

**United States Department of the Interior  
U.S. Fish and Wildlife Service  
2321 West Royal Palm Road, Suite 103  
Phoenix, Arizona 85021  
Telephone: (602) 242-0210 FAX: (602) 242-2513**

AESO/SE  
02-21-02-F-0157

January 16, 2004

Ms. Sue Kozacek  
Acting Forest Supervisor  
Coronado National Forest  
300 West Congress, 6th Floor  
Tucson, Arizona 85701

Dear Ms. Kozacek:

This letter constitutes the U.S. Fish and Wildlife's Service biological opinion, based on our review of the wildfire suppression actions associated with the Ryan Fire located on the Coronado National Forest, Santa Cruz County, Arizona. This biological opinion analyzes the project's effect on Sonora tiger salamander (*Ambystoma tigrinum stebbinsi*) (STS) and Chiricahua leopard frog (*Rana chiricahuensis*) (CLF) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). We received your February 20, 2003 request for formal consultation on February 21, 2003. In that request, you determined that suppression activities associated with the Ryan fire likely adversely affected CLF and STS. You have also requested our concurrence that suppression activities may have affected, but did not likely adversely affect, lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*), Huachuca water umbel (*Lilaeopsis schaffneriana* ssp. *recurva*), Canelo Hills ladies' tresses (*Spiranthes delitescens*), and Gila topminnow (*Poeciliopsis occidentalis occidentalis*). Our concurrences are provided in Appendix A.

This biological opinion is based on information provided in the January 28, 2003 biological assessment (BA). Literature cited in this draft biological opinion is not a complete bibliography of all literature available on the species of concern, wildfire suppression and its effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

#### Consultation History

- May 1, 2002: Forest phone call to AESO initiating emergency consultation and discussion of conservation measures.
- February 21, 2003: We received the February 20, 2003 biological evaluation.
- October 27, 2003: We provided a draft of this opinion for your review.
- December 16, 2003: You provided your response to the draft opinion.

## **BIOLOGICAL OPINION**

### **DESCRIPTION OF THE EMERGENCY ACTION**

The fire started in the southern foothills of the Canelo Hills on the Coronado National Forest. It quickly spread to the north and into Meadow Valley. By the evening of April 29, 2002, the fire had reached Lampshire and Redrock Canyons and crested the Canelo Hills. A Type II Incident Team was assigned to the fire on April 30, 2002, because of high property and resource values that were threatened by the rapid spread of the fire.

The fire jumped State Route 83 around noon on April 30, 2002. Crews were pulled off for safety reasons and the fire raced across the Audubon Research Ranch towards the West Gate community and Ft. Huachuca. By that night the fire had burned an estimated 25,000 acres and was only 5% contained.

A Type I Incident Team was assigned to the fire the evening of April 30, 2002. A total of 635 personnel were assigned to the fire. By the end of the operations on May 2, 2002 the fire had grown to 38,182 acres and was 100% contained. Complete control would only come with the onset of summer rains. Most personnel and equipment were released on the morning of May 3, 2002.

An estimated 17,267 acres burned on Coronado National Forest lands. Vegetation within the burn included Madrean oak woodland/savanna, mixed encinal, Mexican pin-oak woodland, plains grassland, and deciduous and evergreen riparian. Elevations ranged from 4,275 to 6,120 feet. All aspects were involved and slopes ranged from 20 to 100%.

No acreage is available for fire severity by vegetation type. A Burned Area Rehabilitation Team (BAER) analysis did estimate that 65% of the fire burned with low severity and 35% burned at moderate intensity. A map of the fire intensity areas, along with other details, can be found with the January 2003 Forest Service BA.

### **Actions**

The action consisted of wildfire suppression and post-fire rehabilitation. By the morning of April 30, 2002, over 100 people were working on the fire with support from six air tankers, two helicopters, and one air attack with one lead aircraft. In addition, over 15 engines and water tenders were working along the fire perimeter. Burn out operations started along State Route 83 on April 30, 2002, but the fire jumped the road near the Black Oak Cemetery and crews were pulled off the fire to safe locations.

Approximately 10 $\frac{1}{3}$  miles of hand line were built on Forest or nearby private property. In most sites, a 2-foot wide line was scraped to mineral soil. In some sites, a much smaller scratch line or black line was used. Three miles of dozer line were constructed. The width was approximately the size of the dozer blade, 10 to 12 feet, and scraped to mineral soil. Parts of existing roads

(about 24½ miles) were used as control lines. Along the line, canopy removal varied from complete opening out to 30 feet to removal of only overhanging limbs and shrub-height plants. Back burning was used along selected portions of the fire perimeter to secure the line and aid in control.

Dip stations for helicopters were not established until the late stages of fire suppression. During the first three days, water came from tanks and reservoirs in or near the fire. The base camp was first situated near the Little Outfit Ranch headquarters south of Canelo Pass. By May 1, 2002 it was moved to existing buildings on Ft. Huachuca.

Rehabilitation efforts concentrated on the following as provided in the BA: (1) use water bar fire lines to reduce soil loss and discourage motor vehicle use; (2) place sediment traps above 25 culverts where roads cross a channel; (3) identify stock tanks, fences, and water lines needing repair; and (4) rest burned area for at least two growing seasons.

## **CONSERVATION MEASURES**

The following conservation measures were discussed with your fire resource advisor on May 1, 2002:

1. No dipping of water out of salamander tanks, unless absolutely necessary to protect life and property.
2. Avoid or minimize dropping of fire retardants on streams, stock tanks, or other water bodies.
3. Heavy equipment should not be used in habitats of listed species unless absolutely needed to protect life or property, or if such use will minimize damage to listed species.
4. Avoid locating crew camps, helicopter pads, or equipment staging areas in or near habitats of listed species.
5. Whenever possible, suppression activities should be designed to protect listed species and their habitats.

## **STATUS OF THE SPECIES**

### **CHIRICAHUA LEOPARD FROG (CLF)**

The Chiricahua leopard frog (*Rana chiricahuensis*) was listing as a threatened species without critical habitat in a Federal Register notice dated June 13, 2002. Included was a special rule to exempt operation and maintenance of livestock tanks on non-Federal lands from the section 9 take prohibitions of the Act. The frog is distinguished from other members of the *Rana pipiens* complex by a combination of characters, including a distinctive pattern on the rear of the thigh

consisting of small, raised, cream-colored spots or tubercles on a dark background; dorsolateral folds that are interrupted and deflected medially; stocky body proportions; relatively rough skin on the back and sides; and often green coloration on the head and back (Platz and Mecham 1979). The species also has a distinctive call consisting of a relatively long snore of 1 to 2 seconds in duration (Davidson 1996, Platz and Mecham 1979). Snout-vent lengths of adults range from approximately 54 to 139 millimeters (mm) (2.1 to 5.4 inches (in)) (Stebbins 1985, Platz and Mecham 1979). The Ramsey Canyon leopard frog (*Rana subaquavocalis*) is similar in appearance to the CLF, but it reportedly grows to a larger size and has a distinct call that is typically given under water (Platz 1993). Recent genetic work suggests *R. subaquavocalis* and *R. chiricahuensis* may be conspecific (Goldberg *et al.* in review).

The CLF is an inhabitant of cienegas, pools, livestock tanks, lakes, reservoirs, streams, and rivers at elevations of 3,281 to 8,890 feet (feet) in central and southeastern Arizona; west-central and southwestern New Mexico; and in Mexico, northern Sonora, and the Sierra Madre Occidental of Chihuahua, and northern Durango (Platz and Mecham 1984, Degenhardt *et al.* 1996, Sredl *et al.* 1997, Sredl and Jennings *in press*). Reports of the species from the State of Aguascalientes (Diaz and Diaz 1997) are questionable; however, the distribution of the species in Mexico is unclear due to limited survey work and the presence of closely related taxa (especially *Rana montezumae*) in the southern part of the range of the CLF. In New Mexico, of sites occupied by CLFs from 1994-1999, 67 percent were creeks or rivers, 17 percent were springs or spring runs, and 12 percent were stock tanks (Painter 2000). In Arizona, slightly more than half of all known historical localities are natural lotic systems, a little less than half are stock tanks, and the remainder are lakes and reservoirs (Sredl *et al.* 1997). Sixty-three percent of populations extant in Arizona from 1993-1996 were found in stock tanks (Sredl and Saylor 1998).

Northern populations of the CLF along the Mogollon Rim and in the mountains of west-central New Mexico are disjunct from those in southeastern Arizona, southwestern New Mexico, and Mexico. Recent genetic analyses, including a 50-loci starch gel survey, morphometrics, and analyses of nuclear DNA supports describing the northern populations as a distinct species (Platz and Grudzien 1999). Multiple haplotypes within *chiricahuensis* were also identified using mitochondrial DNA analysis (Benedict and Quinn 1999), providing further evidence of genetically distinct population segments.

Die-offs of CLFs were first noted in former habitats of the Tarahumara frog (*Rana tarahumarae*) in Arizona at Sycamore Canyon in the Pajarito Mountains (1974) and Gardner Canyon in the Santa Rita Mountains (1977-78) (Hale and May 1983). From 1983-1987, Clarkson and Rorabaugh (1989) found CLFs at only two of 36 Arizona localities that had supported the species in the 1960s and 1970s. Two new populations were reported. During subsequent extensive surveys from 1994-2001, the CLF was found at 87 sites in Arizona, including 21 northern localities and 66 southern localities. (Sredl *et al.* 1997, Rosen *et al.* 1996, Service files). In New Mexico, the species was found at 41 sites from 1994 -1999; 31 of those were verified extant during 1998-1999 (Painter 2000). During May-August 2000, the CLF was found extant at

only eight of 34 sites where the species occurred in New Mexico during 1994-1999 (C. Painter, pers. comm. 2000). The species has been extirpated from about 75 percent of its historical localities in Arizona and New Mexico. The status of the species in Mexico is unknown.

Based on Painter (2000) and the latest information for Arizona, the species is still extant in most major drainages in Arizona and New Mexico where it occurred historically; with the exception of the Little Colorado River drainage in Arizona and possibly the Yaqui drainage in New Mexico. It has also not been found recently in many rivers, valleys, and mountains ranges, including the following in Arizona.

Threats to this species include predation by nonnative organisms, especially bullfrogs, fish, and crayfish; disease; drought; floods; degradation and loss of habitat as a result of water diversions and groundwater pumping, poor livestock management, altered fire regimes due to fire suppression and livestock grazing, mining, development, and other human activities; disruption of metapopulation dynamics; increased chance of extirpation or extinction resulting from small numbers of populations and individuals; and environmental contamination. Loss of CLF populations is part of a pattern of global amphibian decline, suggesting other regional or global causes of decline may be important as well (Carey *et al.* 2001).

Disruption of metapopulation dynamics is likely an important factor in regional loss of populations (Sredl *et al.* 1997, Sredl and Howland 1994). CLF populations are often small and habitats are dynamic, resulting in a relatively low probability of long-term population persistence. Historically, populations were more numerous and closer together. If populations winked out due to drought, disease, or other causes, extirpated sites could be recolonized via immigration from nearby populations. However, as numbers of populations declined, populations became more isolated and were less likely to be recolonized if extirpation occurred. Also, most of the larger source populations along major rivers and in cienega complexes have disappeared.

Fire frequency and intensity in Southwestern forests are much altered from historical conditions (Dahms and Geils 1997). Before 1900, surface fires generally occurred at least once per decade in montane forests with a pine component. Beginning about 1870-1900, these frequent ground fires ceased to occur due to intensive livestock grazing that removed fine fuels, followed by effective fire suppression in the mid to late 20<sup>th</sup> century (Swetnam and Baisan 1996). Absence of ground fires allowed a buildup of woody fuels that precipitated infrequent but intense crown fires (Danzer *et al.* 1997, Swetnam and Baisan 1996). Absence of vegetation and forest litter following intense crown fires exposes soils to surface and rill erosion during storms, often causing high peak flows, sedimentation, and erosion in downstream drainages (DeBano and Neary 1996). Following the 1994 Rattlesnake fire in the Chiricahua Mountains, Arizona, a debris flow filled in Rucker Lake, a historical CLF locality. Leopard frogs (either Chiricahua or Ramsey Canyon leopard frogs) apparently disappeared from Miller Canyon in the Huachuca Mountains, Arizona, after a 1977 crown fire in the upper canyon and subsequent erosion and scouring of the canyon during storm events (Tom Beatty, Miller Canyon, pers. comm. 2000). Leopard frogs were historically known from many localities in the Huachuca Mountains;

however, natural pool and pond habitat is largely absent now and the only breeding leopard frog populations occur in man-made tanks and ponds. Crown fires followed by scouring floods are a likely cause of this absence of natural leopard frog habitats. Bowers and McLaughlin (1994) list six riparian plant species they believed might have been eliminated from the Huachuca Mountains as a result of floods and debris flow following destructive fires.

An understanding of the dispersal abilities of CLFs is key to determining the likelihood that suitable habitats will be colonized from a nearby extant population of frogs. As a group, leopard frogs are surprisingly good at dispersal and have been documented dispersing up to 8 km. Dispersal of leopard frogs away from water in the arid Southwest may occur less commonly than in mesic environments during the wet season. However, there is evidence of substantial movements even in Arizona. Movement may occur via movement of frogs or passive movement of tadpoles along streamcourses.

Additional information about the Chiricahua leopard frog can be found in Painter (2000), Sredl *et al.* (1997), Jennings (1995), Degenhardt *et al.* (1996), Rosen *et al.* (1996, 1994), Sredl and Howland (1994), Platz and Mecham (1984, 1979), and Sredl and Jennings (*in press*).

### **SONORA TIGER SALAMANDER (STS)**

The STS is a large salamander with a dark venter and light-colored blotches, bars, or reticulation on a dark background. Snout-vent lengths of metamorphosed individuals vary from approximately 2.6-4.9 inches (Jones *et al.* 1988, Lowe 1954). Larval salamanders are aquatic with plume-like gills and well-developed tail fins (Behler and King 1980). Larvae hatched in the spring are large enough to metamorphose into terrestrial salamanders from late July to early September, but only an estimated 17 to 40 percent metamorphose annually. Remaining larvae mature into branchiates (aquatic and larval-like, but sexually mature salamanders that remain in the breeding pond) or over-winter as larvae (Collins and Jones 1987; James Collins, Arizona State University, pers. comm. 1993). The STS was listed as endangered on January 6, 1997. No critical habitat has been proposed or designated. A final recovery plan was finalized in September 2002.

The STS is known from approximately 53 breeding localities, although not all are currently occupied (U.S. Fish and Wildlife Service 2002, Abbate 1998, Collins and Jones 1987, Collins 1996). During intensive surveys in 1997, from one to 150 STSs were found at 25 stock tanks (Abbate 1998). Populations and habitats are dynamic, thus the number and location of extant aquatic populations changes over time, as exhibited by the differences between survey results in 1985 and 1993-1996 (Collins and Jones 1987; Collins 1996; James Collins, pers. comm. 1996). In 1999, the lab of Dr. James Collins, Arizona State University, found STSs at 17 localities (Collins 1999). All sites where STSs have been found are located in Arizona in the Santa Cruz and San Pedro river drainages, including sites in the San Rafael Valley and adjacent portions of the Patagonia and Huachuca mountains in Santa Cruz and Cochise counties. All confirmed historical and extant aquatic populations are found in cattle tanks or impounded cienegas within

19 miles of Lochiel, Arizona. A population of salamanders at Los Fresnos, a natural cienega in the San Rafael Valley, Sonora, may be *A. t. stebbinsi* (Varela-Romero *et al.*, 1992).

Historically, the STS probably inhabited springs, cienegas, and possibly backwater pools of the Santa Cruz River and streams in the San Rafael Valley where permanent or nearly permanent water allowed survival of mature branchiates. The grassland community of the San Rafael Valley and adjacent montane slopes, where all extant populations of STS occur, may represent a relictual grassland and a refugium for grassland species. Tiger salamanders in this area became isolated and, over time, genetically distinct from ancestral *A. t. mavortium* and *A. t. nebulosum* (Jones *et al.* 1995, Storfer *et al.* submitted). The STS apparently has opportunistically taken advantage of available stock tank habitats as natural habitats disappeared (Hendrickson and Minckley 1984) or were invaded by nonnative predators with which the salamander can not coexist (U.S. Fish and Wildlife Service 2002).

Although most records for STSs occur at stock tanks where breeding occurs, terrestrial metamorphs potentially may wander considerable distances from these aquatic habitats, and are occasionally encountered in upland habitats. A STS was captured in a pit fall trap at Oak Spring in Copper Canyon, Huachuca Mountains, by Arizona Game and Fish Department personnel. The nearest known breeding site is approximately 0.6 mile to the south, suggesting the salamander may have moved at least that far. Capture in a pit fall trap also confirms that the individual was surface active. Some species of salamanders exhibit seasonal migrations of up to several miles each way from breeding sites to upland habitats (Stebbins and Cohen 1995). If such migrations occur in the STS, we have no information about migration corridors or non-breeding habitat. Because of the arid nature of the environments in the region where the subspecies occurs, if salamanders move very far from breeding ponds, they may use wet canyon bottoms as movement corridors.

Primary threats to the salamander include predation by nonnative fish and bullfrogs, diseases, catastrophic floods and drought, illegal collecting, introduction of other subspecies of salamanders that could genetically swamp *A. t. stebbinsi* populations, and stochastic extirpations or extinction characteristic of small populations.

For further information on the ecology, taxonomy, range, and threats to this subspecies, refer to U.S. Fish and Wildlife Service (2002), Collins (1996, 1981), Collins and Jones (1987), Collins *et al.* (1988), Gehlbach (1967), Jancovich *et al.* (1997, 1998), Jones *et al.* (1995, 1988), Lowe (1954), and Snyder *et al.* (1998, 1996).

## 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.

### **A. Status of CLF within the action area.**

The action area comprises all areas that burned within the fire perimeter (17,627 acres), the initial base camp located south of Canelo Pass, and an unknown number of stock ponds outside the fire perimeter that were used as water sources for fire suppression activities.

As of June 2003, four sites within the fire perimeter on Forest Service lands (Flower Tank, O'Donnell Creek, Freeman Spring, and Welch Spring) were known to support CLF within the last 23 years. A summary of occupancy is listed below. The sites in bold are likely extant.

Flower Tank: CLF's recorded in 1979; last surveyed in 1994

**O'Donnell Creek:** CLF's recorded in 2000; last surveyed in 2000

Freeman Spring: CLF's recorded in 2000; last surveyed in 2003

**Welch Spring:** CLF's recorded in 2000; last surveyed in 2000

Stock ponds, cienegas, and other wet areas in drainage bottoms constitute habitat for this species. There are at least 10 other stock tanks in the action area that have not been surveyed, but may have CLF's present.

### **B. Factors affecting CLF environment in the action area.**

Authorized livestock grazing and associated range management activities occur throughout the action area. The effects of these actions have been addressed in our October 24, 2002 biological opinion (02-21-98-F-0399-R1).

#### **A. Status of STS within the action area.**

There are at least 3 stock tanks within the primary fire area, and one adjacent to the initial base camp, that have potential for STS. They have been recorded in two of the tanks in the past, but were not seen in these locations in a 2002 survey. The tank adjacent to base camp had STSs, but not recently. No other information was provided in the BA, and the STS Recovery Plan (2002) does not provide site-specific locations of salamanders in the action area.

#### **B. Factors affecting STS environment in the action area.**

Authorized livestock grazing and associated range management activities occur throughout the action area. The effects of these actions have been addressed in our October 24, 2002 Biological Opinion (02-21-98-F-0399-R1). Also, we have issued incidental take for fire suppression activities in a biological opinion on Forest Plans, as amended, issued December 19, 1997 (000087RO). The anticipated take associated with the drafting of water from stock tanks for fire suppression is a total of 20 salamanders, eggs, and larvae per year in the form of direct mortality or injury.

## EFFECTS OF THE ACTION ON CLF AND STS

Both species are addressed in the same effects analysis because they occupy the same habitat and effects to them are similar.

The potential impacts from fire suppression and rehabilitation efforts include downstream increase of sediment from control lines and back burning operations, loss of individual CLFs and STSs from stock ponds used as water sources, equipment used near stock ponds acting as a disease vector, and reaction to retardant dropped on ponds and other suitable habitats.

No water was taken from the perennial portions of O'Donnell Canyon, Freeman Spring, and Welch Spring. Helicopter buckets were filled from stock ponds for at least three days after the initial attack started. Meadow Valley, Downunder, and 799 tanks were used for drafting water, along with others that are not known. The loss of individual CLFs and STSs from some ponds due to water drafting cannot be discounted.

Retardant was dropped near O'Donnell Canyon and along the edge of Meadow Valley and Downunder tanks. The latter two sites are outside the fire perimeter. According to the January 23, 2003 BA, recent surveys indicated that there were no CLFs present at these sites. CLFs have not been detected at the Meadow Valley tank since 1982, which is also the last date they were surveyed. It is not known if STSs were present, but the potential exists. Chemical components of fire retardant do pose potential effects to amphibians. These effects are usually related to direct application in streams and ponds. The indirect effects are not well-documented, but it is possible that the effects are lessened by the infiltration through the soil and the subsequent buffering action of surrounding soil and rock.

The initial base camp was set up approximately 1/8 mile from another stock pond. This pond had been recently surveyed and no CLFs or STSs were found. Disease transmission from mud on the tires of equipment or on the boots of firefighters is possible, but unlikely given the distance from the stock pond.

Runoff sediment associated with line construction or backfires is considered to be insignificant compared to the amount of sediment that will be generated from areas that were classified as moderately burned (35%). No areas were classified as high-severity burns.

Guidelines for fire suppression in the habitat of these two species stress the use of portable tanks or alternative water sources after initial attack. Fire severity dictated the use of existing ponds beyond initial attack. Fire severity was demonstrated by danger posed to firefighters, loss of structures, including one home, the rapid spread of the fire, and the likely loss of more homes and structures. By the 3<sup>rd</sup> day, demand for water sources in close proximity to the fire decreased. No portable dip tanks were deployed.

## 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 biological opinion. 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.

We know of no non-Federal actions that are reasonably certain to occur within the action area.

## CONCLUSION

After reviewing the current status of the Chiricahua leopard frog and Sonora tiger salamander, the environmental baseline for the action area, the effects of the actions taken to suppress and rehabilitate the Ryan fire, and the cumulative effects, it is our biological opinion that the action, as described, did not jeopardize the continued existence of either species. No critical habitat has been designated for these species, therefore, none was affected. Our findings are based on the following:

- Stock ponds that were used for water drafting were not know to contain CLFs or STSs.
- The areas that did support Chiricahua leopard frogs within the fire perimeter were not used for water drafting.
- Retardant was used near stock ponds that support habitat for CLFs and STSs, but recent surveys detected no frogs or STSs. Retardant was not used directly in the water sources and indirect effects cannot be quantified, thus they are considered insignificant.
- Erosion and sediment movement associated with the construction of fire lines and areas that were burnt intentionally will be insignificant compared to the runoff that will be associated with the 35% (approximately 6,043 acres) that burned in moderate severity.
- Potential disease transmission from activities associated with the initial base camp were reduced because the stock pond was 1/8 mile away, and recent surveys had detected no CLFs or STSs.

## 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, 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 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 Anticipated**

We believe that the following forms and amount of take resulted from the emergency action:

- Two CLFs in the form of direct mortality and injury, due to the possibility of CLFs being present in the ponds used for water drafting. CLFs present in the ponds would most likely have taken cover during drafting operations, but it is possible that several may have been removed with water drafted from the pond.
- We have already anticipated take of 20 salamanders associated with water drafting during fire suppression actions. We are not anticipating additional take for the Ryan fire, but anticipate the take of two STSs in the form of direct mortality and injury, for the same reasons as stated above.

### **Effect of the Take**

In this biological opinion, we determined that this level of anticipated take is not likely to result in jeopardy to CLFs and STSs.

Incidental take statements in emergency consultations do not include reasonable and prudent measures or terms and conditions to minimize take unless the agency has an on-going action related to the emergency (U.S. fish and Wildlife Service 1998). The Forest Service has not advised of us of any on-going actions related to the emergency.

We will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. sections 703-712), or the Golden Eagle Protection Act of 1940, as amended (16 U.S.C. Sections 668-668d).

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

Upon locating a dead, injured, or sick listed species, initial notification must be made to our Law Enforcement Office, 2450 West Broadway Suite #113, Mesa, Arizona 85202 (telephone: 480-835-8289) within three working days of its finding. Written notification must be made within five calendar days and should 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 the 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 post-fire surveys for CLF and STS be conducted at the stock tanks used for water withdrawal.
2. We recommend that potential habitat for CLFs and STSs be delineated and surveyed on a regular basis within the Sierra Vista Ranger District. Locations of occupied tanks should be provided to fire personnel for informed decision making in determining where water drafting will take place, if fire conditions allow for flexibility. We emphasize that we do not recommend implementation of this recommendation if it would significantly hamper firefighting efforts or in any way increase risks to firefighters or property.
3. We recommend that you pursue the completion of a forest-wide consultation on wildland fire use for resource benefit and wildfire suppression activities.
4. We recommend that you assist us in the implementation of the STS Recovery Plan and the development of the CLF Recovery Plan.

In order to keep us informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitat, we request notification of the implementation of any conservation recommendations.

### **REINITIATION - CLOSING STATEMENT**

This concludes formal consultation on the action outlined in this biological opinion. 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 that causes an effect to the 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 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 consideration of listed species. For further information, please contact Mima Falk of our Tucson Suboffice at (520) 670-4550, or Sherry Barrett at (520) 670-4617. Effective February 1, 2004, please call (520) 670-6144 for assistance. Please refer to the consultation number 02-21-02-M-0157 in future correspondence concerning this project.

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)

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

## REFERENCES CITED

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## Appendix A

### CONCURRENCES

This appendix contains all concurrences with “may affect, not likely to adversely affect” determinations. We concur with your findings based on the following reasons:

#### **Lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*):**

- Lesser long-nosed bats were not present in the area during the fire (they do not arrive in SE Arizona until July).
- An estimated loss of less than 1% of agaves due to suppression activities is not expected to significantly affect the food resource of the bat.
- The short-term loss of a few agaves is not expected to significantly alter the foraging potential of this area for lesser long-nosed bats.

#### **Huachuca water umbel (*Lilaeopsis schaffneriana* ssp. *recurva*) and Canelo Hills ladies' tresses (*Spiranthes delitescens*):**

- Channels and springs within the fire perimeter that support Huachuca water umbel and the orchid were not modified during suppression efforts.
- The dozer line that was built across O'Donnell Creek (on private land) did not affect Huachuca water umbel or the ladies' tresses because that portion of the stream is not occupied, but the umbel occurs 1/8 mile downstream of the dozer line and the orchid about 1/3 mile downstream.
- To reduce possible downstream sediment effects to the umbel and the orchid, the slopes associated with dozer construction were water barred to prevent increased sediment runoff into O'Donnell Creek.
- Due to channel morphology in O'Donnell Creek, the ephemeral nature of portions of the creek, and actions taken to reduce erosion, the effects to the umbel and the orchid are expected to be insignificant and discountable.
- No critical habitat for the umbel is present within the fire perimeter, thus none will be affected.

**Gila topminnow (*Poeciliopsis occidentalis occidentalis*):**

- There are no occupied stream reaches within the fire perimeter, but Gila topminnow can occur 1 - 4 miles downstream of the action area.
- Hand line and burnout activity occurred within Lampshire canyon (a tributary to Redrock canyon, where the Gila topminnow is located), but the amount of sediment generated from suppression actions that may be deposited downstream is thought to be insignificant when compared to the total amount of sediment that may be generated from within the fire perimeter.
- Fire retardant was used in the area, but it was more than 1 mile from occupied sites, so the effects to Gila topminnow are expected to be insignificant and discountable due to the distance.