

SPECIES: Scientific [common]	<i>Glaucidium gnoma</i> [Northern Pygmy-Owl]
Forest:	Bridger-Teton National Forest
Forest Reviewer:	Randall Griebel, James Wilder
Date of Review:	07/10/2018; reviewed 5/7/2025
Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)	NO

FOREST REVIEW RESULTS:

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
Yes___ No_X___
2. Rationale for not concurring is based on (check all that apply):
Species is not native to the plan area _____
Species is not known to occur in the plan area _____
Species persistence in the plan area is not of substantial concern __X_____

FOREST REVIEW INFORMATION:

1. Is the Species Native to the Plan Area? Yes_X___ No___

If no, provide explanation and stop assessment.
2. Is the Species Known to Occur within the Planning Area? Yes_X___ No___

If no, stop assessment.

Table 1. All Known Occurrences, Years, and Frequency within the Planning Area

Year Observed	Number of Individuals	Location of Observations	Source of Information
Pre 1990	0	Greys River Ranger District	Wyoming Natural Diversity Database; USFS Natural Resource Information System (February 2018)
1999-2007	5		
1978	1	Kemmerer Ranger District	Wyoming Natural Diversity Database; USFS Natural Resource Information System (February 2018)
2009	2		
Pre 1990	0	Pinedale Ranger District	Wyoming Natural Diversity Database; USFS Natural Resource Information System (February 2018)
2013	1		
Pre 1990	0	Big Piney Ranger District	Wyoming Natural Diversity Database; USFS Natural Resource Information System (February 2018)
2009	5		
1989	1	Blackrock Ranger District	Wyoming Natural Diversity Database; USFS Natural Resource Information System (February 2018)
Post 1990	0		
1982	2	Jackson Ranger District	Wyoming Natural Diversity Database; USFS Natural Resource Information System (February 2018)
2006-2014	3		

a. Are all Species Occurrences Only Accidental or Transient?

Yes ___ No X ___

If yes, document source for determination and stop assessment.

b. For species with known occurrences on the Forest since 1990, based on the number of observations and/or year of last observation, can the species be presumed to be established or becoming established in the plan area?

Yes X ___ No ___

If no, provide explanation and stop assessment.

c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

Yes_ X__ No___

If no, provide explanation and stop assessment.

d. **Map 1**, Northern Pygmy-owl range map of North America



Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Northern Pygmy-owl (*Glaucidium gnoma*).

e. **Map 2**, Range and predicted distribution of *Glaucidium gnoma* in Wyoming.

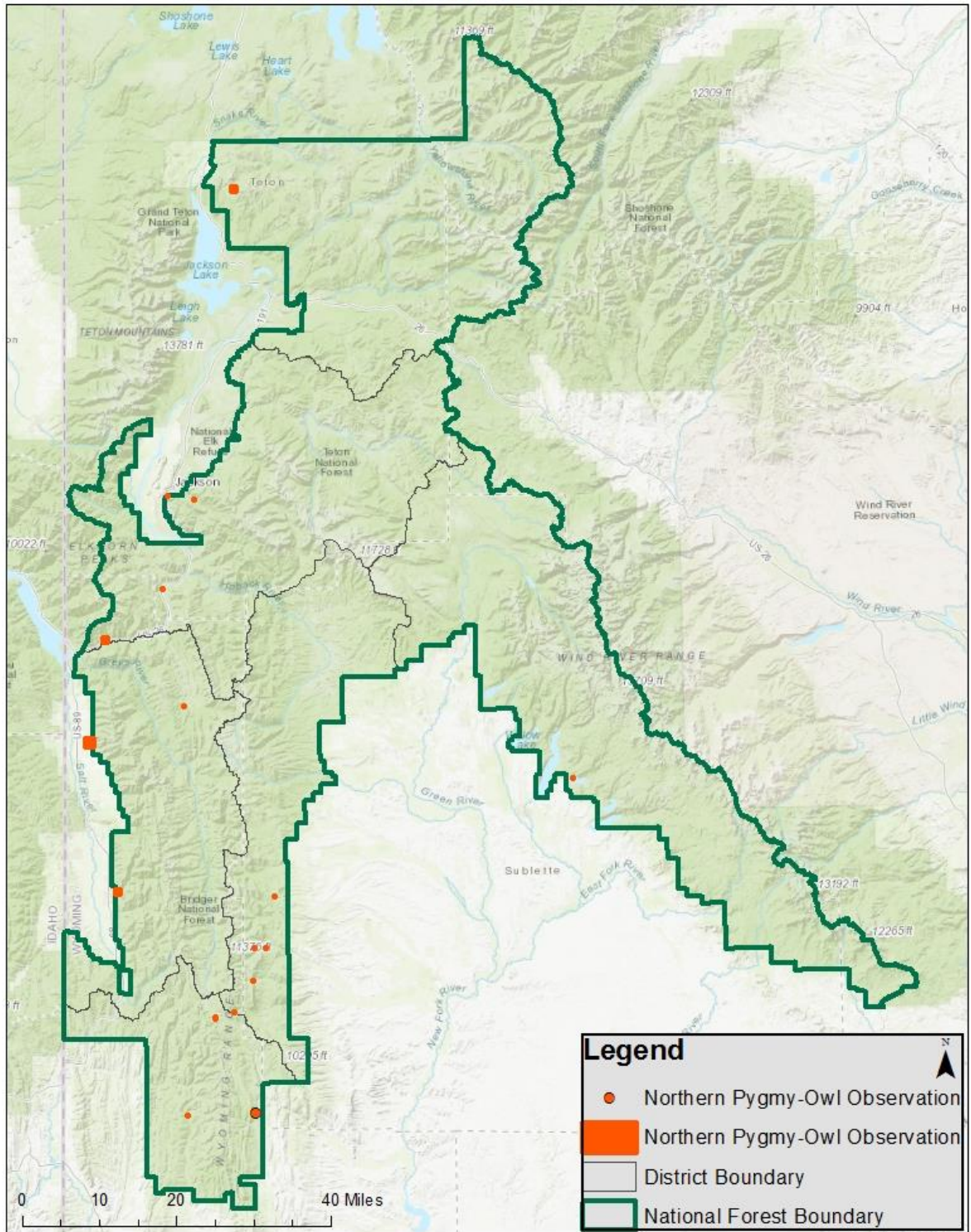


SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: Sept. 2016. Wyoming Game and Fish Department and Wyoming Natural Diversity Database, University of Wyoming, Laramie, Wyoming. Note that brown indicates the predicted distribution of the species; heavy black lines indicate outermost boundaries of possible occurrence.

Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Northern Pygmy-owl (*Glaucidium gnoma*).

- f. **Map 3**, Map of Northern Pygmy-owl occurrences on the Bridger-Teton National Forest (Wyoming Natural Diversity Database, USFS Natural Resource Information System [February 2018])

Northern Pygmy-Owl (*Glaucidium gnoma*)



3. Is There Substantial Concern for the Species' Capability to persist Over the Long-term in the Plan Area Based on Best Available Scientific Information?

Table 2. Status summary based on existing conservation assessments

Entity	Status/Rank (include definition if Other)
<p>NatureServe Global Status</p>	<p>G4G5— Apparently Secure/Secure</p> <p><i>Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors.</i> <i>Secure: Common; widespread and abundant. Wide range and apparently large numbers and occurrences seem to make this species secure.</i></p>
<p>NatureServe State Status</p>	<p>S1— Critically Imperiled</p> <p><i>Critically Imperiled: At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.</i></p>
<p>WGFD</p>	<p>NSSU (U), Tier II</p> <p><i>Population Status: Unknown; Necessary information is lacking, Unknown status until information is obtained.</i> <i>Limiting Factors: Unknown; Necessary information is lacking, Unknown status until information is obtained.</i> <i>Tier II: Moderate priority</i></p> <p><i>[The WGFD's Species of Greater Conservation Need (SGCN) designation process is based upon its Native Species Status (NSS) classification system that compares population and limiting factor variables using a 16 cell matrix. As a species moves from a placement closest to the upper left corner of the matrix (Aa/NSS1) toward the lower right corner (Dd/NSS7) the species' population status in Wyoming is considered more secure. Numerical scores were assigned to each of these variables and summed to provide a total score (i.e. NSS3). SGCN were placed into one of three tiers based on their total score: Tier I – highest priority, Tier II – moderate priority, and Tier III – lowest priority.]</i> (WGFD - Wyoming Species of Greatest Conservation Need)</p>
<p>WYNDD</p>	<p>Species of Concern</p> <p><i>Species vulnerable to extirpation at the global or state level due to:</i></p> <ul style="list-style-type: none"> <i>a. their rarity (e.g., restricted distribution, small population size, low population density)</i> <i>b. inherent vulnerability (e.g., specialized habitat requirements, restrictive life history)</i> <i>c. threats (e.g., significant loss of habitat, sensitivity to disturbances)</i>

	(Wyoming Natural Diversity Database - Species of Concern)
USDA Forest Service	No Special Status
UDI FWS	No Special Status; Migratory Bird
WY BLM	No Special Status
IUCN	<p>LC – Least Concern</p> <p><i>A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.</i></p> <p>(IUCN – Red List Categories and Criteria)</p>
Partners in Flight (PIF) Continental Concern Score	11

Table 3. Status summary based on best available scientific information.

Species (Scientific and Common Name): <i>Glaucidium gnoma</i> [Northern Pygmy-owl]		
Criteria	Rationale	Literature Citations
Distribution on Bridger-Teton National Forest	In Wyoming, the Northern pygmy-owl is a year-round resident throughout the northwest portion of the state (Map 1) including part of the Bridger-Teton National Forest. Northern pygmy-owl distribution generally includes Yellowstone and Grand Teton National Parks, the surrounding National Forest, the Wind River Range, and the Wyoming Range (Map 2). On the BTNF, the Northern Pygmy-owl has been documented on all 6 ranger districts (Map 3), and although the species is not well distributed throughout the Forest, the species appears to occupy what little suitable habitat is available on the BTNF (WGFD 2017).	Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Northern pygmy-owl (<i>Aegolius funereus</i>).
Abundance on the Bridger-Teton National Forest	Northern pygmy-owl abundance is poorly understood throughout its range and likely varies across region and habitat type (WGFD 2017). In Wyoming, the Northern pygmy-owl has an abundance rank of <i>very rare</i> based on the rather small area of the state known to be occupied in any given season and limited suitable habitat within that area (WGFD 2017). According to the WGFD, within the occupied area, the Northern pygmy-owl appears to be uncommon and occurs in relatively low densities where suitable habitat is present. Northern	Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Northern pygmy-owl (<i>Aegolius funereus</i>).

Species (Scientific and Common Name): <i>Glaucidium gnoma</i> [Northern Pygmy-owl]		
Criteria	Rationale	Literature Citations
	pygmy-owl abundance on the BTNF is very low, as current occupancy records suggest (Table 1). However, call back surveys used for owls are less effective for this species and may be reflected in the poor distribution, abundance and population data for this species.	
Population Trend on the Bridger-Teton National Forest	Currently, there are no population estimates for Northern pygmy-owl for the state, and population status for the BTNF is unknown. Wyoming trend data from the North American Breeding Bird Survey suggest that Northern pygmy-owl experienced a long-term (1966–2015) increase of 2.99% and short-term (2005–2015) increase of 2.88% annually (Sauer et al 2017). However, trend data is currently insufficient to provide conclusive results and both trend estimates are statistically insignificant. Low abundance or detectability makes Breeding Bird Survey data unsuitable for determining trends (NatureServe 2017).	<p>NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: June 28, 2018).</p> <p>Sauer, J. R., D. K. Niven, J. E. Hines, D. J. Ziolkowski, Jr, K. L. Pardieck, J. E. Fallon, and W. A. Link. 2017. The North American Breeding Bird Survey, Results and Analysis 1966 - 2015. Version 2.07.2017 USGS Patuxent Wildlife Research Center, Laurel, MD.</p>
Habitat Trend on the Bridger-Teton National Forest	<p>Across the Northern pygmy-owl range, the species uses various forest types, from deciduous bottomlands to high-elevation coniferous forests. Specific nesting habitat is variable across its range consisting of pure and mixed coniferous forests, mixed coniferous-deciduous riparian forests, and aspen (NatureServe 2017). However, occupancy records for Wyoming document this species utilizing mature spruce/fir forests dominated by tall, large-diameter trees with high forest canopy cover (50% in some studies) (WGFD 2017). Northern pygmy-owls are secondary cavity nesters, using natural tree cavities or those made by woodpeckers.</p> <p>A vegetation assessment completed in 2012 for the BTNF determined that “Rocky Mountain Subalpine Mesic-Wet Spruce-Fir Forest and Woodland” vegetation class– the preferred habitat type of Northern pygmy-owl on the Forest– encompasses 9% of the BTNF. This system is typically found on north facing slopes, high elevation ravines, or other areas where cold, mesic conditions exist, and where Engelmann spruce and subalpine fir dominate the</p>	<p>Helmbrecht, D., M. Williamson, and D. Abendroth. 2012. Bridger-Teton National Forest Vegetation Condition Assessment.</p> <p>NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: June 28, 2018).</p> <p>Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Northern pygmy-owl (<i>Aegolius funereus</i>).</p>

Species (Scientific and Common Name): <i>Glaucidium gnoma</i> [Northern Pygmy-owl]		
Criteria	Rationale	Literature Citations
	<p>overstory but Lodgepole pine may be found on drier sites or in early successional stages (Helmbrecht et al. 2012). Of the 9% identified habitat on the BTNF, only 20% has been identified as providing ideal habitat for Northern pygmy-owl, where late development Engelmann spruce, Sub-alpine fir, and Lodgepole pine is present with a canopy cover greater than 50%. With increased fire suppression and less stand replacing wildfires on the landscape, early successional stands are being converted to late successional, resulting in an increase in Northern pygmy-owl habitat.</p>	
<p>Threats to the Species and its Habitat on the Bridger-Teton National Forest</p>	<p><u>Natural Stressors</u></p> <p>Habitat requirements for Northern pygmy-owl may be a limiting factor for this species in Wyoming and potentially on the BTNF. While the Forest may provide suitable habitat to some degree, the variety of attributes that may define optimal habitat for this species, such as structurally diverse old growth forest, is less abundant. Availability and competition for nesting cavities may also contribute to the low abundance of Northern pygmy-owl.</p> <p><u>Forest Management Activities</u></p> <p>Anthropogenic threats to mature and old subalpine forests are similar to cavity nesting species such as the Boreal owl, and include regional-scale fragmentation and loss of acreage from silvicultural practices that promote young, even-age forests (Hayward et al. 1993). As with Boreal owls, such activities may negatively affect Northern pygmy-owl habitat because they are associated with late succession forests for foraging and nesting, and timber harvest often eliminates large-diameter snags and live trees used for nesting, reduces primary prey populations, and removes forest structure needed for foraging and roosting (Hayward 1997). As an obligate cavity nester, Northern pygmy-owl populations may be-influenced by changes in cavity availability resulting from changes in snag abundance or woodpecker populations. Changes in forest structure that alter woodpecker prey availability or the foraging ability of cavity excavators such as northern flickers and pileated woodpeckers, will affect Northern pygmy-owl nest site availability.</p>	<p>Hayward, G. D. 1997. Forest management and conservation of Boreal owls in North America. <i>Journal of Raptor Research</i> 31:114–124.</p> <p>Hayward, G. D., P. H. Hayward, and E. O. Garton. 1993. Ecology of the Boreal owl in the Northern Rocky Mountains, USA. <i>Wildlife Monograph</i> 124:25.</p>

Species (Scientific and Common Name): <i>Glaucidium gnoma</i> [Northern Pygmy-owl]		
Criteria	Rationale	Literature Citations
	<p><u>Wildfire</u> High intensity prescribed fire treatments that result in stand replacement and reduce the amount of large, old-growth trees can negatively affect Northern pygmy-owl habitat. Similarly, wildfires that burn at high intensity may directly reduce the quality and abundance of late succession forests; habitats preferred by Northern pygmy-owls at a landscape scale. Widespread fire suppression that promotes forest succession and reduces the coverage of aspen forest, causes conifer to supplant aspen and may indirectly reduce snags with cavities that are used by nesting Northern pygmy-owls.</p> <p><u>Direct Habitat Loss</u> Activities that occur in mature subalpine forests such as road construction, mining and drilling, timber harvest, and facility improvements may negatively affect Northern pygmy-owl habitat quantity and quality because they directly reduce the coverage and structure of these forest types. Where such stands are limited and the habitat change occurs over a large spatial scale, the loss of Northern pygmy-owl habitat may be significant.</p> <p><u>Climate Change</u> Long-term effects due to climate change may effect Northern pygmy-owl habitat where spruce-fir forest communities are affected by warming temperatures, decrease humidity, and a change in precipitation patters. This trend, overtime, would decrease the amount of nesting, roosting and foraging habitat for the Northern pygmy-owl. In combination with other factors, impacts from climate change may be exemplified and cause more severe consequences to the species.</p>	
<p>Summary and recommendations: Northern pygmy-owl is a rare species on the Bridger-Teton National Forest with low occupancy, distribution, and abundance. However, this is likely attributed to low survey effectiveness and does not</p>		Date: June 29, 2018

Species (Scientific and Common Name): <i>Glaucidium gnoma</i> [Northern Pygmy-owl]		
Criteria	Rationale	Literature Citations
	<p>necessarily conclude that the species and or its habitats existence on the Forest is threatened. The BTNF is also on the very edge of Northern pygmy-owl habitat in Wyoming, and its North America range, suggesting that low owl abundance is natural for the conditions and habitat available on the BTNF.</p> <p>Threats to the species are primarily associated with processes that decrease old-growth spruce-fir forest. On the BTNF, this type of habitat is typically found on north-facing slopes, high elevation ravines, or other areas where cold, mesic conditions exist. These areas are characterized by long fire return intervals and are typically not a primary focus for large-scale forest management actions. It is unknown whether the impacts of climate change on these cooler-mesic sites will result in minor or major changes to the vegetative conditions. With increased fire suppression and less stand replacing wildfires on the landscape, early successional stands are being converted to late successional, resulting in an increase in Northern pygmy-owl habitat across the forest.</p> <p>Evidence suggests that the Northern pygmy-owl populations are not of substantial concern on the BTNF at this time. The Subalpine Mesic-Wet Spruce-Fir Forest and Woodland vegetation class is stable and there is little concern for habitat decline, concluding that the species' capability to persist over the long-term within the planning unit is currently adequate. Therefore, it is recommended that the Northern pygmy-owl is not a Species of Conservation Concern for the Bridger-Teton National Forest at this time.</p> <p>Evaluator(s): Ashley Egan, Randall Griebel</p>	