DISTRIBUTION, ABUNDANCE AND COMPOSITION OF HARLEQUIN DUCKS IN PRINCE WILLIAM SOUND, ALASKA

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We conducted surveys of harlequin ducks (Histrionicus histrionicus) inhabiting oiled areas in western Prince William Sound (WPWS) and non-oiled areas in eastern PWS (EPWS) to compare trends in numbers and levels of productivity between locations. We used the number of breeding pairs, age and sex composition of the population, chronology of molt and the number of brood observations to determine whether similar demographic characteristics exist between locations. The number and composition of harlequin ducks in PWS varied among survey periods because of seasonal movements by ducks in and out of the study area. The general pattern of movements was similar between WPWS and EPWS. However, preliminary results suggest that differences in the magnitude and timing of these movements may represent differences between populations in their potential for growth. The lower proportion of paired females in WPWS coupled with a greater proportion of flightless females earlier in the fall indicates to us that female breeding propensity is lower in WPWS than EPWS. Males comprised a greater proportion of the WPWS population during spring and fall surveys suggesting lower survival rates of females in WPWS. Fourteen harlequin broods were observed in EPWS while no broods were observed in WPWS, however, similar proportions of subadult males in WPWS and EPWS indicates that recruitment also results from nesting

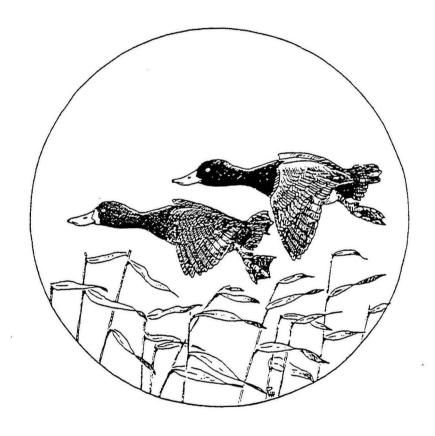
outside of PWS. Fewer breeding females, a higher proportion of males, and no observations of broods for the 3rd consecutive year lead us to conclude that productivity by harlequin ducks is lower in WPWS than EPWS. We cannot yet determine whether the disparity in breeding activity between WPWS and EPW'S is related to effects of oil contamination or habitat differences unrelated to the oil spill. Additional years of survey data will enable us to determine whether lower productivity by harlequin ducks in WPWS is responsible for declining harlequin numbers in that area.

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