

*Conservation Assessment
for
Black-backed Woodpecker (*Picoides arcticus*)*



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This Conservation Assessment was prepared to compile the published and unpublished information on the subject taxon or community; or this document was prepared by another organization and provides information to serve as a Conservation Assessment for the Eastern Region of the Forest Service. It does not represent a management decision by the U.S. Forest Service. Though the best scientific information available was used and subject experts were consulted in preparation of this document, it is expected that new information will arise. In the spirit of continuous learning and adaptive management, if you have information that will assist in conserving the subject taxon, please contact the Eastern Region of the Forest Service Threatened and Endangered Species Program at 310 Wisconsin Avenue, Suite 580 Milwaukee, Wisconsin 53203.

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EXECUTIVE SUMMARY

The following is a draft conservation assessment providing a summary of readily available information regarding the distribution, ecology, and population biology of the Black-backed Woodpecker (*Picoides arcticus*). Where relevant information exists and was found, special attention is placed on issues pertinent to the conservation of this species in Region 9 of the United States Department of Agriculture Forest Service.

The Black-backed Woodpecker is a secretive and rare North American woodpecker, breeding from central Alaska and northern Canada to the mountainous regions of California, the Black Hills, Upper Great Lakes, and the New England states. Though this species appears to be widespread, the Black-backed Woodpecker is confined primarily to mature, fire regulated, boreal and coniferous forest with decadent trees, snags, and fallen logs. Even in these preferred habitats, Black-backed Woodpeckers are considered "uncommon" to "rare" except when populations irrupt in response to fires and outbreaks of wood-boring insects.

Black-backed Woodpecker's are closely tied to recently burned forest habitats and are dependent on the larvae of wood-boring beetles. To sustain populations, management must promote a dynamic mosaic of recently burned forest patches across a landscape. Population trends for the Black-backed Woodpecker are poorly understood, but the species faces threats of habitat loss due to the removal of snags and insect-infested trees, fire suppression, and the loss of mature forests. When combined with the increases in post fire salvage logging, the specialized, limited diet of the Black-backed Woodpecker makes local and regional extinctions a serious and legitimate threat.

Research needs for the Black-backed Woodpecker include many aspects of life history including demographics, population densities, seasonal movements, breeding territory, home range sizes, and productivity. Within Region 9, broad scale surveys and assessment work is needed to identify populations and to establish monitoring programs in a multi-species, ecosystem context. For a more thorough review of this species, the reader should refer to Dixon and Saab (2000).

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NOMENCLATURE AND TAXONOMY

Order:	Piciformes
Family:	Picidae
Genus:	Picoides
Binomial name:	<i>Picoides arcticus</i>
Subspecies:	None described
Common name:	Black-backed Woodpecker
Synonyms:	Formerly called the Black-backed Three Toed Woodpecker
American Ornithologist's Union Code:	BBWO

DESCRIPTION OF SPECIES

The Black-backed Woodpecker is a medium-sized bird. Adults are approximately 23 cm in total length, with a body mass of 61-88 g and wing length of 12.3-13.4 cm; males are typically 6-7% larger than females. Adults have solid black upperparts, white underparts and are heavily barred with black on sides and flanks. Primaries are black and white (barred), outer rectrices white, and the face has a white stripe below the eye from bill to nape. The male has a prominent yellow patch on the center of the crown; the female does not. Plumage is similar throughout the year. Juvenile Black-backed Woodpeckers are similar to the adults in appearance, except that they are duller overall, have a dull black crown (yellow patch very faint or absent), and their underparts are dull buff (Dixon and Saab 2000).

Black-backed Woodpeckers can be confused with the closely related Three-toed Woodpecker (*Picoides tridactylus*), which has similar plumage patterns and distribution. The Black-backed Woodpecker is slightly larger, has darker upper parts (solid black head and back) and a narrow white streak behind the eye. The Three-toed Woodpecker also has a white streak behind the eye, but has more white markings on its back (except for the *P. t. bacatus* subspecies) and a more narrow white stripe underneath the eye. The Black-backed Woodpecker's rectrix 4 is primarily to entirely white, while the Three-toed Woodpecker's rectrix 4 is usually barred with black (Dixon and Saab 2000). In addition, the male Black-backed Woodpecker has a smaller and more solid yellow crown patch than the male Three-toed Woodpecker, and the Black-backed Woodpecker female has a solid black forehead and crown compared to the paler, streaked forehead and crown of the female Three-toed Woodpecker (Pyle 1997). The primary features that distinguish these two species from all other woodpeckers are the presence of three toes instead of four and a yellow crown patch (males) instead of red (Dixon and Saab 2000).

The Black-backed Woodpecker is well camouflaged with sooty black dorsal plumage that blends easily against the charred bark of trees. Therefore difficult to spot in some instances, the loud foraging taps, calls and drumming patterns of this species makes detection relatively simple (Dixon and Saab 2000). Although an approachable bird, the Black-backed Woodpecker is apt to challenge intruders with its Scream-Rattle-Snarl Call, one of the most distinctive, complex calls of *Picoides* woodpeckers (Dixon and Saab 2000). When trying to distinguish Black-backed Woodpeckers from Three-toed Woodpeckers by sound, it helps to know the former has a lower-pitched, shorter and more metallic call note. The tempo of the drumming also varies between the two species: the Black-backed Woodpecker has faster bursts with more beats, and are typically longer in duration than its close relative (Short 1974).

Black-backed Woodpeckers are more vocal than Three-toed Woodpeckers (Dixon and Saab 2000). Call notes are given year round, by both sexes. Most vocalizations begin 0.5 hours after sunrise, peaking about 1-2 hours later. Responsiveness tends to increase prior to sunset, but not to the level reached during the morning hours (Goggans et al. 1988). However, vocalization rates can be quite variable. Rattle calls are often given during flight while other calls are generally given from perch (Dixon and Saab 2000). The vocal array of the Black-backed Woodpecker, from Winkler and Short (1978), except as noted, is as follows:

- Call note: a fast, sharp, double click (termed *Kyik* Call by Short), functioning as a low-intensity alarm-threat and contact call, though a fast series of *Kyik* Calls signifies copulation and post-copulatory activities.
- Rattle Call: considered the most distinct, complex and interesting call given by a *Picoides* species. In full form, the call consists of three parts: the Scream, Rattle and Snarl. When given in full form, the Scream-Rattle-Snarl is accompanied by a distinct Hunched-Head Swinging Display used during agnostic encounters and aides during the establishment of territories. This call is given year round.
- Short Rattle Call: first termed the *Kyik-ek* Call by Short (1974), this call includes the introductory call note in addition to 1-4 other notes; functioning as a way to summon the mate, either for defending territories or for feeding young. This call is seasonal, typically heard between April and June.
- Wicka Call: medium-distance signal serving as vocal replacing attack.
- Chirp Call: almost a continuous chirping vocalization given by nestlings when adults are not present
- Loud Chirp Call: louder and less regular call given by nestlings, especially during feeding.
- Squeak Call: squeak-like notes found only during Loud *Chirps*, functioning as an appeasement of parents by nestlings.
- Screech Call: made by nestlings when both parents were at cavity entrance, but Short (1974) also describes the call as a semi-continuous vocalization given by adults at the nest.

Black-backed Woodpeckers emit non-vocal sounds as well, primarily tapping and drumming. Drumming occurs throughout the year, though it is more common from April to June. Drumming is used to broadcast territories and to attract mates. Both sexes drum, although females average more beats in a roll (19.9) than males (18.0; Dixon and Saab 2000). Both Black-backed and Three-toed Woodpeckers drum more than other woodpeckers, but Black-backed Woodpeckers drum faster and are less variable (Short 1974). Mornings appear to be the favored time for drumming, but drumming also occurs just before sunset, and there is a considerable variation in drumming (apparently in terms of the amount) from morning to morning (Short 1974, Goggans et al. 1988). Kilham (1966) describes rapping (similar to tapping) as single raps with the bill against a tree trunk, usually when the bird is anxious or just before roosting.

Other behaviors common to the Black-backed Woodpecker are walking, hopping, and climbing (Dixon and Saab 2000). Kilham (1966) describes scrambling movements that look like "frantic haste" as the bird climbs over logs and slash, over low vegetation, or along the underside of fallen trees.

LIFE HISTORY

Migration

Black-backed Woodpeckers are not known to migrate, but do, on occasion, irrupt from their resident range. This sometimes results in remarkable flights of abundant proportions over extended distances (Yunick 1985). Irruptive movements of the Black-backed Woodpecker into

southeast Canada and the northeastern United States have been well documented and illustrate the ability of this species to travel long distances (Van Tyne 1926, West and Speirs 1959, Yunick 1985).

Van Tyne (1926) described a 1923-1924 irruption of Black-backed Woodpeckers into New England, observing over 50 individuals as far south as Nantucket, Massachusetts and New York City, arriving in what was described as a distinct wave. The first wave to arrive in Massachusetts was in mid-October, probably as a result of an abundant hatch of wood-boring beetle larvae. West and Speirs (1959) recorded an irruption of 293 individuals during the fall and winter of 1956-1957, primarily from southern Ontario and New England, but also including Minnesota through the Maritime Provinces. This irruption ranged as far south as Illinois, New Jersey and Pennsylvania and typically consisted of 1 to 5 migrating individuals. Axtel (1957) suggested that this invasion could have been the result of successful woodpecker breeding supported by an abundance of wood-borers after the extensive fires in Ontario during 1955. Short (1982) believes these irruptions were the result of either a lack of wood-boring insect prey in the woodpeckers normal range or due to overpopulation after an insect outbreak. Prior to the irruption of 1956-1957, individual birds were sited around Toronto every winter, and minor flights (usually about 6 individuals) occurred during previous winters (West and Speirs 1959).

Between 1950-1982, Yunick (1985) observed intermittent Black-backed Woodpecker invasions in the extralimital northeast United States and southeast Canada. Periods of irruptive activity, sometimes lasting several years, were spread out between long intervals of few to no reports. The largest irruption on record occurred 1974 -1975: 462 birds were sited, migrating south from Ontario and Quebec to Pennsylvania. The birds traveled approximately 570 km during a period from September through May. Some of the birds remained in the area for up to 192 days, and of the 89 birds identified by sex, females outnumbered the males 1.17:1 (Dixon and Saab 2000).

In Minnesota, migrant Black-backed Woodpeckers have been sited primarily along the northern shores of Lake Superior in the fall (mid October through early November) and in the spring (Dixon and Saab 2000). Janssen (1987) observed that these individuals do not typically move south of central Minnesota. Similar practices are found in Wisconsin: few birds wander south to the central or southeastern portions of the state in winter. Most records occur during October to mid-April (Dixon and Saab 2000), although Robbins (1991) describes birds wintering commonly in southeastern Wisconsin during the nineteenth century.

Sexual Behavior and Courtship

The Black-backed Woodpecker nests in late spring or early summer. Pair bond and courtship typically begin in April and nest excavation follows in May, (Goggans et al. 1988). Black-backed Woodpeckers are considered socially monogamous. However, no genetic information is available (Dixon and Saab 2000). The duration of pair-formation and pair locations relative to future nests has not been well described, although Marshall (1945) believes that birds remain paired year-round (Marshall 1945).

Courtship usually consists of the male Black-backed Woodpeckers utilizing a Crest-Raising Display whereby he maintains partly of fully erected crests (or yellow crown patch) in the

presence of females. This display can also be used to threaten another bird (Dixon and Saab 2000).

Nest Characteristics

Black-backed Woodpeckers utilize cavity nests, typically excavating a nest in May. In Michigan, Mayfield (1958) estimated that most excavation is completed by June. The nest cavity is excavated in decayed or sound wood and the wood chips are left in the bottom cavity (Dixon and Saab 2000). Both sexes excavate the nest, though the male appears to complete most of the work (Short 1974, Goggans et al. 1988). New nests are built each year (Short 1982).

Bent (1939) described eggs as white, smooth and moderately glossy, ovate or elliptical-ovate, approximately 21.3 mm in length (range 22.3-25.9) and 18.9 mm in breadth (range 17.5-20.2 mm). In another study using a larger data set, egg sizes averaged 25 mm in length (range 23.1-28.1) and 18.2 mm in breadth (range 16.6-20.5; Dixon and Saab 2000).

Clutch size range 2-6 (Bent 1939) but typically contains 3-4 eggs (Short 1982). There is no specific data regarding egg-laying. However, re-nesting does occur, often in the same nest (Bent 1939). Incubation is performed by both sexes and typically lasts 12-14 days (Goggans et al. 1988). Females may take shorter shifts during the day and males apparently only incubates at night (Short 1982). In Michigan, Mayfield (1958) observed incubating birds over a five-hour period: during the first four hours, the female was the only bird to enter the nest, remaining inside for an average of 14 minutes (range 4-25) per visit. Her time away from the nest averaged 9.5 minutes (range 3-32), and after four hours, the male entered the nest cavity and remained for 50 minutes. Males brood at night until late in the nesting phase, when the young are known to become exceptionally aggressive (Short 1974).

Young are altricial and naked at birth. Both adults feed their young prior to fledging (at about 25 days) and tend to the fledglings for several weeks after they leave the cavity. During this period, the young closely follow the adults and mimic adult movements and behavior, such as moving up and down trees, drilling, probing and flaking bark. A “gurgling” call by the fledglings denotes a food-begging cry, while the same call by the adult indicates a feeding opportunity (Dixon and Saab 2000). Adults gather food for their young within a several hundred-meter area of the nest (Kilham 1966), including adult and larval stages of various insects (Short 1974).

Both adults remove fecal sacs from the nest cavity, although males seem to perform most of the nest sanitation (Kilham 1966, Short 1974). Since nestlings can become quite aggressive as they mature, occasionally the adult male must make several attempts to remove fecal sacs from the nest (Short 1974).

Specific information regarding annual and reproductive success in Region 9 is lacking, although there is data from Idaho, Wyoming, Oregon, and Montana that may illustrate some tendencies (nest success is defined a nest in which ≥ 1 young fledged:

- Idaho (burned ponderosa pine forests): Nest success 87%, with average brood size of 1.8 young / successful pair / yr, and average 1.7 fledged / successful pair / yr (Saab *unpub. ms.*).

- Wyoming (burned lodgepole pine forests): Nest success 100%, with average 1.6 fledged / pair / yr (Dixon and Saab 2000).
- Oregon (unburned mixed pine forest with bark-beetle epidemic): Nest success 68.5% (Goggans et al. 1988). Nest losses in Oregon were attributed to predation by flying squirrels (*Glaucomys sabrinus*) and other predators (Dixon and Saab 2000).
- Montana (patchily burned mixed-conifer forest): Nest success 71% in unlogged plots (Dixon and Saab 2000).

Population Biology and Viability

More study required. No data on the survivorship of the Black-backed Woodpecker is available. However, banded Three-toed Woodpeckers in central Oregon were still alive after at least 6-8 years. It is likely the Black-backed Woodpecker has a similar life span (Dixon and Saab 2000).

At present, knowledge is lacking concerning minimum viable population size. Also poorly understood are the area sensitivity of the species, the habitat characteristics required to maintain a viable population, and habitat or landscape characteristics that enable a population to be a source supplying individuals to other populations that are not sustained.

Diet

Black-backed Woodpeckers forage on the trunks of coniferous trees and logs (Short 1974, Goggans et al. 1988, Villard and Beninger 1993, Villard 1994). Birds forage on beetles, weevils, ants, other insects and spiders, vegetable matter, wild fruits, mast and cambium, which made up <12% of diet (Beal 1911). In a postfire Great Lakes jack pine (*Pinus banksiana*) and black spruce (*Picea mariana*) forest, Black-backed Woodpeckers foraged almost exclusively on severely burned, mostly dead, jack pines that contained an abundance of wood-boring insects (Apfelbaum and Haney 1981).

Specific studies investigating the diet of Black-backed Woodpecker show the following are consumed:

- Cerambycidae and Buprestidae (wood-boring beetle) larvae (Bent 1939, Harris 1982, Villard and Beninger 1993, Murphy and Lehnhausen 1998).
- Engraver beetles (Kilham 1965).
- Mountain pine beetles, *Dendroctonus ponderosae* (Goggans et al. 1988).

Bent (1939) found that more than 75% of the Black-backed Woodpecker's diet was composed of cerambycids and buprestids. Beal (1911) examined 28 stomachs and discovered 77% of the Black-backed Woodpecker's diet was composed of wood-boring larvae, and commonly found 15-20 larvae in each stomach. Based on stomach analyses, Black-backed Woodpeckers obtained 85% of their diet by pecking, 10% by gleaning the trunks of trees, and 5% via ground feeding (Burt 1930). The birds appear to be static in their feeding habits; they climb and circle slowly up a tree over a short vertical distance (Spring 1965). It is believed, due to anatomical adaptations for climbing and pecking, that the Black-backed Woodpecker is able to more efficiently extract wood-boring insect larvae from trees than other woodpeckers (Burt 1930, Spring 1965, Kirby 1980). A

broad anterior rib complex (developed for more frequent and harder pounding) reaches acute development in woodpeckers, that forage almost entirely by excavating. Ultimately, this enables a bird to focus more fully on the food resources of an arboreal environment (Kirby 1980). It is also known that species that excavate for burrowing prey have skulls that are highly modified for pounding. The Black-backed Woodpecker illustrates this well (Burt 1930).

HABITAT

The Black-backed Woodpecker requires large-scale forest disturbances, specifically fire regulated landscapes. Studies documenting this have been undertaken in Montana, Michigan, Minnesota (particularly the Boundary Waters Canoe Area), the Northern Rockies, Alaska and Alberta (Blackford 1955, Mayfield 1958, Heinselman 1973, Apfelbaum and Haney 1981, Hutto 1995, Caton 1996, Murphy and Lehnhausen 1998, Hoyt 2000).

Black-backed Woodpeckers inhabit boreal and montane coniferous forests, though conifer composition varies depending on geographic location (Dixon and Saab 2000). According to Short (1982), the following species are important components of sites inhabited by birds: spruce (*Picea* spp.); tamarack (*Larix laricina*); northern pines (*Pinus* spp.); red fir (*Abies magnifica*); mountain hemlock (*Tsuga mertensiana*); Douglas fir (*Pseudotsuga menziesii*); ponderosa pine (*Pinus ponderosa*); and lodgepole pine (*P. contorta*).

In Michigan, Black-backed Woodpeckers are found in open and closed black spruce and tamarack bogs, mixed forests with eastern hemlock (*Tsuga canadensis*), northern white cedar (*Thuja occidentalis*) swamps, jack pine plains, and coniferous clearcuts (Evers 1991). Baetson (2000) observed birds in Michigan nesting in jack pine forests, upland mixed forested condition consisting of hemlock, pine and spruces, as well as mixed swamp conifer forests with black spruce, tamarack and balsam firs (*Abies balsamifera*).

In Minnesota, birds are more common in trees destroyed by fire 1-2 year postfire 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. A bird population study focusing on populations before and after wildfire in Great Lakes jack pine and black spruce forest revealed that the Black-backed Woodpecker, which was not present before a wildfire in a given local, established territories within the first year after a fire. Apfelbaum and Haney (1981) note that the Black-backed Woodpecker then became one of the three most influential bird species in the area.

Kilham (1966) reports suitable Black-backed Woodpecker habitat in New Hampshire as logged, burned, swampy or spruce budworm infested areas with copious dead tress. Vermont, according to Oatman (1985) supports Black-backed Woodpecker's in black-spruce forests, while in New York, balsam fir (*Abies balsamea*) and spruce forests are favored (Peterson 1988).

Even though the Black-backed Woodpecker is primarily sedentary and does not migrate, winter irruptions occur whereby Black-backed Woodpeckers can be found in urban habitats that hardly resemble their resident, boreal forest habitat. Yunick (1985) reports that Black-backed

Woodpeckers irrupting into the northeast United States during the 1950s and 1960s would frequent urban areas overcome with Dutch Elm disease.

DISTRIBUTION AND ABUNDANCE

The Black-backed Woodpecker is considered a permanent resident in coniferous forests across much of the northern tier of North America but is not distributed as far north as the Three-toed Woodpecker (Short 1982).

Black-backed Woodpeckers breed north to west and central Alaska, southern Yukon, west central and southern Northwest Territories and northern Saskatchewan, northern Manitoba, northern Ontario, central Labrador, and throughout Newfoundland (Fig. 1 in part; Dixon and Saab 2000).

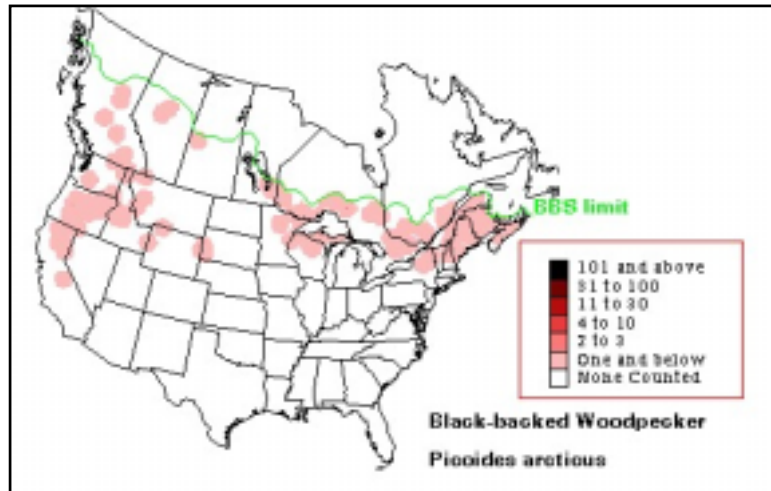


Figure 1. Summer distribution of the Black-backed Woodpecker as illustrated by Breeding Bird Survey Data (Sauer et al. 2000). Some populations are not shown due to Survey geographical limits.

The southern edge of their breeding range includes British Columbia east of the coast range into western Montana, northwest Wyoming, south central Idaho, the Cascade Mountains and Blue Mountains of Washington, the Cascade, Blue, Willowa and Siskiyou Mountains of Oregon and the Carson Range of west central Nevada (Dixon and Saab 2000). East of the Rocky Mountains, the Black-backed Woodpecker breeds south to central Alberta, central Saskatchewan, west central and southeast Manitoba, the Upper and northern Lower Peninsulas of Michigan (Appendix 3), northern Minnesota (Appendix 4), northern Wisconsin (Appendix 5), southern Ontario, southern Quebec, extreme northeast Vermont, north central New Hampshire, and western and northeastern Maine (Dixon and Saab 2000). Peterson observed the Black-backed breeding in the Black Hills of South Dakota (1995) and in the Adirondack Mountains of New York (1988). Curiously, the Black-backed Woodpecker is not found in the central or southern regions of the Rocky Mountains, and its range appears to coincide with the northern edges of closed boreal and montane, mixed coniferous species forests (Dixon and Saab 2000).

An analysis of Breeding Bird Survey (BBS) data from 1966-1996 shows a considerable long-term increase in some Black-backed Woodpecker populations, but no significant population trends in other locations: 6.7% change / year in northern spruce-hardwoods ($n = 26$ BBS survey routes) and a significant increase of 6.6% change / year in the United States ($n = 27$; Sauer et al. 2000). BBS data for 1980-1996, however, shows considerable downward trend for the Black-backed: in northern spruce-hardwoods (-10.2% change / year ($n = 22$)) and in Canada (-9.0% change / year; $n = 24$; Sauer et al. 2000).

In Michigan, little is known regarding population size of this species. Brewer et al. (1991) report that birds are broadly distributed across the Upper Peninsula (U. P.) of Michigan and “confirmed” breeding in 10 U. P. Atlas survey blocks (14 km²) and 3 Atlas survey blocks in the northern Lower Peninsula (L. P.). Sixteen U. P. Atlas survey blocks were considered to as “probable” sites for breeding compared to 1 in the northern L. P. A query of Michigan Natural Features Inventory data seems to indicate that this species does not receive adequate monitoring (Table 1; M. Fashoway *pers. comm.*).

Table 1. Michigan Natural Features Inventory results for Black-backed Woodpecker.

County	First Observation Date	Last Observation Date
Alger	1993	1993
Chippewa	1998	1998
Delta	1989	1990
Delta	1990	1990
Dickinson	1984	1984

Little information regarding populations exists as well in Minnesota and Wisconsin. Only three Minnesota County Biological Survey records exists due to inadequate coverage (S. Stucker *pers. comm.*).

CONSERVATION STATUS

According to The Nature Conservancy ranking system, the Black-backed Woodpecker receives a National “N4” ranking: the species is either globally or nationally widespread, abundant, or apparently secure, but with cause for long-term concern. Globally, the species receives a “G5” ranking: it is either globally or nationally demonstrably widespread, abundant, and secure. Forest Service Risk Evaluations place this species as “Sensitive” on the Chippewa, Chequamegon-Nicolet, and Hiawatha National Forests. Partner in Flight lists Black-backed Woodpeckers as an “Additional Priority Species” for Physiographic Area 20 (Boreal Forest-Northern Hardwood Transition) that includes the northern portions of Minnesota, Wisconsin, and Michigan.

POTENTIAL THREATS AND MONITORING

Present or Threatened Risks to Habitat or Range

Murphy and Lehnhausen (1998) consider this species particularly vulnerable to local and regional extinction due to fire suppression and intensive post-fire salvage logging. The species is not very adaptable and is further limited by its extremely specialized foraging behavior and diet and the fact that it often inhabits a site only 2-3 years after a fire.

COMMERCIAL, RECREATIONAL, SCIENTIFIC, OR EDUCATIONAL OVERUTILIZATION

No information found.

Disease and Predation

No information on diseases and body parasites was found. Little information is known regarding predation. One adult male with a radio backpack was killed by a Cooper's Hawk (*Accipiter cooperii*; Dixon and Saab 2000). In Oregon, observers found one nest with predated eggs, suspected nestling predation at another nest, and at two other nests (Goggans et al. 1988).

Inadequacy of Existing Regulatory Mechanisms

At present, existing survey programs (e.g., Breeding Bird Survey) are likely inadequate for monitoring population trends of this species because of the disjunct distribution and ephemeral use of areas (Robbins 1991, Sauer et al. 2000). However, its high habitat affinity (e.g., recently burned sites) makes identifying possible newly colonized areas in Region 9 relatively easy. Broad-scale, multi-species surveys within a fire regulated ecosystem context should follow.

Other Natural or Human Factors Affecting Continued Existence of Species

Black-backed Woodpeckers are considered opportunistic in that they react to the dramatic changes in forest structure and composition brought on by fire and insect outbreaks. This species has evolved to utilize habitat that is not only unpredictable, but ephemeral. Because this species can be irruptive, populations may be low in forests that have not been disturbed or affected by fires. Nonetheless, depending on demographic bursts or recruitment related to temporarily super-abundant foods (i.e. beetles that attack dead trees in new stand-replacement burns), populations can significantly increase and are clearly regulated by the extent of fires. Degradation of habitat via fire suppression practices and post salvage logging are the leading detriments to the Black-backed Woodpecker (Dixon and Saab 2000).

SUMMARY OF LAND OWNERSHIP AND EXISTING HABITAT PROTECTION

No habitat protection within Region 9 is known to exist. The habitat of Black-backed Woodpecker is both publicly and privately owned. Thus, habitat protection within Region 9 requires consideration of habitat protection across ownership boundaries.

SUMMARY OF EXISTING MANAGEMENT ACTIVITIES

The Black-backed Woodpecker is an important component of the native biological diversity of Region 9. To maintain populations and region-wide avian diversity, conservation and restoration of fire maintained ecosystems should proceed in a holistic manner. In doing so, all management possibilities (e.g., large-scale prescribed fire, even-aged timber harvesting, etc.) must be considered, as should the contributions in providing habitat that is made by all ownership types (e.g., timber industry, state, federal, etc.). Because public lands cannot be expected to provide habitat for all openland species (Probst & Crow 1991), partnerships to promote sustainable land use practices on private lands would help to maintain habitat for a wide range of species inhabiting fire maintained landscapes.

Management for Black-backed Woodpecker requires a large-scale ecosystem perspective by which large tracts of habitat are maintained through burning. Fire can substantially increase the quality and quantity of invertebrate food resources and nesting sites. However, prescribed burning is costly, requires interdisciplinary coordination, long-range planning, suitable weather, and public acceptance. Nonetheless, in combination with even-aged timber management, fire may provide a suitable and integrated approach to habitat management.

PAST AND CURRENT CONSERVATION ACTIVITIES

Habitat management has been implemented on some state and federal lands within Region 9 in conjunction with silvicultural practices. Maintaining a system of large, fire maintained habitat patches can provide a “coarse filter” approach to species protection. Since the highest quality habitat is created following large wildfires, consideration should be given to retention of large patches of blackened snags following fire events. Potential fire salvage operations should be designed integrated with black-backed woodpecker habitat considerations. The highest conservation priority areas should be those in which ecological conditions (e.g., soil and hydrologic characteristics) will provide ease of prescribed fire operations. For example, pine barrens and wetland complexes are extremely important areas to prioritize the use of prescribed burning for restoration of native plant and animal communities. Moreover, when contemplating jack pine harvest, burning and retaining older trees in a mosaic should be a priority, especially when they are located near large areas of permanent, existing openland habitat.

RESEARCH AND MONITORING

Existing Surveys, Monitoring, and Research

No specific surveys, monitoring efforts, or research particular to this species are known to be ongoing within Region 9. Seney National Wildlife Refuge, Chippewa, Chequamegon-Nicolet, Hiawatha, and Superior National Forests all conduct annual breeding bird surveys. Michigan Natural Features Inventory and Minnesota County Biological Survey conduct infrequent surveys.

Survey Protocol

No specific survey protocol for Black-backed Woodpecker is known. However, it seems likely that broad-scale surveys during typical morning hours in likely habitat can prove productive. In recent burns, surveys can be effective almost immediately following fire as birds have been shown to colonize sites extremely quickly (Dixon and Saab 2000).

Research Priorities

Dixon and Saab (2000) suggest several ideas for future studies that could greatly improve our understanding of the Black-backed Woodpecker and its unique relationship to forest ecology:

- distinguish between the edges of stand-replacement fires and burn interiors,
- explore the use of burns in relation to the abundance of cerambycid beetle prey,

- investigate territoriality,
- study over-winter pair relations,
- monitor population dispersal following the end of insect outbreaks in burned or diseased forests.

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APPENDICES

Appendix 1: Information Requests.

Jim McCormac, Botanist, Ohio DNR
 Carolyn Caldell, Nongame Biologist, Ohio DNR
 Pat Brown, Illinois Natural History Survey
 Teresa Mackey, New York Natural Heritage Program
 Sharron Nelson, Natural Heritage and Nongame Research Program, Minnesota DNR
 Ronald Helmich, Indiana Natural Heritage Data Center, Indiana DNR
 Joe Kapron, Ontario Natural Heritage Data Center
 Suzanne Ridge, Michigan Natural Heritage Program, Michigan DNR
 Betty Les, Wisconsin Natural Heritage Program, Wisconsin DNR
 Doug Spencer, Shiawassee NWR, USFWS
 Mike Tansy, Biologist, Seney NWR, USFWS
 Kevin Doran, Wildlife Biologist, Hiawatha NF, USDA
 Rex Ennis, Wildlife Biologist, Huron-Manistee NF, USDA
 Bob Johnson, District Wildlife Biologist, Ottawa NF, USDA
 Norm Weiland, Forest Biologist, Chequamegon-Nicolet NF, USDA
 Ed Lindquist, Wildlife Biologist, Superior NF, USDA
 Wayne Russ, Wildlife Biologist, Superior NF, USDA
 Alan Williamson, Wildlife Biologist, Chippewa NF, USDA
 Chris Clampitt, The Nature Conservancy
 Ray Adams, Kalamazoo Nature Center
 Jeff Cooper, Michigan Natural Features Inventory

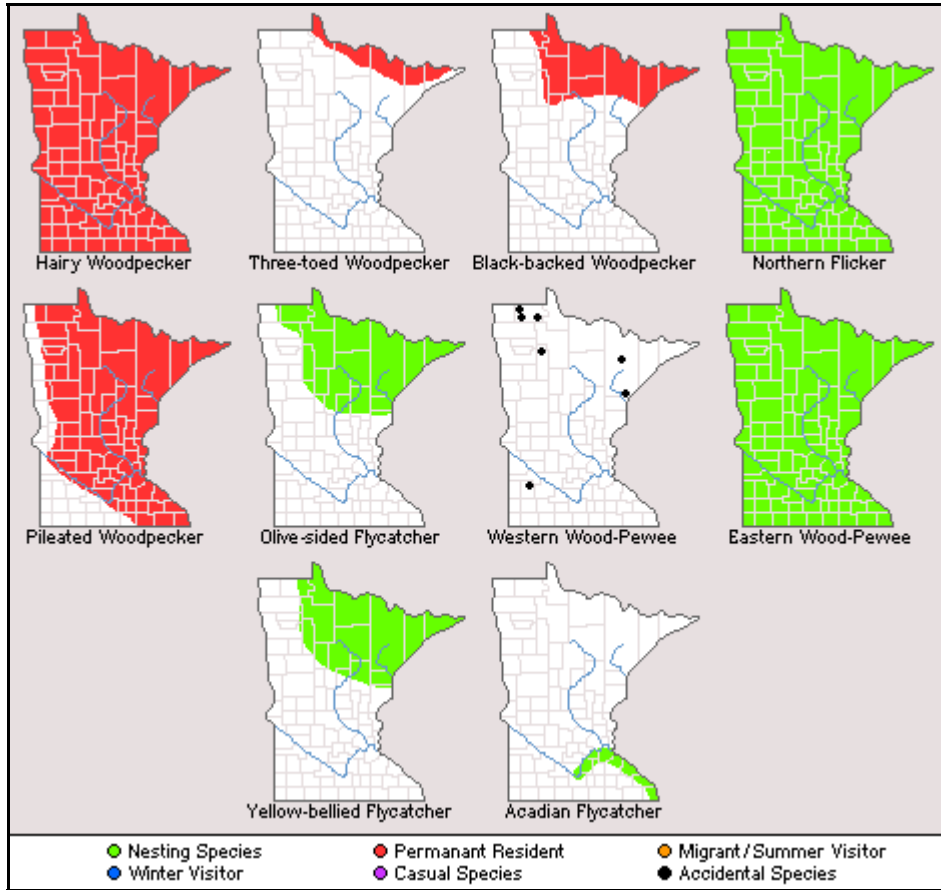
Appendix 2: Review Requests

N/A

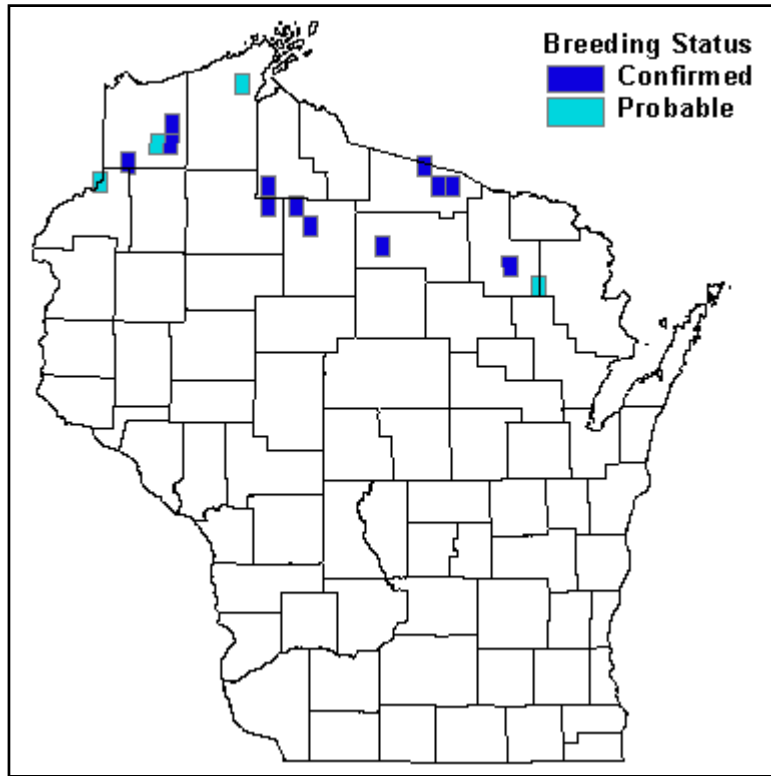
Appendix 3: Michigan Breeding Bird Atlas survey block (14 km²) results for Black-backed Woodpecker by geographical division (Brewer et al. 1991). Also indicated is an index of frequency of occurrence, the Relative Block Index (RBI), that is useful for comparing how widespread a species is in the three divisions. Low RBI values indicate that Black-backed Woodpecker distribution is disjunct within the state. Codes used: Upper Peninsula (UP), Northern Lower Peninsula (NLP), Southern Lower Peninsula (SLP).

	No. of Blocks (RBI)			
	UP	NLP	SLP	Total
Michigan	68 (0.12)	7 (0.01)	0 (0.00)	75 (0.03)

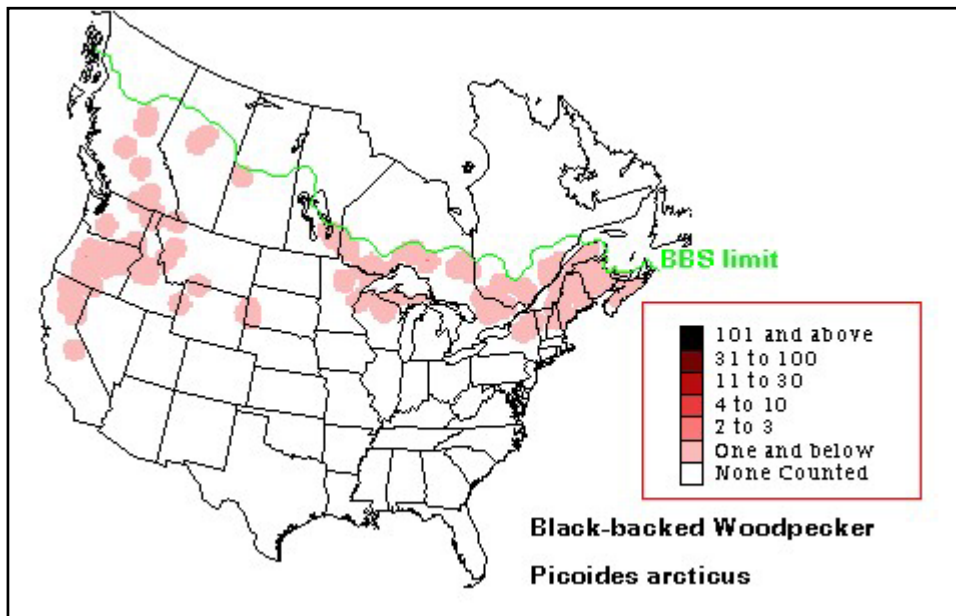
Appendix 4: Minnesota range map for Black-backed Woodpecker.



Appendix 5: Wisconsin Breeding Bird Atlas range map for Black-backed Woodpecker.



Appendix 6: Summer distribution of Black-backed Woodpecker as illustrated by Breeding Bird Survey data (Sauer et al. 2000).



Appendix 7: Winter distribution of the Black-backed Woodpecker as illustrated by Christmas Bird Count data (Sauer et al. 2000).

