

SHORT COMMUNICATIONS:

DO WINTERING HARLEQUIN DUCKS FORAGE NOCTURNALLY AT HIGH LATITUDES?

DANIEL J. RIZZOLO^{1,4}, DANIEL ESLER², DANIEL D. ROBY³ AND ROBERT L. JARVIS¹

¹*Department of Fisheries and Wildlife, Oregon State University, 104 Nash Hall, Corvallis, OR 97331*

²*Centre for Wildlife Ecology, Simon Fraser University, 5421 Robertson Road, Delta, BC V4K 3N2, Canada*

³*US Geological Survey, Oregon Cooperative Wildlife Research Unit, Department of Fisheries and Wildlife, Oregon State University, 104 Nash Hall, Corvallis, OR 97331*

Manuscript received 30 April 2004; accepted 15 November 2004.

⁴Present address: US Geological Survey, Alaska Science Center, 1011 East Tudor Road, Anchorage, AK 99503. E-mail: drizzolo@usgs.gov

Abstract. We monitored radio-tagged Harlequin Ducks (*Histrionicus histrionicus*) to determine whether nocturnal feeding was part of their foraging strategy during winter in south-central Alaska. Despite attributes of our study site (low ambient temperatures, harsh weather, short day length) and study species (small body size, high daytime foraging rates) that would be expected to favor nocturnal foraging, we found no evidence of nocturnal dive-feeding. Signals from eight radio-tagged Harlequin Ducks never exhibited signal loss due to diving during a total of 780 minutes of nocturnal monitoring. In contrast, the same eight birds exhibited signal loss during $62\% \pm 7\%$ (SE) of 5-minute diurnal monitoring periods (total of 365 minutes of monitoring). Our results suggest that Harlequin Ducks in south-central Alaska face a stringent time constraint on daytime foraging during midwinter. Harlequin Ducks wintering at high latitudes, therefore, may be particularly sensitive to factors that increase foraging requirements or decrease foraging efficiency.

Key words: Alaska, Harlequin Duck, *Histrionicus histrionicus*, nocturnal foraging, radio telemetry, time constraint, winter.