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# Opilio Crab Research Project Aims to Determine Discard Mortality Under Rationalization

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Federal fisheries biologists and the crab industry are cooperating in a research project to determine whether improved methods of handling in the opilio crab fishery are reducing mortality among discarded sub-legal male and female crab.

The research is being conducted during the current opilio season aboard three vessels, each with somewhat different methods of harvesting and sorting the crab onboard, said Earl Krygier, cooperative research coordinator for the Marine Conservation Alliance Foundation in Juneau.

"We believe that the kind of handling (under the federal crab rationalization program introduced several years ago) is much less obtrusive than it used to be," Krygier said. "If our supposition is correct, the handling mortality under the new fishing regime is more rational and less impactive," Krygier said in an interview Jan. 8.

Before the fishery was rationalized, fishery managers assumed that 50 percent of the millions of pounds of discarded crab died, and that figure is still used in setting quotas. Proponents of crab rationalization say that mortality has decreased under rationalization.

Krygier and others cooperating in the project, including the Alaska Crab Coalition, feel that hydraulic sorting tables and new water discard chutes now in place on some crab boats are decreasing the mortality rate of discarded crab, he said. If their research convinces the crab plan team and subsequently the North Pacific Fishery Management Council, the result could be a larger harvest allocation for the crab fleet.

Decisions on the allowable harvest stem from a summer survey to estimate the biomass of crab and calculate the approximate number of legal male opilio. The total allowable catch is then determined, the estimated mortality from the previous year is subtracted, and the actual total allowable catch then announced.

The North Pacific Research Board is funding the research, in cooperation with National Marine Fisheries Service, the Alaska Department of Fish and Game, the Alaska Crab Coalition and others.

“We will present this information to the crab plan team this spring and provide them with the information. The crab plan team will decide how to incorporate it,” he said.

Krygier identified the vessels as the Arctic Sea, owned by Coastal Villages Region Fund, a community development quota group from Western Alaska; the Southern Wind, owned by Trident Seafoods, and the Arctic Hunter, a smaller vessel owned by Jim Stone of Washington State.

“They are catching the fish in a commercial fishery, sorting the ones they want to keep and discarding the females and undersized males,” he said. “Each boat is a little different in how they do things. We wanted to find a cross-section, so that our results would be representatives of the fleet.

“It is a statistical sample of the discards to give an estimate of what the actual mortality will be,” Krygier said. “All of the crab biologists said this is a good test.”

The research aboard the three crab vessels comes on the heels of earlier baseline cruise studies in which NMFS tested what they call RAMP - reflex action mortality predictor – among opilio crab harvested in surveys and destined for discard.

NMFS checked the reflex activity on these crab to being handled in certain ways to predict their likelihood of survival, then tagged them to be held for two to three weeks to see how accurate their calculations were. They found a wonderful correlation between the scores on six reflex responses and whether they lived or died, Krygier said.