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In Reply Refer To:
AESO/SE
22410-2009-F-0142

August 24, 2009

Mr. Chris Knopp
Forest Supervisor
Apache Sitgreaves National Forests
P.O. Box 640
Springerville, Arizona 85938-0640

RE: Chitty Salvage Project

Dear Mr. Knopp:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated March 13, 2009, and received by us on March 16, 2009. At issue are impacts that may result from the proposed Chitty Salvage Project located in Greenlee County, Arizona. Your biological assessment and evaluation (BAE) concluded that the proposed project “may affect, and is likely to adversely affect” the Mexican spotted owl (*Strix occidentalis lucida*) and its critical habitat. You also concluded that the project “may affect, but is not likely to adversely affect” the Chiricahua leopard frog (*Lithobates (=Rana) chiricahuensis*), loach minnow (*Tiaroga cobitis*) and its critical habitat, spikedace (*Meda fulgida*), and Gila chub (*Gila intermedia*) and its critical habitat. You also stated that the proposed action “is not likely to jeopardize” the continued existence of the Mexican gray wolf (*Canis lupus baileyi*). We concur with your determinations for the Chiricahua leopard frog, loach minnow and its critical habitat, spikedace, Gila chub and its critical habitat, and Mexican gray wolf, and our reasoning is provided in Appendix A.

This biological opinion (BO) is based on information provided in the March 13, 2009, BAE, telephone conversations and emails with my staff and wildlife biologists Linda WhiteTrifaro and fisheries biologist Stephanie Coleman of your staff, and other sources of information. Literature cited in this BO is not a complete bibliography of all literature available on the species of concern, prescribed fire, and thinning and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

CONSULTATION HISTORY

- March 16, 2009: We received a March 13, 2009, letter from the ASNF requesting formal consultation of the Chitty Salvage Project.
- April 15, 2009: We received an email from ASNF documenting a change in their determination for loach minnow and Gila chub critical habitat from “may affect” to “not likely to adversely affect”.
- April 21, 2009: We acknowledged the ASNF’s March 13, 2009, request for formal consultation via letter.
- July 23, 2009: We sent the draft BO to ASNF for review and comment.
- August 14-19, 2009: The ASNF informally provided a few minor edits.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Alpine Ranger District proposes to offer, award, and administer a timber sale contract on 199 acres for the purpose of salvaging dead and dying trees located within Block E of the Chitty Creek Restoration (Chitty RX) Project that were burned as a result of the 2007 Chitty Wildfire (and associated fire suppression actions). A map of the proposed salvage project is found in the BAE (Appendix A). Salvage operations consist of mechanized removal of trees ≥ 12 ” diameter at breast height (dbh) to provide wood products for the local economy. Salvage trees are described as fire killed timber, dead timber, imminent mortality, and hazard. For a complete description of the salvage terms and removal qualifications, refer to the BAE (Appendix B and C). Concentrated accumulations of project-generated slash would be machine piled and burned within 6 months to 2 years. Onsite treatment of scattered slash would be lopped and left in place to help address watershed concerns.

In addition to the 199 acres identified for salvage operations, the ASNF has identified Forest Road (FR) 54 as meeting the requirement where potential hazard trees occur that may display the likely potential to fall down or roll downhill and endanger human life or property. Live or dead trees along FR 54 that meet the hazard tree specifications will be removed. FR 54 and FR 54B would be used for salvage operations access and no new roads would be constructed. After salvage operations are completed FR 54B will be closed. The action area for this project includes the 199-acre area identified for treatment and the accompanying watersheds.

Optional treatments or actions within the project area are described below. Although these treatments are optional the effects are considered part of the proposed action and will be analyzed in this BO.

1. Fire killed trees <12" dbh and existing dead aspen <12" dbh may be removed under a salvage contract option or offered as firewood.
2. The western most cutting unit (#4), which was not burned by the wildfire or burn-out operations, would only have dead standing aspen cut for commercial or personal use firewood. Resulting slash would be piled and possibly burned.

The following conservation measures (identified as mitigations in the BAE) are included as part of the proposed action in order to facilitate ecosystem and wildlife habitat recovery post fire (2007 Chitty Wildfire) and post salvage.

1. A minimum of two (an average of five existing) dead and down logs/acre >12" dbh would be left on-site. Fallen logs may be designated for salvage at time of harvest only where the Eleven Forest Land and Resource Management Plan (LRMP) BO minimum is exceeded. Smaller woody debris would also be left on site.
2. A minimum of 2.5 existing or potential snags/acre that are large (>18" dbh, where possible) would be left to meet LRMP standards. Preference for existing or potential large snags would be thick-barked Doug fir and white fir, followed by ponderosa pine and Southwestern white pine which would be in clumps where possible.
3. Machine piling of concentrated slash will utilize a brush rake to reduce soil disturbance and the amount of dirt in piles to facilitate effective slash pile consumption.
4. Scattered, non-concentrated, slash would not be piled, but left in place, and not burned to provide interim soil protection and small mammal habitat.
5. FR 54B would be bermed on the outslope and a tank trap would be constructed just above where it meets FR 54 to contain runoff flows and sediment. These or similar actions would be taken to help limit runoff flows from downcutting along the steep break of the Mogollon Rim and to help keep any project generated sediment onsite.
6. In the two or three locations where FR 54B is near the break of the Mogollon Rim, trees will be cross felled perpendicular to the slope to help reduce sediment runoff and help establish new vegetation.

In addition to the seven conservation measures listed above, the Alpine District Timber personnel will administer salvage contractor activities and make observations of soil movement beyond the project area boundary, especially along the south boundary at FR 54B. Monitoring photo points will be established prior to treatment, with pre-, during, and post-project work photos taken by District timber and wildlife/fish personnel.

Implementation of the proposed action is expected to initiate following the conclusion of this BO and proceed through 2010, with the option to extend into 2011 depending on weather, timing restrictions or other unforeseeable events.

STATUS OF THE SPECIES

Mexican spotted owl

The MSO was listed as a threatened species in 1993 (USDI 1993). The primary threats to the species were cited as even-aged timber harvest and stand-replacing wildfire, although grazing, recreation, and other land uses were also mentioned as possible factors influencing the MSO population. The Fish and Wildlife Service appointed the Mexican Spotted Owl Recovery Team in 1993, which produced the Recovery Plan for the Mexican Spotted Owl (Recovery Plan) in 1995 (USDI 1995). Critical habitat was designated for the MSO in 2004 (USDI 2004). A detailed account of the taxonomy, biology, and reproductive characteristics of the MSO is found in the Final Rule listing the MSO as a threatened species (USDI 1993) and in the Recovery Plan (USDI 1995). The information provided in those documents is included herein by reference. Although the MSO's entire range covers a broad area of the southwestern United States and Mexico, the MSO does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to isolated forested mountain systems, canyons, and in some cases steep, rocky canyon lands. Surveys have revealed that the species has an affinity for older, uneven-aged forest, and the species is known to inhabit a physically diverse landscape in the southwestern United States and Mexico.

The U.S. range of the MSO has been divided into six recovery units (RU), as discussed in the Recovery Plan. The primary administrator of lands supporting the MSO in the United States is the Forest Service. Most owls have been found within Forest Service Region 3 (including 11 National Forests in Arizona and New Mexico). Forest Service Regions 2 and 4 (including two National Forests in Colorado and three in Utah) support fewer owls. According to the Recovery Plan, 91 percent of MSO known to exist in the United States between 1990 and 1993 occurred on lands administered by the Forest Service.

Historical and current anthropogenic uses of MSO habitat include both domestic and wild ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber, oil, gas), and development. These activities have the potential to reduce the quality of MSO nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season. Livestock and wild ungulate grazing is prevalent throughout Region 3 National Forest lands and is thought to have a negative effect on the availability of grass cover for prey species. Recreation impacts are increasing on all forests, especially in meadow and riparian areas. There is anecdotal information and research that indicates that owls in heavily used recreation areas are much more erratic in their movement patterns and behavior. Fuels reduction treatments, though critical to reducing the risk of severe wildfire, can have short-term adverse effects to MSO through habitat modification and disturbance. As the human population grows, especially in Arizona, small communities within and adjacent to National Forest System lands are being developed. This trend may have detrimental effects to MSO by further fragmenting habitat and increasing disturbance during the breeding season. West Nile Virus also has the potential to adversely impact the MSO. The virus has been documented in Arizona, New Mexico, and Colorado, and preliminary information suggests that owls may be highly vulnerable to this disease (Courtney et al. 2004). Unfortunately, due to the secretive nature of owls and the lack of intensive monitoring of banded birds, we will most likely not know when owls contract the disease or the extent of its impact to MSO range-wide.

Currently, high-intensity, stand-replacing fires are influencing ponderosa pine and mixed conifer forest types in Arizona and New Mexico. Uncharacteristic, severe, stand-replacing wildfire is probably the greatest threat to MSO within the action area. As throughout the West, fire severity and size have been increasing within this geographic area.

A reliable estimate of the numbers of owls throughout its entire range is not currently available (USDI 1995) and the quality and quantity of information regarding numbers of MSO vary by source. USDI (1991) reported a total of 2,160 owls throughout the United States. Fletcher (1990) calculated that 2,074 owls existed in Arizona and New Mexico. However, Ganey et al. (2000) estimates approximately $2,950 \pm 1,067$ (SE) MSOs in the Upper Gila Mountains RU alone. The Forest Service Region 3 most recently reported a total of approximately 1,025 PACs established on National Forest System (NFS) lands in Arizona and New Mexico (B. Barrera, pers. comm. June 18, 2007). The FS Region 3 data are the most current compiled information available to us; however, survey efforts in areas other than NFS lands have resulted in additional sites being located in all Recovery Units.

Researchers studied MSO population dynamics on one study site in Arizona ($n = 63$ territories) and one study site in New Mexico ($n = 47$ territories) from 1991 through 2002. The Final Report, titled "Temporal and Spatial Variation in the Demographic Rates of Two Mexican Spotted Owl Populations" (Gutierrez et al. 2003), found that reproduction varied greatly over time, while survival varied little. The estimates of the population rate of change ($\Lambda = \text{Lambda}$) indicated that the Arizona population was stable (mean Λ from 1993 to 2000 = 0.995; 95 percent Confidence Interval = 0.836, 1.155) while the New Mexico population declined at an annual rate of about 6 percent (mean Λ from 1993 to 2000 = 0.937; 95 percent Confidence Interval = 0.895, 0.979). The study concludes that spotted owl populations could experience great (>20 percent) fluctuations in numbers from year to year due to the high annual variation in recruitment. However, due to the high annual variation in recruitment, the MSO is then likely very vulnerable to actions that impact adult survival (e.g., habitat alteration, drought, etc.) during years of low recruitment.

Since the owl was listed, we have completed or have in draft form a total of 212 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 426 PACs. The form of this incidental take is almost entirely harm or harassment, rather than direct mortality. These consultations have primarily dealt with actions proposed by Forest Service Region 3. However, in addition to actions proposed by Forest Service Region 3, we have also reviewed the impacts of actions proposed by the Bureau of Indian Affairs, Department of Defense (including Air Force, Army, and Navy), Department of Energy, National Park Service, and Federal Highway Administration. These proposals have included timber sales, road construction, fire/ecosystem management projects (including prescribed natural and management ignited fires), livestock grazing, recreation activities, utility corridors, military and sightseeing overflights, and other activities. Only two of these projects (release of site-specific owl location information and existing forest plans) have resulted in biological opinions that the proposed action would likely jeopardize the continued existence of the MSO. The jeopardy opinion issued for existing Forest Plans on November 25, 1997 was rendered moot as a non-jeopardy/no adverse modification BO was issued the same day.

In 1996, we issued a biological opinion on the FS Region 3 adoption of the Recovery Plan recommendations through an amendment to their Land and Resource Management Plans

(LRMPs). In this non-jeopardy biological opinion, we anticipated that approximately 151 PACs would be affected by activities that would result in incidental take of MSOs. In addition, on January 17, 2003, we completed a reinitiation of the 1996 Forest Plan Amendments biological opinion, which anticipated the additional incidental take of five MSO PACs in Region 3 due to the rate of implementation of the grazing standards and guidelines, for a total of 156 PACs. Consultation on individual actions under these biological opinions anticipated incidental take in the form of harm and/or harassment of owls associated with 243 PACs on Region 3 NFS lands. FS Region 3 reinitiated consultation on the LRMPs on April 8, 2004. On June 10, 2005, the FWS issued a revised biological opinion on the amended LRMPs. We anticipated that while the Region 3 Forests continue to operate under the existing LRMPs, take is reasonably certain to occur to an additional 10 percent of the known PACs on NFS lands. We expect that continued operation under the plans will result in harm to 49 PACs and harassment to another 49 PACs. To date, consultation on individual actions under the amended Forest Plans, as accounted for under the June 10, 2005, biological opinion has resulted in the incidental take of owls associated with 43 PACs. Incidental take associated with Forest Service fire suppression actions, which was not included in the LRMP proposed action, has resulted in the incidental take of owls associated with 25 PACs.

Mexican spotted owl critical habitat

The final MSO critical habitat rule (USDI 2004) designated approximately 8.6 million acres of critical habitat in Arizona, Colorado, New Mexico, and Utah, mostly on Federal lands (USDI 2004). Within this larger area, critical habitat is limited to areas that meet the definition of protected and restricted habitat, as described in the Recovery Plan. Protected habitat includes all known owl sites and all areas within mixed conifer or pine-oak habitat with slopes greater than 40 percent where timber harvest has not occurred in the past 20 years. Restricted habitat includes mixed conifer forest, pine-oak forest, and riparian areas outside of protected habitat.

The primary constituent elements for proposed MSO critical habitat were determined from studies of their habitat requirements and information provided in the Recovery Plan (USDI 1995). Since owl habitat can include both canyon and forested areas, primary constituent elements were identified in both areas. The primary constituent elements which occur for the MSO within mixed-conifer, pine-oak, and riparian forest types that provide for one or more of the MSO's habitat needs for nesting, roosting, foraging, and dispersing are in areas defined by the following features for forest structure and prey species habitat:

Primary constituent elements related to forest structure include:

- A range of tree species, including mixed conifer, pine-oak, and riparian forest types, composed of different tree sizes reflecting different ages of trees, 30 percent to 45 percent of which are large trees with diameter-at-breast height (dbh) of 12 inches or more;
- A shade canopy created by the tree branches covering 40 percent or more of the ground; and,
- Large, dead trees (snags) with a dbh of at least 12 inches.

Primary constituent elements related to the maintenance of adequate prey species include:

- High volumes of fallen trees and other woody debris;
- A wide range of tree and plant species, including hardwoods; and
- Adequate levels of residual plant cover to maintain fruits and seeds, and allow plant regeneration.

The forest habitat attributes listed above usually are present with increasing forest age, but their occurrence may vary by location, past forest management practices or natural disturbance events, forest-type productivity, and plant succession. These characteristics may also be observed in younger stands, especially when the stands contain remnant large trees or patches of large trees. Certain forest management practices may also enhance tree growth and mature stand characteristics where the older, larger trees are allowed to persist.

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 potential impact area for Chitty Salvage project is 199 acres of Forest Service land. Areas of potential effects beyond the 199-acre disturbance area may include the transport of project generated sediment off-site within the Middle Black River and Upper Eagle Creek watersheds. Any potential project generated sediment within the Middle Black River watershed would move north and drain into the North Fork Bear Wallow Creek and sediment within the Upper Eagle Creek watershed would move south and drain into Chitty Creek. Depending on wind conditions at the time, smoke from pile burning may reach three MSO PACs (Double Cienega, Upper KP Creek, and Blue Vista 2 PACs) within the action area. All three PACs are located approximately one mile or greater from the project area.

MSO and Critical Habitat

Three MSO PACs occur within the smoke dispersal area. In the Upper KP Creek PAC the survey history shows a single owl (nesting status unknown) was documented in 1989. Informal monitoring was completed between 1990 and 1993 with no response or locations recorded. The survey history for Double Cienega PAC shows absence determined through formal monitoring between 1994 and 1995 and informal monitoring with no response or locations recorded between 1996 and 1998. The Blue Vista 2 PAC was designated in 2002 and nesting was confirmed in 2005. In the upper reaches of the Blue Vista PAC, a female MSO was observed on three separate informal monitoring surveys in August 2007.

The Chitty Salvage Project lies entirely within the Upper Gila Mountain (UGM) RU-7 boundary, which comprises 863,344 acres. UGM RU-7 is essential to the conservation of the species and it currently possesses the primary constituent elements required for nesting, roosting, foraging, and dispersal. The status of critical habitat within the project area has been affected by thinning and wildfire suppression actions within and outside of the 199 acres project area.

During summer and fall of 2006, thinning was accomplished on 270 acres of Block E of the Chitty Rx Project; hand piling of slash was completed on most, but not all, of the 270 acres. The 199 acres proposed for the Chitty Salvage Project occur within Block E of the Chitty Rx Project. In total, Block E contains 476 acres of mixed conifer habitat. On June 30, 2007, a lightning strike ignited the Chitty Wildfire of which a portion of Block E was affected by the wildfire and suppression actions. As a result MSO critical habitat (within and outside of the 199 acres) and a significant portion of Blue Vista 2 PAC (695 acres burned) were affected.

Within the Chitty Salvage Project area, approximately 131 acres of restricted habitat were impacted by the Chitty Wildfire. Post wildfire (June 2008), the Forest collected plot stand data within the project area. Their data are summarized as follows:

- Approximately 67% of pre-existing trees were killed by the fire.
- Approximately 26% of the area has no live trees left standing (plots with 0 trees).
- Approximately 74% of the area has live trees 5+” dbh which survived (plots with 1 or more live trees).
- Most plots indicate that 10-90 live trees per acre 5+” dbh survived.
- Three plots indicate that 120-140 live trees per acre 5+” dbh survived.

The ASNF also looked at the snag and down log component post Chitty Wildfire. Currently an average of 92 snags per acre exists within the 199-acre Chitty Salvage area. In total, 50.5 snags/acre measure between 5” and 11.9” dbh; 41.5 snags/acre are 12+” dbh; and approximately 14.8 snags/acre are 18+” dbh. In addition, an average of 5.2 dead and down logs (measuring 12+” midpoint diameter) per acre also exist.

The ASNF provided a map within their BAE documenting the fire intensity within the 199 acres proposed for salvage operations. The fire intensity and associated acres impacted range from low (38 acres), moderate (59 acres), high (55 acres), crown (12 acres), and unburned (35 acres).

In addition to the Chitty Wildfire, suppression activities from the Steeple and KP Wildfires also occurred within the action area affecting MSO critical habitat and 640 acres of Upper KP Creek PAC. The affects of suppression activities to MSO and critical habitat have not yet been determined for these wildfires.

Recently two additional wildfires occurred within the vicinity of the Chitty Salvage action area that likely contributed to smoke disturbance in all three PACs. On April 20, 2008, implementation of the Chitty Rx burn resulted in an uncontained spot fire. The escaped fire was named the Eagle Wildfire. The Eagle Wildfire was contained on May 1, 2008, burning 3,800

acres within about a 5,800 acre perimeter. On June 22, 2008, the Hot Air Wildfire was ignited by lightning. The Hot Air Wildfire was contained on June 30, 2008, burning approximately 9,500 acres. None of the areas burned by the Hot Air Wildfire overlap with the 2007 Chitty Wildfire, the 2008 Chitty Rx burn, nor the 2008 Eagle Wildfire. The affects of suppression activities to MSO have not yet been determined for the Eagle or Hot Air Wildfires.

The aggregate impacts of the wildfires, suppression actions, and prescribed burns as described above all contribute to the present status of the MSO and critical habitat in the action area.

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 that 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.

MSO and Critical Habitat

The effects to MSO from the Chitty Salvage project are related to noise, smoke disturbance, and the modification of its habitat. Since the timing of salvage operations will initiate after the conclusion of this BO and proceed through 2010 with the option to extend into 2011, it is anticipated that project activities will occur within the MSO breeding season.

MSO PACs are located one mile or greater from salvage operations. Pre and post-wildfire surveys for MSO within and outside of PACs have been sporadic or nonexistent within the action area. Because survey data are limited, we consider MSO PACs within the action area to be occupied and the habitat although altered by wildfire and suppression actions still provide areas suitable for feeding and possible shelter. This is consistent with the Recovery Plan's recommendation for the retention of PACs, the potential of adult survival to reach 16 years or more, and high site fidelity (USDI 1995).

Noise disturbance within the action area is not expected to significantly affect MSO in Upper KP Creek, Double Cienega, or Blue Vista 2 PACs; however, MSO foraging or dispersing within the project area may be impacted. In 2008, the Forest documented aspen regeneration scattered throughout the project area and found that some but not all individual shrub plants on site were resprouting. This regrowth is likely to result in higher populations of small mammals in these areas, increasing the prey base available for MSO. It is possible that noise and human activity during salvage operations could disturb MSO foraging in or dispersing through the project area.

Smoke may also have an impact on MSO foraging or dispersing within the project area and is likely to extend into all three PACs within the action area. Project generated slash from cutting, trimming limbs, and residual woody material will be machine piled and burned within the project area. The BAE states that "salvage generated piles to be burned will not be of sufficient quantity to produce significant amounts of smoke and prevailing winds are expected to readily carry smoke away from the area." The ASNF will follow the Arizona Department of Environmental

Quality (ADEQ) Smoke Regulations and Smoke Management Best Management Practices (BMP) that will further minimize smoke production and dispersal within the action area. Although smoke dispersal in the action area may affect MSO outside of PACs, we believe the quantity of burn piles combined with the implementation of ADEQ smoke regulations and BMPs will likely prevent smoke from disrupting normal MSO breeding, feeding, or sheltering behavior.

The Chitty Salvage project proposes to remove standing dead trees and also live trees assessed to exhibit imminent mortality. Fire killed trees and dead aspen <12" dbh may be removed under a salvage contract or offered as firewood. The proposed action calls for a minimum of 2.5 existing or potential snags/acre (≥ 18 " dbh) to be left in place to meet the LRMP standards. And a minimum of two (an average of five) dead and down logs/acre (≥ 12 " dbh) would also be left on site. These actions will further remove dead trees in the MSO habitat of the selected treatment areas. The large snag component of the MSO habitat will be reduced by the project. Complete removal of the trees will also affect the recovery of the large down log component of MSO habitat in the future. Combined with the Chitty Wildfire effects, salvage operations will result in even-aged stand conditions over a large area until new trees develop resulting in uneven-aged stand conditions. These actions are expected to adversely affect key habitat components including large snags and large down logs in the 199 acres of MSO habitat proposed for salvage operations.

Ground-disturbance activities associated with salvage operations will also slow recovery of treated MSO habitat. Use of machinery and other project activity on already damaged soils can lead to soil compaction and scarification (Beschta et al. 2004, Donato et al. 2006). Continued disturbance of the ground could result in less or slower recovery of the vegetation, including trees and understory plant cover, that constitutes MSO habitat.

Mexican Spotted Owl Critical Habitat

The Chitty Salvage project proposes to remove standing dead trees and live trees exhibiting imminent mortality within the project area. In order to understand the number and dbh range of live trees that remain within the salvage area, the Forest used the June 2008 plot stand data to provide estimates. The estimated numbers of live trees/acre dbh are as follows:

DBH Range (in inches)	Remaining Live Trees/Acre
5 to 11.9	14.8
12 to 17.9	16.7
18 to 23.9	7.6
24+	7.1
Total Live Trees/Acre	46.2

The BAE states that the main canopy is composed of a mix of live and dead standing trees and there are four small, essentially treeless openings totaling 22 acres. In addition the canopy arrangement (October 2008) averaged 15% to 35% canopy cover and the stand vertical arrangement is essentially single story.

All of the 199 acres of MSO habitat selected for treatment are also designated forested MSO critical habitat in critical habitat unit RU-7. The anticipated effects of the action on the primary constituent elements are summarized below.

30-45 percent of trees are 12 inches dbh or larger

The range of tree species within the project area is not anticipated to be reduced or affected. Based on the average dbh of live trees $\geq 12''$ dbh, there are portions of the project area that currently exhibit the 30 to 45 percent range. The removal of standing dead trees and live trees exhibiting imminent mortality will likely reduce the percent of trees below the recommended 30 to 45 percent range.

Shade canopy of tree branches covering 40 percent or more of the ground

Where living trees no longer exist within the project area, the shade canopy will not be affected. Currently, the average canopy cover is between 15 and 35 percent. Although the shade canopy does not meet the 40 percent level, project actions will further reduce the percent canopy cover and slow the recovery of this primary constituent element.

Large snags that are 12 inches dbh or larger

Large snags that are 12 inches or greater will be reduced; however, a minimum of 2.5 existing or potential snags/acre ($\geq 18''$ dbh) will be left in place. Because snags will be left in place, we believe this primary constituent element will not be adversely affected.

High volumes of fallen trees and other woody debris

The proposed action states that a minimum of two (an average of five) dead and down logs/acre ($\geq 12''$ dbh) would be left on site. In addition, standing dead trees will also be removed. The combination of these salvage operations will remove the current high volume of fallen trees and woody debris and adversely affect the long term recovery of this primary constituent element.

A wide range of tree and plant species, including hardwoods

The range of tree and plant species is not expected to be modified by the proposed action. Ground activities associated with salvage operations will reduce the risk for future high-intensity wildfire.

Adequate levels of residual plant cover to maintain fruits, seeds and allow plant regeneration

Due to the effects of the Chitty Wildfire and Chitty Rx, little residual plant cover exists in the MSO critical habitat that will be treated in the proposed action. Plant cover is expected to recover in the future, depending on how the treatment areas are managed. However, ground compaction and vegetation disturbance from activities associated with salvage operations will slow the recovery of plant cover in MSO critical habitat.

In summary, the proposed action will adversely affect the primary constituent elements that include percent of large trees, shade canopy, and large down logs in the 199 acres of MSO critical habitat. That habitat will be altered to the point that few to no primary constituent elements will remain. Areas that were not affected by high intensity and crown fire may recover in the long-term; however, at this time the majority of the project area is not suitable for the species. The project will limit the risk of future uncontrolled fires which currently is the greatest threat to the species.

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 land within the project boundaries is of Federal ownership. However, non-Federal actions that are likely to continue to occur in the greater action area include recreation resulting from increased tourism. Unregulated recreational activities occurring in the action area include camping, and OHV use. These activities could cause disturbance to MSO and therefore contribute as cumulative effects to the proposed action. However, the majority of these actions will occur during the day and are considered to be of lesser concern to breeding/foraging MSO within the action area.

CONCLUSION

After reviewing the current status of the MSO, the environmental baseline for the action area, the effects of the proposed Chitty Salvage Project and the cumulative effects, it is the FWS's BO that the Chitty Salvage Project, as proposed, is not likely to jeopardize the continued existence of the MSO, and is not likely to destroy or adversely modify designated MSO critical habitat.

We note that this BO does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

We present this conclusion for the following reason:

Mexican spotted owl

- Disturbance to PACs in the action area will be limited to short-term smoke disturbance.
- The project will affect 199 acres of MSO critical habitat which is a small percentage of critical habitat in the UGM RU-7 (863,344 acres). However, the implementation of the proposed action is not expected to impede the survival or recovery of MSO in this Recovery Unit.

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 (mitigations) 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.

AMOUNT OR EXTENT OF TAKE

We do not anticipate that the proposed action will incidentally take any MSO.

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 W. Broadway Rd, Suite 113, Mesa, Arizona, 85202, (telephone: 480/967-7900) 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.

We have not identified any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the Chitty Salvage 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.

We appreciate your efforts to identify and minimize effects to listed species from this project. For further information, please contact Ryan Gordon (x225) or Mary Richardson (x242). We also encourage the ASNF to coordinate this project with the Arizona Game and Fish Department. Please refer to the consultation number, 22410-09-F-0142, in future correspondence concerning this project.

Sincerely,

/s/Debra Bills for

Steven L. Spangle
Field Supervisor

cc: District Ranger, Alpine Ranger District, Alpine, AZ
Forest Biologist, Alpine Ranger District, Alpine, AZ (Attn: Linda WhiteTrifaro)
Shaula Hedwall, Fish and Wildlife Service, Flagstaff, AZ

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

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APPENDIX A

Appendix A documents our concurrence with your determination of “may affect, is not likely to adversely affect” for the following species and critical habitats listed below.

Chiricahua leopard frog

1. The last recorded occurrence of Chiricahua leopard frogs within the project area is >19 years old.
2. No known populations exist within dispersal distance (within one mile over land, three miles along an ephemeral or intermittent drainage, or five miles along a perennial stream) to suitable habitat within the project area.

Spikedace, Loach minnow and its critical habitat, and Gila chub and its critical habitat

1. In the Description of the Proposed Action section of this BO we identified seven measures that will be implemented by the Forest to facilitate ecosystem and wildlife habitat recovery. Measures three through seven all contribute to a reduction of the amount of sediment transport below levels that could be meaningfully measured, detected, or evaluated. Thus, salvage operations are not expected to adversely affect spikedace, loach minnow and its critical habitat, and Gila chub and its critical habitat.
2. The Forest will administer salvage contractor activities and establish pre-, during, and post-project work photos to observe potential soil movement beyond the project area boundary. These activities will establish a baseline for soil movement and help determine if the proposed action measures three through seven are effective.

Mexican gray wolf

1. Because of the wolves’ status as an experimental, non-essential population, wolves found in Arizona are treated as though they are proposed for listing for section 7 consultation purposes. By definition, an experimental non-essential population is not essential to the continued existence of the species. Thus, no proposed action impacting a population so designated could lead to a jeopardy determination for the entire species.