



# United States Department of the Interior



**Fish and Wildlife Service**  
**Arizona Ecological Services Office**  
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**In reply refer to:**

AESO/SE  
02EAAZ00-2019-F-0037

November 21, 2018

Mr. David L. Bergman  
State Director  
United States Department of Agriculture  
Animal and Plant Health Inspection Service  
8836 North 23<sup>rd</sup> Avenue, Suite 2  
Phoenix, Arizona 85021

RE: Abert's Squirrel Removal Project in the Pinaleno Mountains

Dear Mr. Bergman:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1531-1544), as amended (Act). We received your July 18, 2018, request for consultation and biological assessment (BA) on July 25, 2018. At issue are impacts that may result from the proposed Abert's Squirrel Removal Project located in the Pinaleno Mountains, Graham County, Arizona. The proposed action may affect, and is likely to adversely affect, the endangered, Mount Graham red squirrel (*Tamiasciurus hudsonicus grahamensis*; MGRS). You have also requested our concurrence that the proposed action may affect, but is not likely to adversely affect, the threatened Mexican spotted owl (*Strix occidentalis lucida*; MSO). We concur with your determination. The basis for our concurrence is found in Appendix A.

This biological opinion (BO) is based on information provided in the July 18, 2018, BA; telephone conversations; and other sources of information. Literature cited in this BO is not a complete bibliography of all literature available on the species of concern, non-native species removal and its effects, or on other subjects considered in this opinion. A complete record of this consultation is on file at this office.

## Consultation History

- May 15-June 5, 2018: We exchanged e-mails and phone calls providing technical assistance in the development of the preliminary BA.
- June 25, 2018: We received the preliminary BA and request for consultation for review.
- July 6, 2018: We provided comments on the preliminary BA and request for consultation.
- July 25, 2018: Wildlife Services submitted their request for formal consultation.
- October 18, 2018: We submitted draft BO to Wildlife Services for review.
- November 7, 2018: We received comments on the draft BO from Wildlife Services.

## BIOLOGICAL OPINION

### DESCRIPTION OF THE PROPOSED ACTION

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), Wildlife Services Program in Arizona (WS) is proposing the Abert's Squirrel Removal Project to reduce the number of Abert's squirrels in historical MGRS habitat throughout the Pinaleño Mountains (Figure 1). The primary goal of the project is to decrease resource competition with MGRS, which were reduced to extremely low numbers (approximately 67 individuals; Arizona Game and Fish Department (AGFD) 2018) after the 2017 Frye Fire. Proposed activities include lethal removal of Abert's squirrels with firearms (preferably using non-lead ammunition) or live-trapping and euthanasia. Personnel will be trained to identify differences between Abert's and MGRS, and will have experience in firearms and live-trapping small mammals. Shooting will only occur during daylight hours, and will be limited to locations where it is legal and safe to discharge firearms. Live traps may be used in areas with occupied buildings/cabins and/or campgrounds and checked every 2 hours throughout the effort. Additionally, traps will be covered by pieces of bark, logs, or other debris to provide shade to animals within the trap, or placed in areas where direct sunlight cannot reach the trap, and traps will be removed from the trapping location when not in use. All non-target species, including MGRS incidentally captured in live traps, will be promptly released on site. Trapped Abert's squirrels will be humanely euthanized on site. All Abert's carcasses will be recovered and submitted to AGFD. The project will occur from July 1, 2018 thru June 30, 2019.

The project area will be accessed via roads and on foot. USDA will coordinate with U.S. Forest Service (USFS) to access the MGRS Refugium (areas above 10,000 feet on some peaks for which a permit is required) and areas beyond gates that are shut during seasonal closures (November 15-April 15). Project activities will occur on average 4 days/month, but possibly up to 8-10 days/month (maximum), and will include one to two people conducting these activities by walking through the forest looking for Abert's squirrels or placing and checking traps. WS employees will use suppressed firearms to minimize noise disturbance to MGRS and MSO. WS preferably will also use non-lead ammunition; however, traditional lead ammunition may be used if non-lead is not accurate or available.

### Conservation Measures

Conservation measures included in the proposed action are as follows:

1. WS shall coordinate with the U.S. Fish and Wildlife Service USFWS and AGFD prior to conducting project activities.
2. WS personnel conducting project activities in occupied MGRS range shall be knowledgeable at a professional level in identification of MGRS, their habitat and use of habitat, and their sign.
3. WS shall release any MGRS inadvertently captured alive, and report the incident to the USFWS and AGFD within 24 hours, unless: (A) the animal has sustained an injury that appears to be life threatening without veterinary attention; or (B) a protocol has been established and agreed upon for handling, marking, radio-collaring, or maintaining such animals in captivity. This protocol has not been established for this project, but will be developed if all parties agree. If an animal sustains a serious injury, WS shall take immediate steps to report the incident to USFWS and proceed under their direction.
4. WS shall conduct a trap check every two hours while using cage traps in MGRS range. Traps will be covered (e.g., bark, vegetation) or placed in areas to prevent exposure to the sun.

### **Action Area**

The action area is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR § 402.02). In delineating the action area, we evaluated the farthest reaching physical, chemical, and biotic effects of the action on the environment.

The action area is identical to the project area, except that it excludes West Peak (Figure 1; West Peak is the small area shown to the west that is disjunct from the larger MGRS range). The action area is within the Coronado National Forest, Safford Ranger District, Graham County. The proposed project is only to remove Abert's squirrels; no habitat will be disturbed within the action area.

Other activities occurring within the action area include MGRS research by the University of Arizona, implementation of the Pinaleño Ecosystem Restoration Project and other forestry activities by the USFS, and ongoing conservation activities for MGRS conducted by AGFD, USFWS, and USFS, such as surveys, insect treatments, and supplemental feeding. The University of Arizona also operates and maintains the Mount Graham International Observatory within the range of the MGRS, and a number of summerhomes are permitted by the USFS within its range, as well.

## **STATUS OF THE SPECIES AND CRITICAL HABITAT**

### **Legal Status**

The MGRS was listed as endangered in 1987 (52 FR 20994) (USFWS 1987). The final rule concluded that the MGRS was endangered because its range and habitat were reduced, and its habitat was threatened by a number of factors, including the (then) proposed construction of an

astrophysical observatory, occurrences of high-severity wildland fires, proposed road construction and improvements, and recreational developments at high elevations on the mountain. The rule noted that the subspecies might also suffer due to resource competition with the introduced Abert's squirrel. In 1990, the USFWS designated critical habitat for the MGRS (55 FR 425) (USFWS 1990). The USFWS finalized the first MGRS Recovery Plan in 1993 (USFWS 1993); it is currently undergoing revision (USFWS 2011).

## **Habitat**

MGRS inhabit a narrow selection of habitats in the high-elevation areas of the Pinaleño Mountains that support primarily Engelmann spruce (*Picea engelmannii*) and corkbark fir (*Abies lasiocarpa* var. *arizonica*); in the mixed-conifer stands dominated by Douglas fir (*Pseudotsuga menziesii*), with white fir (*Abies concolor*) and Mexican white pine (*Pinus strobiformis*) sub-dominants; and in the ecotone life zone between these community types. The squirrels apparently do not inhabit pure stands of ponderosa pine (*Pinus ponderosa*) (USFWS 1993).

MGRS are highly territorial (C.C. Smith 1968) and create middens within their territory, which are areas that consist of piles of cone scales in which squirrels cache live, unopened cones as a food source for over-wintering and during times of cone failure (M.C. Smith 1968, Finley 1969, Steele and Koprowski 2001). Placement of these middens tends to be on gentler, non-southerly-facing slopes in healthier, older forested areas with higher canopy closure, basal area, and number of large live trees (Finley 1969, Zugmeyer and Koprowski 2009, Hatten 2014). This type of placement allows specific moisture levels to be maintained within the midden, thereby creating prime storage conditions for cones and other food items, such as mushrooms, acorns, and bones (Finley 1969, Brown 1984, USFWS 1993, Zugmeyer and Koprowski 2009). They also seem to prefer areas with snags, piles and tangles of downed timber, and a higher volume of logs that provide cover and safe travel routes, especially in winter, when open travel across snow exposes them to increased predation. Wood et al. (2007) determined that midden site selection occurs not only at the microclimate level (where conditions are appropriate for cone storage), but also on a larger scale that encompasses other features found on the landscape, usually in areas with a high number of healthy trees and correspondingly high seedfall. There appears to be no differentiation in selection of midden sites based on sex (Alanen et al. 2009).

Within their territory, MGRS build nests in hollow trees, hollow snags, hollow logs, outside trees in nests of grass or foliose lichens (called dreys or bolus nests), or in holes in the ground (C.C. Smith 1968, Leonard and Koprowski 2009). Nests may be built in natural hollows or abandoned cavities made by other animals, such as woodpeckers, and enlarged by squirrels (USFWS 1993). Nest site selection by MGRS is strongly influenced by stand composition, particularly density of corkbark fir, mature (large) trees, and decaying logs (Merrick et al. 2007). The availability of larger snags and cavity-containing trees, especially aspen, is of particular importance for this population, as they provide preferred nesting locations (Merrick et al. 2007).

## **Distribution, Abundance, and Population Trends**

MGRS are found only in the high-elevation forests of the Pinaleño Mountains (Hoffmeister 1986; Figure 1) in the Safford Ranger District of the Coronado National Forest in southeastern

Arizona. The subspecies inhabits upper elevation, mature to old-growth associations in mixed conifer and spruce-fir above approximately 2,425 m (8,000 ft). As recently as the 1960s, the species ranged possibly as far east as Turkey Flat and as far west as West Peak, but it is now only located as far west as Clark Peak. A local extirpation occurred on West Peak, possibly due to a fire in the mid-1970s that both isolated the West Peak subpopulation from the rest of the range and destroyed red squirrel habitat. Suitable habitat on West Peak is thought to currently exist (Hatten 2009), but no systematic surveys have been conducted there.

The population size of MGRS throughout its range has been estimated and tracked since 1986 by an interagency team. Due to changes in analysis, population estimates before and after 1990 may not be comparable. Midden surveys show increasing numbers of MGRS into 1998-2000, with peaks over 500, after which the population declined due to a decrease in habitat from multiple insect outbreaks and wildfires (see **Threats**, below). Population estimates dropped 42% in 2001 as compared to 1998-2000; from then until 2017, population estimates remained fairly stable, varying from 199 to 346. In summer of 2017, however, the Frye Fire burned through the majority of the squirrel's habitat. The last survey (conducted in Fall 2018) resulted in a conservative estimate of 67 MGRS (AGFD 2018).

## **Diet**

MGRS eat seeds and store live cones from Englemann spruce, white fir, Douglas-fir, corkbark fir, and white pine (Rushton et al. 2006). Midden surveys indicate that Englemann spruce and Douglas-fir are the most common tree species supplying MGRS food. MGRS also readily consume false truffles and other fungi, which appear during spring snowmelt and after summer rains begin (Brown 1984, Froehlich 1990). Those not eaten may be dried and stored (Brown 1984).

## **Threats**

In recent years, forests in the Pinaleño Mountains have experienced significant ecological changes, many of which are dramatic and detrimental to the survival of MGRS. From 1986 to 1995 there was a relatively large amount of predicted MGRS habitat, with a generally level trend, followed by a gradual decline in predicted habitat between 1996 and 2003 (Hatten 2014). This decline corresponds with the 1996 Clark Peak Fire and multiple outbreaks of forest insects (described below). From 2004 to 2006 a rapid decline in habitat occurred, corresponding with the 2004 Nuttall Complex Fire, followed by a low trough of available habitat between 2007 and 2009 (Hatten 2014). The large, stand-replacing fires in 1996 and 2004 affected approximately 35,000 acres of forested area, which can significantly reduce survivorship of individual squirrels with middens inside the fire boundary (Koprowski et al. 2006). In 2017, the Frye Fire affected the majority of habitat within the MGRS's range – the effects of this fire are still being analyzed. Graham County in southeastern Arizona currently is experiencing severe to extreme drought conditions in the short-term and abnormally dry to extreme drought conditions in the long-term ([Arizona Department of Water Resources website](#); accessed July 6, 2018). Extended drought creates severe physiological stress on trees, especially in the higher elevation forest types. While this drought is apparently within natural historical variation (Swetnam and Betancourt 1998), various emission scenarios suggest that by the end of the 21st century, average global

temperatures are expected to increase 0.3 °C to 4.8 °C (0.5 °F to 8.6 °F) with the greatest warming expected over land (IPCC 2014). Localized projections suggest the southwestern U.S. may experience the greatest temperature increase of any area in the lower 48 states (IPCC 2007). Increasing temperatures in turn are predicted to be accompanied by a more arid climate (Seager et al. 2007), increasing insect outbreaks in Southwestern forests, and increasing wildfires (Betancourt 2004).

Of most relevance to the proposed project, the non-native Abert's squirrel (introduced in the Pinaleno Mountains in the 1940s) likely impacts MGRS through competition for food resources (Hutton et al. 2003, Edelman 2004, Edelman and Koprowski 2005), nest sites (Edelman and Koprowski 2006), and dispersal territory (Steele and Koprowski 2001), and potentially can increase predator density by providing an additional food source, leading to higher predation rates for red squirrels. Conversely, Abert's squirrels could decrease per capita predation on red squirrels by serving as an additional food source for predators. Rushton et al. (2006) determined competition with Abert's squirrels has the potential for a much greater impact on MGRS population size when compared to plausible increases in predation, and suggested further research into and monitoring of the effects of competition and predation on red squirrels.

### **Recovery Planning**

The objective of the MGRS Recovery Plan (USFWS 1993) is “to increase and stabilize the existing Mt. Graham red squirrel population by protecting existing habitat and restoring degraded habitats.” The Recovery Plan does not contain recovery criteria for MGRS, as the goal of the plan is to first increase and stabilize the population by providing sufficient habitat to maintain a population of squirrels that never fluctuates below 300 adults and is distributed throughout the Pinaleno Mountains. The actions needed to stabilize the population include: 1) protect and monitor the existing population and habitat; 2) determine life history and habitat parameters; 3) reclaim previously occupied habitat; and 4) integrate species and habitat protection actions for the Pinaleno Mountains.

The recovery plan is currently under revision, with the [Draft Mount Graham Red Squirrel Recovery Plan, First Revision](#) published in 2011. Recovery action 3.4 in this document states “Investigate and analyze the effects of Abert's squirrels on Mount Graham red squirrels, including the possibility of reducing and/or eliminating the threat to the squirrel due to competition with the Abert's squirrel.” This project would fall under that recovery action.

### **Critical Habitat**

On January 5, 1990, the USFWS designated approximately 1,900 acres as MGRS critical habitat (Figure 1; 55 FR 425) (USFWS 1990). Critical habitat includes three areas: The area above 10,000 feet in elevation surrounding Hawk and Plain View peaks and a portion of the area above 9,800 feet; the north-facing slopes of Heliograph Peak above 9,200 feet; and the east-facing slope of Webb Peak above 9,700 feet.

The main attribute of these areas at that time was the existing dense stands of mature (about 300 years old) spruce-fir forest. The MGRS Refugium established by the Arizona-Idaho

Conservation Act (1988) has the same boundary as the designated critical habitat boundary surrounding Hawk and Plain View peaks (about 1,700 acres), but does not include critical habitat on Heliograph or Webb Peaks. Unfortunately, most of the habitat in the Refugium and in critical habitat has been impacted by wildland fire and insect damage.

## **ENVIRONMENTAL BASELINE**

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

### **Description of the Action Area**

The action area for this BO is defined as the areas proposed for Abert's removal, which includes all areas within the range of MGRS except for West Peak (Figure 1).

### **Status of the Species and Critical Habitat within the Action Area**

As the action area includes the entire potential range (except for West Peak) and all critical habitat of MGRS, this section is identical to the Status of the Species section above.

## **EFFECTS OF THE ACTION**

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

### **Effects of the action on the Mount Graham red squirrel**

The WS' Arizona Program is working with AGFD to remove Abert's squirrels to reduce competition with MGRS under recovery action 3.4 in the Draft Mount Graham Red Squirrel Recovery Plan, First Revision (USFWS 2011). This project may have a beneficial effect to the subspecies in the long term.

However, in the short term the project may affect MGRS in several ways. MGRS could be disturbed by human presence and the noise of gunshots (note that firearms will be suppressed to minimize noise disturbance to MGRS). Information regarding the effects of human presence and nearby gunshots on red squirrels is lacking. Gabrielsen and Smith (1995) summarize previous studies related to physiological and behavioral responses of several wildlife species to humans

and predators, including fox squirrels (*Sciurus niger*) and grey squirrels (*Sciurus carolinesis*). These species were found to slip around a tree out of sight if approached by a human or a dog, then flee if approached too closely. MGRS have been noted to react to the presence of people within their territory (USFWS observation), but human presence does not appear to influence survivorship, as the same red squirrel will occupy a territory even after multiple visits and multiple capture events (e.g., as observed by Koprowski 2005 and Koprowski et al. 2008). Because human presence and gunshots (which will be suppressed, thereby lessening the sound of the shot) will occur on average 4 days/month, up to a maximum of 8-10 days/month, and within those days for only short periods of time in any one location, we expect that disturbance will be minimized.

MGRS could also be directly impacted through misidentification in the field, which may result in an individual being injured or killed after being shot. This occurred one time during a different project, and resulted in the death of one MGRS (USFWS files). Several conservation measures will be implemented to minimize this possibility during the proposed action: personnel will be trained to identify differences between Abert's and MGRS, will have experience using firearms, and shall be knowledgeable at a professional level in identification of MGRS, their habitat and use of habitat, and their sign. Additionally, if a MGRS sustains a serious injury, WS shall take immediate steps to report the incident to USFWS and proceed under their direction. Following these conservation measures, we anticipate the potential to misidentify and shoot a MGRS instead of an Abert's squirrel is minimized, although the possibility remains.

MGRS may also be affected by trapping activities during which they are inadvertently captured, potentially causing stress to the individual. Conservation measures will be implemented to minimize this stress, including checking the traps every two hours and immediately releasing any MGRS that have been captured, as well as covering the traps with material such as bark or logs to provide shade to the animal inside the trap, or placing the trap in an area that does not allow exposure to the sun. These measures have been used in previous trapping activities (e.g., Koprowski 2005, Koprowski et al. 2008), and no MGRS have been documented as being seriously harmed or killed using this protocol. Therefore, we anticipate the effects of inadvertent capture of MGRS will be minimized.

With the removal of Abert's squirrels, a potential prey item for some avian and mammalian predators, it is possible that MGRS could be directly affected by an increase in predation pressure. However, because Abert's squirrels and MGRS share avian predators and overlap spatially in the Pinaleño Mountains, the presence of Abert's squirrels actually may contribute to higher predator densities and rates of predation on red squirrels (Goldstein et al. 2018). Goldstein et al. (2018) postulate that it is likely that introduced Abert's squirrels subsidize a diverse array of avian and mammalian predators in the Pinaleño Mountains, and that this is of concern for MGRS persistence. Removal of Abert's squirrels from areas with MGRS should therefore contribute to decreasing predation pressure on MGRS.

## **CUMULATIVE EFFECTS**

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this BO. Future Federal actions that



are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The USFS manages lands (except private) of the Pinaleno Mountains and administers projects and permits on those lands; thus, almost all activities that could potentially affect MGRS in the action area are Federal activities subject to section 7 consultation under the Act.

## **JEOPARDY ANALYSIS**

### **Jeopardy Analysis Framework**

In accordance with policy and regulation, the jeopardy analysis in this BO relies on four components: (1) the Status of the Species, which evaluates MGRS, the factors responsible for its condition, and its survival and recovery needs; (2) the Environmental Baseline, which evaluates the conditions of MGRS in the action area, the factors responsible for those conditions, and the relationship of the action area to the survival and recovery of the two species; (3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on each species; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on each species.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of each species' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild. The jeopardy analysis in this BO considers the range-wide survival and recovery needs of each species and the role of the action area in its survival and recovery as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

### **Conclusion**

After reviewing the current status of MGRS, the environmental baseline for the action area, the effects of the proposed Abert's Squirrel Removal Project, and the cumulative effects, it is our biological opinion that the Abert's Squirrel Removal Project, as proposed, is not likely to jeopardize the continued existence of MGRS. We base this conclusion on the following:

1. WS will work closely with USFWS and AGFD, and personnel conducting project activities will be knowledgeable at a professional level in identification of MGRS, their habitat and use of habitat, and their sign, and skilled in the use of firearms and small mammal traps.
2. No habitat or critical habitat will be affected by the project.
3. This project works toward recovery action 3.4 in the Draft Mount Graham Red Squirrel Recovery Plan, First Revision (USFWS 2011), and may have a beneficial effect to the subspecies in the long term.

The conclusions of this BO are based on full implementation of the project as described in the **DESCRIPTION OF THE PROPOSED ACTION** section of this document, including any Conservation Measures that were incorporated into the project design.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. “Harm” is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. “Harass” is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. “Incidental take” is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by Wildlife Services so that they become binding conditions of any grant or permit issued to an applicant, as appropriate, for the exemption in section 7(o)(2) to apply. Wildlife Services has a continuing duty to regulate the activity covered by this incidental take statement. If Wildlife Services fails to assume and implement the terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Wildlife Services must report the progress of the action and its impact on the species to the USFWS as specified in the incidental take statement. [50 CFR § 402.14(i)(3)].

#### **Amount of Extent of Take**

We anticipate that within the action area, one MGRS may be taken as a result of this proposed action. Several conservation measures will be implemented to minimize this risk; however, the possibility remains. This incidental take is expected to be in the form of harm (mortality) due to misidentification of an individual before shooting.

#### **Effect of the Take**

In this BO, we determine that this level of anticipated take is not likely to result in jeopardy to the species for the reasons stated in the Conclusions section.

### **REASONABLE AND PRUDENT MEASURES**

The following reasonable and prudent measures are necessary and appropriate to minimize take of MGRS:

No reasonable and prudent measures above and beyond the conservation measures outlined within this BO are necessary or advisable to minimize the effects of incidental take.

### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, WS must comply with the following terms and conditions, which implement the reasonable and prudent measure described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

No terms and conditions are necessary or advisable.

### **Disposition of Dead or Injured Listed Species**

Upon locating a dead, injured, or sick listed species initial notification must be made to the USFWS's Law Enforcement Office, 4901 Paseo del Norte NE, Suite D, Albuquerque, NM 87113; 505-248-7889) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling dead specimens to preserve the biological material in the best possible state.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that you continue to assist us in the implementation of the MGRS recovery plan and its revisions, including providing funding for carrying out key recovery actions under your authorities.

In order for the USFWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the USFWS requests notification of the implementation of any conservation recommendations.

### **REINITIATION NOTICE**

This concludes formal consultation for the proposed Abert's Squirrel Removal Project. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals

effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

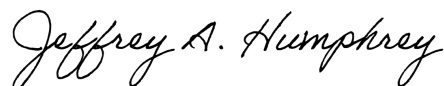
Certain project activities may also affect species protected under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. sec. 703-712) and/or bald and golden eagles protected under the Bald and Golden Eagle Protection Act (Eagle Act). The MBTA prohibits the intentional taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the FWS. The Eagle Act prohibits anyone, without a FWS permit, from taking (including disturbing) eagles, and including their parts, nests, or eggs. If you think migratory birds and/or eagles will be affected by this project, we recommend seeking our Technical Assistance to identify available conservation measures that you may be able to incorporate into your project.

For more information regarding the MBTA and Eagle Act, please visit the following websites. More information on the MBTA and available permits can be retrieved from [FWS Migratory Bird Program web page](#) and [FWS Permits Application Forms](#). For information on protections for bald eagles, please refer to the FWS's National Bald Eagle Management Guidelines (72 FR 31156) and regulatory definition of the term "disturb" (72 FR 31132) published in the Federal Register on June 5, 2007, as well at the Conservation Assessment and Strategy for the Bald Eagle in Arizona ([Southwestern Bald Eagle Management Committee website](#)).

In keeping with our trust responsibilities to American Indian Tribes, we encourage you to continue to coordinate with the Bureau of Indian Affairs in the implementation of this consultation and, by copy of this biological opinion, are notifying the following Tribes of its completion: Gila River Indian Community, Hopi Tribe, Pascua Yaqui Tribe, San Carlos Apache Tribe, and White Mountain Apache Tribe. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department.

We appreciate WS's efforts to identify and minimize effects to listed species from this project. Please refer to the consultation number 02EAAZ00-2019-F-0037 in future correspondence concerning this project. Should you require further assistance or if you have any questions, please contact Marit Alanen at (520) 670-6150 (x234) or Scott Richardson at (520) 670-6150 (x242).

Sincerely,



Jeffrey A. Humphrey  
Field Supervisor

cc (electronic):

Field Supervisor, Fish and Wildlife Service, Phoenix, Arizona  
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ

District Supervisor/Supervisory Wildlife Biologist, U.S. Department of Agriculture, Animal  
and Plant Health Inspection Service, Phoenix, Arizona (Attn: Chris Carillo)

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ ([pep@azgfd.gov](mailto:pep@azgfd.gov))  
Nongame Birds and Mammals Program Manager, Terrestrial Wildlife Branch, Arizona Game  
and Fish Department, Phoenix, Arizona (Attn: James Driscoll)  
Regional Supervisor, Arizona Game and Fish Department, Tucson, AZ (Attn: Tim Snow)

Manager, Cultural Resources, Ak Chin Indian Community, Maricopa, AZ  
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FIGURES

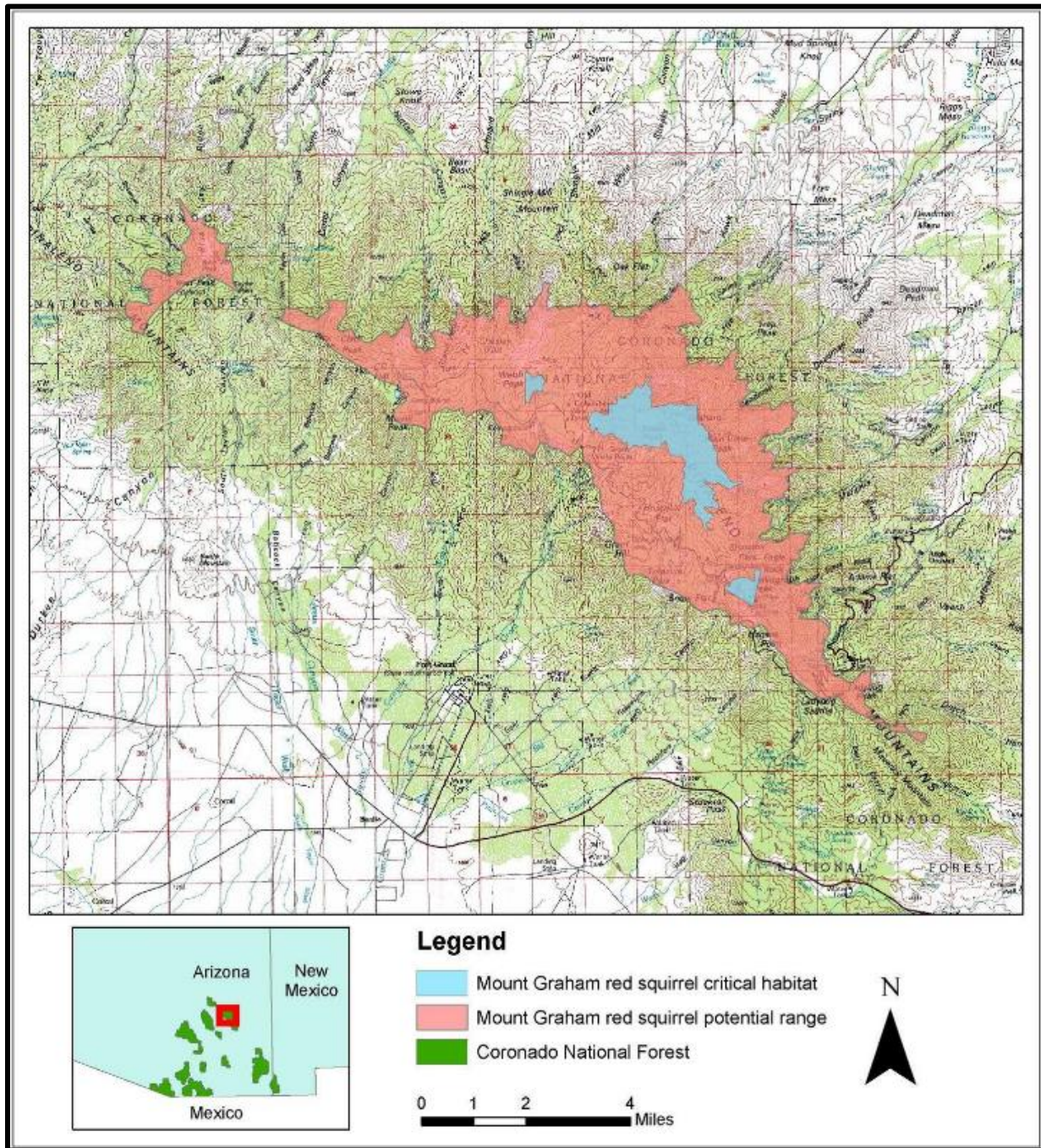


Figure 1. Map showing the proposed action area for removal of Abert's squirrels in the Pinaleno Mountains of the Coronado National Forest. The proposed action area includes all areas within the Mount Graham red squirrel's potential range except for West Peak (the westernmost polygon disjunct from the larger portion of the squirrel's range), and may also be occupied by Mexican spotted owls.

## Appendix A: Concurrences

### Mexican spotted owl

We concur with your determination that the proposed action may affect, but is not likely to adversely affect, MSO for the following reason:

- A small number of people (1-2) will conduct squirrel removal activities each calendar month for a short period of time (on average 4 days/month, up to a maximum of 8-10 days/month). This work would occur during the Mexican spotted owl breeding season (March 1 - August 31) and in protected activity centers (PACs). Personnel will walk through the woods during these activities (minimizing disturbance in any one location) and will use suppressed firearms to reduce noise impacts to potentially nesting owls. Because there will not be a large number of people (>12) within PACs during the breeding season, noise will be limited in time and space, and decibel level are low, the proposed action will result in insignificant and discountable effects to nesting owls.
- Because Abert's squirrels are primarily active during the day and Mexican spotted owls are foraging mainly at night, Abert's squirrels do not provide a significant food source for Mexican spotted owls. Therefore, the proposed action will result in insignificant effects to prey availability for the owl.
- There will be no effects to the key habitat components of Mexican spotted owl PAC or recovery habitat, or to the primary constituent elements of critical habitat.