Longevity of Plastic Leg Bands on Black Oystercatchers in British Columbia

Stephanie L. Hazlitt
Department of Biological Sciences
Simon Fraser University
Bumaby, BC, V5A 1 S6, Canada
(Current Address: Bird Studies Canada, 5421 Robertson Road, Delta, BC, V4K 3N2, Canada)

ABSTRACT

A recent study of the Black Qystercatcher *(Haematopus bachman)* used alpha-numeric engraved plastic spiral leg bands to distinguish individuals from a distance. Results from this and other studies suggest that longevity of this type of band, when used on Black Oystercatchers in British Columbia is, limited to two or three years.

INTRODUCTION

With growing concern for global and regional biological diversity, there is increased interest in acquiring basic information about species' population trends. Long-term monitoring of local populations, through color-marked or individually marked adult birds, is an appropriate, generally modest method to collect demographic and breeding biology data.

Black Oystercatchers *(Haematopus bachman),* long-lived resident shorebirds, have been flagged as a high priority species for population monitoring and conservation, both nationally in Canada and regionally in British Columbia. Recent studies have used individual marking techniques to better understand the demography and breeding biology of this species (Falxa 1992, Andres 1996, Hazlitt 1999).

As with many species, trapping adult oystercatchers is difficult. Successful techniques have been used during the breeding season (Hazlitt 1999); however, the window of opportunity is short. Each adult oystercatcher trapping event requires a significant amount of time and effort compared to that needed for trapping other shorebird species; therefore, it is important that the marking technique or color leg bands used permit identification of individuals from a distance and have adequate longevity for long-term monitoring and population studies. A minimum band life of four years is desirable for population and demographic studies and increased longevity would be advantageous for long-term monitoring programs.

Research in the southern Gulf Islands, British Columbia, suggests that a commonly used material for marking individual birds, an alpha-numeric engraved plastic spiral or wrap-around leg band, is not sufficiently durable for long-term studies of adult Black Oystercatchers (Hazlitt 1999).

METHODS

Twenty-two adult Black Oystercatchers were color marked using spiral plastic bands engraved with alpha-numeric codes in 1996 (see illustration). These bands were constructed with a plastic acrylic outer layer and a plastic ABS core layer (Pro-Touch Engraving, SA, Canada).

RESULTS

Twenty-one of the twenty-two marked adults were sighted in 1997 and one of the color bands observed was broken. The outer spiral layer with the alpha-numeric engraving broke off, leaving the second solid color layer. During a single survey in 1998 (24 months after banding), fifteen marked birds were sighted with five of the plastic bands broken in this same fashion and two bands were missing completely,leaving only the metal USF&WS band.

DISCUSSION

The engraved plastic spiral or wrap-around leg bands used for this study had short longevity when used to mark adult Black Oystercatchers along the British Columbia coastline. Similar spiral plastic bands were used to mark adult Black Oystercatchers in a California study from 1988 to 1992, and the observations were comparable with lost bands recorded within two to three years and most bands lost by the fourth year (G. Falxa *pers. comm.).* Harlequin Ducks *(Histrionicus histrionicus)* have also been marked using these alpha-numeric engraved spiral plastic bands, but broken bands were less frequent with this species and most breakage occurred in the first year (G. Robertson *pers. comm.*).

Poor longevity of these plastic bands on Black Oystercatchers may be a result of the band materials and structure, the harsh rocky intertidal habitats frequented by this species, or the birds may use their bills to pry off the plastic bands. Plain spiral or wrap-around leg bands constructed of different materials, namely a single layer of darvic plastic, have lasted over six years on Black Oystercatchers in Laskeek Bay, Queen Charlotte Islands, and stood up well when used on adult American Oystercatchers *(Haematopus pallliatus)* (E. Nol *pers. comm.,* Hazlitf and Smith 2001). Therefore, it is likely that the band material and structure, mainly the layering of plastics providing the engraved alpha-numeric codes, resulted in the decreased robustness of these bands.

ACKNOWLEDGMENTS

I thank D. Lissimore, J. Cotter, R. Butler, M. Lemon, T. Sullivan, L. Keller, and D. Lank for their help with the fieldwork. Permission to establish a field camp on Sidney Island was granted by the British Columbia Ministry of Environment, Lands and Parks. Special thanks to Gary Falxa, Erica Nol and Greg Robertson for sharing their experiences with band longevity. S.Wardrop, E. Nol, J.M. Pearce and K. Loughman reviewed the manuscript and made pertinent comments and suggestions for clarification. Financial support was provided by the Canadian Wildlife Service, Pacific and Yukon Region, the Center for Wildlife Ecology at Simon Fraser University, and the John K. Cooper Foundation.

LITERATURE CITED

Andres, B.A. 1996. Consequences of the Exxon Valdez spill on Black Oystercatchers. Ph.D. diss. Ohio State University, Columbus.

Falxa, G.A. 1992. Prey choice and habitat use by foraging Black Oystercatchers: Interactions between prey quality, habitat availability and age of bird. Ph.D. diss. University of California, Davis.

Hazlitt,S. 1999. Territory quality and parental behaviour of the Black Oystercatcher in the Strait of Georgia, British Columbia. MSc. Thesis. Simon Fraser University.

Hazlitt S. L. and J. L. Smith. 2001. Adult Black Oystercatcher banding in Laskeek Bay: Report on a pilot project. Pp 16-19. *In* Gaston, A.J. (ed.) 2001. Laskeek Bay Research 10. Laskeek Bay Conservation Society, Queen Charlotte City, B.C.