



P.O. Box 20676 Juneau, Alaska 99802
(907) 523-0731 Office (206) 260-3639 Fax

www.mcafoundation.org

**North Pacific Research Board: Semiannual Progress Reports
for July 1 to December 31, 2007**

Project #: 711

Title: Quantification of unobserved injury and mortality of Bering Sea crabs due to encounters with trawls on the seafloor

Principal Investigator(s) and Recipient Organization(s): *John Gauvin* Marine Conservation Alliance Foundation (gauvin@seanet.com);

Contract Period and Amount of Funding: **Start date:** Jun 01, 2007 **End date:** May 31, 2009;
NPRB funding = \$10,000

Report Period: July 1 to December 31, 2007

Report Date: January 14, 2008

Lead Author of Report: John Gauvin (principal investigator)

Project Summary: The potential for unobserved mortality of crabs encountering bottom trawls, but not brought aboard the fishing vessel, has long influenced the management of Bering Sea groundfish fisheries. Our research will address the lack of data on the mortality rates of such crabs for at least two principal commercial crab species of the Bering Sea, red king crab and either Tanner crab or snow crab. We will apply and improve existing methods for collecting crabs immediately after trawl encounters (Rose 1999). Assessments of reflex impairment will be used to more efficiently estimate delayer mortality rates with reduced requirements for long-term holding (Davis 2006). This proposal leverages pilot funding from the NMFS cooperative research program. Pilot fieldwork in early Summer 2007 will establish recapture net designs and handling, as well as procedures for holding crabs onboard. Reflex and reflex impairment observations of captive animals at the Kodiak NMFS laboratory will provide information needed for field assessments of crab condition. The principal fieldwork in Summer 2008 will combine these developments to assess the mortality probabilities of crabs that have passed the sweeps, wings and central footrope of a commercial groundfish trawl as well as control animals collected identically without trawl encounters. Mortality estimates will be derived by combining condition assessments based on reflex impairments with the delayed mortality rates of retained animals.

Progress Summary: No activity this reporting period.