Sea Ducks and the *Exxon Valdez* Oil Spill

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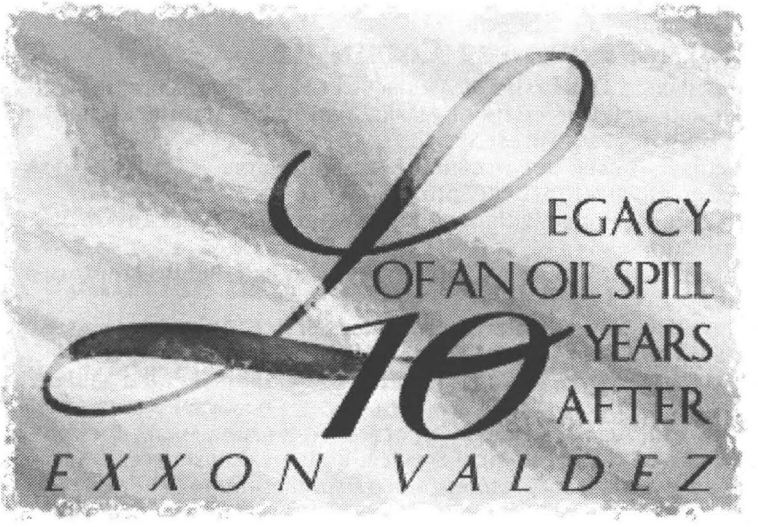
We summarize information gathered during the 10 years post-spill addressing injury and recovery of sea ducks.

Early studies described injury to harlequin duck populations including direct mortality, numerical declines, and occurrence of hydrocarbons in harlequins and their prey. Recent studies have tracked the progress and process of recovery. Based on ADFG surveys during 1995 to 1997, trends in abundance and population structure in Prince William Sound (PWS) were compared between oiled and unoiled areas. No consistent differences in population structure were detected. However, a negative trend in harlequin abundance in western PWS contrasted with a positive trend in eastern PWS, suggesting continued constraints to recovery of harlequin populations. As part of the Nearshore Vertebrate Predator (NVP) project, assessments of mechanisms constraining recovery have occurred since 1995. Prey abundance and general health parameters (blood chemistry and body mass) were similar at oiled and unoiled sites. However, levels of P4501A were elevated in harlequin ducks in oiled areas. Also, adult female survival during winter was 10% lower in oiled areas, which is estimated to result in population declines, consistent with findings of ADFG surveys. High levels of molt and winter site fidelity result in further demographic constraint to recovery.

Several lines of evidence suggest potential injury and constraints to recovery of Barrow's goldeneye populations, including elevated levels of P4501A, hydrocarbons in prey, and divergent population trends between oiled and unoiled areas.

Finally, studies of life history and ecology of surf scoters recently have been initiated, combining traditional ecological knowledge with satellite telemetry.



Abstracts

Legacy of an Oil Spill—
10 Years After *Exxon Valdez*

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