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In Reply Refer To:  
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March 17, 2005

Ms. Jeanine Derby  
Forest Supervisor  
Coronado National Forest  
300 West Congress  
Tucson, Arizona 85701

Dear Ms. Derby:

This responds to your January 14, 2005, letter to the Arizona Ecological Services Office requesting reinitiation of the Biological Opinion (BO) for the Lone Mountain Prescribed Burn, pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). At issue are impacts that may result from a proposed second-entry prescribed fire in the Lone Mountain area on the western slope of the Huachuca Mountains, Cochise County, Arizona. These impacts may affect the following listed species: Huachuca water umbel (*Lilaeopsis schaffneriana* var. *recurva*; HWU), Mexican spotted owl (*Strix occidentalis lucida*; MSO), lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*; LLNB), Chiricahua leopard frog (*Rana chiricahuensis*; RACH), and Sonora tiger salamander (*Ambystoma tigrinum stebbinsi*; STS). Critical habitat for the HWU and MSO may also be affected.

You requested our concurrence that the proposed action may affect, but is not likely to adversely affect, the MSO and its designated critical habitat, and the RACH. We concur with your determinations for these species. Rationales for our concurrences is detailed in Appendix A. You also determined that the action would not affect several other species. We recommend that you maintain a complete administrative record documenting the decision process and supporting information for the "no effect" determinations.

This reinitiated BO was prepared using information from the following sources: the original March 2, 1999, Biological Opinion for the Lone Mountain Burn; your January 14, 2005, request for reinitiation of consultation; the January 10, 2005, biological assessment (BA) for the project (U.S. Forest Service, Coronado National Forest 2005); the February 14, 2000, prescribed burning plan (U.S. Forest Service, Coronado National Forest 2000); a September 15, 2004, site visit with personnel from your office; and our files. Literature cited in this biological opinion is not a complete bibliography of all literature available on the affected species, nor is it a complete

review of the effects of prescribed fire on these species. A complete administrative record of this consultation is on file in our office.

## **CONSULTATION HISTORY**

The March 2, 1999, BO contains the consultation history for all events prior to the issuance of that BO. This is the first reinitiation of the BO since its issuance in 1999. The following details the history of the consultation from that date forward:

- September 15, 2004: We met Forest Service personnel at the proposed project site to look at the area and discuss the prescribed burn plan and potential impacts to listed species and their associated habitats.
- January 21, 2005: We received the Forest Service's request for reinitiation of the second-entry prescribed burn and future maintenance burns of the Lone Mountain grazing allotment.
- February 18, 2005: We sent the draft biological opinion to the Forest.
- March 10, 2005: We received comments from the Forest on the draft biological opinion.

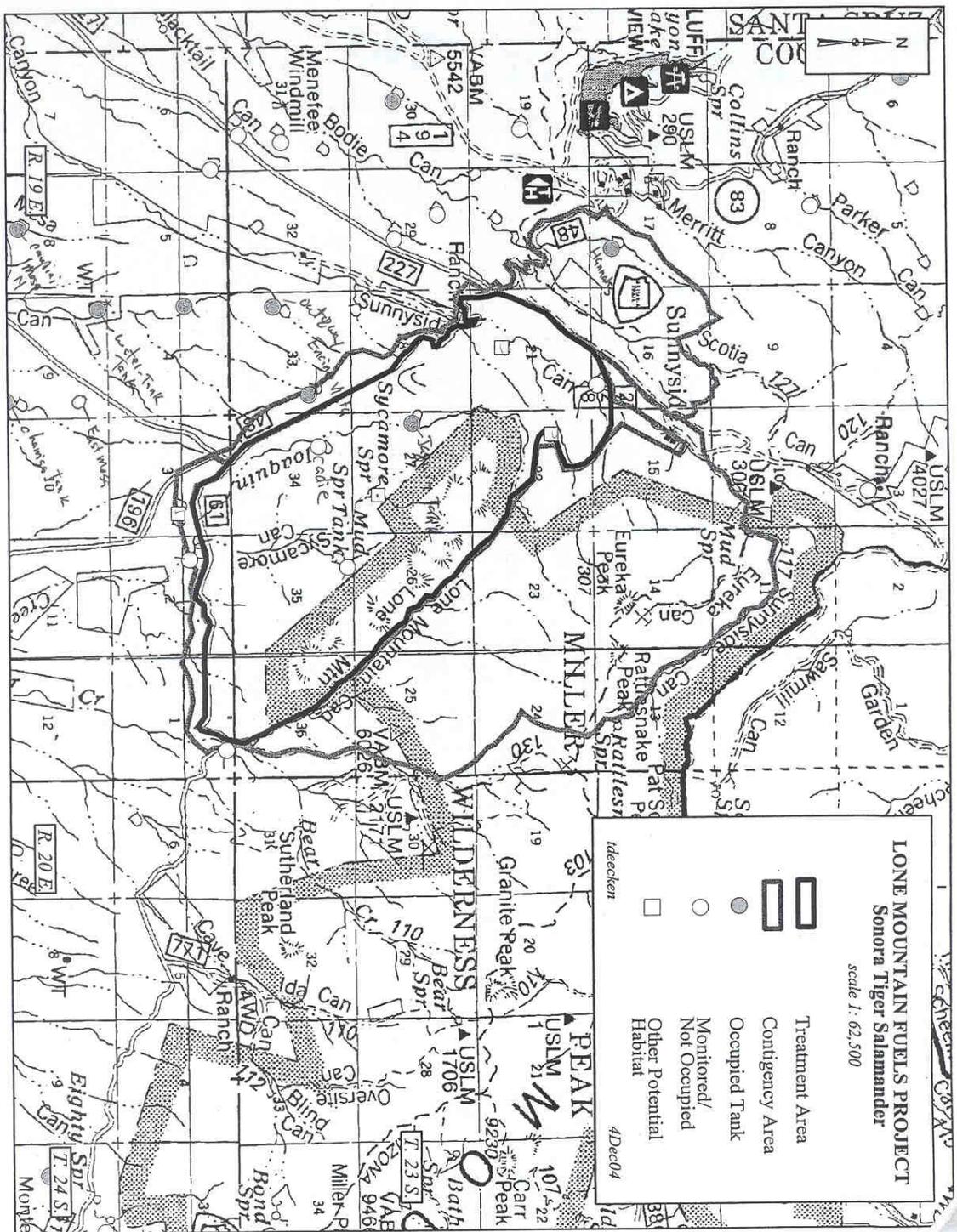
## **BIOLOGICAL OPINION**

### **DESCRIPTION OF PROPOSED ACTION**

The Coronado proposes a 4,200-acre prescribed fire in the Lone Mountain area of the Huachuca Mountains (T. 23 S., R. 19 E., sections 16 and 17; and T. 23 S., R. 19 E., sections 22, 26, 27, 28, 34 and 36; Figure 1). This proposed action is 1,000 acres less than the original proposed project (a reduction from 5,200 to 4,200 acres). Because the proposed action is smaller, the contingency zone around the primary treatment area has also been reduced. The primary treatment area and contingency zones are reduced due to the northwestern portion of the project area burning during the Merritt Fire of 2002. The project would be conducted in late winter and early spring of 2005. The primary goal of the Lone Mountain prescribed burn is to reintroduce managed fires (both natural and purposely ignited) into the ecosystem and return the area to a more natural state. The desired results of the proposed fuel treatment are:

- open grasslands with occasional clumps of mature oaks and junipers;
- oak savannas with younger trees replacing older trees over time;
- increased herbaceous cover which, in turn, helps trap sediments and build up banks along stream channels;
- more open pine stands, causing an increase in grasses and forbs;
- the presence of vegetation types that are resistant and resilient to wildfires; and
- a vegetation mosaic with different growth patterns, and increasing plant diversity.

Figure 1



Accomplishment of these goals would provide many positive results from a wildlife/habitat perspective, as well as from the perspectives of ecosystem management cost, public safety, gain of scientific knowledge, and other benefits. To achieve these results, the following treatment objectives would be used:

- Within the ignited area, create a mosaic of burned and unburned areas with 30 to 80 percent of the area burned.
- Eliminate 30 to 50 percent of the juniper trees less than 6 inches in diameter within the area actually burned.
- Eliminate 20 to 50 percent of the oak trees less than nine inches in diameter within the area actually ignited.
- Limit fire intensity in Lone Mountain, Joaquin, Sycamore, and Sunnyside drainages to a backing fire with flame lengths of two to four feet.

The entire second entry prescribed fire is anticipated to occur over a four-to six-week period. Black lines around the fire perimeter will be established in the late winter period. Ground fires will blacken an approximately 100- to 250-foot wide line inside the perimeter. This burning will be low intensity with flame lengths less than four feet and typically around 2 feet high. Drip torches or a terra torch will be used to create the black line. Buffers around identified sensitive areas along drainage bottoms, agave stands, and stock tanks will be created with the same type of low-intensity fire. No burning will occur within 300 feet of stockponds or Mud and Sycamore springs. Shortly after black line boundaries and buffers are created, a more moderate intensity fire will be used on the interior of the project area. Flame lengths are anticipated to be four to six feet on the warmer aspects in order to meet treatment objectives. Flame lengths of two to four feet are expected on the more northerly and cooler slopes. Most of the area was previously burned in March and April of 2000 during the initial prescribed burn for the area. The burn perimeter will be secured mostly with existing roads, trails, and drainage bottoms prior to igniting the main portion of the burn. A terra torch will be used to burn individual juniper trees as well.

The proposed action is expected occur over a five-year period, through 2010. Treatments beyond the second entry burn described above are anticipated to be maintenance burns with fewer impacts than the first and second entry burns. Treatment procedures and objectives will remain the same throughout the five-year life of the project. A resource advisor or designated representative will be on-site during the burning to ensure compliance with conservation measures. These requirements will be followed during all successive re-entries.

If the fire burns into the escaped fire contingency zone (Figure 1) and burns more than 10 acres, the fire would be considered a wildfire and full fire suppression activities would be initiated to halt the fire. Any spread of the fire outside the contingency zone would also be treated as a wildfire with full suppression.

## **Proposed Conservation Measures**

Conservation Measures proposed by the Coronado specifically to minimize effects to listed species and designated critical habitat will include those listed in the 1999 BO and will be implemented on all treatments throughout the five-year life of the proposed action. Furthermore, the Coronado will be incorporating the terms and conditions implemented in the 1999 BO as additional, species-specific, conservation measures during the five-year life of this prescribed burn. Over and above the 1999 Conservation Measures and terms and conditions, the Coronado also commits to the following:

### HWU

- Slow ignition will be used to help determine how the fire might behave.
- Cool, generally backing fires will be used near sensitive areas.
- No-burn buffers along Bear Creek and Joaquin, Sycamore, and Lone Mountain canyons will be established. The width of each buffer is variable; however, burning will generally occur no closer to the stream channel than the closest well-defined bench, or as guided by the Forest Hydrologist. At least a 300-foot, no-burn buffer will be left around Mud and Sycamore springs.
- Sensitive soils will be avoided.
- Camps, staging areas, and other concentrated human activity will be placed outside of riparian bottoms and critical habitat.
- Post-burn monitoring will occur.

### LLNB

- Black lines will be established around the agave stands with concentrated plants prior to the large-scale ignition
- Fire camps, aircraft landing areas, staging areas, and other sites of concentrated human activity will be located outside of agave stands with more than 100 contiguous plants.

### STS

- No burning within 300 feet of a stock pond and Sycamore and Mud Springs will occur.
- No drafting of water from stockpools during burning or suppression efforts will occur unless firefighter safety is jeopardized or resource values are threatened.
- Fire camps, landing sites, equipment staging areas, and other significant human activity areas will be located at least 1,650 feet away from stockpools or outside of the buffers left around sensitive areas. Previously disturbed sites will be used when possible.
- Off-road vehicles and creation of new routes will not occur around breeding sites. Creation of new access routes will be limited to suppression activities and only when

alternatives are not available.

- If water is drafted from a stock tank within the range of the STS, it shall not be refilled with water from another tank, Parker Canyon Lake, or other source of water that may support fish, bullfrogs, or other salamander species.

#### MSO

- Crews will be instructed not to conduct ignitions inside of the mapped portion of Lone Mountain that contains primary constituent elements for MSO critical habitat.
- Any escaped fire that burns more than ten acres in the contingency area will be suppressed.
- No burning is proposed in any PACs.
- Unburned buffers will be left along identified riparian stands.

#### RACH

- No burning within 300 feet of a stock pond and Sycamore and Mud springs will occur.
- No-burn buffers along Bear Creek and Joaquin, Sycamore, and Lone Mountain canyons will be established. The width of each buffer is variable, but burning would generally occur no nearer to the stream channel than the closest well defined bench, or as guided by the Forest Hydrologist.
- No drafting of water from stockponds during burning or suppression efforts will occur unless firefighter safety is jeopardized or resource values are threatened.
- Fire camps, landing sites, equipment staging areas, and other significant human activity areas will be located at least 1,650 feet away from stockponds or outside of the buffers left around sensitive areas. Previously disturbed sites will be used when possible.
- Off-road vehicles and creation of new routes will not occur around breeding sites. Creation of new access routes will be limited to suppression activities and only when alternatives are not available.

#### ***ANALYSES BY SPECIES:***

##### **Huachuca Water Umbel**

##### **STATUS OF THE SPECIES**

The status of HWU remains similar to that described in the 1999 BO; however, critical habitat was designated on the upper San Pedro River, Garden Canyon, and other areas in the Huachuca Mountains, San Rafael Valley, and Sonoita Creek in 1999.

The constituent elements of critical habitat identified in the final rule include permanent water, stable stream channels, and riparian plant communities composed of native plant species. The constituent elements also include the need for continuous reaches of habitat to allow HWU populations to expand and contract in response to flood events.

Specifically, the primary constituent elements of critical habitat for HWU include, but are not limited to, the habitat components that provide:

- 1) sufficient perennial base flows to provide a permanently or nearly permanently wetted substrate for growth and reproduction of HWU;
- 2) a stream channel that is relatively stable, but subject to periodic flooding that provides for rejuvenation of the riparian plant community and produces open microsites for HWU expansion;
- 3) a riparian plant community that is relatively stable over time and in which nonnative species do not exist or are at a density that has little or no adverse effect on resources available for HWU growth and reproduction; and
- 4) in streams and rivers, refugial sites in each watershed and in each reach, including but not limited to springs or backwaters of mainstream rivers that allow each population to survive catastrophic floods and recolonize larger areas.

#### ENVIRONMENTAL BASELINE

The vegetation communities and environmental setting remains similar to that described in the 1999 BO, except that the area was partially burned when the original prescribed burn was conducted in March and April of 2000 by hand crews using drip torches. A terra torch was used to burn individual juniper trees in November of 2000 and January of 2001. As a result of the previous treatment, approximately 30 percent of the area received some fire. Less than 30 percent of the smaller diameter juniper and oak trees were eliminated. Except for one incidence of a quickly controlled escaped fire in Joaquin Canyon, fire intensity was limited in those areas mentioned as needing low-intensity burning. Broadcast burning activities were stopped in April 2000 due to rapidly drying conditions. Crown fires were limited to specific sites and were not as widespread as anticipated. Second and third entries in May and June 2001, as originally planned for a more complete treatment, were not possible.

Per the 1999 BO, you have conducted monitoring studies to determine the effects of the prescribed burn on HWU, agave, and STS. Monitoring data submitted to us have shown that HWU populations in the action area have remained stable since before the first Lone Mountain prescribed burn and that buffers (blacklines) around ponds, springs, and canyon bottoms were generally effective (U.S. Forest Service, Coronado National Forest 2001).

## **Status of Huachuca Water Umbel in the Project Area**

The status of the HWU remains similar to that described in the 1999 BO; however, as previously mentioned, critical habitat was designated in 1999. Critical habitat within the action area includes reaches of Bear Creek/Lone Mountain Canyon, Sunnyside Canyon, and Scotia Canyon.

## **EFFECTS OF THE PROPOSED ACTION**

Effects of the proposed action to HWU remain similar to those described in the 1999 BO. Effects to HWU designated critical habitat remain similar to those described for proposed critical habitat in the 1999 BO, except that designated critical habitat is actually smaller than what was proposed at the time of the 1999 BO. Because there is less critical habitat in the project area, effects to critical habitat are anticipated to be less. Additionally, monitoring data submitted to us indicate that HWU populations have remained stable and critical habitat quality has not decreased over the last five years. Although fire crept close to two water sources, the monitoring further revealed that these encroachments did not significantly affect the habitat features of these sites. No additional siltation or damage was observed as a result of the fire creeping beyond the established buffers. Data regarding HWU populations and critical habitat quality are comparable to population data pre-fire (U.S. Forest Service, Coronado National Forest 2001). Furthermore, because this is a second entry burn, which will be less likely to burn severely because of reduced fuel loads, impacts to HWU and associated critical habitat are expected to be less. Any future prescribed burns within the five-year life of the project are also anticipated to have minimal effects to HWU and associated critical habitat. Past monitoring data, combined with the proposed conservation measures, are anticipated to minimize the effects to HWU and associated critical habitat.

## **Effectiveness of Proposed Conservation Measures**

Our determination of the effectiveness of the proposed conservation measures for HWU and associated critical habitat remains similar to that described in the 1999 BO. The additional conservation measures proposed by Coronado will likely help further decrease the impacts to HWU and associated critical habitat that may result from this and any subsequent prescribed burns in the next five years.

## **Cumulative Effects**

Cumulative effects for HWU and associated critical habitat remain similar to those described in the 1999 BO; however, illegal smuggling and passage through the action area by undocumented immigrants has increased dramatically, as well as associated law enforcement by Border Patrol and others. These activities have resulted in creation of illegal routes, deposition of trash, and increased risk of human-caused fire.

## **CONCLUSION**

After reviewing the current status of the Huachuca water umbel, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is neither likely to jeopardize the continued existence of the Huachuca water umbel, nor likely to result in adverse modification or destruction of critical

habitat. This opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 C.F.R. 402.02. Instead, we have relied upon the statutory provisions of the ESA to complete the following analysis with respect to proposed critical habitat.

We present these conclusions for the following reasons:

- 1) In the long-term, the proposed action should help restore to the Lone Mountain area an ecological condition that existed historically, in which frequent ground fires occurred and catastrophic, stand-replacing fires were less of a threat than today. Huachuca water umbel populations are expected to be more stable under future conditions with the project.
- 2) Water umbel habitats and adjacent watersheds would be treated with cool season fire, which should mimic historical fire behavior and reduce the likelihood of catastrophic, stand-replacing fire.
- 3) If the fire burns into the escaped fire contingency zone and burns more than 10 acres at any one point, full suppression would be initiated to stop the fire from spreading.
- 4) The Coronado will implement a number of conservation measures that reduce the likelihood of adverse effects to the umbel and its critical habitat.
- 5) The primary burn area, in which most or all of the prescribed fire will be contained, includes a relatively small percentage of critical habitat (four percent of the total designated critical habitat).

### **INCIDENTAL TAKE STATEMENT**

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal and reduction to possession of federally listed endangered plants from areas under Federal jurisdiction, or for any act that would remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any regulation of any State or in the course of any violation of a State criminal trespass law.

### **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 listed species. Conservation recommendations are discretionary agency activities to minimize or avoid effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information on listed species. The recommendations provided here do not necessarily represent complete fulfillment of the agency's section 2(c) or 7(a)(1) responsibilities for the Huachuca water umbel. In furtherance of the purposes of the Act, we recommend implementing the same actions as described in the 1999 BO.

In order for us to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species, we request notification of implementation of any conservation actions.

## **Lesser Long-nosed Bat**

### **STATUS OF THE SPECIES**

The status of LLNB remains similar to that described in the 1999 BO.

### **ENVIRONMENTAL BASELINE**

The vegetation communities and environmental setting remains similar to that described in the 1999 BO and as described for the HWU above. Monitoring data submitted to us indicate that agave mortality throughout the action area as a result of activities described in the 1999 BO was approximately six percent, less than the 20 percent agave mortality that would have indicated incidental take of LLNB was exceeded (from the 1999 BO) (U.S. Forest Service, Coronado National Forest 2001). This mortality occurred in only one of the two agave stands protected and subsequently monitored. Furthermore, the area was rested for two growing seasons after the fire, and all terms and conditions of the 1999 BO were implemented.

### **EFFECTS OF THE PROPOSED ACTION**

Effects of the proposed action to LLNB remain similar to those described in the 1999 BO. The burning will take place in the late winter or early spring over a relatively short period (four to six weeks), prior to the time that LLNB are in the Huachuca Mountains (typically late April through early October). Because only 30 percent of the original 5,200-acre project area was burned (we had anticipated 40-70 percent would burn) and monitoring showed minimal mortality of agaves, effects of the action were apparently less than what we anticipated. Additionally, monitoring data further indicate that take was not exceeded as a result of the 2000 and 2001 prescribed burn. The current proposed action will be smaller in size (a reduction from 5,200 to 4,200 acres, of which 30-80 percent is expected to burn) and the Coronado has incorporated several of the 1999 BO's terms and conditions as proposed conservation measures. Based on the reduction in project size and anticipated burned area, proposed conservation measures, and monitoring data, this proposed project is anticipated to have proportionately less impacts to LLNB than that described in the 1999 BO.

### **Effectiveness of Proposed Conservation Measures**

Our determination of the effectiveness of the proposed conservation measures for LLNB remains similar to that described in the 1999 BO; however, Coronado has included the terms and conditions of the 1999 BO as their proposed conservation measures for this proposed action. Monitoring data documented approximately six percent mortality on agaves as a result of the 2000 and 2001 prescribed burn. Because of this, we anticipate that the above-mentioned conservation measures will further reduce the effects of the proposed action compared to that discussed in the 1999 BO.

### **Cumulative Effects**

Cumulative effects for LLNB remain similar to those described in the 1999 BO; however, illegal smuggling and passage through the action area by undocumented immigrants has increased dramatically, as well as associated law enforcement by Border Patrol and others. These activities

have resulted in creation of illegal routes, deposition of trash, and increased risk of human-caused fire.

## **CONCLUSION**

After reviewing the current status of the LLNB, the environmental baseline for the action area, the effects of the proposed action, and cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of lesser long-nosed bat. No critical habitat has been designated for the lesser long-nosed bat; thus none will be affected. We present this conclusion for the following reasons:

- 1) The proposed action includes features to minimize incidental take of LLNB and other direct and indirect impacts on the LLNB and its foraging habitats.
- 2) The project area in which most activities occur covers a relatively minor portion of the total range of the LLNB.
- 3) The prescribed burn will occur outside of the time when LLNB are known to occur in the Huachuca Mountains.
- 4) Post-fire monitoring data have indicated that agave mortality as a result of the original burn was approximately six percent, less than the 20 percent used as one of the surrogate thresholds in the 1999 BO for when incidental take is exceeded. Furthermore, no other evidence suggests that incidental take had been exceeded.
- 5) The proposed action is expected to result in reduced risk of catastrophic, stand-replacing fire that could result in erosion and loss of habitat for agaves and forage resources for the LLNB.

## **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. "Harm" is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 CFR 17.3). "Harass" is defined in the same 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 that include, but are not limited to, breeding, feeding, or sheltering. "Incidental take" is defined as take of a listed animal species that is incidental to, and not the purpose of, the carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of sections 7(b)(4) and 7(o)(2) of the Act, 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 the Coronado National Forest so that they become binding conditions of any grant or permit issued to any applicant, permittee, or contractor, as appropriate, in order for the exemption in section 7(o)(2) to

apply. The Coronado has a continuing duty to regulate the activity covered by this incidental take statement. If the Coronado (1) fails to assume and implement the terms and conditions or (2) fails to require any applicant, permittee, or contractor to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Coronado must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

### **AMOUNT OR EXTENT OF TAKE**

As indicated in the BA, incidental take was not exceeded as a result of the original prescribed burn. Because of this finding, incidental take of LLNB as a result of the proposed action will likely be less than that identified in the 1999 BO.

We believe incidental take of LLNB will be difficult to detect for the following reason(s): the bat is wide-ranging and may use more than one roost; it has a small body size; thus finding a dead or injured individual is unlikely; losses may be masked by varying seasonal use of roosts; and the species occurs in habitats that makes detection difficult. Because the current proposed action covers fewer acres than the original prescribed burn, we have revised the surrogate thresholds for determining if incidental take has been exceeded:

1. The fire burns more than 4,200 acres, or
2. Mortality of burned agaves exceeds 20 percent.

### **EFFECT OF THE TAKE**

In this reinitiated BO, we find that this level of anticipated take is not likely to jeopardize the continued existence of the lesser long-nosed bat for the reasons given in the “Conclusion” section of this BO.

### **REASONABLE AND PRUDENT MEASURES**

The Coronado has committed to implementing the reasonable and prudent measures for the LLNB from the 1999 BO. No other reasonable and prudent measures are needed to minimize incidental take.

### **TERMS AND CONDITIONS**

The Coronado has committed to implement the terms and conditions for the LLNB from the 1999 BO. No other terms and conditions are needed to minimize incidental take.

Review Requirement: The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Coronado must immediately provide an

explanation of the causes of the taking and review with the AESO the need for possible modification of the reasonable and prudent measures.

### **CONSERVATION RECOMMENDATIONS**

Sections 2(c) and 7(a)(1) of the Act direct Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of listed species. Conservation recommendations are discretionary agency activities to minimize or avoid effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information on listed species. The recommendations provided here do not necessarily represent complete fulfillment of the agency's section 2(c) or 7(a)(1) responsibilities for the lesser long-nosed bat. In furtherance of the purposes of the Act, we recommend implementing the same actions as described in the 1999 BO.

#### **Sonora Tiger Salamander**

##### **STATUS OF THE SPECIES**

The status of STS remains similar to that described in the 1999 BO, except that a recovery plan was completed for the species in 2002 (U.S. Fish and Wildlife Service 2002).

##### **ENVIRONMENTAL BASELINE**

The vegetation communities and environmental setting remain similar to that described in the 1999 BO and as described for the LLNB and HWU above. Additionally, the BA identifies one tank within the primary treatment area (Joaquin Tank) and two tanks in the contingency area (Hannah's Tank and Mesa [Encino Vista] Tank) that are or have been occupied by STS since the 1999 BO. There are three tanks (Cadie Tank, Mud Spring Tank, and an unnamed tank) within the primary treatment area that have been monitored since the 1999 BO and have not been occupied. There are also two unnamed tanks within the contingency zone that have not been occupied since the 1999 BO. In the 1999 BO, two occupied tanks were located within the primary action area and three tanks were within the contingency zone. Our records also show that there are several tanks downstream of the escaped fire contingency zone that may be affected by ash flow or sedimentation. Five of those tanks currently support or have supported STS in the last five years.

As mentioned for the HWU, monitoring data collected after the 2000 and 2001 burns indicate that buffers (blacklines) around ponds, springs, and canyon bottoms were generally effective. Fire did creep within 75 feet of the western edge of Joaquin tank and within 50 feet of Sycamore Spring.

Threats to STS in the action area remain the same as those described in the 1999 BO.

##### **EFFECTS OF THE PROPOSED ACTION**

The types and nature of effects of the proposed action to STS remain similar to those described in the 1999 BO. However, because fewer occupied stock tanks are now located within the primary treatment area (one instead of two) and contingency zones (two instead of three), we

anticipate that effects will be proportionally reduced compared to the 1999 BO. Although fire crept close to Joaquin Tank (occupied by STS and within the primary burn area), monitoring revealed that this encroachment did not significantly affect the features of these sites, most likely due to the intensity and mosaic pattern of the burning. No additional siltation or damage was observed as a result of the fire creeping beyond the established buffers.

### **Effectiveness of Proposed Conservation Measures**

Our determination of the effectiveness of the proposed conservation measures for STS remains similar to that described in the 1999 BO; however, the Coronado has included the terms and conditions of the 1999 BO into their proposed action, and monitoring data documented no adverse effects on STS as a result of the fire. Because of this, we anticipate that the above-mentioned conservation measures will further decrease the effects of the proposed action compared to that discussed in the 1999 BO.

### **Cumulative Effects**

Cumulative effects for STS remain similar to those described in the 1999 BO; however, illegal smuggling and passage through the action area by undocumented immigrants has increased dramatically, as well as associated law enforcement by Border Patrol and others. These activities have resulted in creation of illegal routes, deposition of trash, and increased risk of human-caused fire.

### **CONCLUSION**

After reviewing the current status of the Sonora tiger salamander, the environmental baseline for the action area, the effects of the proposed action, and cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the STS. No critical habitat is designated for this species, thus none will be affected. Our conclusion of “no jeopardy” is based on the following:

- 1) Although some short-term adverse effects are anticipated, in the long-term the proposed action is likely to benefit the STS and its habitat because the likelihood of catastrophic fire would be reduced.
- 2) The Coronado proposes a number of conservation measures that reduce the likelihood and expected severity of adverse effects.
- 3) The proposed action has been reduced in overall size since the 1999 BO; thus effects to STS are anticipated to be reduced as well.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species without special exemption. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. “Harm” is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns,

including breeding, feeding, or sheltering (50 CFR 17.3). “Harass” is defined in the same regulation 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 that include, but are not limited to, breeding, feeding, or sheltering. “Incidental take” is defined as take of a listed animal species that is incidental to, and not the purpose of, the carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of sections 7(b)(4) and 7(o)(2) of the Act, 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**

Take of STS could occur in the form of harm, harassment, injury, or death resulting from 1) prescribed fire or escaped prescribed fire and subsequent direct effects to salamanders or effects to habitat that harm salamanders; 2) decisions made during fire suppression; and 3) facilitating public access to breeding sites and subsequent collection or translocation of salamanders, spread of nonnative predators, spread of disease, and crushing or harm of salamanders resulting from increased off-road vehicle activity at tanks. Take of STS will be difficult to quantify because the source of introduced predators, the cause of collection, contribution of the fire to sedimentation or erosion of tanks, and finding salamanders killed as a result of the fire or fire activities will often be difficult to estimate, and dead salamanders are expected to be quickly scavenged or will be otherwise difficult to detect. In our 1999 BO, we anticipated the loss of a portion of, or an entire aquatic population of STS at one of the occupied tanks in or near the project site. However, to the best of our knowledge that did not occur, and the Coronado has adopted the terms and conditions from the 1999 BO as part of their proposed action. As a result, we do not anticipate loss of a portion of, or an entire aquatic site for STS. However, similar to our 1999 BO, we anticipate incidental take of 15 salamanders or eggs each at one or more of the eight occupied stock tanks in or near the project area due to the three causes listed above.

### **EFFECT OF THE TAKE**

We have determined that the level of anticipated take is not likely to jeopardize the continued existence of the STS. If an entire aquatic population was lost due to the project, the tank would likely be recolonized as terrestrial salamanders returned to breed. The likelihood of the aquatic population being eliminated is greatly reduced by the conservation measures that are part of the proposed action, which include the terms and conditions from the 1999 BO.

### **REASONABLE AND PRUDENT MEASURES**

The Coronado has committed to implement the reasonable and prudent measures for the STS from the 1999 BO. Because these measures minimize incidental take, we provide only one reasonable and prudent measure:

The Coronado shall assist us in avoiding effects to any salamanders that are threatened by ash or sediment flow from the fire.

## **TERMS AND CONDITIONS**

The Coronado has committed to implement the terms and conditions for the STS from the 1999 BO. We provide only one term and condition to implement the additional reasonable and prudent measure:

The Coronado shall monitor the effects of the fire and, if an occupied stock tank is threatened by ash or sediment flow, the Coronado shall take action to divert or stop such flow if practicable. If not practicable, the Coronado shall contact us as soon as possible to allow salvage of the salamanders before effects manifest.

**Review Requirement:** The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Coronado must immediately provide an explanation of the causes of the taking and review with the AESO the need for possible modification of the reasonable and prudent measures.

## **CONSERVATION RECOMMENDATIONS**

Sections 2(c) and 7(a)(1) of the Act direct Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of listed species. Conservation recommendations are discretionary agency activities to minimize or avoid effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information on listed species. The recommendations provided here do not necessarily represent complete fulfillment of the agency's section 2(c) or 7(a)(1) responsibilities for the Sonora tiger salamander. In furtherance of the purposes of the Act, we recommend implementing conservation recommendations #1 and 3 from the 1999 BO. Conservation recommendation #2 is replaced by the following:

2) The Coronado should assist us with the implementation of the STS recovery plan.

## **DISPOSITION OF DEAD OR INJURED LISTED ANIMALS**

Upon locating a dead or injured threatened or endangered animal, initial notification must be made to our Law Enforcement Office, 2450 West Broadway Road, #113, Mesa, Arizona (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, and any other pertinent information. Care must be taken in handling injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible condition. If feasible, the remains of intact specimens of listed animal species shall be submitted to educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information noted above shall be obtained and the carcass left in place.

Arrangements regarding proper disposition of potential museum specimens shall be made with the institution prior to implementation of the action. Injured animals should be transported to a

qualified veterinarian by a qualified biologist. Should any treated listed animal survive, the Service should be contacted regarding the final disposition of the animal.

### **CLOSING STATEMENT**

This concludes reinitiation of formal consultation on the Coronado National Forest's proposed Lone Mountain Prescribed Fire, Cochise County, Arizona. 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 maintained (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 adversely 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 a listed species or critical habitat that was not considered in this opinion; or 4) a new species is listed or critical habitat designated that may be affected by this action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation, if it is determined that the impact of such taking will cause an irreversible and adverse impact to the species. For further information, please contact Brian Wooldridge of our Tucson Suboffice at (520) 670-6150 (x235), or Jim Rorabaugh at (602) 242-0210 (x238).

Sincerely,

/s/ Steven L. Spangle  
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)  
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ (Attn: Sherry Barrett)  
Assistant Field Supervisor, Fish and Wildlife Service, Flagstaff, AZ (Attn: Brenda Smith)  
District Ranger, Sierra Vista Ranger District, Hereford, AZ (Attn: Steve Gunzel)

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ  
Regional Supervisor, Arizona Game and Fish Department, Tucson, AZ

### **References Cited**

U.S. Fish and Wildlife Service. 2002. Sonora tiger salamander recovery plan. U.S. Fish and Wildlife Service, Region 2, Albuquerque, NM.

U.S. Forest Service, Coronado National Forest. 2005. Biological assessment, Lone Mountain Prescribed Burn. Sierra Vista Ranger District, Coronado National Forest, Sierra Vista, AZ.

U.S. Forest Service, Coronado National Forest. 2001., Lone Mountain Prescribed Burn Monitoring Report. Sierra Vista Ranger District, Coronado National Forest, Sierra Vista, AZ.

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## **Appendix A**

### **CONCURRENCE**

#### **Mexican spotted owl and designated critical habitat**

Refer to the 1999 BO for a review of the status of the species and environmental baseline for the MSO, which has changed very little since that time, except for designation of critical habitat. The critical habitat designation includes approximately 160 contiguous acres on the northeastern aspect of the northwestern portion of Lone Mountain, within the primary burn area, although the area contains limited primary constituent elements (PCEs).

After reviewing the current status of the MSO, the environmental baseline for the action area, and the effects of the proposed action, we concur with the Coronado's determination that the proposed action may affect, but is not likely to adversely affect, the MSO. Our concurrence is based on the following:

- 1) The proposed action is consistent with the recommendations of the MSO recovery plan.
- 2) No burning is proposed in PACs, and the likelihood of the fire burning out-of-control and into a PAC is very low.
- 3) No potential MSO breeding habitat occurs in the project area.
- 4) The proposed action is expected to reduce the chance of catastrophic, stand-replacing fire in MSO habitat.
- 5) Primary constituent elements (PCEs) are generally lacking within the designated critical habitat boundary that occurs within the project area. Those PCEs that do occur are limited to less than 160 contiguous acres located on the northeastern aspect of the northwestern portion of Lone Mountain within the primary burn area. Within the 160 acres, there will be no ignitions; fire that creeps into the area may come from backfiring or blacklining operations, and is anticipated to have insignificant effects to critical habitat. Long-term MSO monitoring and inventory has not detected MSO use in this area. Although it could be used for foraging and dispersal from surrounding PACs, we believe that this area does not support nesting MSO.
- 6) Any escaped fire that burns more than ten acres in the contingency area will be suppressed.

#### **Chiricahua Leopard Frog**

After reviewing the current status of the RACH, the environmental baseline for the action area, and the effects of the proposed action, we concur with the Coronado's determination that the proposed action may affect, but is not likely to adversely affect, the RACH. Our concurrence is based on the following:

- 1) No burning will occur within 300 feet of any stock ponds and Sycamore and Mud springs.
- 2) No-burn buffers along Bear Creek and Joaquin, Sycamore, and Lone Mountain Canyons will be established. The width of each buffer is variable but burning would generally occur no nearer to the stream channel than the closest, well defined bench or as guided by the Forest Hydrologist.
- 3) No drafting of water from stockponds during burning or suppression efforts will occur unless firefighter safety is jeopardized or resource values are threatened.
- 4) Fire camps, landing sites, equipment staging areas, and other significant human activity areas will be located at least 1,650 feet away from stockponds or outside of the buffers left around sensitive areas. Previously disturbed sites will be used whenever possible.
- 5) Off-road vehicles and creation of new routes will not occur around potential breeding sites. Creation of new access routes will be limited to suppression activities and only when alternatives are not available.
- 6) Surveys have not located RACH in the action area since the 1980s, and non-native bullfrogs and crayfish currently occupy much of the habitat otherwise suitable for RACH.