

(27) DECADAL CHANGES IN OCCUPANCY OF FOREST OWLS IN SOUTHEAST ALASKA, 1986-2008

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We estimated occupancy of forest owls as a function of habitat characteristics and examined change in occupancy of 3 owl species from historical (1986—1992) and current (2005—2008) surveys in Southeast Alaska. We conducted 1,238 point count surveys at 346 independent sites across Southeast Alaska from 1 April—15 May 2005—2008 and tallied 253 detections of 7 owl species. Detection probabilities ($p \pm SE$) were lowest for Western Screech-Owl ($p_{weso} = 0.13 \pm 0.10$) and Northern Saw-Whet Owl ($p_{nswow} = 0.19 \pm 0.06$), and highest for Barred Owl ($p_{bdow} = 0.29 \pm 0.06$) across all surveys. Occupancy ($\psi \pm SE$) of Barred Owls was the lowest ($\psi_{bdow} = 0.12 \pm 0.04$), followed by Western Screech-Owl ($\psi_{weso} = 0.31 \pm 0.16$), and then Northern Saw-Whet Owl ($\psi_{nswow} = 0.45 \pm 0.18$). Occupancy of Barred Owls was positively associated with percent of productive forest. Western Screech-Owl occupancy was primarily influenced by site location (mainland vs. island); a higher proportion of sites on the mainland were occupied. Occupancy of Northern Saw-Whet Owl was best predicted by survey year. Across all of Southeast Alaska, the proportion of sites occupied by Barred Owls doubled from historical to current surveys, while Western Screech-Owl and Northern Saw-Whet Owl occupancy remained relatively stable. However, Western Screech-Owl and Northern Saw-Whet Owl distribution narrowed over the 2 time periods, especially in the southern portion of Southeast Alaska where Barred Owls now commonly occur.

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