

|   | A   | B                       | C   | D  | E  | F   | G  | H   |
|---|---|-------------------------|---|--|--|---|--|---|
| 1 | Terrestrial Animals Evaluated for Species of Conservation Concern - For the Flathead National Forest Draft Forest Plan and Draft Environmental Impact Statement | Conservation Categories | Is the species known to occur in the plan area?   | Distribution and Abundance in the Plan Area  | Population Trend in the Plan Area  | Habitat Description   | Habitat Trend in the Plan Area   | Relevant Life History & Other Information   |
| 2 | A millipede (Endopus parvipes)  | G1G3, S1S3              | Yes   | Very low survey effort has been conducted for this Montana endemic. Known from 1 general area (2 sites) within Mission Mountain Wilderness Area.   | Unknown  | Unknown   | Unknown  | Unknown   |
| 3 | A millipede (Lophomus laxus)  | G1G3, S1S3              | No. Documented within outer boundary of FNF but not on NFS lands. (MNHP species occurrence records) | N/A  | N/A  | N/A   | N/A  | N/A   |
| 4 | A millipede (Orophe cabinetus)  | G1G3, S1S3              | No; One MNHP observation record on non-federal land within outer Forest boundary                    | N/A  | N/A  | N/A   | N/A  | N/A   |
| 5 | Alpine Mountainsnail (Oreohelix alpina)   | G1, S1                  | Yes   | Very low survey effort has been conducted for this Montana endemic. 4 sites in 2 general locations are known in plan area; all are in designated Wilderness or inventoried roadless areas. The species was relatively abundant at some locations within sites of occurrence (Elrod 1902 and Hendricks 1998 in Hendricks 2003) but no population estimates are available in plan area or elsewhere. According to MNHP and MFWP (2015), other sites are likely to exist in all mountain ranges currently known to be occupied, and the Bob Marshall Wilderness is particularly promising for additional populations. | Population trend unknown. Difficult access, detection and identification discourages effective monitoring. | Open limestone talus slopes at high elevations near and above treeline. | Habitat likely stable. Talus habitat is harsh but no stressors exist to change it quickly; talus is subject to slow or infrequent geologic and climatic forces such as weathering, avalanches and other mass movements that would likely maintain open talus conditions for many more years. | Snails have inherently limited dispersal ability but this species is hermaphroditic (MNHP and MFWP 2015), which increases probability of encountering suitable mates and maintaining genetic diversity (Ghiselin 1969). |

|   | I  | J  | K  | L  | M  |
|---|--|--|--|--|--|
| 1 | Relevant Threats in the Plan Area  | Is there sufficient scientific information available to conclude substantial concern for long-term persistence in the plan area? | Is this species identified as an SCC for the DEIS? | Rationale for SCC Determination  | Best Available Scientific Information  |
| 2 | None known.  | No   | No   | Insufficient information. No description available of habitat, abundance, trends, life history, or threats. No justification provided for NatureServe and MNHP ranks. No threats in designated wilderness. | MNHP occurrence database records MNHP and MFWP 2016. A Millipede — Endopus parvipes. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ITUNI91010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ITUNI91010</a>  |
| 3 | N/A  | Yes  | No   | Not known to occur in the plan area  | MNHP species occurrence records  |
| 4 | N/A  | Yes  | No   | Not known to occur in the plan area  | MNHP species occurrence records  |
| 5 | None. Talus habitat is geologically stable and changes little over very long periods of time. No threats from land use practices primarily because talus is not managed, also because known sites are within designated Wilderness or inventoried roadless areas. Climate change presents an unknown risk. | Yes  | No   | Threats not present or relevant in plan area (habitat is geologically stable, and lies within Wilderness and inventoried roadless areas)   | MNHP species occurrence records. MNHP and MFWP. 2015. Alpine Mountainsnail — Oreohelix alpina. Montana Field Guide. Montana Natural Heritage Program. accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IMGASB5010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IMGASB5010</a><br>Ghiselin, M. 1969. The evolution of hermaphroditism among animals. The Quarterly Review of Biology 44:2, pp. 189-208.<br>Hendricks, P. 2003. Status and conservation management of terrestrial mollusks of special concern in Montana. Unpublished report prepared for the U.S. Forest Service. Montana Natural Heritage Program, Helena, Montana. 67 pp. + appendices. |

|   | A   | B        | C  | D   | E  | F  | G   | H   |
|---|---|----------|--|---|--|--|---|---|
| 6 | American Peregrine Falcon<br>( <i>Falco peregrinus anatum</i> ) | RFSS     | Yes  | As of 2015, there are 13 reported breeding territories within the Forest boundary. This includes 4 new territories with data that are still considered tentative (Montana Peregrine Institute 2015), but it represents a large increase in reported territories in the last 10 years.   | Species was federally listed, but has met recovery goals and was delisted in 1999; the species was formally monitored by the USFWS until 2015. The species is still increasing in many parts of its range, including the plan area, as evidenced by 4 tentative new territories reported by the Peregrine Institute in 2015. | Nests typically are situated on ledges of vertical cliffs, often with a sheltering overhang. Ideal locations include undisturbed areas with a wide view, near water, and close to plentiful prey. Substitute man-made sites can include tall buildings, bridges, rock quarries, and raised platforms (MNHP and MFWP 2015). | Cliffs / nest sites are stable. Forages on a variety of prey species and therefore is not very sensitive to changes in non-nesting habitat. | Peregrine Falcons feed primarily on birds (medium-size passerines up to small waterfowl), but also occasionally on small mammals (e.g., bats, lemmings), lizards, fishes, or insects (by young birds). Prey is pursued from a perch or while soaring. Peregrine Falcons may hunt up to several km from nest sites (MNHP and MFWP 2016). |
| 7 | Bald Eagle<br>( <i>Haliaeetus leucocephalus</i> )               | RFSS, DM | Yes  | In 2012 there were twelve nesting territories known to be active on or within 1 mile of Flathead NF lands (K. Dubois, MTFWP, pers. comm with Reed Kuennen FNF, 2013). Nesting territories occur along major rivers in valley bottoms and on a variety of lakes. Nests are in cottonwoods as well as conifers. Additional, non-breeding individuals also occur within the plan area. | Unknown specific to plan area, but known nesting pairs have increased across Montana from 31 in 1980 to over 700 in 2014, with no indication of stabilizing other than a trend of smaller broods (MBEWG 2016).   | Forested areas along rivers and lakes, especially during nesting season. Wintering habitat may include upland sites. Nests are usually built in the largest trees available (MNHP and MFWP 2015). In Montana, this is most often cottonwoods even when large conifers are present (MBEWG 2016).                            | Riparian habitat conditions across plan area are stable or increasing.  | Long lived species with fidelity to nest areas and delayed age to first reproduction (4-6 years). Forages primarily on fish, waterfowl and carrion. Strong nationwide population recovery after pesticide prohibitions put in place.  |
| 8 | Bighorn Sheep<br>( <i>Ovis canadensis</i> )                     | RFSS     | No. Transient use only.  | One observation of 7 rams in Bob Marshall Wilderness Area; transient use by members of Sun River herd. MNHP species occurrence records  | N/A  | N/A  | N/A   | N/A   |
| 9 | Bison<br>( <i>Bos bison</i> )                                   | TC, S2   | No. Small bison herds historically roamed western Montana, including the plan area, but were extirpated before 1900 (MFWP 2012). | N/A   | N/A  | N/A  | N//A  | N/A   |

|   | I  | J   | K   | L  | M   |
|---|--|-----|-----|--|---|
| 6 | Pesticide effect on eggshell thickness led to federal listing of this species, but contaminant levels were reduced sufficiently to allow recovery and expansion of the species (USFWS 2003). No significant relevant threats in plan area currently.                           | Yes | No  | Secure in plan area. Increasing population, stable habitat, no significant threats to populations.   | MNHP and MFWP. 2015. Peregrine Falcon — Falco peregrinus. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNKD06070">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNKD06070</a><br>Montana Peregrine Institute. 2015. New territories - 2015. Accessed from <a href="http://www.montanaperegrine.org/index.html">http://www.montanaperegrine.org/index.html</a><br>USFWS. 2003. Monitoring Plan for the American Peregrine Falcon, A Species Recovered Under the Endangered Species Act. Accessed from <a href="https://www.fws.gov/endangered/esa-library/pdf/Peregrineplan2003.pdf">https://www.fws.gov/endangered/esa-library/pdf/Peregrineplan2003.pdf</a> |
| 7 | No foreseeable population-level threats. Fire in riparian areas could at least temporarily affect nesting habitat. Human activity could affect reproductive success but habituation is known to occur in this species where activities are not otherwise harmful (Guinn 2013). | Yes | No  | Secure in plan area. Increasing population trend statewide, stable or increasing nesting habitat trend in plan area, and lack of threats in plan area. | Guinn, J. 2013. Generational habituation and current bald eagle populations. Human-Wildlife Interactions 7:69-76.<br>MBEWG. 2016. Bald eagle nesting populations and nest monitoring, 1980-2014. Final report. MFWP. 27 pp.<br>MNHP and MFWP. 2015. Bald Eagle — Haliaeetus leucocephalus. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNKC10010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNKC10010</a>   |
| 8 | N/A  | Yes | No  | Not known to occur in plan area; species is not established or becoming established in plan area.  | MNHP species occurrence records   |
| 9 | N/A  | N/A | N/A | Not known to occur in the plan area; species is not established or becoming established in plan area.  | MFWP. 2012. Executive summary of MFWPs background information on issues of concern for Montana: Plains bison ecology, management, and conservation. Accessed from <a href="http://fwp.mt.gov/fwpDoc.html?id=55766">http://fwp.mt.gov/fwpDoc.html?id=55766</a>   |

|    | A   | B              | C   | D  | E  | F  | G   | H   |
|----|---|----------------|-----|--|--|--|---|---|
| 10 | Black Swift<br>( <i>Cypseloides niger</i> )             | S1B (Breeding) | Yes | Currently only one breeding area known, despite a few surveys in other areas; however, nests are difficult to detect. There have been more observations of foraging birds than nesting birds, so additional breeding sites may exist. Regardless, waterfalls are limited in the plan area.   | Unknown  | Waterfalls at least 20 ft high (Casey 2004) through bedrock in alpine streams where water is present through breeding season (Levad et al. 2008). In nearby Glacier NP, this has been observed in mid Aug; Lisa Bate personal comm with Reed Kuennen 2015).  | Trend in availability of cliff-face habitat is likely relatively stable. Trends and variability in water flow among and within nesting seasons is unknown. Marks and Casey (2004) noted the probable loss (drying) of a waterfall and accompanying pair of nesting swifts that were previously reported within Glacier NP in the 1960's, and surmised melting glaciers could be the cause.  | Relatively long-lived species with inherently low reproductive rate (1 egg, 1 clutch per year). Population growth is most influenced by survival of adult females and less by annual reproductive outcome (Wiggins 2004). Adults show strong nest site fidelity and may use the same area for a decade or more. Juvenile dispersal patterns unknown (Levad et al. 2008). This is a low density species that utilizes uncommon habitats, suggesting populations may operate at very large spatial scales.  |
| 11 | Black-backed Woodpecker<br>( <i>Picoides arcticus</i> ) | RFSS           | Yes | Well distributed, low density species. Records in 4 GAs but likely occurs in all 6 based on distribution of habitat. Approximately 40 MNHP observation records on NFS lands, over half in the past 15 years and only one through IMBCR bird monitoring program which does not effectively monitor this species. Plan area occurs within large, genetically continuous population of black-backed extending from the Rocky Mountains across the boreal zone to Quebec, indicating high genetic connectivity (Pierson 2009). | Species was observed on FNF during periods when wildfire was largely absent, although at very low density (MNHP species occurrence records). It is likely this species has increased (or at minimum is stable) with increasingly large burned areas found in the plan area and greater region over the past 2 decades as this species is known to effectively find and exploit burn resources (Murphy and Lehnhausen 1998, Mohren et al. 2014, Samson 2006). | Conifer forests containing wood boring beetles or bark beetles, major food items. Woodpecker density and reproductive output are highest in recently (3-5 yrs) burned forests colonized by woodboring beetles, followed by forests that host high (epidemic) levels of bark beetles. Black-backed densities and reproductive output are much lower within live mature or dense forests having normal (endemic) levels of beetles, but these forest structures may be particularly important to sustain species during periods when fire and insect activity are relatively low (e.g., wet periods). (Mohren et al. 2014) | Wildland fire acreage in the plan area has continually increased over all three 10-yr periods between 1980 and 2009. This trend appears to be perpetuating in the current 10-yr period, based on acres burned from 2010-2013, climate projections, and fire projections. Climate change will likely benefit this species. USDA Forest Service 2014 Approximately 835,000 acres of potential vegetation groups capable of providing black-backed woodpecker habitat occurs within designated wilderness in the plan area. Natural processes such as wildfire and insect mortality prevail in these areas, and activities such as salvage harvest do not occur. | Species - particularly males - known to mobilize large distances (up to 62 mi) to exploit new burns and areas with high bark beetle populations. Species abundance and reproductive output increase while ephemeral prey pulses exist (Murphy and Lehnhausen 1998, Yunick 1985, Dixon and Saab 2000). Juveniles delay dispersal from natal site to exploit these conditions. Black-backed woodpecker is an excellent ecological example of a highly resilient, boom/bust species that can persist for years at low levels across a landscape, then be highly responsive when ideal conditions emerge. |

|    | I  | J   | K   | L   | M  |
|----|--|-----|-----|---|--|
| 10 | <p>No known relevant threats to adult survival. Annual reproduction may be affected by drought and corresponding low water runoff, although the swift has undoubtedly evolved with periods of drought. Human disturbance could affect annual reproduction although typically this species nests behind waterfalls well above ground level, which likely affords protection in most cases (Wiggins 2004).</p> | Yes | Yes | <p>Limited distribution of species and habitat, low reproductive capacity, and observed habitat loss in other parts of northwestern Montana present substantial concern despite unknown population trends, habitat trends, and vulnerabilities. This species should continually be re-evaluated as new data arises.</p> | <p>Marks, J. and D. Casey. 2004. Monitoring black swifts in Montana: 2004 annual report.<br/>                     MNHP and MFWP 2015. Black Swift — <i>Cypseloides niger</i>. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNUA01010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNUA01010</a><br/>                     Levad, R, K. Potter, and others. 2008. Distribution, abundance, and nest-site characteristics of black swifts in the southern Rocky Mountains of Colorado and New Mexico. <i>Wilson J. of Ornith.</i> 120:331-338.<br/>                     Wiggins, D. 2004. Black swift (<i>Cypseloides niger</i>): A technical conservation assessment. Prepared for the USDA Forest Service, Rocky Mountain Region, Species Conservation Project. Online at: <a href="http://www.fs.fed.us/r2/projects/scp/assessments/blackswift.pdf">http://www.fs.fed.us/r2/projects/scp/assessments/blackswift.pdf</a></p>   |
| 11 | <p>Timber harvest, fire suppression and salvage logging may affect populations if they are applied over large enough spatial scales.</p>   | Yes | No  | <p>Secure in plan area. Increasing habitat trend, high dispersal distances, high ability to find and exploit ephemeral resources created by disturbance processes even when source populations are very low (i.e., high resilience); large amount of potential habitat in designated wilderness.</p>                    | <p>Dixon, R. and V. Saab. 2000. Black-backed Woodpecker (<i>Picoides arcticus</i>), <i>The Birds of North America Online</i> (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from: <a href="http://bna.birds.cornell.edu/bna/species/509">http://bna.birds.cornell.edu/bna/species/509</a><br/>                     Mohren, S. M. Rumble, and S. Anderson. 2014. Density and abundance of black-backed woodpeckers in a ponderosa pine ecosystem. <i>Prairie Naturalist</i> 46:62-68.<br/>                     MNHP species occurrence records<br/>                     Murphy, E. and W. Lehnhausen. 1998. Density and foraging ecology of woodpeckers following a stand replacement fire. <i>J. Wildl. Manage.</i> 62:1359-1372.<br/>                     Pierson, J. 2009. Genetic population structure and dispersal of two North American woodpeckers in ephemeral habitats. Ph.D. Dissertation, Univ. Montana, Missoula. 213pp.<br/>                     Samson, F. A conservation assessment of the northern goshawk, black-backed woodpecker, flammulated owl, and pileated woodpecker in the Northern Region. USDA Forest Service, Northern Region. Accessed from: <a href="http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5130737.pdf">http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5130737.pdf</a><br/>                     USDA Forest Service. 2014. Assessment of the Flathead National Forest. Available at <a href="http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprdb5422786&amp;width=full">http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprdb5422786&amp;width=full</a><br/>                     Yunick, R. 1985. A review of recent irruptions of the black-backed woodpecker and three-toed woodpecker in eastern North America. <i>J. Field Ornithology</i> 56:138-152.</p> |

|    | A   | B                                  | C   | D  | E  | F   | G   | H  |
|----|---|------------------------------------|-----|--|--|---|---|--|
| 12 | Boreal (Western) Toad<br>( <i>Anaxyrus boreas</i> or <i>Bufo boreas</i> ) | S2, RFSS                           | Yes | Species is well distributed in planning area: Known from all GAs (MNHP species occurrence records; Exhibit V-6 in DEIS planning record for the Flathead Forest Plan Revision); Breeding documented at about 27 sites; Species has been observed in 31 of the 65 sub-watersheds surveyed in last 10 years (Exhibit V-43 in DEIS planning record for the Flathead Forest Plan Revision). | 30+ years of monitoring demonstrate long-term occupancy at many sites (see planning record document V-43). Interannual population fluctuations are normal for this species due in part to varying precipitation levels, so a true population trend is unknown. | Utilizes a wide variety of wetlands, including beaver ponds, reservoirs, streams, marshes, lake shores, potholes, wet meadows, marshes, fens, and tarns. Not sensitive to elevation; ranges from low elevation floodplains to upper treeline. Also occurs in urban settings, sometimes congregating under streetlights at night to feed on insects. (MNHP and MFWP 2015) Known to colonize wetlands in recently burned areas (Hossack and Corn 2008). | Riparian habitat conditions across plan area are stable or increasing. Riparian habitats on NFS lands are well connected. Natural fluctuations in water levels may cause low or eruptive changes in the population. | High potential reproductive rate: up to 20,000 eggs per clutch noted in Montana (Maxell et al. 2002); however mortality of tadpoles and juveniles may also be high, and females may not breed every year (FWS 2012). Adults breed at 4-6 years and known to live at least 12 years (FWS 2012). Reoccupancy has been noted after temporary disruptions indicating resiliency &/or adaptability. |
| 13 | Canada Lynx<br>( <i>Lynx canadensi</i> )                                  | Federally recognized as Threatened | N/A | N/A  | N/A  | N/A   | N//A  | N/A  |

|    | I  | J   | K  | L  | M   |
|----|--|-----|----|--|---|
| 12 | <p>Invasive species: Chytrid fungus is widespread in Montana but either is not present or is not substantially limiting populations in the plan area. Chytrid has been implicated in declines of many amphibian species in many parts of the world (Olson et al. 2013). However, Pilliod et al. (2010) found that in the Rocky Mountains, chytrid may not cause rapid population declines of boreal toads, but instead may function as a low-level, chronic disease whereby not all individuals are infected, and some infected individuals survive. Another invasive, reed canary grass could alter habitat conditions but is currently limited in the plan area.</p> <p>Grazing allotments have been limited on Forest (2 geographic areas) and do not overlap most toad habitat; therefore not likely a threat to long-term persistence in the plan area.</p> | Yes | No | The species is well distributed and there is no evidence of population decline, habitat decline, or major relevant threats in plan. Low risk of extirpation. | <p>Hossack, B. and S. Corn. 2008. Breeding sites by the boreal toad (<i>Bufo boreas</i>) in seasonal wetlands. <i>Herp. Cons. Biol.</i> 3:46-54.</p> <p>MNHP species occurrence records</p> <p>MTNHP and MFWP. 2015. Western Toad — <i>Anaxyrus boreas</i>. Montana Field Guide. accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AAABB01030">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AAABB01030</a></p> <p>Also see watershed analysis for western toad in exhibit V-6 in the DEIS planning record for the Flathead National Forest plan revision.</p> <p>Olson, D., D. Aanensen, K. Ronnenberg and others. 2013. Mapping the global emergence of <i>Batrachochytrium dendrobatidis</i>, the amphibian chytrid fungus.</p> <p>Pilliod, D, E. Muths, R. Scherer and others. 2010. Effects of amphibian chytrid fungus on individual survival probability in wild boreal toads. <i>Cons. Biology</i> 24:1259-1267.</p> <p>USFWS 2012. Endangered and Threatened Wildlife and Plants; 90-day finding on a petition to list the eastern or southern Rocky Mountain population of the boreal toad as an endangered or threatened distinct population segment. <i>Fed. Reg.</i> 77 (71) 21920-21936.</p> |
| 13 | N/A  | N/A | No | Species is federally recognized.   |   |

|    | A  | B              | C   | D   | E   | F   | G  | H  |
|----|--|----------------|---|---|---|---|--|--|
| 14 | Carinate Mountainsnail<br>( <i>Oreohelix elrodi</i> )      | G1, S1         | Yes   | Habitat is predominantly in talus/argillite soils within inventoried roadless areas. Very limited surveys conducted in suitable habitats on the Flathead or elsewhere. On FNF, known from 3 areas (spanning approx 12 miles) with argillite talus in the Swan Range (MNHP and MFWP 2015). One of 10 occurrence points and 5 of 12 occurrence polygons overlap inventoried roadless areas. Additional similar habitats have been identified (modeled) along the length of the Swan Range and other, smaller, areas on the FNF, but surveys have not been conducted. Inconspicuous profile and difficult-to-traverse habitat likely inhibit incidental observations for this species. | Population trend unknown. Type locality still occupied a century after first discovery (MNHP and MFWP 2015). Few other sites revisited to confirm continued occupancy. Difficult access, detection and identification discourages effective monitoring. | Primary habitat is non-forested (rock/argillite) talus, but a few observations reported from forested areas adjacent to talus (e.g., downslope dense riparian habitats, and areas with <30% tree canopy; MNHP and MFWP 2015). MNHP modeled potential habitat for this species, with resulting values spanning from 0-100. 64% of modeled habitat in plan having a value $\geq 50$ occurs within inventoried roadless or designated wilderness areas. 84% of modeled habitat in plan having a value $>75\%$ occurs within inventoried roadless or designated wilderness areas. 78% of modeled habitat in plan area having a value $>90$ occurs within inventoried roadless or designated wilderness areas. | Habitat likely stable. Talus habitat is harsh but no stressors exist to change it quickly; talus is subject to slow or infrequent geologic and climatic forces such as weathering, avalanches and other mass movements that would likely maintain open talus conditions for many more years. | Snails have inherently limited dispersal ability but this species is hermaphroditic (MNHP and MFWP 2015), which increases probability of encountering suitable mates and maintaining genetic diversity (Ghiselin 1969). Species has evolved in an exposed environment with harsh climatic conditions; retreats from rock surfaces into talus and aestivates during dry and warm periods (Hendricks 1998 in Hendricks 2003). Lifespan and age to first reproduction unknown. Reproductive capacity unknown, although one individual in captivity produced 4 young after overwintering (MNHP and MFWP 2015). |
| 15 | Caspian Tern<br>( <i>Hydroprogne caspia</i> )              | S2B (Breeding) | No; Species is not established or becoming established.   | Does not nest in plan area or regularly use plan area. Two observation records within plan area in MNHP database; one in 1924, one in 2008. No detections during IMBCR bird monitoring efforts (RMADC 216).   | N/A   | N/A   | N/A  | N/A  |
| 16 | Chestnut-collared Longspur<br>( <i>Calcarius ornatus</i> ) | S2B (Breeding) | No. Documented within outer boundary of FNF but not on NFS lands. (MNHP species occurrence records) | Species is not established or becoming established in plan area. NHP occurrence database has no observations within plan area, and two records $>30$ yrs old on non-NFS lands within the outer boundaries. No detections during IMBCR bird monitoring efforts (RMADC 2016).   | N/A   | N/A   | N/A  | N/A  |

|    | I   | J   | K  | L   | M  |
|----|---|-----|----|---|--|
| 14 | No relevant threats in plan area. Talus is very stable geologically, and not likely to substantially change for extremely long time periods. Sparse vegetation and heavy rock armoring preclude fire, timber management activities, and other modern stressors in primary habitat. In secondary (adjacent) habitats, road and recreation threats, if present at all, would be very localized and not relevant at population scale. Most modeled habitat is within inventoried roadless or designated wilderness areas, where road building, vegetation treatments, and other forms of active management are very limited. | Yes | No | Habitat has been stable and there are no known relevant threats to populations or habitats. | Ghiselin, M. 1969. The evolution of hermaphroditism among animals. Quarterly Review of Biology 44:189-208.<br>MNHP species occurrence records.<br>MNHP and MFWP. 2015. Alpine Mountainsnail — Oreohelix alpina. Montana Field Guide. accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IMGASB5010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IMGASB5010</a><br>Hendricks, P. 2003. Status and conservation management of terrestrial mollusks of special concern in Montana. Unpublished report prepared for the U.S. Forest Service. Montana Natural Heritage Program, Helena, Montana. 67 pp. + appendices. |
| 15 | N/A   | Yes | No | N/A   | RMADC 2016. Web-based data application accessed May 13, 2016 from <a href="http://rmbo.org/v3/avian/ExploretheData.aspx">http://rmbo.org/v3/avian/ExploretheData.aspx</a><br>MNHP occurrence database records<br>MNHP and MFWP 2016. Caspian Tern — Hydroprogne caspia. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNNM08020">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNNM08020</a>   |
| 16 | N/A   | Yes | No | Not known to occur in plan area   | MNHP and MFWP 2016. Chestnut-collared Longspur — Calcaeus ornatus. Montana Field Guide. accessed on May 14, 2016, from <a href="http://fieldguide.mt.gov/speciesDetail.aspx?elcode=ABPBXA6040">http://fieldguide.mt.gov/speciesDetail.aspx?elcode=ABPBXA6040</a><br>RMADC 2016. Web-based data application accessed from <a href="http://rmbo.org/v3/avian/ExploretheData.aspx">http://rmbo.org/v3/avian/ExploretheData.aspx</a>   |

|    | A   | B        | C   | D  | E  | F   | G   | H   |
|----|---|----------|-----|--|--|---|---|---|
| 17 | Clark's Nutcracker<br>( <i>Nucifraga columbiana</i> ) | LC       | Yes | Most summer records occur in high elevations. Winter observations have primarily been in valley bottom and low elev habitats. There are many (>175) observations records for the plan area in the MNHP database, but none through the IMBCR bird monitoring program (RMADC 2015).  | Suspected decline, not verified through empirical data (Teresa Lorenz [Pacific Northwest Research Station] pers. comm. with Cara Staab). Monitoring data and trends are difficult to obtain because Clark's nutcracker does not breed when most bird surveys are conducted (i.e., May/June/July), and also because this species is wide-ranging and non-territorial. Suspected downward population trend is based on a well documented long-term decline in habitat (USDA Forest Service 2014) and the tendency for nutcrackers to emigrate or skip breeding when food resources are low (Tomback 1998, Shaming 2015). | Clark's nutcracker is closely tied to mature (cone-producing) stands of large-seeded pines, which in the plan area are primarily whitebark pine and to a lesser extent, ponderosa pine. The seeds of these pines - especially those of whitebark - are energy rich, and are cached by Clark's nutcracker for retrieval when food resources are scarce, namely during the bird's late winter / early spring breeding season (Tomback 1998). Whitebark pine most commonly occur at harsh high elevation sites, in association with subalpine fir and Engelmann spruce. Ponderosa pine most commonly found in warm, dry, low elevations. Factors leading to decline of ponderosa include fire suppression and resulting vegetation succession, past logging and residential/agricultural | Declining. Over 90% of whitebark pine in the plan area has died over the past few decades, primarily from introduced, invasive blister rust but also from other stressors such as mountain pine beetle and fire. Whitebark pine is federally-recognized with candidate status. Currently whitebark pine is well below the natural range of variability (NRV) in the plan area. Ponderosa pine is also below NRV (USDA Forest Service 2014). | The morphology, behavior, and annual cycle of Clark's nutcracker is closely tied to large-seeded pines. Other foods may be eaten but may not sustain reproduction (D. Tomback [Univ. Colo] pers. comm. with Cara Staab). Adults may attempt to breed only in years they have sufficiently large stores of seeds (Tomback 1998, Shaming 2015). Nutcracker young typically fledge in April and May. Shortly afterward, snow begins melting in subalpine areas, especially on the south-facing slopes, where adults have placed caches the previous fall. The Clark's nutcracker is the primary disperser of the large whitebark pine seeds, helping to perpetuate its primary food source. Because this mutualistic relationship, the decline in whitebark pine puts both Clark's nutcrackers and whitebark pine trees at risk in localized areas (McKinney et al. 2009). |
| 18 | Common Loon<br>( <i>Gavia immer</i> )                 | RFSS, LC | Yes | 25 known nesting territories across all but one GA. Virtually all suitable habitat in Montana is thought to be occupied, indicating the loon population has reached carrying capacity of habitat (Hammond 2009). Breeding loons are found primarily in northwestern Montana, including but not limited to portions of the plan area (Evers et al. 2013). | Stable. Extensive inventory and monitoring efforts have been occurring in Montana since the 1980's. Data collected between 1999-2013 indicate the number of occupied territories in Montana has averaged 62 ±10 (Evers et al. 2013). Hammond (2009) concluded that maximum occupancy potential has been realized (Hammond 2009).   | In Montana, generally nests on western lakes greater than about 13 acres at less than 5000 feet elevation. Small islands are preferred for nesting, but herbaceous shorelines, especially promontories, are also selected. Nurseries are often sheltered, shallow coves with abundant small fish and insects. Most loon lakes in Montana are oligotrophic and have not experienced significant siltation or other hydrological changes. (MNHP and MFWP 2015)  | Large lakes are stable.   | Juveniles disperse an average of 12 miles from natal territories (although the record is just over 100 miles). Adults typically breed within 1-2 miles of previous breeding territories. (Evers et al. 2013)  |

|    | I   | J   | K   | L   | M   |
|----|---|-----|-----|---|---|
| 17 | <p>Loss of cone-producing whitebark and ponderosa pines to disease, insect outbreaks, and fire may lead to local and widespread declines in nutcracker abundance (Tomback 1998; Diana Tomback [Univ. Colo.] pers. comm. with C. Staab). Restoration of whitebark pine may take many years (decades to centuries; Keane et al. 2012). Nutcrackers are known to emigrate when cone crops are small (Shaming 2015).</p>  | Yes | Yes | <p>Decreasing habitat, disruption of mutualistic relationships, and long-term horizon for habitat restoration.</p>    | <p>Keane, R., D. Tomback, C. Aubry and others. 2012. A range-wide restoration strategy for whitebark pine (<i>Pinus albicaulis</i>). Gen. Tech. Rep. RMRS-GTR-279. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 108 p.</p> <p>McKinney, S., C. Fiedler, and D. Tomback. 2009. Invasive pathogen threatens bird--pine mutualism: implications for sustaining a high elevation ecosystem. <i>Ecol. Appl.</i> 19:597-607.</p> <p>Lorenz, T. Personal communication with C. Staab on 8/19/2015.</p> <p>RMADC 2016. Web-based data application accessed May 13, 2016 from <a href="http://rmbo.org/v3/avian/ExploretheData.aspx">http://rmbo.org/v3/avian/ExploretheData.aspx</a></p> <p>Schaming, T. 2015. Population-wide failure to breed in the Clark's Nutcracker (<i>Nucifraga columbiana</i>). <i>PLoS ONE</i> 10(5): e0123917.</p> <p>Tomback, D. 1998. Clark's Nutcracker (<i>Nucifraga columbiana</i>), <i>The Birds of North America Online</i> (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. Accessed from <a href="http://bna.birds.cornell.edu/bna/species/331">http://bna.birds.cornell.edu/bna/species/331</a></p> <p>Tomback, D. Personal communication with C. Staab on 8/19/2015 and 2/22/2016.</p> <p>USDA Forest Service. 2014. Assessment of the Flathead National Forest. Available at <a href="http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full">http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full</a></p> |
| 18 | <p>Human disturbance near nest sites can reduce productivity. Loons can tolerate disturbance, but may spend more time off nests, leaving eggs vulnerable to predation (Vermeer 1973 and Kelly 1992 in Hammond 2009). Hammond (2009) found that disturbance had little influence on territory occupancy or reproduction in Montana, but speculated that current mitigation to reduce disturbance (through public education efforts) masked the true influence.</p> | Yes | No  | <p>Stable population, stable habitat, lack of significant threats. Population appears to be at carrying capacity.</p> | <p>Evers, D., C. Hammond, C. Anderson and others. 2013. Restore the call: Montana status report for the common loon. Science Communications Series BRI 2013-4. Biodiversity Research Institute. Gorham, Maine. 8pp.</p> <p>Hammond, C. 2008. Demographic and landscape analysis for common loons in northwest Montana. M.S. thesis. The University of Montana, Missoula.</p> <p>MTNHP and MFWP. 2015. Common Loon — <i>Gavia immer</i>. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNBA01030">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNBA01030</a></p>  |

|    | A   | B    | C   | D   | E  | F   | G   | H   |
|----|---|------|-----|---|--|---|---|---|
| 19 | Fisher<br>( <i>Pekania pennanti</i> or <i>Martes pennanti</i> ) | RFSS | Yes | Unknown. In US northern Rocky Mountains, found almost exclusively in the inland maritime ecosystem, which is primarily in Idaho but also a small portion of western Montana (NRAP 2015). The Flathead is at the eastern edge of that. The historical and current distribution of fisher and fisher habitat in Montana is uncertain. Due to a lack of trapping records in Montana from 1929-1959, many biologists believed the fisher had been extirpated (Vinkey 2003). Reintroductions apparently weren't entirely successful. | Unknown. Believed extirpated from Montana and N. Idaho in early 1900s. Five transplant efforts in northern Rockies from 1959 and 1991, with one on the Flathead in 1959/1960 (Weckwerth and Wright 1968, Vinkey et. al 2006). Legal trapping initiated in 1979, with recorded harvest in all but Middle Fork GA. About 15 MNHP observation records on Flathead NF in past decade. However, many were of tracks only, which can be confused with large marten. In 2012 the Flathead NF began monitoring presence of forest carnivores across accessible portions of the Forest using remote cameras and by collecting hair and scats for DNA analysis; fisher have not been documented. | Habitat description varies with scale examined (Schwartz et al. 2013, Sauder 2014). At the broadest scale, restricted to regions with wet, mild climates characterized by high mean annual precipitation and mid-range winter temperatures (Olson et al.2014). On the Flathead, this coincides with the warm-moist biophysical setting; in particular, western red cedar and grand fir habitat types. Fisher in north-central Idaho were shown to select home ranges within landscapes that have relatively large, contiguous patches of mature forest and small amounts of open forest (Sauder 2014). Within home ranges, a more diverse array of forest conditions may be present (Sauder 2014). Large trees, snags, and logs are particularly important. Riparian corridors also likely important, including | Unknown. Western red cedar and grand fir have likely benefited from fire suppression efforts. Riparian areas are stable. Past harvest practices likely reduced large trees and snags. | Inherently low density species with large home ranges and relatively low dispersal distances (Vinkey et al. 2006, Sauder 2014). |

|    | I  | J   | K   | L   | M  |
|----|--|-----|-----|---|--|
| 19 | <p>In its 2016 review of a petition to list fisher in the US northern Rocky Mountains, the USFWS (2016) concluded that two factors indicate listing may be warranted: trapping and non-target poisoning. MFWP (2015) currently manages fisher under a limited quota system; in 2015, the maximum quota in the trapping unit containing (and extending beyond) the plan area was 2 fisher. Non-target poisoning, purportedly associated with illegal marijuana operations, is not relevant in the plan area. Western red cedar and grand fir are susceptible to fire and root disease, both of which may increase during climate change, albeit over very long time frames. Western red cedar is prized for timber, especially large trees; however, USFWS (2011, 2016) concluded timber management practices were not a threat to the fisher in the US Northern Rockies to the point that listing was warranted. Connectivity between source fisher habitats in Idaho and western Montana are separated from the plan area by expansive treeless valleys, which present a substantial barrier to fisher dispersal and gene flow.</p> | Yes | Yes | <p>Inherent low density species, coupled with marginal / edge of range habitat and potential threats from harvest, insects, disease, and stand-replacing wildfires. Also, natural barriers between plan area and source populations further west.</p> | <p>MFWP. 2015. Montana hunting and trapping regulations. Olson, L.E., Sauder, J.D., Albrecht, N.M., Vinkey, R.S., Cushman, S.A., Schwartz, M.K., 2014. Modeling the effects of dispersal and patch size on predicted fisher (<i>Pekania [Martes] pennanti</i>) distribution in the US Rocky Mountains. <i>Biological Conservation</i>. 169, 89-98<br/>                 Sauder, J. 2014. Landscape ecology of fishers (<i>Pekania pennanti</i>) I north-central Idaho. Ph.D. Dissertation. Univ. Idaho, Moscow. 107pp.<br/>                 Schwartz, M, N. DeCasare, B. Jimenez and others. 2013. Stand- and landscape-scale selection of large trees by fishers in the Rocky Mountains of Montana and Idaho. <i>For. Ecol. Manage.</i> 305:103-11.<br/>                 Vinkey, R. 2003. An evaluation of fisher (<i>Martes pennanti</i>) introductions in Montana. M.S. Thesis. Univ. Montana, Missoula. 106pp.<br/>                 USFWS. 2011. 12-Month finding on a petition to list a Distinct Population Segment of the fisher in its United States Northern Rocky Mountain range as endangered or threatened with critical habitat. <i>Federal Register</i> 76(126): 38504-38532.<br/>                 USFWS. 2016. 90-day finding on a petition to list a distinct population segment of fisher in its United States Northern Rocky Mountains range as threatened or endangered under the Endangered Species Act. Federal Docket No. FWS-R6-ES-2015-0104 accessed at <a href="https://www.regulations.gov/#!documentDetail;D=FWS-R6-ES-2015-0104-0003">https://www.regulations.gov/#!documentDetail;D=FWS-R6-ES-2015-0104-0003</a><br/>                 Vinkey R.S., M. Schwartz, K. McKelvey and others. 2006. When</p> |

|    | A  | B    | C   | D  | E       | F   | G   | H   |
|----|--|------|-----|--|---------|---|---|---|
| 20 | Flammulated Owl<br>( <i>Otus flammeolus</i> or <i>Psiloscoops flammeolus</i> ) | RFSS | Yes | Non-random surveys conducted in presumed suitable habitat during breeding seasons in 2006 (Cilimberg 2006) and 2014 (Maxell and Hanauska-Brown unpublished) both detected a flammulated owl in same general area of the Swan GA. Wilderness not surveyed. One additional detection (playback response by single owl) in Salish GA near NFS lands (MNHP record 2003). Breeding status within plan area is unknown as singing during breeding season does not infer breeding (Seidensticker et al 2013). | Unknown | Mature and oldgrowth Ponderosa Pine stands having low to moderate canopy closure. Douglas-fir and aspen may also be present (Seidensticker et al. 2013; Linkhart and McCallum 2013).<br><br>Warm dry ponderosa pine cover type present on approximately 8,000 acres of plan area (USDA Forest Service 2014). Nearly 90% of this type occurs in the Swan Valley GA. The remainder occurs in the south end of the Salish Mountains GA and in the South Fork Flathead River GA, including the Bob Marshall Wilderness. | Mature and old growth ponderosa stands with low to moderate canopy closure is naturally limited in the plan area; however, is thought to have decreased from the historic mean. The natural range of variation for the ponderosa pine dominance type on the Forest is 0.5-3% of the forest acres and current levels are 0.4%. There has been a downward trend in the ponderosa pine dominance type on the Forest, mirroring that documented in the Interior Columbia Basin Ecosystem Management Project assessment for the Northern Rocky Mountain Province, which noted significant decreases in shade-intolerant dominance types (including ponderosa pine) across that ecosystem (Hessburg et al. 1999b, 2000a; USDAFS 1996, Assessment of | Relatively long-lived; longevity record is 14 years (Linkhart and Reynolds 2004). Summer migrant in plan area. Non-breeding males may hold territories, which precludes use of singing as indicator of breeding (Linkhart and McCallum 2013). Adults have high nest area and mate fidelity among years. Juveniles usually do not have high fidelity to natal area and often disperse long distances, likely contributing to the substantial genetic intermixing of flammulated owls in the western US and Canada (Arsenault et al. 2005, Linkhart and McCallum 2013). |
| 21 | Gillette's Checkerspot<br>( <i>Euphydryas gillettii</i> )                      | S2   | Yes | One observation in plan area from 1978 in John Stevens Canyon in Middle Fork GA (NHP species occurrence database). Very low survey effort for this species, but it is generally rare throughout range. Usually occurs in widely scattered, isolated colonies. MNHP and MFWP 2016   | Unknown | Found in a variety of damp habitats in mountains, including open, moist conifer forests, moist meadows, and streamsides. MNHP and MFWP 2016.  | Unknown   | Non-migratory. Caterpillar hosts include plants of the honeysuckle and figwort families. MNHP and MFWP 2016   |

|    | I   | J   | K   | L   | M   |
|----|---|-----|-----|---|---|
| 20 | Stand replacing fire and suppression of mixed severity fires can both reduce the amount of open mature ponderosa pine habitat used by this species. Past harvest of large ponderosa pine, and loss of large pine snags harvested along open roads also may have contributed to historic habitat loss. | Yes | Yes | Downward trend of limited habitat, in conjunction with assumed small population size.           | <p>Arsenault, D., P. Stacey, and G. Hoelzer. 2005. Mark-recapture and DNA fingerprinting reveal high breeding-site fidelity, low natal philopatry, and low levels of genetic population differentiation in flammulated owls (<i>Otus flammeolus</i>). <i>Auk</i> 122:329-337.</p> <p>Cilimburg, A. 2006. Northern region landbird monitoring program: 2005 flammulated owl surveys final report. Avian Science Center, U. Montana, Missoula.</p> <p>Linkhart, B., and D. McCallum. 2013. Flammulated Owl (<i>Psiloscops flammeolus</i>). Cornell Lab of Ornithology, Ithica. Accessed from the Birds of North America Online at <a href="http://bna.birds.cornell.edu/bna/species/093">http://bna.birds.cornell.edu/bna/species/093</a> doi:10.2173/bna.93</p> <p>Reynolds, R. and B. Linkhart. 1990. Longevity records for male and female flammulated owls. <i>J. Field Ornithology</i> 61:243-244.</p> <p>Seidensticker, M., D. Holt, and M. Larson. 2013. Breeding status of flammulated owls in Montana. <i>Northwestern Naturalist</i> 94:171-179.</p> <p>USDA Forest Service. 2014. Assessment of the Flathead National Forest. Available at <a href="http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd b5422786&amp;width=full">http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd b5422786&amp;width=full</a></p> |
| 21 | None known. Grazing is cited as the major threat or limiting factor, but grazing is not / would not be authorized in the Middle Fork GA under any alternative   | No  | No  | Insufficient information to indicate substantial concern; no relevant threats in the plan area. | <p>MNHP species occurrence records.</p> <p>MNHP and MFWP. 2016. Gillette's Checkerspot — <i>Euphydryas gillettii</i>. Montana Field Guide. Accessed from: <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IILEPK4010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IILEPK4010</a></p>   |

|    | A  | B                                  | C   | D  | E   | F  | G  | H  |
|----|--|------------------------------------|-----|--|---|--|--|--|
| 22 | Gray Wolf<br>(Canis lupus)                           | RFSS, DM                           | Yes | Well distributed, recovered population. >100 wolf records in MNHP observation database across all Flathead NF GAs in the ten years preceding 2013, including packs with pups. In 2015, Coltrane et al. (2016) verified a minimum of 349 wolves in 85 packs in the Montana portion of the northwest Montana recovery area. Twenty of these were verified to meet the federal recovery definition of a breeding pair (i.e., an adult male and female wolf that have produced at least 2 pups that survived until December 31). The Montana portion of the northwest recovery area extends beyond the plan area but fully encompasses it. | Increased under Endangered Species Act protections and subsequent period after delisting in 2011. For example, in 2005, a minimum of 19 packs containing 126 individual wolves and 10 successful breeding pairs were verified in the Montana portion of the northwest Montana recovery area (Sime et al. 2006), compared with 85, 349, and 20, respectively, in 2015 (Coltrane et al. 2016). Relatively stable now with minor adjustments from management control, harvest, and recruitment. Statewide, at least 1,802 wolves, 302 packs, and 78 breeding pairs in 2014. The Northern Rocky Mountain population has exceeded recovery goals since 2002 and remains secure under State management (USFWS et al. 2015). | The Gray Wolf exhibits no particular habitat preference except for the presence of native ungulates (deer, elk and moose) within its territory on a year-round basis. (MNHP and MFWP 2015). Some packs or individual wolves may prey on livestock but these animals are often removed from the population. | The plan area provides relatively stable habitat in that it is largely free of human and livestock conflicts. Approximately 47% (1,370,000 acres) of the plan area is in designated Wilderness Areas (USDA Forest Service 2014).                                       | Widely disperses; Up to 500 miles documented. Study in NW Montana showed average movement away from natal territories was 70 mi for males and 48 mi for females, before establishing a new territory or joining an existing pack (MTNHP and MTFWP 2015). Wolves naturally recolonized northwestern Montana after extirpation, through dispersal from Canada. This, along with dispersal from successful reintroductions in Yellowstone NP and central ID, led to exceedance of recovery goals and delisting from ESA (MNHP and MFWP 2015). Gray wolf populations are managed by MFWP in accordance with the Montana Gray Wolf Conservation and Management Plan, which is approved by the FWS. (Bradley et al. 2015). Harvest is regulated in accordance with recovery goals. |
| 23 | Gray-crowned Rosy-Finch<br>(Leucosticte tephrocotis) | S2B (Breeding)                     | Yes | 12 records in MNHP occurrence database, ranging from 1 to 40 birds each. No detections in plan area during IMBCR bird monitoring program 2010-2015 (RMADC 2016). No estimates of occupancy rates or densities from IMBCR or BBS monitoring programs applicable to Montana or Montana BCR 10 (RMADC 2016, USGS 2016). However, flocks are often observed in the Bob Marshall Wilderness Complex wherever snow remains during June or July (Hans Castren, [FNF recreation staff] pers. comm. with Reed Kuennen FNF, 2013).   | Unknown. No regional trend data available either, as indicated from IMBCR sampling in BCR 10 or Montana BBS routes.   | Nests in alpine habitats (above timberline), primarily on cliffs and talus among snowfields, and forages in barren, rocky or grassy areas adjacent to nesting sites. In migration and winter they occur in open fields, cultivated lands, brushy areas, and other areas of human habitation.               | Likely stable. Alpine habitats are largely unsuited for land management activities (e.g., timber and livestock production). Further, alpine most often occurs in Wilderness and other remote areas, which may infer indirect protections to the finch and its habitat. | Low reproductive rate, low mortality. Short summer breeding season. Well adapted to harsh alpine habitats, and not especially vulnerable to predation or other mortality factors. Record life span is over 6 years (Alaska; Macdougall-Shackleton et al 2000).   |
| 24 | Grizzly Bear<br>(Ursus arctos)                       | Federally recognized as Threatened | N/A | N/A  | N/A   | N/A  | N/A  | N/A  |

|    | I  | J   | K   | L  | M  |
|----|--|-----|-----|--|--|
| 22 | <p>No known threats to persistence in the plan area. Direct human-caused mortalities are the largest documented sources of wolf mortality statewide but these do not threaten persistence, as evidenced by continued recovery (Coltrane et al. 2016). For example, in 2015, a year of continued population recovery, about 98% of all 276 documented mortalities in Montana was attributable to humans (e.g., legal harvest, agency control, vehicle collisions, illegal kills, etc.). About 1% was due to natural causes, and the remaining 1% was unknown (Coltrane 2016).</p> | Yes | No  | <p>Species is secure in the plan area, as evidenced by well distributed, abundant packs and lack of threats to population.</p>   | <p>Coltrane, J., J. Gude, B. Inman and others. 2016. Montana gray wolf conservation and management. 2015 annual report. MFWP, Helena. 60pp.<br/>                     MNHP and MFWP. 2015. Gray Wolf — Canis lupus. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AMAJA01030">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AMAJA01030</a><br/>                     Sime, C., V. Asher, L. Bradley, and others. 2006. Montana gray wolf conservation and management 2005 annual report. Montana Fish, Wildlife &amp; Parks. Helena, Montana. 95pp<br/>                     USDA Forest Service. 2014. Assessment of the Flathead National Forest. Available at <a href="http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full">http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full</a><br/>                     US Fish and Wildlife Service, Idaho Dept. Fish and Game, MFWP and others. 2015. Northern Rocky Mountain wolf recovery program 2014 interagency annual report. M. Jimenez and S. Becker, eds. USFWS Ecological Services, Helena Montana. Accessed from <a href="http://www.fws.gov/mountain-prairie/es/species/mammals/wolf/annualrpt14/2014_FINAL_NRM-Summary.pdf">http://www.fws.gov/mountain-prairie/es/species/mammals/wolf/annualrpt14/2014_FINAL_NRM-Summary.pdf</a></p> |
| 23 | <p>No significant management threats in alpine habitats. Alpine habitats may be affected by climate change; uncertainty exists about how this species may respond.</p>   | Yes | No  | <p>Unknown population trends, stable habitat, lack of threats. However, a component of this species' habitat (spring snowfields) may be sensitive to climate change so the species should be re-evaluated in the future.</p> | <p>RMADC. 2016. [web application]. Brighton, CO. <a href="http://adc.rmbo.org">http://adc.rmbo.org</a>. (Accessed: 5/16/2016).<br/>                     Macdougall-Shackleton, S., R. Johnson and T. Hahn. 2000. Gray-crowned Rosy-Finch (Leucosticte tephrocotis), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; accessed October 9, 2015 from the Birds of North America Online: <a href="http://bna.birds.cornell.edu/bna/species/559">http://bna.birds.cornell.edu/bna/species/559</a><br/>                     MNHP and MFWP. 2015. Gray-crowned Rosy-Finch — Leucosticte tephrocotis. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABPBY02030">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABPBY02030</a><br/>                     USGS 2016. Breeding bird survey data - web application. Patuxent, MD. Accessed from <a href="http://www.mbr-pwrc.usgs.gov/bbs/bbs.html">http://www.mbr-pwrc.usgs.gov/bbs/bbs.html</a></p>   |
| 24 | N/A  | N/A | N/A | Species is federally recognized.   |  |

|    | A  | B                       | C   | D  | E  | F   | G  | H  |
|----|--|-------------------------|---|--|--|---|--|--|
| 25 | Harlequin Duck<br>( <i>Histrionicus histrionicus</i> ) | S2B (Breeding),<br>RFSS | Yes   | Numerous broods have been consistently detected in Trail Creek in the North Fork GA and in Spotted Bear River in the South Fork GA. Other GAs have not been surveyed as consistently, but broods have also been observed in the Middle Fork and Hungry Horse GAs. There are no records of harlequin duck nesting in the Salish Mountain or Swan Valley Geographic Areas and these geographic areas are not considered to be potential habitat. | Unknown in plan area. In 1995, Reichel and Genter ( <i>in</i> Hendricks and Reichel 1998) estimated 150-200 pairs of harlequins bred in Montana. There is no comparable, subsequent estimate. However, unpublished compilations of monitoring data collected in western Montana outside of Glacier National Park suggests that harlequins no longer nest in all locations where reproduction was previously noted (B. Maxell, pers comm with C.Staab). | Clear, fast flowing mountain streams with abundant aquatic insects. A variety of nest sites have been documented, including cliffs, down logs in burned areas, instream logjams, and streambanks with thick shrub or tree cover (Cassirer and Groves 1994, L. Bate pers. comm. with R. Kuennen 2014). Key habitat characteristics are high water quality and complex stream structure (L. Bate pers. comm. with R. Kuennen 2015). Calm back waters along rivers or beaver ponds may be important for brood rearing (Kuchel 1977). | In all monitored watershed sub-basins on the Forest with known harlequin duck nesting, the overall watershed condition is high. PIBO data monitoring has shown an improved trend in aquatic habitat in reference and managed watersheds (Kendall 2014). Habitat conditions such as large wood, pool fines, percent pools and residual pool depth have trended upwards since sampling began in 2001 (find more details in the Aquatics sections within chapter 3 of the Flathead's DEIS for the Revised Forest Plan). | Harlequin ducks are relatively long-lived, with low reproductive output, delayed reproduction, and high fidelity to breeding sites and mates. All of these traits may limit the extent to which populations can rebound from declines. The survival of adult females is likely the most critical factor in maintaining local populations (Wiggins 2005). Annual productivity may be influenced by the timing and intensity of spring water flows, as flooding may preclude or delay nest building, wash out nests, or possibly increase mortality of juveniles (Hansen 2014, Kuchel 1977). |
| 26 | Lewis's Woodpecker<br><i>Melanerpes lewis</i> )        | S2B (Breeding)          | No. Documented within outer boundary of FNF but not on NFS lands. (MNHP species occurrence records) | N/A  | N/A  | N/A   | N/A  | N/A  |
| 27 | Magnum Mantleslug<br>( <i>Magnipelta mycophaga</i> )   | S2S3                    | Yes   | Unknown. Very low survey effort for this obscure species. 2 observation records in North Fork GA and 1 in Salish GA, with dates ranging from 1950 to 2003. MNHP species occurrence records   | Unknown  | General habitat is described as mostly mesic mixed conifer forest and riparian woodlands, sometimes with talus, also at higher elevation in drier sites with sufficient ground cover to maintain elevated soil moisture. Usually found under rocks and woody debris, sometimes in rotten logs. MNHP and MFWP 2016   | Unknown; general habitat conditions likely stable  | Feeds on green plant material, possibly including moss. MNHP and MFWP 2016.  |

|    | I  | J   | K   | L  | M   |
|----|--|-----|-----|--|---|
| 25 | <p>Intense fire or vegetation management activities in riparian areas may affect breeding habitat, at least temporarily; however, few timber treatments occur in riparian areas due to long standing direction in the Forest Plan. Females nesting in high quality habitat may tolerate or habituate to high levels of human activity, particularly where vegetation is dense (Hansen 2014, Wallen and Grove 1989). However, Kuchel (1977) found young harlequins may be sensitive to some types of human presence during their first four weeks of life. Predation, competition with some species of fish, climate change, and activities in coastal wintering areas may also affect the species.</p> | Yes | Yes | Concern regarding decreases in the distribution and/or population of harlequin ducks in western Montana outside of Glacier National Park.          | <p>Cassirer, E. and C. Groves. 1994. Ecology of Harlequin Ducks in northern Idaho. Idaho Dept. Fish Game, Boise.</p> <p>Hansen, W. 2014. Causes of annual reproductive variation and anthropogenic disturbance in harlequin ducks breeding in Glacier National Park, Montana. M.S. Thesis, Univ. Montana, Missoula. 90pp.</p> <p>Hendricks, P. and J. Reichel. 1998. Harlequin Duck research and monitoring in Montana: 1997. Montana Natural Heritage Program, Helena. 28 pp</p> <p>Kuchel, C. 1977. Some aspects of the behavior and ecology of harlequin ducks breeding in Glacier National Park. M.S. Thesis, Univ. Montana, Missoula. 163pp.</p> <p>Wiggins, D. 2005. Harlequin Duck (<i>Histrionicus histrionicus</i>): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. Available at <a href="http://www.fs.fed.us/r2/projects/scp/assessments/harlequinduck.pdf">http://www.fs.fed.us/r2/projects/scp/assessments/harlequinduck.pdf</a></p> |
| 26 | N/A  | Yes | No  | Not known to occur in plan area  | MNHP species occurrence records   |
| 27 | <p>Little is known about this species, including sensitivity to disturbance (MNHP and MFWP 2016). There has been speculation that logging, grazing, fire, rural home development, recreation and weed control threaten the species (MNHP and MFWP 2016). However, these are theoretical threats and empirical evidence of actual population level threat is lacking.</p>   | No  | No  | Insufficient information to indicate substantial concern. No information on sensitivity to disturbance or population response theoretical threats. | <p>MNHP and MFWP. 2016. Magnum Mantleslug — <i>Magnipelta mycophaga</i>. Montana Field Guide. Accessed from: <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IMGAS61010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IMGAS61010</a></p>  |

|    | A  | B  | C  | D  | E   | F  | G   | H  |
|----|--|--|--|--|---|--|---|--|
| 28 | Moose<br>(Alces alces)                   | TC   | Yes  | Moose are distributed across the Forest in summer. In winter moose are primarily found in the Salish and Hungry Horse Geographic Areas of the Forest (for more details see Assessment for the Forest, 2014). According to DeCesare et al. (2014), northwest Montana, which includes and extends beyond the plan area, hosts the largest moose population in the state. | Recent harvest statistics indicate lower hunter success, increased effort, and lower kill per unit effort, concurrent with >50% reduction in available permits since the 1990s. Aerial surveys also show decline in calf:adult ratios in some areas. In combination, these data suggest a declining trend in the statewide population, despite some ambiguity of certain data (DeCesare et al. 2014). | In summer, mountain meadows, river valleys, swampy areas, and clearcuts. In winter, willow flats or mature coniferous forests. Coniferous cover, uneven plant age composition and willows are important components. (MNHP and MFWP 2015). Moose frequently use both logged and burned forest habitat in the first 10 to 30 years after harvest or fire (Eastman 1974). | Wildfire has increased moose habitat in the plan area within recent decades. Riparian areas stable. | This species is hunted and is an important subsistence resource for the Confederated Salish and Kootenai tribes. Harvest is regulated by MFWP. Large body size makes moose well suited for deep snow and cold weather. |
| 29 | Mountain Plover<br>(Charadrius montanus) | S2B (Breeding)   | No; Species is not established or becoming established. One record (transitory) in MNHP species occurrence database. | N/A  | N/A   | N/A  | N/A   | N/A  |
| 30 | North American Wolverine<br>(Gulo gulo)  | Federally-recognized as Proposed (as of 5/24/2014), RFSS | N/A  | N/A  | N/A   | N/A  | N/A   | N/A  |

|    | I  | J   | K   | L   | M   |
|----|--|-----|-----|---|---|
| 28 | DeCesare et al. (2014) identified potential limiting factors to moose populations as hunter harvest, predation, vegetative succession and degradation, parasites, and climatic conditions. However, these limiting factors are not likely threats to persistence. No threats to persistence identified in plan area. | Yes | No  | Species is secure in plan area, as evidenced by harvestable surplus population; upward habitat trend from increasing wild fires; stable riparian areas; and lack of threats to long-term persistence. | DeCesare, N., T. Smucker, R. Garrot and others. 2014. Moose status and management in Montana. <i>Alces</i> 50:35-51.<br>Eastman, D. 1974. Habitat use by moose of burns, cutovers and forests in northcentral British Columbia. <i>Proceedings of the North American Moose Conference Workshop</i> 10: 238–256.   |
| 29 | N/A  | Yes | No  | Not known to occur in plan area; species is not established or becoming established in the plan area.   | MNHP and MFWP 2016. Mountain Plover — <i>Charadrius montanus</i> . <i>Montana Field Guide</i> . accessed on May 17, 2016, from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNNB03100">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNNB03100</a><br>RMADC 2016. Web-based data application accessed May 13, 2016 from <a href="http://rmbo.org/v3/avian/ExploretheData.aspx">http://rmbo.org/v3/avian/ExploretheData.aspx</a> |
| 30 | N/A  | N/A | N/A | Species is federally recognized.  |   |

|    | A  | B  | C   | D   | E   | F  | G  | H   |
|----|--|--|---|---|---|--|--|---|
| 31 | Northern Bog Lemming<br>( <i>Synaptomys borealis</i> ) | S2, RFSS   | Yes   | Unknown. Species is very difficult to detect even with targeted sampling, and little sampling has occurred. Eight sites have been surveyed in plan area, with detections at two sites (25%; Reichel and Beckstrom 1993, Reichel and Beckstrom 1994, Cleveland and Wood 2006 survey data in MNHP database). At one of these sites, only one lemming was captured in 114 trap nights, demonstrating difficulty of detection (Reichel and Beckstrom 1993). Effort not known at the second site where one lemming was also trapped. | Unknown. Turnock and Anderson (2012) resampled 8 previously known bog lemming sites - including one in the area - and detected lemmings at only one, which was outside the plan area. However, the authors hypothesized that a different trapping methodology might yield more detections than what they used, implying false negative surveys. | Statewide, species has been found in 22 sites characterized by at least nine community types; however, wet meadows, fens (a type of peatland), and bog-like environments are thought to be preferred, especially where mosses occur. (MNHP and MFWP 2015). Sites as small as 1 acre have been utilized (Reichel and Corn 1997). There are about 60 fens in the plan area greater than 1 acre, totaling approximately 1,150 acres. Marshes and willow or sedge dominated wetlands cover nearly an additional 20,000 acres. In all, over 112,000 acres of riparian habitats are distributed throughout the plan area (USDA Forest Service 2014). | Condition of fens and other wetlands largely have been stable or increasing over the life of the current plan (USDA Forest Service 2014). Due to their great mass of water-holding organic matter, peatlands are exceptionally stable and may persist for centuries. In the absence of disturbance, peatlands support self-perpetuating communities (Chadde et al 1998). | High reproductive potential and an unknown - but likely short - life span, similar to other rodents. Capable of producing 2 or 3 litters per year, and breeding during the summer of birth (MNHP and MFWP 2015). Reichel and Corn (1997) developed a population viability analysis (PVA) using life history data from a related species, but concluded the model lacks validity without species-specific population parameters.       |
| 32 | Northern Leopard Frog<br>( <i>Lithobates pipiens</i> ) | S1 in mountains of western Montana (S4 on great plains) RFSS | No. Documented within outer boundary of FNF but not on NFS lands. (MNHP species occurrence records) | N/A   | N/A   | N/A  | N/A  | N/A   |
| 33 | Sandhill Crane<br>( <i>Grus canadensis</i> )           | S2N (Non-breeding)   | Yes   | Numerous records in MNHP occurrence database during summer and migration seasons. Likely uses the plan area for foraging only, and does not nest or overwinter there.   | Unknown   | Non-forested habitats, primarily valley floors, meadows, wetlands and agricultural fields.   | Wetlands relatively stable in plan area due to long-standing riparian management direction. Other non-forested areas (outside of burns) are naturally limited in plan area.  | Opportunistic, omnivorous forager; consumes invertebrates, small vertebrates, and a variety of plant materials including cultivated grains. Begins breeding at 2 to 7 years old. Normally long-lived, up to 20 + years. Lays 2-egg clutches but rarely fledges more than one young annually (Gerber et al. 2014). S2N status was assigned in recognition of limited overwintering habitats outside of plan area (D. Bachen per comm). |

|    | I   | J   | K  | L  | M   |
|----|---|-----|----|--|---|
| 31 | <p>Few relevant management threats due to long-standing riparian management direction. Grazing, timber harvest and road building can alter structure and function of wetlands when not properly managed. There is high uncertainty regarding the effect of projected climate change on fen and other wetlands utilized by bog lemmings.</p> | No  | No | <p>Insufficient information exists on distribution, abundance and population trend (in part due to difficulty in trapping and low sampling effort), and there is no evidence that either population or habitats are declining in the plan area. Fen and other wetland habitats have been relatively stable in plan area with few modern stressors.</p> | <p>Chadde, S, J.S. Shelly, R. Buskirk and others. 1998. Peatlands on national forests of the northern Rocky Mountains: ecology and conservation. USDA Forest Service Rocky Mountain Research Station. General Technical Report RMRS-GTR-11.<br/>                     MNHP and MFWP. 2015. Northern Bog Lemming — <i>Synaptomys borealis</i>. Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AMAFF17020">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AMAFF17020</a><br/>                     Reichel J. and S. Beckstrom. 1993. Northern bog lemming survey: 1992. A report to USDA Forest Service Kootenai NF. MNHP, Helena.<br/>                     Reichel J. and S. Beckstrom. 1994. Northern bog lemming survey: 1993. A report to USDA Forest Service Kootenai, Flathead and Lewis and Clark NFs. MNHP, Helena.<br/>                     Reichel J. and J. Corn. 1997. Northern bog lemmings: survey population parameters and population analysis. A report to USDA Forest Service Kootenai NF. MNHP, Helena.<br/>                     Turnock, B. and A. Anderson. 2012. Northern bog lemming (<i>Synaptois borealis</i>) survey of Northwest Montana. A report to MFWP Regions 1 &amp; 2. Kalispell.<br/>                     USDA Forest Service. 2014. Assessment of the Flathead National Forest. Available at <a href="http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full">http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full</a></p> |
| 32 | N/A   | Yes | No | Not known to occur in plan area  | MNHP species occurrence records   |
| 33 | None  | Yes | No | <p>Plan area occasionally used by foraging birds only; does not provide overwintering or breeding habitat; no relevant threats in plan area.</p>   | <p>D. Bachen pers comm. Email conversation between Dan Bachen, MNHP Senior Biologist and Cara Staab, USFS Regional Wildlife Ecologist, 05/18/2016.<br/>                     Gerber, B, J. Dwyer, S. Nesbitt, and others. 2014. Sandhill Crane (<i>Grus canadensis</i>), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Accessed from the Birds of North America Online: <a href="http://bna.birds.cornell.edu/bna/species/031">http://bna.birds.cornell.edu/bna/species/031</a><br/>                     MNHP and MFWP 2016. Sandhill Crane — <i>Grus canadensis</i>. Montana Field Guide at <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNMK01010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNMK01010</a></p>  |

|    | A  | B  | C  | D   | E       | F  | G   | H   |
|----|--|--|--|---|---------|--|---|---|
| 34 | Sharp-tailed Grouse<br>( <i>Tympanuchus phasianellus</i> )     | S1 West of Continental Divide, S4 east of continental divide | No. Old records within outer boundary of FNF but not on NFS lands (MNHP species occurrence records). Thought extirpated west of continental divide in Montana. (MNHP and MFWP 2016). | N/A   | N/A     | N/A  | N/A   | N/A   |
| 35 | Striate Disc<br>( <i>Discus shimekii</i> )                     | S1   | No; One MNHP observation record on non-federal land within outer Forest boundary. Species not observed on nearby NFS lands where other snails were recorded.                         | N/A   | N/A     | N/A  | N/A   | N/A   |
| 36 | Townsend's Big-eared Bat<br>( <i>Corynorhinus townsendii</i> ) | RFSS   | Yes  | At least two winter hibernacula known on or near NFS lands. Additional detections through acoustic surveys and summer roosts. No maternity roosts known on plan area. | Unknown | Requires cavern-like structures for roosting during all life stages. Appears to be more closely tied to caves than many other bat species (Pierson et al. 1999). The plan area contains 46 known caves, most of which are in designated Wilderness Areas (USDA Forest Service 2014). Old mine tunnels may be used for hibernacula if temperatures are suitable. Most caves and mines in Montana appear to be too cool in summer for use as maternity roosts. Other summer roosts (day and night) may include snags and old buildings (MNHP and MFWP 2016). | Likely stable due to inherent stability of caves. | Species does not appear to be susceptible to white-nosed syndrome, though may be a carrier of this disease (Maxell 2015). |
| 37 | Trumpeter Swan<br>( <i>Cygnus buccinator</i> )                 | TC   | No. Documented within outer boundary of FNF but not on NFS lands. (MNHP species occurrence records)  | N/A   | N/A     | N/A  | N//A  | N/A   |

|    | I   | J   | K   | L  | M  |
|----|---|-----|-----|--|--|
| 34 | N/A   | Yes | No  | Not known to occur in plan area  | The Rocky Mountain Avian Data Center. 2016. Brighton, CO. Web-based data application accessed from <a href="http://rmbo.org/v3/avian/ExploretheData.aspx">http://rmbo.org/v3/avian/ExploretheData.aspx</a><br>MNHP and MFWP. 2016. Sharp-tailed Grouse — <i>Tympanuchus phasianellus</i> . Montana Field Guide. accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNLC13030">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNLC13030</a>  |
| 35 | N/A   | Yes | No  | Not known to occur in the plan area.   | MNHP species occurrence records  |
| 36 | Excessive human activity in or immediately around caves can disturb hibernating bats. Improper closure of caves, mines or roost structures can reduce roosting habitat availability and potentially trap bats if timing is not appropriate. | Yes | Yes | Species is susceptible to excessive human disturbance at roosts. Habitat loss and mortality can occur with improper closure. | Maxell, B. Coordinator. 2015. Montana Bat and White-Nose Syndrome Surveillance Plan and Protocols 2012 -2016. MNHP, Helena. 205 p.<br>MNHP and MFWP. 2016. Townsend's Big-eared Bat — <i>Corynorhinus townsendii</i> . Montana Field Guide. Accessed from <a href="http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AMACCO8010">http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=AMACCO8010</a><br>USDA Forest Service. 2014. Assessment of the Flathead National Forest. Available at <a href="http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full">http://www.fs.usda.gov/detailfull/flathead/home/?cid=stelprd5422786&amp;width=full</a> |
| 37 | N/A   | N/A | N/A | Not known to occur in the plan area.   | MNHP species occurrence records  |

|    | A              | B   |
|----|----------------|---|
| 1  | <b>Acronym</b> | <b>Expansion</b>  |
| 2  | BBS            | Breeding Bird Survey  |
| 3  | BCR            | Bird Conservation Region                                    |
| 4  | FNF            | Flathead National Forest                                    |
| 5  | GA             | Geographic Area   |
| 6  | GIS            | Geographic Information System                               |
| 7  | IMBCR          | Integrated Bird Monitoring in the Bird Conservation Regions |
| 8  | LC             | Local Concern   |
| 9  | MBEWG          | Montana Bald Eagle Working Group                            |
| 10 | MNHP           | Montana Natural Heritage Program                            |
| 11 | MFWP           | Montana Fish Wildlife and Parks                             |
| 12 | N/A            | Not Applicable  |
| 13 | NF             | National Forest   |
| 14 | NFS            | National Forest System                                      |
| 15 | NRMRA          | Northern Rocky Mountain Recovery Area (Wolf)                |
| 16 | NRV            | Natural range of variability                                |
| 17 | PIBO           | Pacific fish - Inland fish Biological Opinion               |
| 18 | RMADC          | Rocky Mountain Avian Data Center                            |
| 19 | TC             | Tribal Concern  |
| 20 | USFWS          | US Fish and Wildlife Service                                |
| 21 | USGS           | US Geological Survey  |

|    | A                     | B   |
|----|-----------------------|---|
| 1  | Conservation Category | Definition  |
| 2  | G1                    | NatureServe global rank 1: At high risk because of extremely limited and/or rapidly declining population numbers, range and/or habitat, making it highly vulnerable to global extinction. |
| 3  | G2                    | NatureServe global rank 2: At risk because of very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to global extinction.              |
| 4  | G3                    | NatureServe global rank 3: Potentially at risk because of limited and/or declining numbers, range and/or habitat, even though it may be abundant in some areas.                           |
| 5  | S1                    | MNHP state rank 1: At high risk because of extremely limited and/or rapidly declining population numbers, range and/or habitat, making it highly vulnerable to extirpation in the state.  |
| 6  | S2                    | MNHP State rank 2: At risk because of very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to extirpation in the state.               |
| 7  | RFSS                  | Regional Forester Sensitive Species   |
| 8  | DM                    | Delisted (removed) from the Endangered Species Act list within the last five years, or delisted and still monitored by the regulatory agency  |
| 9  | TC                    | Tribal concern  |
| 10 | LC                    | Local concern   |