Common Nighthawk

Chordeiles minor

REGULATORY STATUS

USFWS: Migratory Bird
USFS R2: No special status
UWFS R4: No special status
Wyoming BLM: No special status
State of Wyoming: Protected Bird

CONSERVATION RANKS

USFWS: No special status
WGFD: NSS4 (Bc), Tier III
WYNDD: G5, S5
Wyoming contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: 11

STATUS AND RANK COMMENTS

Common Nighthawk (*Chordeiles minor*) has no additional regulatory status or conservation rank considerations beyond those listed above. Interestingly, the species is listed as Threatened in Canada due to large-scale declines [1].

NATURAL HISTORY

Taxonomy:

Although the Order Caprimulgiformes may be polyphyletic, the Family Caprimulgidae is monophyletic. The taxonomic history of Common Nighthawk has included both lumping and splitting at both the species and subspecies level. Currently, 9 subspecies are recognized, 4 of which are or may be found in Wyoming [1]. Howell's Nighthawk (*C. m. howelli*) breeds throughout the state outside of Yellowstone National Park; Pacific Nighthawk (*C. m. hesperis*) breeds in western Wyoming; and Sennett's Nighthawk (*C. m. sennetti*) breeds in eastern Wyoming. The Common Nighthawk subspecies (*C. m. minor*) may also be found in eastern Wyoming during migration [2].

Description:

Identification of Common Nighthawk is possible in the field. Common Nighthawk displays geographic variation in plumage coloration and pattern as well as body size, with more northerly populations having larger bodies. Like other caprimulgids, Common Nighthawk is cryptically colored and has a large, flattened head; large eyes; small bill; and very large mouth. Common Nighthawk lacks rictal bristles. The wings are long and slender with an obvious white patch at the base of the primaries, which is very visible when in flight. Males have a white tail band and white throat; the throat patch is buffy and less obvious in females. Both sexes have a mixture of brown, black, and buffy barring on the rest of the body; juveniles look similar to adults but tend to be lighter in color overall [1]. The only other camprimulgid in Wyoming is Common Poorwill

(*Phalaenoptilus nuttallii*) [2, 3], which can be distinguished from Common Nighthawk by its smaller size, the presence of rictal bristles, and the lack of white wing patches [1]. The nasal *peent* call of Common Nighthawk is distinctive.

Distribution & Range:
The breeding range of Common Nighthawk is nearly continuous throughout North and Central America with the exception of Alaska; northernmost Canada; and southern California, Nevada, and Arizona. Breeding range throughout Central America is less understood, but the species is known to breed as far south as Panama. Similarly, wintering range remains poorly defined, but the species has been documented from Ecuador, Peru, and Brazil to Argentina, Paraguay, and Uruguay. The species has even been detected in western Europe on several occasions [1]. Common Nighthawk has been documented in all of Wyoming's 28 latitude/longitude degree blocks, with confirmed breeding occurring in all degree blocks [3].

Habitat:
Common Nighthawk uses a variety of nesting habitats, including logged, slash-burned, and open forests and clearings; grasslands and prairies; sagebrush; and rock outcrops [1]. In Wyoming, Common Nighthawk is most common below 2,600 m in elevation, and nests in low-elevation prairies in the east and open Ponderosa Pine (*Pinus ponderosa*) forests on ridges and mesas throughout the state [2]. Eggs are laid on the ground in the open or near logs, boulders, grass clumps, shrubs, or in sandy gravel patches. Eggs may even be laid on flat gravel roofs in urban areas. Common Nighthawk does not construct nests, but may use specific substrate materials, including gravel, sand, bare rock, wood chips, forest duff, leaves, needles, tar paper, cinders, moss, dandelions, and lichens [1]. Males spend much of the day during the breeding season at day roosts. In general, day roosts are typically located in tall trees with low canopy height on north-facing slopes in open forests, including Lodgepole Pine (*P. contorta*) and Quaking Aspen (*Populus tremuloides*). Males may be faithful to day roosts, returning to the same location on the same branch on multiple occasions [4]. Habitat use during migration and overwinter is poorly known.

Phenology:
Common Nighthawk is crepuscular. The species has one of the longest migrations of any North American bird. Individuals leave their wintering grounds in South America from March through mid-April and begin arriving in the southern United States in early April, with northerly populations reported as late as early June in Idaho, California, Oregon, and British Columbia, Canada [1]. The earliest reported Common Nighthawk observation in Wyoming is 16 May, although most reports are from late May [2]. Females typically arrive at breeding sites 1–7 days before males [5]. In Canada, eggs are laid in mid-May and hatch throughout July [1]. In Wyoming, eggs have been observed as early as mid-June [2]. In Idaho, incubation is 18 days and spans mid-June to mid-July [5]. Typically only 1 clutch is laid per year, although 2 clutches may be possible in the southern portion of the breeding range. Clutch size is almost always 2, and only the female incubates. Nestlings are semi-precocial, can fly by 17–18 days after hatching, are able to forage on their own by 25 days, and are fully independent shortly thereafter. Common Nighthawk is gregarious during fall migration, reaching groups of up to 1,000 individuals, and typically leaves its breeding grounds in July. In the western United States, migration peaks between mid-August and mid-September [1]. In Wyoming, migrant groups are first seen in late July and peak in mid- to late August. The latest observation of Common Nighthawk in the state is 15 October [2].

Diet:
The diet of Common Nighthawk is entirely composed of flying insects, which are caught on the wing at dusk and dawn. Common Nighthawk may gather in large groups to feed over water, above the forest canopy, and near artificial lighting [1]. Although nearly any flying insect will be taken when available, major prey items include queen ants (Hymenoptera), beetles (Coleoptera), caddisflies (Trichoptera), moths (Lepidoptera), and true bugs (Homoptera); flies (Diptera) tend to be avoided [1, 6]. Ants and grasshoppers (Orthoptera) may occasionally be taken on the ground, especially during inclement weather [5]. The availability of insect prey may be a primary driver in the timing of migration events. Common Nighthawk drinks water in flight by skimming the surface of lakes, streams, and watering troughs [1].

CONSERVATION CONCERNS

Abundance:
Continental: CONTINENTAL
Wyoming: ABUNDANT
Using North American Breeding Bird Survey (BBS) data, the Partners in Flight (PIF) Science Committee estimated the global population of Common Nighthawk to be 16 million birds [7]. Approximately 3.3% of the global population, or around 500,000 birds, is estimated to breed in Wyoming [8]. The statewide rank of ABUNDANT is based on the large area of the state known to be occupied in any given season, and the large coverage of suitable habitat within that area. Within suitable habitat in the occupied area, Common Nighthawk also appears to be abundant because it inhabits much of the preferred habitat within its range, and the species or its sign is typically encountered while using survey techniques that could be expected to indicate its presence [3]. Estimates of Common Nighthawk density (number of birds per square km) and population size for Wyoming are available from the Integrated Monitoring in Bird Conservation Regions (IMBCR) program for the years 2009–2015 [9].

Population Trends:
Historic: UNKNOWN
Recent: MODERATE DECLINE
Common Nighthawk population trend data from the Wyoming BBS suggest a moderate, but statistically insignificant, decline of 0.77% annually from 1968–2013 (*N* = 120 routes, 95% CI: -1.98 to 0.42) [10]. Western Region BBS trend data indicate that Common Nighthawk experienced a statistically significant annual declines of 2.30% from 1968–2013 (*N* = 844 routes, 95% CI: -3.11 to -1.75) [10].

Intrinsic Vulnerability:
LOW VULNERABILITY
Common Nighthawk is a generalist, both in nesting habitats and prey use. The species is not likely to be limited by low mobility or dispersal ability, since they complete one of the longest avian migrations in North America [1]. With only 2 eggs per year [1], Common Nighthawk has relatively low fecundity, although nest success can be high (e.g., 79% in New Jersey) [11]. Other life history characteristics do not predispose the species to declines from changes in environmental conditions.

Extrinsic Stressors:
SLIGHTLY STRESSED

PIF assigns Common Nighthawk a threat level of 3, indicating that the species is expected to display a slight to moderate decline in the future suitability of breeding conditions. The factors that may contribute to this decline are variable but, for Common Nighthawk, likely include a moderate vulnerability to human activities and land-use trends and a low productivity due to single broods [7]. However, the impact of anthropogenic land-use changes on Common Nighthawks is not straightforward. Flat, gravel roofs may provide important habitat in urban areas [12], and the transition away from these types of roof surfaces may remove nesting habitat [1], although natural habitats may still be preferred when available [13]. Alternatively, some land-use changes, including logging and burning, may increase availability of nesting habitat. Increases in pesticide use may impact the insect prey consumed by Common Nighthawk, but the presence of artificial lighting attracts and condenses insect prey, thus creating foraging habitat [1]. The availability of roost sites may be particularly important [4], and individuals, particularly males, are highly susceptible to collisions with vehicles when roosting on gravel roads [1, 14].

KEY ACTIVITIES IN WYOMING

The Wyoming Game and Fish Department classifies Common Nighthawk as a Species of Greatest Conservation Need (SGCN). Current statewide efforts for monitoring annual detections and population trends of Common Nighthawk in Wyoming include the BBS program conducted on 108 established routes since 1968 [10], and the multi-partner IMBCR program initiated in 2009 [9]. Trend data are available on the United States Geological Survey BBS website [10], and occupancy, density, population estimates, and decision support tools are available through the Rocky Mountain Avian Data Center [9].

ECOLOGICAL INFORMATION NEEDS

Continued monitoring of population trends are needed and will be accomplished through the IMBCR and BBS programs. Targeted management that addresses causes of population declines needs to be applied.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Andrea C. Orabona. Common Nighthawk is classified as a SGCN in Wyoming due to moderate population declines. Two separate but compatible survey programs are in place to monitor populations of many avian species that breed in Wyoming. The first is the long-term BBS started in Wyoming in 1968 with 108 established routes [10]. Species must be detected on at least 14 routes for data analyses to be significant for tracking population status and trend over time. The IMBCR program was established in 2009 in Wyoming with many state, federal, and nongovernmental organization partners that contribute funding, field personnel, technical assistance, or in-kind services. Data analyses produce density, occupancy, and population estimates at various scales; present habitat associations; and provide decision support tools for managers [9]. Both monitoring programs have detected moderate population declines in Common Nighthawk. Best management practices or key management recommendations to benefit Common Nighthawk include limiting insecticide application in nesting and foraging areas to ensure an adequate prey base of flying insects exists for this species (and other insectivores) and reducing loss of open wooded habitats.

CONTRIBUTORS

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REFERENCES

[1] Brigham, R. M., Ng, J., Poulin, R. G., and Grindal, S. D. (2011) Common Nighthawk (*Chordeiles minor*), In *The Birds of North America* (Rodewald, P. G., Ed.), Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: https://birdsna.org/Species-Account/bna/species/comnig.
[2] Faulkner, D. W. (2010) *Birds of Wyoming*, Roberts and Company Publishers, Greenwood Village, CO.
[3] Orabona, A. C., Rudd, C. K., Bjornlie, N. L., Walker, Z. J., Patla, S. M., and Oakleaf, R. J. (2016) *Atlas of Birds, Mammals, Amphibians, and Reptiles in Wyoming*, Wyoming Game and Fish Department Nongame Program, Lander, Wyoming.
[4] Fisher, R. J., Fletcher, Q. E., Willis, C. K. R., and Brigham, R. M. (2004) Roost selection and roosting behavior of male Common Nighthawks, *American Midland Naturalist 151*, 79-87.
[5] Rust, H. J. (1947) Migration and nesting of Nighthawks in northern Idaho, *Condor 49*, 177-188.
[6] Todd, L. D., Poulin, R. G., and Brigham, R. M. (1998) Diet of Common Nighthawks (*Chordeiles minor*: Caprimulgidae) relative to prey abundance, *American Midland Naturalist 139*, 20-28.
[7] Partners in Flight Science Committee. (2012) Species Assessment Database, http://rmbo.org/pifassessment/.
[8] Partners in Flight Science Committee. (2013) Population Estimates Database, version 2013, http://rmbo.org/pifpopestimates.
[9] Bird Conservancy of the Rockies. (2016) The Rocky Mountain Avian Data Center [web application], Brighton, CO. http://adc.rmbo.org.
[10] Sauer, J. R., Hines, J. E., Fallon, J. E., Pardieck, K. L., Ziolkowski, D. J., Jr., and Link, W. A. (2014) The North American Breeding Bird Survey, Results and Analysis 1966 - 2013. Version 01.30.2015, USGS Patuxent Wildlife Research Center, Laurel, MD.
[11] Allen, M. C., and Peters, K. A. (2012) Nest survival, phenology, and nest-site characteristics of Common Nighthawks in a New Jersey pine barrens grassland, *The Wilson Journal of Ornithology 124*, 113-118.
[12] Dexter, R. W. (1961) Further studies on nesting of the Common Nighthawk, *Bird-Banding 32*, 79-85.
[13] Brigham, R. M. (1989) Roost and nest sites of Common Nighthawk: are gravel roosts important?, *Condor 91*, 722-724.
[14] Poulin, R. G., Todd, L. D., and Brigham, R. M. (1998) Male Common Nighthawk use of gravel roads at night, *The Prairie Naturalist 30*, 84-90.

Figure 1: Adult Common Nighthawk in Natrona County, Wyoming. (Photo courtesy of Pete Arnold)

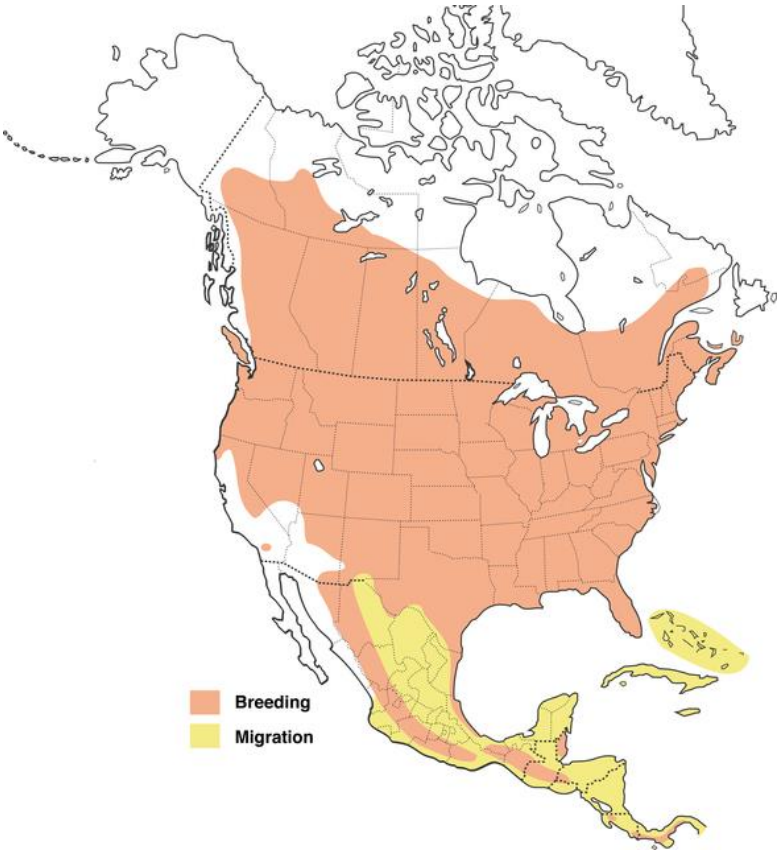

Figure 2: North American range of *Chordeiles minor*. (Map courtesy of Birds of North America, http://bna.birds.cornell.edu/bna, maintained by the Cornell Lab of Ornithology)

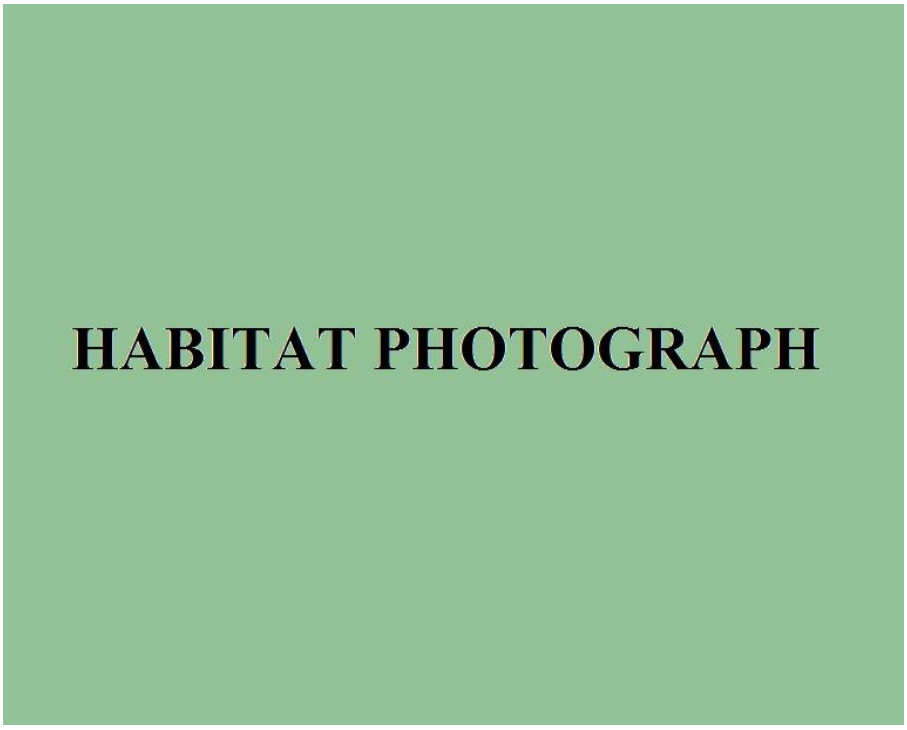

Figure 3: Photo not available.

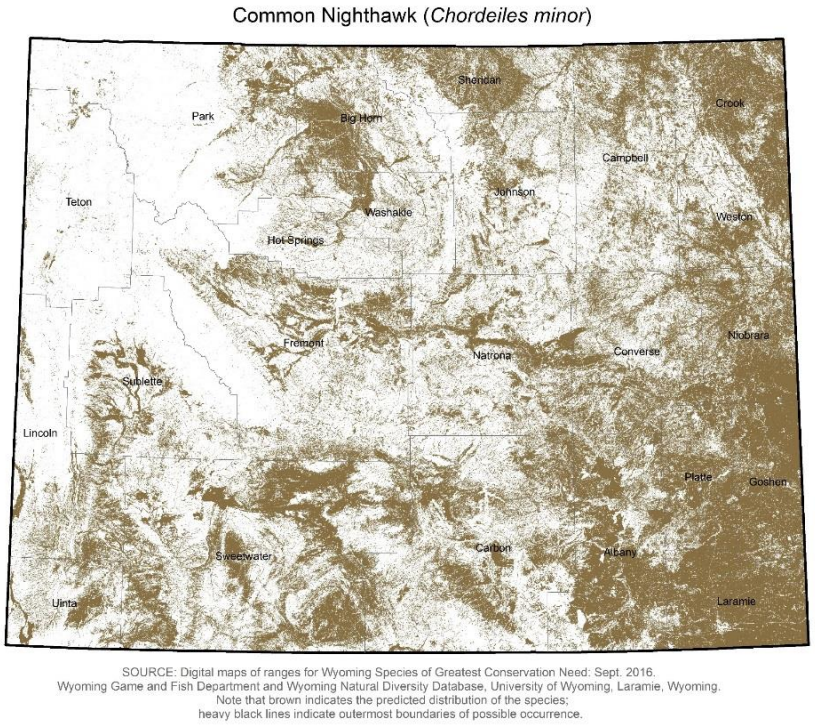

Figure 4: Range and predicted distribution of *Chordeiles minor* in Wyoming.

Figure 5: A foraging Common Nighthawk in Walden, Colorado. (Photo courtesy of Bill Schmoker)