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LINKING SPORTFISHING TRIP ATTRIBUTES, PARTICIPATION DECISIONS, AND REGIONAL ECONOMIC IMPACTS IN LOWER AND CENTRAL COOK INLET, ALASKA

by

CHARLES HAMEL
North Pacific Fishery Management Council
Anchorage, AK 99501-2252

MARK HERRMANN
Department of Economics
University of Alaska Fairbanks
Fairbanks, AK 99775-6080

S. TODD LEE
National Marine Fisheries Service
Alaska Fishery Science Center
7600 Sand Point Way NE, Bldg 4
Seattle, WA 98115

KEITH R. CRIDDLE
Department of Economics
Utah State University
3530 Old Main Hill
Logan, UT 84322-3530

HANS T. GEIER
Department of Natural Resource Management
University of Alaska Fairbanks
Fairbanks, AK 99775-7580

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ABSTRACT

Forecasts of the regional economic impacts of changes in the demand for recreation occasioned by regulatory changes, changes in the quality of the recreation experience, or changes in average trip costs require a model that links changes in these trip attributes to individual participation decisions and population participation rates. The probability that an individual will take a particular recreational trip is described using a nonlinear random effects probit model based on variable trip attributes and individual economic and demographic characteristics. These conditional individual probabilities are transformed into predictions of changes in total recreation demand using a simulation-based sample enumeration method. The regional impacts associated with ensuing changes in primary and secondary expenditure patterns are elucidated with a stand-alone recreation-sector module linked to a regionally adjusted zip code-level input-output model. Because the participation model allows for nonconstant marginal utility, primary and secondary impacts exhibit nonlinear responses to variations in trip attributes. The modeling approach is demonstrated in an application to the saltwater sport fisheries for Pacific halibut and salmon in Lower and Central Cook Inlet, Alaska.