 10-ft. knife would range from 50 to 100 80-lb. bushels per hour. Surf clam catch rates in the Atlantic fishery which exceed 30-80 lb. bushel per hour are considered good.

Results of the surf clam assessment data should be completed in about 60 days.