

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: Great gray owl ( <i>Strix nebulosa</i> )			
Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	B	Breeding populations are confined to the most northern portions of the Region. Great gray owl breeding populations may exist only on the Shoshone N.F. in the Region. Like many northern forest owls, great gray owls are nomadic and individuals have been sited south of the breeding range. Within this limited Range (northern forests in the region) the extent to which breeding populations exist is not well known. However, populations are likely patchy throughout the region because of the distribution of suitable habitat.  Confidence in Rank <del>High</del> or <del>Medium</del> or <del>Low</del>	<ul style="list-style-type: none"> <li>• Duncan and Hayward 1994</li> <li>• Bull and Duncan 1993.</li> <li>• Johnsgard 1988</li> </ul>
2 Distribution outside R2	B	Great gray owls occur north and west of Region 2 with an extremely broad distribution in North America. Continental distribution extends throughout much of the boreal forest from north of the great lakes to central Alaska. An apparently strong population of great gray owls occurs immediately west of Region 2 in the forested portions of northeastern Idaho (Targhee N.F.).  Confidence in Rank <del>High</del> or <del>Medium</del> or <del>Low</del>	<ul style="list-style-type: none"> <li>• Duncan and Hayward 1994</li> <li>• Bull and Duncan 1993</li> <li>• Johnsgard 1988</li> </ul>
3 Dispersal Capability	C	Based on their ability to move long distances during nomadic movement events in Europe and North America I assume that great gray owls can disperse readily across non-forested habitat. In Canada, radio marked owls have been observed moving long distances including movements across inhospitable habitat. These owls, however, are generally sedentary, remaining in their home range for multiple years and only moving during prey crashes. Young owls frequently disperse only short distances prior to establishing a territory. Based on this biology, I assume the species has a high capacity for dispersal but dispersal will be episodic.  Confidence in Rank <del>High</del> or <del>Medium</del> or <del>Low</del>	<ul style="list-style-type: none"> <li>• Duncan and Hayward 1994</li> <li>• Duncan 1987</li> <li>• Duncan 1992</li> <li>• Bull et al. 1988a</li> <li>• Bull and Henjum 1990</li> <li>• Mikkola, H. 1983</li> </ul>
4 Abundance in R2	D-B	There is no direct information to base an estimate of abundance or even relative abundance upon. However, the relatively common occurrence of great gray owls in habitats west of Region 2 would suggest that great gray owls may be relatively common in appropriate habitat in Region 2. Because Region 2 occurs at the southeastern extent of the bird's geographic range in North America, however, I would hypothesize that abundance is far less than at the center of the bird's range.  Confidence in Rank <del>High</del> or <del>Medium</del> or <del>Low</del>	<ul style="list-style-type: none"> <li>• Duncan and Hayward 1994</li> <li>• Bull and Duncan 1993</li> <li>• Groves and Zehntner. 1990</li> </ul>

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Criteria	Rank	Rationale	Literature Citations
5 Population Trend in R2	D-B	<p>There is no direct evidence to suggest the direction of population change for great gray owls in Region 2. Based on the biology of the bird, habitat use, and habitat conditions, and using the arguments presented in recent assessments, I would conclude that the species is likely stable in the Region</p> <p>Confidence in Rank <del>High or Medium</del> or Low</p>	<ul style="list-style-type: none"> <li>Duncan and Hayward 1994</li> <li>Groves and Zehntner. 1990</li> </ul>
6 Habitat Trend in R2	B	<p>Much of the habitat of great gray owl in Region 2 occurs in wilderness and other protected areas in Region 2. Furthermore, the disturbance regime, pattern of timber harvest and pattern of land development would suggest that that overall habitat suitability for this species likely is not declining. The owl uses older forests for nesting, however, nesting densities are not high and therefore the abundance of old forest does not need to be high, if this habitat is well distributed. Foraging habitat may have declined due to fire suppression, however, timber harvest likely compensated for any trend in this direction.</p> <p>Confidence in Rank High or Medium or Low</p>	<ul style="list-style-type: none"> <li>Duncan and Hayward 1994</li> <li>Hayward and Verner 1994</li> <li>Bull et al 1988b</li> </ul>
7 Habitat Vulnerability or Modification	B	<p>The great gray owl uses both forested and the edges of forested habitat for foraging and nests in mature and older forests. This mix of forest habitats results from forest disturbance whether through timber harvest or fire. Because harvest frequently targets older forest stands however, habitat for the owl is vulnerable to loss of sufficient nesting habitat. Furthermore, development of habitat for housing or other intensive human use will decrease habitat quality by increasing mortality rates of young and adults.</p> <p>Confidence in Rank High or Medium or Low</p>	<ul style="list-style-type: none"> <li>Bull and Duncan 1993</li> <li>Duncan and Hayward 1994</li> </ul>
8 Life History and Demographics	B	<p>Great gray owls are long-lived owls with relatively plastic reproduction. The owls are generally year-round residents so don't rely on different winter and breeding habitat. Nomadic behavior provides a mechanism to recolonize habitat after disturbance. The geographic characteristic, that Region 2 occurs at the edge of the species range is a feature that provides some vulnerability for the taxa in Region 2</p> <p>Confidence in Rank High or Medium or Low</p>	<ul style="list-style-type: none"> <li>Bull et al 1989</li> <li>Duncan and Haywafrd 1994</li> <li>Hayward and Verner 1994</li> <li>Franklin 1988</li> </ul>
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National Forests in the Rocky Mountain Region where species is KNOWN (K) or LIKELY (L)<sup>1</sup> to occur:

<u>Colorado NF/NG</u>	Known	Likely	<u>Kansas NF/NG</u>	Known	Likely	<u>Nebraska NF/NG</u>	Known	Likely	<u>South Dakota NF/NG</u>	Known	Likely	<u>Wyoming NF/NG</u>	Known	Likely
Arapaho-Roosevelt NF			Cimmaron NG			Samuel R. McKelvie NF			Black Hills NF			Shoshone NF	K	
White River NF						Halsey NF			Buffalo Gap NG			Bighorn NF		L
Routt NF						Nebraska NF			Ft. Pierre NG			Black Hills NF		
Grand Mesa, Uncompahgre, Gunnison NF						Ogalala NG						Medicine Bow NF		
San Juan NF												Thunder Basin NG		
Rio Grande NF														
Pike-San Isabel NF														
Comanche NG														

Literature Cited:

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Bull, E. L., and M. G. Henjum. 1990. Ecology of the Great Gray Owl. United States Department of Agriculture Forest Service General Technical Report PNW-GTR-265

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Duncan, J. R. 1992. Influence of prey abundance and snow cover on Great Gray Owl breeding dispersal. Dissertation. University of Manitoba, Winnipeg, Manitoba, Canada

<sup>1</sup> Likely is defined as more likely to occur than not occur on the National Forest or Grassland. This generally can be thought of as having a 50% chance or greater of appearing on NFS lands.

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- Duncan, J. R., and P. H. Hayward. 1994. Review of technical knowledge: Great gray owl. Pages 159-175. In: G. D. Hayward and J. Verner eds.. Flammulated, boreal, and great gray owls in the United States: A technical conservation assessment. USDA Forest Service, GTR RM-253.
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