Recovery Monitoring of Harlequin Ducks in Prince William Sound, Alaska

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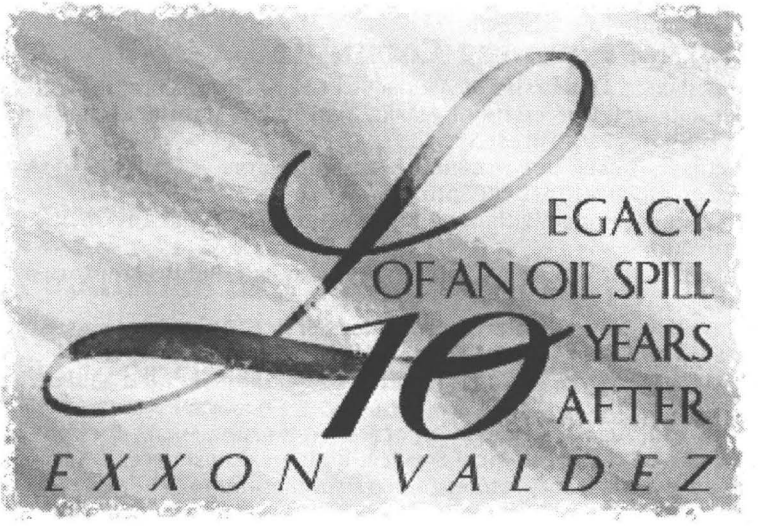
The purpose of this study was to determine the extent of recovery of harlequin ducks *(Histrionicus histrionicus)* following the *Exxon Valdez* oil spill. We conducted boat surveys of harlequin ducks from 1995-1997 along oiled shorelines of western Prince William Sound and non-oiled shorelines in eastern Prince William Sound. We compared trends in abundance and population structure to determine if demographic constraints inhibited recovery. Spring surveys were timed to monitor harlequin ducks during the breeding season, while fall surveys coincided with molting and brood rearing. A winter survey was also conducted in March 1997.

The number and composition of harlequin ducks in Prince William Sound (PWS) varied among survey periods because of seasonal movements by ducks. Numbers declined during spring as pairs moved from coastal to inland breeding areas. During the fall, numbers progressively increased as males, followed by females, returned to the coast to molt. The general pattern of seasonal movements was similar between regions, although we observed differences in the magnitude and timing of these movements. However, we detected no consistent differences in population structure between oiled and unoiled areas. Relatively little productivity occurs in PWS. We attribute this to few suitable breeding streams. We observed a total of 36 broods in eastern PWS and no broods in western PWS. Brood observations in PWS are a poor index of reproductive success as most breeding pairs depart PWS to nest. A negative trend in harlequin abundance in western PWS and a positive trend in eastern PWS suggests that harlequin numbers in oiled areas are declining. Although population structures are similar, harlequin ducks in western PWS have not recovered. Repeated winter surveys will provide a more accurate measure of population trends.



Abstracts

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March 23-26, 1999
Anchorage, Alaska, USA