

Plumage Characteristics of Surf Scoters

SAMUEL A. IVERSON¹, DANIEL ESLER¹ AND W. SEAN BOYD²

¹Centre for Wildlife Ecology, Simon Fraser University, 8888 University Drive, Burnaby
British Columbia V5A 1S6 Canada
Internet: sai@sfu.ca

²Canadian Wildlife Service, RR1 5421 Robertson Road, Delta, British Columbia V4K 3N2 Canada

Abstract.—We assessed reliability of plumage as an indicator of age class in the Surf Scoter (*Melanitta perspicillata*) for demographic and behavioral studies. Three age classes were distinguished among male Surf Scoters, based on the degree of concordance between plumage characteristics and known age-related features (bursal depth and tail feather notching). Males in their first year (1Y) were distinguishable from older males (>1Y) with nearly total accuracy. Discriminating between second year (2Y) and after second year (>2Y) males had an error rate of 11%. Female Surf Scoters could not be reliably aged using plumage characteristics. Field observations suggested the timing of feather changes is an important variable affecting accurate age class determination. First year male Surf Scoter plumage is brown and female-like at the time of fledging, and gradually becomes more adult male-like during the first year. Observations of plumage changes throughout the annual cycle on wild birds suggested that females and 1Y males may be confused in early autumn, and that 1Y males and 2Y males may be misidentified during late spring and summer. Further, variation in timing and speed of pre- and post-breeding molt among 2Y and older males is uncertain. Therefore, mid-January until the end of March is the period when age class determinations based on plumage are most reliable. *Received 5 June 2002, accepted 10 October 2002.*

Key words.

METHODS

Assessing plumage as an indicator of age class

During November 2000-April 2001, 87 Surf Scoters were captured in the Strait of Georgia, British Columbia, Canada, using a floating mist technique modified from Kaiser *et al.* (1995) and Rosenberg and Petrula (1998). Captured birds were scored for pattern and coloration on eight plumage and morphological traits (Table 1). A cumulative plumage score was then calculated and used to assign individuals to putative age classes. Surf Scoter broods hatch in mid to late July (Savard

A

ACKNOWLEDGMENTS

The CWS/NSERC Centre for Wildlife Ecology and the Georgia Basin Ecosystem Initiative provided funding for this project. Dr. F. Cooke generated the original idea and made the research a reality. Thanks are owed to D. Rosenberg, M. Petrula, and D. Lacroix for tips on trapping sea ducks. J. Hudson, C. Crowton, S. Lee, G. Grigg, and T. Bowman spent many cold, wet, early mornings on the water mist netting birds. Thanks also to F. Cooke, J.-P. Savard, and an anonymous reviewer for comments that greatly improved earlier drafts of this manuscript.

L