



Status: Special Concern

Global and state ranks: G5/S2

Family: Picidae (woodpeckerzs)

Total range: Black-backed woodpeckers are year-round residents within boreal and montane forests across northern North America. They breed from central Alaska and northern Canada to montane areas of California and New England. Although the black-backed woodpecker does not migrate south in winter, individuals may move infrequently to areas south of the regular breeding range in response to local insect outbreaks. Movements can vary from a few wandering individuals to irruptions involving many birds. Winter records have occurred as far south as southern Saskatchewan, Iowa, central Illinois, northern Indiana, Ohio, Pennsylvania, West Virginia, New Jersey, and Delaware (Dixon and Saab 2000).

State distribution: A widespread but locally occurring and uncommon species of northern Michigan, the black-backed woodpecker has been confirmed breeding in two Lower Peninsula counties including Crawford and Oscoda. Breeding is probable in Antrim County. Confirmed breeding is known from Alger, Chippewa, Delta, Dickinson, Gogebic, Iron, Marquette and Schoolcraft

Counties in the Upper Peninsula. Breeding is probable in Houghton, Keweenaw, Luce and Ontonagon Counties (Evers 1991, Michigan Natural Features Inventory 2002). Winter records of wandering individuals are known south to Kalamazoo and Wayne counties (Wood 1951), although most southern Lower Peninsula observations are prior to the mid 1900s (Zimmerman and Van Tyne 1959). Michigan is at the southern edge of this species range.

Recognition: This relatively large woodpecker has a wingspan of 16 inches and length of 9.5 inches. It is larger than the hairy woodpecker. Black-backed woodpeckers appear large-headed and short-tailed. **Adults are all black with a bluish gloss above and a distinct white malar stripe. The belly and breast are white but the sides and flanks are barred with black. The wings are black above with narrow white spot-bars on the primaries.** These spots or bars are reduced or lacking on the secondaries. **The underwing coverts are dusky and barred with white. The tail is black in the middle with white outer tail feathers.** The black-backed woodpecker is one of only two woodpecker species with **three toes** (the other species being the three-toed woodpecker, *Picoides tridactylus*). **Adult males** are distinguished from adult females by their **yellow crown patch. Adult females** have an **all black crown.** The **vocalizations**



of a black-backed woodpecker are numerous. The call note sounds like “**churt**” or “**kyik**” and is given year-round. The **rattle call** is probably the most distinctive, interesting, and complex call among *Picoides* (Dixon and Saab 2000). In full form the call consists of **three parts: Scream, Rattle, and Snarl**, and it is used as a communication aid in establishing territories. **Drumming is even-paced and may drop slightly in volume at the end** (drop not as pronounced as in the three-toed woodpecker) (Stokes et al. 1997).

Best survey time: Black-backed woodpeckers are most responsive to tape playbacks of species-specific drumming between May 1 and June 30 (Goggans et al. 1988). Barred owl calls may also elicit a response (Huber, pers.com.). Vocalizations and drumming are most readily heard 0.5 hour after sunrise, with a peak about 1-2 hours later. Responses continue throughout the day but are more variable. Just before sunset responsiveness increases, but not to the consistency of morning hours (Goggans et al. 1988). The call note is given year-round by both sexes. This bird can be difficult to detect in mature forest stands.

Habitat: The black-backed woodpecker is closely associated with boreal and montane forests, especially where recent burns and windfalls have occurred. In Michigan, it occupies black spruce (*Picea mariana*)-tamarack (*Larix laricina*) bogs, northern white cedar (*Thuja occidentalis*) swamps, mixed forests with eastern hemlock (*Tsuga canadensis*), jack-pine (*Pinus banksiana*) plains, and conifer clearcuts (Evers 1991). Habitat disturbances which provide a mosaic of openings and an abundance of downed and standing dead timber are preferred foraging areas. Crawford and Oscoda counties contain large expanses of jack pine forest that are regularly disturbed by logging, clearing, and fires to promote suitable habitat for the Kirtland’s warbler. These and similar land-use activities have provided habitat to small, disjunct black-backed woodpecker populations (Evers 1991).

Studies suggest there is greater breeding densities in burned than in unburned forests. In a study evaluating bird populations before and after wildfire in a Great Lakes jack pine-black spruce forest, the black-backed woodpecker, which was not present pre-fire, established territories within the first year after the fire and then became one of the three most important species based

on importance values (number, distribution and territorial size, and energy required to maintain species) (Apfelbaum and Haney 1981). In Minnesota, birds are more common in trees destroyed by fire 1-2 year post-fire than in mature forests (Heinselman 1973). During the 2-4 year period following a fire, birds were found by Niemi (1978) to increase in abundance, but were rare in non-burned areas surrounding the burned forest. Numbers began declining four years after the fire.

Nesting cavities are drilled in dead or live conifers 3.5 to 15 feet (1.1 to 4.5 m) above ground (Mayfield, 1958, Peck and James 1983). Spruce and pine trees are preferred. Most nest sites overlook openings such as lakes, peatlands, clearcuts, and roads (Evers 1991). Nests are often excavated in sapwood (the outer, softer, living portion of wood), which decays more quickly than heartwood (the inner, hard, nonliving portion of wood). Consequently, this species probably prefers dead conifers for the thicker sapwood layer and small-diameter trees for the higher percentage of sapwood (Bull et al. 1986).

Biology: This year-round resident breeds locally in the northern Lower Peninsula and Upper Peninsula. Courtship and nesting are initiated in early to mid-May. Michigan nest records are known from late May to late June (Evers 1991). Both sexes excavate the nest, but the male appears to do most of the work (Short 1974). The nest cavity is constructed in sound or decayed wood. Wood chips are left in the bottom of the cavity (Dixon and Saab 2000). The number of eggs laid (clutch size) varies from two to six, with three or four being most common (Bent 1939, Short 1982). Only one clutch is produced per breeding season, although this species is known to renest if the clutch is lost (Harrison 1978). Both the male and female incubate the eggs for an average of 13 days. The young are altricial and naked at hatching and are tended by both parents. Adults collect insect prey within several hundred meters of the nest (Kilham 1966). Fledging occurs, on average, 24 days after hatching (Baicich and Harrison 1997). Nestlings become aggressive as they develop and sometimes an adult must make several attempts at entering the nest to remove fecal sacs (Short 1974). Typically a new nest cavity is excavated each year (Short 1982).

The diet of the black-backed woodpecker consists mainly of the larvae of wood-boring beetles



(Cerambycidae and Buprestidae) (Bent 1939, Harris 1982, Villard and Beninger 1993, Murphy and Lehnhausen 1998). Engraver beetle larvae (Scolytidae), larvae of the mountain pine beetle (*Dendroctonus ponderosae*), weevils and other beetles, ants, insects, spiders, vegetable matter, wild fruits, mast, and cambium (Kilham 1965, Goggans *et al.* 1988, Beal 1911) also contribute to the diet. Most foraging takes place on the trunks of dead trees, some of which are standing and some lying on the ground (Mayfield 1958). Pecking is the most common way of obtaining food, followed by gleaning from the tree trunks and then by feeding from the ground (Burt 1930).

This woodpecker does wander from its nesting territory, responding to local insect outbreaks that may require flights covering long distances. Short (1982) attributed irruptions of these woodpeckers to a lack of wood-boring insect prey on their normal range or to overpopulation following an insect outbreak. Irruptions seem to follow a pattern and manifest themselves at irregular intervals involving a several year period and then subside (Yunick 1985).

Conservation/Management: The black-backed woodpecker lives in an environment that is unpredictable and/or ephemeral and its dispersal ability is well developed in order to occupy such a niche (Dixon and Saab 2000). Management for the bird requires large tracts, or patchworks, of habitat that are maintained by fire and other large-scale forest disturbances. Prescribed burning programs of adequate size could improve quality and quantity of invertebrate food resources and nesting sites for the woodpecker. Maintaining viable populations of black-backed woodpeckers will necessitate the delay of salvage logging until several years after a fire.

For successful nesting of black-backed woodpeckers in the lower montane forests of Oregon, Wisdom *et al.* (2000) recommend: 1) conservation of selected forest stands >387 ha (derived from 192 ha / individual and based on home-range size reported by Goggans *et al.* 1988); 2) where post-fire salvage logging is planned retain snags in clumps rather than evenly spaced distributions and retain >104-123 snags/ha, of dbh size >23 cm; 3) allow wildfires to burn in some forests with high fire risk to produce stand-replacing conditions and subsequent beetle outbreaks; 4) avoid post-fire salvage logging in portions of large burned forests for 5 years

after a fire.

North American Breeding Bird Survey (BBS) data for the period 1980-2000 in the Eastern BBS region shows a downward trend of -7.5% (n = 38 routes) for the black-backed woodpecker (Sauer *et al.* 2001). Data are deficient for this species due to limited survey effort and difficulty in detecting the species in mature forest stands. Public lands cannot be expected to provide habitat for all species, thus partnerships to promote sustainable land use practices on private lands would help to maintain habitat for a wide range of species, including those species requiring fire maintained landscapes.

Research needs: Little is known about this species. Because the woodpecker is rare in mature coniferous forests, adequate sample sizes of numbers, productivity, and survival make substantive comparison with populations in recently burned or beetle-killed forests where the species is more abundant, very difficult. Conceptual models of population dynamics may yield the best insights for management of this species in the foreseeable future (Murphy and Lehnhausen 1998).

Detailed studies on movement patterns and demography are recommended in the following areas: 1) movement patterns and demography in green, burned, and unlogged forests, 2) spatial and temporal pattern of stand-replacement fires needed to maintain black-backed woodpecker populations, 3) pre-fire forest structure and post-fire bird communities, and 4) numeric responses of black-backed and three-toed woodpeckers to outbreaks of spruce beetles in the absence of fire.

Related abstracts: dry northern forest, pine barrens, rich conifer swamp, Kirtland's warbler, secretive locust, rough fescue, pale agoseris, Hill's thistle, Alleghany plum.

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