**PROGRAMMATIC**
**CANDIDATE CONSERVATION AGREEMENT**
**WITH ASSURANCES**
**FOR THE**
**RELICT LEOPARD FROG**
**CLARK COUNTY, NEVADA**

**This Agreement, effective and binding on the date of last signature below, is between The Nevada Department of Wildlife (Department) and the U.S. Fish and Wildlife Service (Service), hereinafter collectively called the "Parties":**

**Department: The Department designates the following individual as the Agreement Administrator:**

Director
Nevada Department of Wildlife
Reno, Nevada

**Service: The Service designates the following individual as the Agreement Administrator:**

Field Supervisor
Southern Nevada Fish and Wildlife Office
Las Vegas, Nevada

**AGREEMENT NUMBER:**

**This Agreement covers the following species:** Relict leopard frog (*Lithobates onca*). This species was elevated to its current status as a candidate species for listing under the Endangered Species Act of 1973, as amended (ESA) on June 13, 2002 (Service 2002a).

**This Agreement covers the following properties:** All or described portions of non-Federal lands and Federal lands on which a non-Federal entity holds discretionary authority in Clark County, Nevada, where the legal owner(s) of said included properties have completed a Certificate of Inclusion (COI) and a Cooperative Agreement (CA) with the Department as described in this Agreement, wherein said property owner(s) agree to implement or allow the implementation of conservation actions to protect or improve the status of resident wildlife species of concern which are described in this Agreement. Said included property owners are herein referred to as Cooperators. Once enrolled under the procedures outlined herein, the affected lands will be considered "enrolled property" as defined in the Service's Final Safe Harbor Agreement Policy (Service and National Marine Fisheries Service 1999) and further described in the Service's Final Rule issuing revisions to the regulations for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances (Service 2004). The general location of potentially enrolled properties (covered area) is shown in Figure 1.

**TABLE OF CONTENTS**

## 1.0 INTRODUCTION, AUTHORITY, AND PURPOSE

### 1.1 Introduction

Candidate Conservation Agreements with Assurances (CCAAs) are intended to facilitate the conservation of proposed and candidate species, and species that may become candidates, by giving non-Federal property owners incentives to implement conservation measures for declining or at-risk species. The Service provides incentives to non-Federal property owners through these agreements by ensuring that no further land, water, or resource use restrictions beyond those agreed to in the CCAA will be imposed if the species later becomes listed under the ESA. If the species does become listed, the property owner is authorized through an enhancement of survival permit that is issued in association with the CCAA to take the covered species as long as the level of take is consistent with the level identified and agreed upon in the CCAA. Before entering into a CCAA, the Service must determine that the benefits of the conservation measures to be implemented, when combined with the benefits that would be achieved if it is assumed that conservation measures were also to be implemented on other necessary properties, would preclude or remove the need to list the covered species.

When signed, this Agreement will serve as the basis for the Service and the Department to issue permits under ESA section 10(a)(1)(A), NRS sections 503.181 and 503.585, and NAC 503.093 that allow the incidental take of the relict leopard frog. Issuance of a section 10(a)(1)(A) enhancement of survival permit (Permit) to the Department will authorize the Department to enroll landowners (Cooperators) with certificates of inclusion (COIs) (Attachment A) under the Federal Permit and State permit when Cooperators sign individual Cooperative Agreements (CAs) (Attachment B) that describe actions that will be taken to benefit the relict leopard frog. The Department will also issue the enrolled landowner a Letter of Take Authorization (LTA) (Attachment C) authorizing incidental take of the relict leopard frog under provisions of NAC 503.093. Thus, the Cooperators will be authorized for incidental take of relict leopard frogs and their progeny that are introduced to the enrolled lands or have increased in numbers and/or distribution on those lands as a result of the Cooperators' voluntary conservation activities. Incidental take may occur as a result of the Cooperators' routine land management activities or from implementation of relict leopard frog conservation actions.

Specific implementation details will be developed cooperatively between each Cooperator and the Parties, and identified in the individual CAs based on the purposes of satisfying the landowner's land use objectives and providing for species conservation needs. Site-specific protective measures will be identified and implemented by the enrolled landowners and the Parties as described in the individual CAs. Enrolled landowners and the Parties will cooperate in good faith to develop adequate site-specific species protection and conservation measures.

### 1.2 Relict Leopard Frog Conservation Agreement and Rangewide Conservation Assessment and Strategy

The Conservation Agreement and Rangewide Conservation Assessment and Strategy for the Relict Leopard Frog (CAS) was approved in 2005 and is the result of a multi-agency cooperative effort represented by the Arizona Game and Fish Department, the Nevada Department of Wildlife, the Utah Division of Wildlife Resources, the Service, the Bureau of Land Management, the Bureau of Reclamation, the Biological Resources Division of the U.S. Geological Survey, the Environmental Protection Agency, the National Park Service, the University of Nevada Las Vegas and Reno, the Southern Nevada Water Authority, the Nature Conservancy, and the Clark County Desert Conservation Program. The CAS was approved in 2005 and is being implemented by the Relict Leopard Frog

Conservation Team (RLFCT), which is comprised of representatives from the signatory agencies, as well as participants from other agencies and academic institutions.

The CAS was developed consistent with the Service's Policy for the Evaluation of Conservation Efforts (PECE) designed to provide guidance to the Service when making listing decisions. The intent of the CAS is to provide both the certainty that an effective conservation effort will be implemented as well as reasonable certainty that the described conservation effort will be effective. Therefore, successful implementation of the CAS should preclude the need to list the relict leopard frog under the provisions of the Endangered Species Act.

Since approval of the CAS, all known natural populations of relict leopard frog have persisted, and six additional experimental populations have been successfully established. Experimental sites now hold approximately 80 percent of the relict leopard frog population, and the number of sites occupied by relict leopard frog has increased (RLFCT 2012). One of the primary goals of the CAS is to establish additional populations of relict leopard frog within its historic range to secure species persistence into the future. However, the CAS does not provide a mechanism to establish populations on non-Federal lands while providing regulatory assurances to the landowner in the event the species becomes listed in the future. Therefore, this Programmatic Candidate Conservation Agreement with Assurances has been developed to promote establishment of relict leopard frog populations on non-Federal land to meet the goals of the CAS and to provide regulatory assurances to potential non-Federal cooperators.

The RLFCT meets twice a year to establish an annual work plan and assess progress and accomplishments under the CAS. In their 2012 annual Work Plan, the RLFCT identified four potential translocation sites on non-Federal land or Federal land under lease by a non-Federal agency. It is expected that upon approval and permitting of this CCAA, these four sites, as well as other sites yet to be identified, will become enrolled properties under this Agreement and provide the opportunity to increase the number of relict leopard frog populations on non-Federal land.

### 1.3 Authorities

Sections 2, 7, and 10 of the ESA, and the Fish and Wildlife Coordination Act allow the Service to enter into this Agreement. Section 2 of the ESA states that encouraging parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation's heritage in fish, wildlife, and plants. Section 7 of the ESA requires the Service to review programs that it administers and to utilize such programs in furtherance of the purposes of the ESA, and section 10 (a) (l) of the ESA authorizes the Service to issue enhancement of survival permits. This Agreement, which is entered into pursuant to the Service's Candidate Conservation Agreement with Assurances (CCAA) final policy (64 *Federal Register* 32726) and the implementing regulations for CCAAs at 50 CFR 17.22(d) and 50 CFR 17.32(d), implements the intent of the Parties to follow the procedural and substantive requirements of section 10(a)(1)(A) of the ESA. By entering into this CCAA, the Service is utilizing its Candidate Conservation Program to further the conservation of the Nation's fish, wildlife, and plants.

By authority of Nevada Revised Statutes (NRS) 501.105 and 501.331, the Department is responsible for administering the policies and regulations necessary for the preservation, protection, management, and restoration of Nevada's resident wildlife species. The Department enters into this Agreement under authority of NRS 503.351 which authorizes the Director of the Department to enter into cooperative agreements for the purpose of the management of native wildlife. NRS 503.584-503.589 directs the Department to cooperate with other legal entities to the maximum extent practicable for the conservation,

protection, restoration, and propagation of species of native fish, wildlife, and other fauna that are threatened with extinction. Nevada Administrative Code (NAC) Chapter 503 extends protected wildlife status to numerous native wildlife species including the species proposed for coverage in this Agreement.

### 1.4 Purpose

The purpose of this Agreement is to provide a voluntary mechanism for the Parties and Cooperators to implement elements of the approved Relict Leopard Frog CAS (RLFCT 2005) on non-Federal lands within the covered area for the relict leopard frog, which will contribute to the conservation of the species through the protection, improvement, enhancement, and / or restoration of occupied, historic, and potential habitats. Voluntary actions implemented through this Agreement and associated Cooperator CAs are expected to contribute to enhanced population size and occupied range of the relict leopard frog, enhancing its overall conservation status while giving assurances to Cooperators that future uses of their property will not be unduly restricted by the presence of relict leopard frogs. These actions, when implemented on the enrolled and other necessary properties, are believed to be sufficient in combination with other ongoing conservation actions for the relict leopard frog to preclude or remove the need for listing the species for protection under the ESA.

The purpose of the programmatic aspects of this Agreement is to ensure that a consistent use of biological performance standards is available to all interested non-federal landowners within the covered area. The Parties have an interest in using existing programs and partnerships throughout the covered area to advance the purposes of this Agreement and to provide financial and technical assistance (where available) to interested landowners willing to conduct voluntary conservation measures that benefit the species and general habitat conditions. Additionally, this Agreement between the Parties is to facilitate collaboration between the Parties and Cooperators in the implementation of conservation measures for the relict leopard frog.

### 1.5 Legal Procedural Requirements

Conservation actions to be carried out on enrolled properties under this Agreement will be related primarily to the establishment of additional populations of relict leopard frog through the use of an ongoing translocation program described in the CAS and implemented by the RLFCT. Under this Agreement, NDOW and the Cooperator will be responsible for ensuring that any compliance requirements and required documentation necessary for release of animals to the wild are completed in a timely manner and consistent with the implementation schedule provided in the CAS. Specific compliance requirements and necessary authorizations will vary with the location and nature of translocation actions and the Cooperator that enrolls lands under this Agreement. For the translocation and release of animals to establish populations at historically occupied or new site locations, additional compliance actions may be required, including preparation of a site assessment, compliance checklist, or other project documentation. Table 1 identifies the legal procedural requirements and other authorizations that are anticipated to implement conservation actions on enrolled properties under this Agreement.

| Table 1. Anticipated legal procedural requirements and authorizations by conservation action. | | | | | | |
|---|---|---|---|---|---|---|
| Conservation action category | Project document[1] | NEPA compliance | Section 7 compliance | Landowner permission[2] | State permitting | Other[3] |
| Translocation | 1 | C | C | N/A | C | C |
| Fencing | 1 | No | No | N/A | C | No |
| Deepening tank or pool | 1 | C | C | N/A | C | C |
| Non-native fauna control/removal | 1 | C | C | N/A | C | C |
| Maintain existing habitat conditions | 1 | No | No | N/A | No | No |
| Enhance dispersal corridors | 1 | No | C | N/A | C | C |
| Vegetation enhancement, weed control/removal | 1 | C | C | N/A | C | C |
| Survey/monitoring | 1 | No | No | N/A | No | No |
| Public education | 1 | No | No | No | No | No |

[1] A site-specific assessment or project proposal will be developed and included in the Cooperative Agreement signed by NDOW and the Cooperator upon enrollment of the property (see CA template, Attachment B).

[2] Cooperators will provide permission to conduct conservation actions on their land upon enrollment of their property under this Agreement.

[3] Additional compliance requirements may be imposed by individual Cooperators that are project specific and cannot be identified at this time.

C = Conditioned, may be required depending on the specific location, specific Cooperator, characteristics of the conservation action, or source of funding.

### 1.6 Policy for the Evaluation of Conservation Efforts (PECE)

As specified in the Service's Policy for the Evaluation of Conservation Efforts (68 FR 15100, March 28, 2003), this Agreement was designed to meet criteria used to determine whether formalized conservation efforts that have yet to be implemented or to show effectiveness contribute to making listing a species as threatened or endangered unnecessary. A table listing the PECE policy criteria and sections within this Agreement and related documents where they are addressed is provided in section 19.0 of this Agreement.

## 2.0 CONSERVATION GOALS AND OBJECTIVES

### 2.1 Conservation Goals

The conservation goals of this Agreement are to protect, enhance, and expand habitat (spring, springbrook and outflow, pond, and wetland habitats and associated riparian areas) for the relict leopard frog, and to provide locations for the establishment of additional secure populations of, or in some cases, allow for subsequent natural population expansion of, the species on non-Federal lands below approximately 1000 meters Above Mean Sea Level (AMSL) within the Virgin, Muddy, and Colorado River drainages in Clark County, Nevada. Under this Agreement, Cooperators will make habitat available to the relict leopard frog and will assist with habitat conservation for a (minimum) period of 10 years or the remainder of the 30-year Agreement, whichever is the longer duration.

## 2.2 Management and Conservation Objectives

This Agreement is intended to assist in achieving the following management and conservation objectives for the relict leopard frog described in the existing Conservation Agreement and Range-wide Conservation Assessment and Strategy for the Relict Leopard Frog (*Rana Onca*) (RLFCT 2005):

1. Enhance existing habitat and/or create new habitats where feasible.
2. Establish additional populations of relict leopard frogs in existing or created habitats.
3. Manage relict leopard frogs and their habitats to ensure persistence in diverse aquatic ecosystems, and facilitate processes that promote self-sustaining populations.
4. Monitor relict leopard frog populations.

## 2.3 Success Criteria for Management and Conservation Objectives to be Addressed by This Agreement

1. Enhance existing habitat and/or create new habitats where feasible.

   *Benefit:* Enable relict leopard frog populations to use the full potential of existing occupied habitats and expand into currently unoccupied or potential habitat.

   *Success Standard:* Enhancement and creation of habitat follows schedules and protocols identified in the Relict Leopard Frog CAS (RLFCT 2005).

2. Establish additional populations of relict leopard frogs in existing or created habitats.

   *Benefit:* Having more populations reduces the risk of species extinction. If individual populations are extirpated, refugia populations can serve as donor populations.

   *Success Standard:* Ten or more additional relict leopard frog populations that persist for the duration of the CAS are established within the historical range, of which 3 or more are outside Lake Mead NRA. Additionally, a minimum of 1 refugium population of at least 20 adult frogs is maintained at a zoo or other suitable, professional facility for the duration of the CAS. Refugia may be established outside of the Potential Management Zone (Fig. 1).

3. Manage relict leopard frogs and their habitats to ensure persistence in diverse aquatic ecosystems, and facilitate processes that promote self-sustaining populations.

   *Benefit:* Ensure persistence of relict leopard frog populations and habitat across the Potential Management Zone for the duration of the CAS.

   *Success Standard:* Site-specific long-term population trend is stable or increasing and successful recruitment is evidenced by presence of eggs, tadpoles, or juveniles in 3 of 5 past years. The RLFCT evaluates performance of focal, supplementary, and refugia populations at least annually. Relict leopard frogs are found in a variety of habitats. Existing and new/enhanced habitats are monitored and managed to meet potential and ensure maintenance of self-sustaining populations.

4. Monitor relict leopard frog populations.

*Benefit:* Monitoring is necessary to determine and document population viability, for evaluation and documentation of population trends, and for assessing the success or failure of management activities.

*Success Standard:* Extant populations are monitored following schedules and protocols identified in the CAS.

### 2.4 Importance of Non-Federal Lands

Non-Federal (State, Local Government, and private) lands comprise approximately 8.6 percent (approximately 275,300 acres) of the Potential Management Zone (Figure 1) for relict leopard frog conservation and management identified by the interagency Relict Leopard Frog Conservation Team (RLFCT 2005). Only a small portion of this area represents suitable aquatic/riparian habitats for relict leopard frogs; however, these non-Federal lands support a significant proportion of riparian and aquatic habitats within Clark County including areas of known historic occurrence and distribution for the relict leopard frog. The ability to establish additional secure populations of relict leopard frogs on non-Federal lands outside of Lake Mead National Recreation Area, which contains all remaining natural relict leopard frog populations, is essential to achieving the goals and objectives identified for the range-wide conservation of the species (see Objective 2 above).

## 3.0 BACKGROUND AND CURRENT STATUS OF THE RELICT LEOPARD FROG AND ITS HABITAT

The relict leopard frog was described in 1875 from a single adult female likely collected within the Virgin River drainage in the vicinity of St. George, Washington County, Utah (Cope 1875 in Tanner 1929). On the basis of numerous gross morphological similarities, this frog is considered a member of the leopard frog complex, a group consisting of numerous species in North and Central America (Hillis 1988). Molecular and morphological evidence established by Jaeger et al. (2001) is sufficient to conclude that the relict leopard frog is an evolutionarily significant unit (Moritz 1994) distinct from what appears to be a closely related taxon, the lowland leopard frog (*Rana yavapaiensis)*. In a phylogenetic analysis of New World ranid frogs, Hillis and Wilcox (2005) suggested that the level of mtDNA genetic difference between the relict leopard frog and lowland leopard frog was more similar to that of a currently recognized subspecies pair than to observed species-level differences. Under many species concepts (Mayden 1997), however, the differences between the relict leopard frog and the lowland leopard frog are sufficient to distinguish them as separate species. A more thorough discussion on the taxonomy and systematics of relict leopard frog is provided in the Relict Leopard Frog CAS (RLFCT 2005).

Based on museum specimens, recent field surveys, and literature, the known historical distribution for the relict leopard frog is springs, streams, and wetlands within the Virgin River drainage downstream from the vicinity of Hurricane, Utah; along the Muddy River, Nevada, and along the Colorado River from its confluence with the Virgin River downstream to Black Canyon below Lake Mead, Nevada and Arizona (Bradford et al. 2004). All localities are within a few kilometers of these rivers, and many localities are virtually at the river. Relict leopard frogs may have also occurred at lowland localities along the Colorado River upstream from the confluence with the Virgin River (RLFCT 2005). A leopard frog that is morphologically similar to the relict leopard frog and the lowland leopard frog was collected at Marble Canyon, Arizona (Museum of Northern Arizona; Clarkson and Rorabaugh 1989), but specimens from this area need taxonomic resolution. Recent surveys within the western Grand Canyon, however, have

identified only one location with ranid frogs (C. Drost, J. Jaeger, D. Bradford unpublished data), and these have been confirmed through mtDNA assessment as a disjunct population of lowland leopard frog (Oláh-Hemmings et al. 2010).

A petition to list the relict leopard frog as endangered was filed with the Service on May 8, 2002. Following a status review, which was ongoing prior to the petition for listing, the Service determined that listing of the species was warranted but precluded and a notice of candidate status was published in the Federal Register on June 13, 2002 (Service 2002a). A multi-party Conservation Agreement and Range-wide Conservation Assessment and Strategy (CAS) for the relict leopard frog (RLFCT 2005) was completed in July 2005 and is being implemented by the interagency Relict Leopard Frog Conservation Team. The CAS provides specific guidance for conservation needs and priorities for the species, and this Agreement is integral to the successful implementation of certain CAS elements. The CAS has identified areas within Clark County, Nevada; Mojave County, Arizona; and Washington County, Utah at or below approximately 1000 meters AMSL as the Potential Management Zone for the relict leopard frog (Figure 1) where suitable aquatic and riparian habitats exist or can be restored.

### 3.1 Species Description

Cope (1875) described the relict leopard frog from an adult female with the following characters "... a dermal fold on each side of the back, ... The heel extending beyond the end of the muzzle. Light brown above; below, yellow. Three rows of distinct, solid, small black spots between the dorsal folds; ... none of the spots yellow-bordered. Head unspotted; no band on lip; clouded spots on the posterior face of the femur." Since that time, a greater number of specimens and populations of this species have been identified (Jennings et al. 1995). In general, the relict leopard frog exhibits reduced spotting on the back and head compared to other species of leopard frogs. Background coloration varies from light brown or tan to dark olive-brown and charcoal. Some individuals are green, most often on the head. The inguina is pale yellow to cream colored while the rest of the venter is white or cream colored. Adults lack spots on the tympana and conspicuous supralabial stripes, especially anterior to the eyes. In comparison with other leopard frog species, the relict leopard frog is a small frog with proportionately short limbs. Adult males appear to reach sexual maturity at about 42 mm snout-urostyle length (SUL) (Bradford et al. 2005). The largest females can exceed 70 mm SUL.

### 3.2 Threats and Conservation Needs

The relict leopard frog is highly dependent on spring and desert riparian systems. These habitats must have adequate water quantity and vegetation cover at an appropriate (early to intermediate) successional stage. Although periodic grazing or fire may be useful to maintain appropriate vegetation communities and seral stages, intense fire or grazing can result in decreases in water quality and habitat suitability, and increases in soil compaction which can accelerate seasonal drying. Furthermore, intense fire and grazing can cause direct hazards to individual frogs and earlier life stages. A moderate level of recreational use may help maintain open areas for these frogs, but excessive recreational use can substantially alter habitat characteristics. Recreational use has also been linked to introductions of non-native species. Invasive non-native plant species have substantially altered native riparian vegetation communities.

Direct impacts to open water habitats include flow diversion, groundwater development, physical alteration of pools and channels, and dense vegetation growth, which limits habitat availability, suitability, and utility to all life stages of the frog. Non-native invasive plant species including tamarisk (*Tamarix* sp.) occur in occupied and historic habitats and may require specific control measures beyond those necessary to maintain suitable densities of native vegetation. Protective or restorative efforts must

be implemented at occupied and nearby sites to ensure persistence of existing frog populations, maintain connectivity between these populations, and increase habitat availability and suitability.

Non-native aquatic species, which negatively impact the relict leopard frog through competition, predation, and possible disease transmission, include crayfish, turtles, non-native fish, and bullfrogs. Direct control and elimination strategies, and where feasible, actions to reduce habitat suitability for invasive species, must be implemented at specific sites where relict leopard frogs co-occur with non-native species. Diseases are also a threat to the relict leopard frog. Infectious diseases, such as the fungal disease chytridiomycosis, have been linked to massive die-offs in amphibians and reduced survivorship, recruitment, and fecundity. Appropriate protocols must be utilized to prevent the introduction of pathogens to relict leopard frog populations and amphibians in nearby habitats, and adherence to those protocols is essential during performance of conservation and monitoring activities.

A likely contributing factor to leopard frog declines in the Southwest is habitat reduction and fragmentation. These disturbances disrupt metapopulation dynamics and result in small, isolated, unstable local populations (Sredl and Howland 1995). Relict leopard frog populations are currently restricted to naturally small, isolated desert spring habitats within the millions of acres that comprise the historical range of the species. The number of springs likely suitable to sustain populations of relict leopard frogs is further limited by lack of perennial surface water, deep pools, adequate cover, and other habitat characteristics. Many spring courses are extremely short, and likely could not support self-sustaining populations. Damming and diverting of water have fragmented formerly contiguous aquatic habitats, which limits the species' dispersal ability. Because of the size of its current range and limited dispersal corridors, factors affecting small populations and metapopulation dynamics figure prominently into conserving the relict leopard frog. The CAS recommends developing captive rearing programs, assessing potential sites for reintroduction, and establishment of relict leopard frog populations in new areas to alleviate problems associated with small population size, limited habitat, and fragmentation.

### 3.3 Habitat Requirements

Habitat heterogeneity in the aquatic and terrestrial environment is likely important to the relict leopard frog. For other leopard frog species, shallow water with emergent and perimeter vegetation provides foraging and basking habitat, and deep water, root masses, undercut banks, and debris piles provide potential hibernacula and refuge from predators (AGFD unpublished data, Jennings 1987, Jennings and Hayes 1994, Platz 1988) and these or similar characteristics are likely important for the relict leopard frog. For this species, some open water and bank habitat appear to be important habitat components (Bradford et al. 2004). In general, southwestern leopard frog species are capable of occupying a broad range of environmental types in the absence of aquatic predatory species, particularly non-native ones. Specific water quality requirements for the relict leopard frog are not well quantified, but translocation guidelines for the closely related Chiricahua leopard frog (*Rana chiricahuensis*) recommend that waters should not be anoxic, should not exhibit high sulfide levels, and should exhibit pH levels of no lower than 6.0 or higher than 9.0 (AGFD 2006). The relict leopard frog is particularly tolerant of a wide range of temperature regimes with source temperatures in occupied habitats ranging from <16° C to as high as 41° C (RLFCT 2005) although frogs do not actually occupy the extreme hot water portions of the spring source. The juvenile habitat requirements of relict leopard frogs are not well studied, but some spatial and temporal separation of adults and juveniles may enhance survivorship. Seim and Sredl (1994) studied the association of juvenile-adult stages and pool size in the closely related lowland leopard frog (*Rana yavapaiensis*) and found that juveniles were more frequently associated with small pools and marshy areas while adults were associated with large pools. Historical localities occupied by the relict leopard frog were at springs, streams, and wetlands along major rivers (Bradford et al. 2004). Extant populations

are restricted to perennial desert springs within the Virgin and Colorado River drainages in Clark County, Nevada and Mojave County, Arizona. Currently occupied habitats may reflect available rather than optimal habitat due to destruction, modification, or occupation by non-native predators of historical habitat.

## 3.4 Description of Existing Conditions

### 3.4.1 Current Distribution

Natural populations of the relict leopard frog are currently known to occur in only two general areas: near the Overton Arm of Lake Mead, Nevada, and in Black Canyon, Nevada, below Lake Mead. Historical records are reported for both areas, with specimen records dating from 1936 at the Overton Arm area and from 1955 at Black Canyon. These two areas, encompassing maximum linear extents of only 3.6 and 5.1 km, respectively, comprise a small fraction of the likely original distribution of the species. Although it is possible that relict leopard frog populations may also occur in other areas, it is unlikely that many other naturally occupied sites exist given the efforts made to date by Vitt and Ohmart (1978), Jennings et al. (1995), Bradford et al. (2003), and surveys for amphibians and fish conducted or sponsored by State and Federal agencies in Utah, Arizona, and Nevada over the past 2 decades (BIO-WEST Inc. 2001, Platz 1984, R. Fridell pers. comm., R. Haley pers. comm., Blomquist et al. 2003), as well as recent surveys in the western Grand Canyon (C. Drost, J. Jaeger, and D. Bradford unpublished data). Recent extirpations include Littlefield, Arizona, the last known extant population on the main stem Virgin River, and Corral Spring, Nevada in the Overton Arm area of Lake Mead (Bradford et al 2004).

The relict leopard frog is currently known to occur at 14 localities. Eight of these sites are either historical localities or are natural populations not established through translocation and conservation efforts: Blue Point and Rogers springs on Overton Arm; and Boy Scout Canyon, Salt Cedar Canyon, Bighorn Sheep, Black Canyon (2 locations), and Dawn's Canyon springs, all in the Black Canyon area of Nevada and Arizona below Davis Dam. An additional six experimental sites have been established with varying levels of success but all had observations of one or more life stages of relict leopard frogs during 2009 monitoring efforts: Goldstrike Canyon and Pupfish Refuge springs in the Black Canyon area; Grapevine Spring near Meadview, Arizona; and Quail, Red Rock and Tassi springs in the Gold Butte area (RLFCT 2009).

In addition, 3 individual leopard frogs have been observed on different occasions in 2000, 2001, and 2002 at the Willow Beach National Fish Hatchery at Willow Beach, Arizona, located 10 km downstream from Bighorn Sheep Spring in Black Canyon (C. Fiegel pers. comm.). One of these was collected and confirmed to be a relict leopard frog based on mitochondrial DNA sequence similarity, and another possessed a mark used in recent sampling of upstream populations (Bradford et al. 2004).

### 3.4.2 Current Habitat Conditions

Extant relict leopard frog populations are restricted to narrow habitat corridors (<0.5 - 20 m; 1 – 3 m in most places), with a sharply defined boundary between riparian corridor and desert. Extant populations are restricted to perennial desert springs along the Virgin and Colorado River drainages. Substantial leopard frog habitat in the historical range of the species has been destroyed or modified by activities such as spring capping and diversions and the construction of dams and reservoirs. Modifications have not only changed the amount and quality of habitat available for relict leopard frogs, but have permanently removed connectivity between extant native populations and may also have created habitat for and promoted introduction of non-native predators (Sredl et al. 1997). Tamarisk is prevalent along the Virgin

and Muddy rivers, and the shorelines of lakes Mead and Mohave, as well as in almost every untreated spring. Tamarisk has overgrown the type locality of the relict leopard frog, changing geomorphology, soil chemistry, and available habitat. Tamarisk roots can substantially reduce pool size by growing directly in the water and trapping sediment. Tamarisk also greatly reduces the amount of light available to forbs, which provide cover for relict leopard frogs, and each autumn fallen needles entirely cover pools. Tamarisk control has been maintained at many occupied sites including Lake Mead north shore and some Black Canyon and Gold Butte area springs. These treatments will need to be continued, but tamarisk is not a threat in the short term at most sites (RLFCT 2005, 2009).

## 4.0 DESCRIPTION OF LANDS ELIGIBLE FOR ENROLLMENT

The enrolled properties are the areas over which Candidate Conservation Agreement assurances apply and on which incidental take of relict leopard frogs is authorized. Enrollment of properties under this Agreement is voluntary. The Parties reasonably expect that relict leopard frogs may occupy all or a portion of habitats on enrolled properties as a result of management actions undertaken through this Agreement. This Agreement will cover those properties that have existing, historic or potential suitable habitat for relict leopard frogs within Clark County, Nevada. Such habitats may include reliable and protected water supplies and water quality, limited or controllable public access, accessibility for management actions and frog translocations or removal, permanent ponds and/or wetland areas, natural springs, spring outflows or reaches of springbrooks and streams that represent suitable habitat for any or all life stages of relict leopard frogs as described in Section 5.0. An enrolled property may include all or some combination of suitable habitat types, or the potential to create those habitats.

A CA will be completed and signed for each property to be enrolled. Each CA will include a map of the property and its legal location, a description of the existing biological community including sensitive or protected species if any, the portion of the property to be enrolled and its acreage, and a description of the habitat types found on the portion of the property to be enrolled including an accurate description of ponds or other aquatic habitats and their characteristics. In addition, current land-use practices and existing development, and expected land-use changes and development will be described.

## 5.0 CONSERVATION MEASURES

In 2005 the multi-agency Relict Leopard Frog Conservation Team developed the Conservation Agreement and Range-wide Conservation Assessment and Strategy for the Relict Leopard Frog (*Rana onca*) (CAS) to guide conservation efforts for the species across its historic range in Nevada, Utah, and Arizona, and to aid in the implementation of proactive land conservation measures, standards, and guidelines that will help to ensure that adequate and systematic conservation approaches for the relict leopard frog are identified and implemented. Since finalizing the CAS in 2005, components of the "conservation strategy" have been or are currently being implemented by the Parties or related partners. For instance, additional relict leopard frog populations have been established on public lands, control efforts for invasive non-native plants and non-native animal species have been implemented at occupied habitats, and important research studies have been implemented or completed addressing habitat restoration strategies and species life history.

Amphibian populations vary greatly in size over time and total numbers are not necessarily indicative of population stability (Bragg 1960, Sherman and Morton 1993, Weitzel and Panik 1993, Green 1997, Meyer et al. 1998, US Fish and Wildlife Service 2000a). Because of these fluctuations, the spatial distribution of relict leopard frog populations is important to allow natural immigration and emigration to

maintain genetic and demographic health of populations (Sjögren 1991, Sjögren-Gulve 1994). Also, individual sites or a set of nearby sites should have adequate quantity and quality of habitat to support a population through such fluctuations. The CAS specifically identifies that a matrix of sites in the Potential Management Zone, including the area covered by this Agreement, must be managed to facilitate metapopulation dynamics of the species. Managed sites should be within dispersal distance of frogs and have adequate habitat to allow connection of sites. Ideally, individual sites or sets of sites will not be impacted by the same threats. Because much of the suitable potential habitat for the relict leopard frog is on private or non-Federal lands, implementation of conservation and management actions with willing landowners to establish additional frog populations is essential to meet the conservation objectives of the CAS.

The CAS identifies three types of sites that could be established and managed on non-Federal lands to meet conservation objectives for the relict leopard frog. Here we describe these sites but incorporate a few additional perspectives gained over the last several years:

*Refugia Sites*
Refugia sites will be isolated from all other occupied sites with extremely low probabilities of frogs moving into or out of the sites without human control. Refugia sites will serve to ensure the genetic integrity of the relict leopard frog persists for the duration of the Agreement. The sites should have adequate quantity and quality of habitat for all life stages year round. The populations at these sites will be established and periodically managed with individuals such that a natural level of genetic variability is maintained in the populations. Refugia sites may be established outside of the Potential Management Zone (Fig. 1).

*Corridors*
Corridors can range from small, natural pools within or outside of a drainage to ephemeral stock tanks to perennial waterways unsuited to frog breeding (i.e. too high flow). Corridors are sites that are unsuitable for breeding by relict leopard frogs but are still used during dispersal. Corridors allow frog populations to expand to unoccupied breeding habitat and facilitate genetic exchange between breeding populations. Corridors are only successfully used by frogs during dispersal or long distance movements, and are rarely occupied. In unusually wet times, many dispersing individuals may attempt to breed at a corridor site, but recruitment to the adult population is unlikely or sporadic, given the unstable nature of the water in corridors.

*Focal Sites*
Focal sites are a body of water or a set of nearby (<1.6 km apart) bodies of water with reliable surface water year round and year to year. These sites should have pools with a minimum depth of at least 0.25 m to allow breeding (although depths of at least one meter are preferred). In complex systems with several associated bodies of water in close proximity (for example, large pools in a stream surrounded by marsh with small isolated ponds), oviposition sites should hold water long enough to support development of eggs to metamorphosis (a minimum 6.5 months of the year; NPS unpublished data) or be connected with more permanent water. These sites should have resources available such that requirements of all life stages of the frog are met within the site. Sites should have no or few aquatic predators and have breeding pools that are free of fish or crayfish. Populations of the relict leopard frog at focal sites would be considered “sources” in classic metapopulation models. Focal site populations, if introduced, should be designed and managed to be primarily self-sustaining. The physical and biological characteristics of focal sites can be used to determine suitable sites for reintroduction. Focal sites should

be established and managed during the term of the Agreement and individual CAs to remain intact in the future as insurance for unforeseen declines.

*Actions that a Cooperator may agree to undertake to provide conservation benefits to the relict leopard frog will be specified in the site-specific CA and may include, but are not limited to, the following:*

Relict leopard frog translocation: Relict leopard frog populations may be established at appropriate sites through translocation of animals from suitable sources. Existing or established frog populations may also be augmented if necessary to meet biological goals described in the CAS.

Fencing: Fencing is an option at any aquatic system. The purpose of fencing is to prevent destruction or excessive deterioration or trampling of relict leopard frog habitat at an aquatic site, or to exclude access by non-native or undesirable species. This can be accomplished by fencing a site in its entirety or fencing a portion of a site. The fenced portion provides relatively undisturbed aquatic habitat and escape cover during maintenance activities, recreational or livestock use, or other disturbances.

Deepening a tank or pool: Deepening can increase the amount of water in a tank or pool, ensuring that it will retain water longer during periods of dry weather or drought. It creates more permanent relict leopard frog habitat and can be used to upgrade habitat quality at a site. However, too deep a tank or pool may be difficult to dry out for maintenance purposes or to rid it of bullfrogs or non-native fish should these become established. Further, pool type habitats are often attractive habitats for invasive species such as bullfrogs. Thus, deepening should balance the needs of relative water permanence with the ability to deliberately manipulate water levels for habitat and non-native species management.

Removal of non-native aquatic predators from otherwise suitable sites: In some cases, otherwise suitable aquatic sites within the covered area may already contain bullfrogs, crayfish, or other non-native predatory species. Such sites could be converted to relict leopard frog population sites by eliminating the predators. While the success of this strategy will depend on the feasibility of removing the non-natives (e.g., on the type of species involved, the size of the water source, etc.), it should be considered at selected sites.

Maintenance of existing habitat conditions: A commitment to maintain existing or favorable conditions may provide a net conservation benefit to the species, particularly for potential sites that currently contain suitable habitat but are absent of frogs. This option is useful when future threats are predictable and probable. Preventing the future diversion of water from suitable sites or maintaining the seral stage of a pond or wetland by removing encroaching climax or invasive vegetation may be appropriate.

Enhancement of dispersal corridors: Travel corridors along drainage lines and across upland areas are of particular importance in maintaining population connectivity (metapopulations dynamics). In areas where these corridors may be extremely long or subject to disturbances, it may be beneficial to enhance the aquatic and terrestrial habitat within these corridors. Shallow depressions that catch rainwater and provide temporary aquatic sites between primary and secondary sites would facilitate unencumbered movement among more permanent sites. In addition, fencing or road closures (seasonal or permanent) and rehabilitation of disturbed areas could also facilitate movement. Such enhancements should not overly benefit or promote dispersal of non-native predators, such as bullfrogs.

Vegetation enhancement: In existing and new habitats it would be beneficial for riparian vegetation to be enhanced within enrolled sites. This may include establishing vegetation to stabilize shorelines and banks

or establishment of tree cover to help control emergent vegetation and to provide aquatic habitat structure and cover for relict leopard frogs. Control and removal of invasive plant species (e.g. tamarisk, cattails) is an important element of management at many potential sites to create or maintain suitable habitat for the species. Often emergent vegetation if left alone will create dense, senescent stands that are not conducive to relict leopard frogs. In many cases, such vegetation will require repetitive control efforts, or habitat modifications to provide open patches of water and bank.

Public education: Consistent with the conservation actions described in the CAS, Cooperators may develop public educational materials for those enrolled sites that have public access. Brochures and other interpretive literature may be placed at those sites with high public use. The Parties and Cooperators will coordinate with the RLFCT to determine appropriate sites to place interpretive and regulatory signs.

## 6.0 EXPECTED CONSERVATION BENEFITS

As identified in the Service's Candidate Conservation Agreement with Assurances Final Policy (64 FR 32726), the Service must determine that the conservation measures and the expected benefits, when combined with those benefits that would be achieved if it is assumed that similar conservation measures were also implemented on other necessary properties, would preclude or remove the need to list the relict leopard frog.

When making a decision to list a species under the ESA, the Service is required to determine whether the species is threatened by any of the following factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting the species' continued existence. Following is a description of threats to relict leopard frog associated with each of these factors, summarized from the Relict Leopard Frog CAS (RLFCT 2005), and which threats would potentially be addressed by property owners who enroll their lands and implement the conservation measures as provided for in this Agreement.

### 6.1 Threats to Relict Leopard Frog Associated with the Five Listing Factors

Factor 1. Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

Water diversions and groundwater development may be a continuing threat to relict leopard frog conservation where historical populations have been extirpated or their habitats altered due to diversion of water from streams or wetlands for activities associated with livestock grazing, agriculture, urban development, and other uses. Because of legal appropriations under applicable water laws, and land use practices on public, private, and tribal lands, water diversions continue to occur and may be problematic for relict leopard frog conservation and management of occupied or historical leopard frog habitats.

Extant populations are restricted to perennial desert springs along the Virgin and Colorado river drainages. Substantial leopard frog habitat in the historical range of the relict leopard frog has been destroyed or modified by activities such as spring capping and diversions and the construction of dams and reservoirs. Modifications have not only changed the amount and quality of habitat available for relict leopard frogs, but may also have created habitat for and promoted introduction of nonnative predators (Sredl et al. 1997). In addition to local spring and stream modifications, aquifer overdrafting in areas that

affect relict leopard frog habitat may be a significant threat, because these aquifers may be limited in their ability to recharge.

Habitat heterogeneity is thought to be an important component of relict leopard frog aquatic and terrestrial environments (Jennings 1987; Jennings and Hayes 1994; Platz 1988). Unchecked by disturbance, both native and nonnative plant species can quickly form uniformly dense stands of vegetation, eliminating open habitat and resulting in the disappearance of varied habitat structure. In addition to forming dense stands of vegetation, aggressive nonnative species such as tamarisk (*Tamarix* sp.) and tall whitetop (*Lepidium latifolium*) can irreversibly alter plant and insect communities, soil chemistry, and disturbance regimes.

Effects of livestock grazing on relict leopard frog populations may be positive and negative (Jennings 1988; Rosen and Schwalbe 1998; Sredl and Saylor 1998). While grazing has attributed to maintaining open areas in spring systems, high levels of grazing can negatively impact amphibian habitat by removing bankside cover, increasing ambient ground and water temperatures, destroying bank structure, trampling egg masses, and adding high levels of organic wastes (Jennings 1988). Overgrazing may also degrade amphibian habitat by increasing runoff and sedimentation rates (Belsky and Blumenthal 1997, Jennings 1988).

Recreational access to springs and streams is the proximate cause of a number of threats to the relict leopard frog. Recreational users deliberately introduce many nonnative species, including aquarium and sport fish, bullfrogs, turtles, snails, and alligators. Recreational users may also introduce or spread disease either through transfer of mud on their shoes or by releasing aquatic fauna.

Agricultural practices can result in surface soil disturbance that degrades water quality (e.g., change in local surface water salinity). However, certain changes in agricultural practices can actually increase biodiversity (Pimentel et al. 1992) and may be beneficial for some amphibians by creating moist foraging habitat (Hulse 1978; Rorabaugh et al. 2002). Many chemicals used in agriculture and silviculture have negative effects on amphibians (Devillers and Exbrayat 1992; Herfenist et al. 1989; Sparling et al. 2000). Pesticides used on agricultural lands can have sublethal effects on amphibians (e.g., skewed sex ratios) much below the application levels allowed in the U.S. and can be concentrated in the food web (Devillers and Exbrayat 1992; Sparling et al. 2000; Hayes 2001; Hayes et al. 2002). Agricultural pesticides used in the Muddy and Virgin River drainages may impact relict leopard frogs in and near those areas. Within the Virgin River drainage, restrictions have been placed on the use of certain agricultural pesticides through the U.S. EPA's Endangered Species Protection Program.

Factor 2. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Collection of relict leopard frogs is currently limited to controlled, low-level sampling for scientific purposes as well as collection for use in population restoration efforts. The extent to which illegal collection occurs is unknown. The State of Nevada regulates the collection of relict leopard frog to those with a scientific collecting permit. Nevada regulations prohibit the personal collection or possession of relict leopard frog for hobby possession of amphibians, as well as the commercial collection or possession of relict leopard frog for the amphibian and reptile pet trade.

Because the primary goal of this Agreement is to protect, enhance, and expand suitable habitat for the relict leopard frog and to establish additional secure populations within its historic range, this threat factor will not apply to lands that are enrolled under this Agreement.

Factor 3. Disease, Predation, Competition, and Hybridization

Little is known about parasites and pathogens of relict leopard frog. Both nematodes and trematodes are known to infect lowland leopard frogs (Goldberg et al. 1998). Two important pathogens that have been the focus of recent research include chytrid fungus and viruses. Chytrid fungus has been detected in relict leopard frogs at one location in Nevada (Jaeger 2011), but the extent to which the disease is affecting the overall population is unknown. Iridovirus has been identified as a pathogen of ranids in western North America (Carey et al. 2004; Green 2001), but no information is available on iridovirus infection of relict leopard frog.

Nonnative aquatic species that may prey on and compete with relict leopard frog include crayfish (Creed 1994; Fernandez and Rosen 1996); mosquito fish (*Gambusia affinis*); tilapia (*Tilapia mossambica*); red shiner (*Cyprinella lutrensis*); a suite of aquarium fishes such as cichlids (*Cichlasoma* spp.) and mollies (*Poecilia* spp.); introduced sportfish such as bass, sunfish, catfish, and trout (Deacon et al. 1964; Fuller et al. 1999; Minckley 1973); bullfrogs (Conant and Collins 1991; Wright and Wright 1949); turtles such as the spiny softshell turtle (*Apalone spinifera*); and mollusks such as New England mudsnails (*Potamopyrgus antipodarum*), zebra mussels (*Dreissena polymorpha*), and quagga mussels (*Dreissena bugensis*). These species compete with aquatic herbivores and prey upon aquatic invertebrates and vertebrates, including leopard frogs. Nonnative aquatic species negatively affect native aquatic species by removing vegetation, disrupting normal nutrient cycling, decreasing macroinvertebrate diversity, and preying on frog eggs, larvae, and adults.

Hybridization with closely related, introduced frog species is a potential threat to relict leopard frog populations, and would reduce the likelihood that the unique relict leopard frog genome is passed on to subsequent generations.

A survey protocol has been developed to limit the spread of chytrid fungus in amphibians, and is currently being implemented by NDOW. The State of Nevada also has regulations in place that prohibit the importation, transportation, and possession of certain species of nonnative wildlife. However, regulations have not entirely prevented the introduction and spread of nonnative aquatic species that negatively affect relict leopard frog and its habitat.

Factor 4. Inadequacy of Existing Regulatory Mechanisms

As described under Factor 2, *Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*, Nevada currently limits the collection, study, or use of relict leopard frogs to those with a scientific collecting permit, and prohibits the personal collection or possession of relict leopard frog for hobby possession of amphibians, as well as the commercial collection or possession of relict leopard frog for the amphibian and reptile pet trade. Nevada also prohibits the importation, transportation, and possession of certain species of nonnative wildlife. However, regulations have not entirely prevented the introduction and spread of nonnative aquatic species that negatively affect relict leopard frog and its habitat.

Because the primary goal of this Agreement is to protect, enhance, and expand suitable habitat for the relict leopard frog and to establish additional secure populations on non-Federal lands within its historic range, and Nevada currently has regulations in place to control the collection of relict leopard frogs and spread of nonnative wildlife, this threat factor does not apply to the relict leopard frog on properties

enrolled under this Agreement. Control of nonnative wildlife will be implemented as a conservation measure at specific sites on enrolled lands where feasible, to address threats under Factor 3.

Factor 5. Other Natural or Manmade Factors Affecting the Species' Continued Existence

Small population size, limited habitat, and fragmentation of populations are other factors negatively affecting the relict leopard frog. Sredl and Howland (1995) speculated that distribution of extant leopard frog populations in Arizona may reflect habitat fragmentation and extinction without recolonization, as well as habitat quality. Locality data indicate that extant relict leopard frog populations occur as small clusters, rather than randomly distributed populations (Bradford et al. 2005). All extant populations occupy springs in the Colorado River watershed surrounding Lake Mead. The physical characteristics of the river have changed drastically. The most prominent reason for these changes is the construction of dams including the Hoover Dam in 1935. Cowles and Bogert (1936) documented relict leopard frogs at a site now under the normal water line of Lake Mead, and extant population clusters could be remnants of former metapopulations that had a large core population of frogs on or near the Colorado River. An important and ongoing reason for loss of habitat is development in or near potential riparian habitat for relict leopard frogs.

A likely contributing factor to leopard frog declines in the Southwest is habitat reduction and fragmentation. These disturbances disrupt metapopulation dynamics and result in small, isolated, unstable local populations (Sredl and Howland 1995). Stochastic events such as drought, flood, and fire can cause the extirpation of small populations. In addition, natural fluctuations in frog population size and recruitment can lead small populations to extirpation (Set al. 1999; Sartorius and Rosen 2000). Relict leopard frog populations are currently restricted to naturally small, isolated desert spring habitats within the millions of acres that comprise the historical range of the species. The number of springs likely suitable to sustain populations of relict leopard frogs is further limited by lack of perennial surface water, deep pools, adequate cover, nonnative predators, and other habitat characteristics. Many spring courses are extremely short, and likely could not support self-sustaining populations. Damming and divertying of water have fragmented formerly contiguous aquatic habitats. This fragmentation has occurred at a variety of scales from small springs to the mainstem of the Colorado River. In many areas, fragmentation has been accentuated by nonnative predatory fishes, crayfish, and bullfrogs, leaving potential dispersal corridors between available aquatic habitats disrupted or impassable.

The life history of the relict leopard frog suggests that the species exhibits highly variable population dynamics. In addition, the relict leopard frog is strongly associated with aquatic environments and is vulnerable to desiccation; and is thus limited in dispersal ability. Because of the size of its current range and limited dispersal corridors, factors affecting small populations and metapopulation dynamics figure prominently into conserving the relict leopard frog.

### 6.2 Relationship of the Agreement to the Five Listing Factors

Conservation measures that would reduce threats under Factor 1 include fencing, deepening a tank or pool, maintenance of existing habitat conditions, and vegetation enhancement. Fencing would prevent destruction, deterioration, or trampling of relict leopard frog habitat, or would exclude nonnative species such as bullfrogs or undesirable species such as livestock. Enhancing an existing pool or pond would create additional suitable habitat, and ensure habitat persistence and quality. Including the ability to manipulate water levels will provide options for controlling nonnative species if needed. Maintenance of existing habitat conditions would provide a net conservation benefit for relict leopard frog, particularly for those sites that contain suitable habitat but are not inhabited by frogs. Preventing future diversion of

water from suitable habitats or maintaining an appropriate seral stage by controlling invasive vegetation would also reduce threats from habitat degradation.

Implementation of conservation measures associated with removal or control of nonnative aquatic species would reduce threats under Factor 3. Some enrolled properties may already contain bullfrogs, crayfish, or other nonnative predatory species. Depending on the site, a variety of methods can be used to eradicate nonnatives from sites before introducing relict leopard frog to the habitat. Nonnative species control is also easier to accomplish if water levels can be manipulated, such as draining and drying of the habitat.

Establishment of additional populations of relict leopard frog on non-Federal lands within the species' historic range is a key conservation measure that would be implemented on enrolled lands under the Agreement, and would address threats under Factor 5 related to habitat reduction and small, fragmented, and isolated populations. Proposed conservation measures under the Agreement that would benefit the establishment of additional populations include relict leopard frog translocation, fencing of sites as appropriate, manipulation of any existing ponds or pools on the property to make it frog-friendly, removal of excess vegetation, maintenance of existing habitat conditions, enhancement of dispersal corridors, and vegetation enhancement.

Conservation measures associated with public outreach and education would increase overall public awareness of the status of the relict leopard frog and can result in reducing threats associated with all listing factors by teaching the public what they can do to contribute to relict leopard frog conservation.

The relict leopard frog will benefit from these conservation measures since viable threats to individual occupied habitats and the species will be reduced, areas of occupied habitat will be increased, habitat quality improved, competing and predatory species removed, connectivity of individual species populations enhanced where appropriate, and public awareness of the conservation needs and requirements of the relict leopard frog increased. The first five benefits will lead to increased population viability and persistence, thereby reducing the potential for extirpation of relict leopard frog populations and extinction of the species, and possibly precluding the need to list the species under the ESA. Increased public awareness of the conservation needs and requirements of the relict leopard frog will assist in reducing threats to and human impacts on the species and its habitat.

The Service has determined that the benefits of the specific conservation measures described in this Agreement, when combined with those benefits that would be achieved if it is assumed that the conservation measures were also to be implemented on other necessary properties, and in combination with other ongoing conservation actions for the relict leopard frog, would preclude or remove any need to list the species. "Other necessary properties" as related to this Agreement are other properties on which the conservation measures described herein would be implemented in order to preclude or remove any need to list the species. In particular, the establishment of additional populations of relict leopard frog on non-Federal lands within its historic range is key to ensuring that populations are stable and the need to list the species is avoided. "Other ongoing conservation actions" are additional actions being implemented by the Relict Leopard Frog Conservation Team as recommended in the Relict Leopard Frog CAS on properties not included in the scope of this Agreement.

## 7.0 RESPONSIBILITIES OF THE PARTIES

The responsibilities of a Cooperator shall be detailed in its CA. At a minimum, however, each CA will include all of the responsibilities set forth in the applicable template, Attachment B.

The Parties of this Agreement will work cooperatively to further the purposes of this Agreement. Each Party is tasked with, and is accountable for, certain responsibilities as outlined below. Nothing in this Agreement shall limit the ability of the Federal and state conservation authorities to perform their lawful duties, including, but not limited to, conducting investigations as authorized by statute, regulation, and/or by court guidance and direction.

Specific responsibilities of Parties to this Agreement are as follows:

**7.1 The Department shall:**

a) Implement and administer this Agreement including: relict leopard frog monitoring, coordinating and/or assisting with habitat management efforts on the Cooperators' properties, enrolling Cooperators under this Agreement, and translocation of frogs, where appropriate.

b) With the assistance of the prospective Cooperator, complete the applicable CA Form (Attachment B) and ensure that the landowner's proposed actions meet the applicable regulatory standards and goals of this Agreement, including providing an adequate quantity and quality of open water and riparian habitat, maintaining existing suggested land use practices, and continuing maintenance of the property in accordance with any other existing agreement(s) to which the prospective enrollee is a signatory.

c) At least 30 days prior to enrolling a landowner under this Agreement, the Department will provide the draft CA and any associated conservation measures or habitat management plans to the Service for review and comment. The Service shall have the opportunity to review and comment on the proposed CA prior to the draft CA being forwarded to the prospective Cooperator.

d) Upon receiving written concurrence from the Service, the Department shall enter into the CA with the landowner (now a Cooperator) and issue a COI and LTA to the Cooperator. The CA shall become effective and binding on the date of the last signature to the CA. The COI and LTA shall become effective only after they have been signed and dated by the Department.

e) Provide to the Cooperator and the Service copies of the executed CA, COI, and LTA.

f) Provide technical assistance to Cooperators, to the maximum extent practicable, when requested.

g) Inform the Service of any known relict leopard frog mortalities or injuries within five working days of receiving notice from a Cooperator of such event.

h) Conduct compliance and biological monitoring cooperatively with the Service, as described in Section 11 of this Agreement, and provide assistance in preparing and submitting an annual report to the Service that describes the findings of such monitoring.

i) If warranted, recommend procedures the Cooperators can follow to avoid future incidental take that might have been described in past annual reports.

j) Inform the Service when a Cooperator gives a 30 day notice that the Cooperator intends to carry out an activity that is likely to result in the incidental take of relict leopard frogs, so as to give the Service the opportunity to work with the Department on the relocation of any affected individuals.

k) When informed by a Cooperator of an emergency situation requiring salvage or relocation of relict leopard frogs under the terms of a CA, conduct such actions if feasible, cooperatively with the Service.

l) Inform the Service when a Cooperator is not in compliance with the terms and conditions of its CA and/or this Agreement and of any measures employed to remediate the noncompliance.

m) Provide funding to Cooperators for the implementation of conservation actions in accordance with this Agreement and associated CAs when such funding is authorized and available.

n) Provide data collected from enrolled Cooperators, surveys, and monitoring to the Service in a timely manner.

**7.2 The Service shall:**

a) Upon execution of the Agreement and satisfaction of all other applicable legal requirements, issue a permit to the Department in accordance with ESA section 10(a)(1)(A) authorizing incidental take of the covered species as a result of lawful activities within the enrolled property. The term of the Permit will be 30 years except as otherwise provided by this Agreement.

b) Provide technical assistance to the Department, to the maximum extent practicable, when requested, and provide information on Federal funding programs that the Department can provide to Cooperators.

c) Ensure the Department is implementing the terms of the Agreement.

d) Assist the Department with biological monitoring and management activities if assistance is requested.

e) When informed by the Department of an emergency situation requiring salvage or relocation of relict leopard frogs under the terms of a CA, cooperatively assist the Department to conduct such actions if feasible.

f) If warranted, recommend procedures the Department can suggest to Cooperators to avoid future take based on any take described in past annual reports.

g) Assist the Department in implementing adaptive management by adjusting management actions as needed based on results from monitoring.

h) Assist the Department and Cooperators in identifying and obtaining funding for the implementation of conservation actions in accordance with this Agreement and associated CAs when such funding is authorized and available.

i) Review and concur on all draft CAs and provide comments to NDOW within 15 business days or less.

## 8.0 COVERED ACTIVITIES AND ANTICIPATED TAKE

Take is defined as actions or attempted actions to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect such species. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. "Harass" is further defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns including, but not limited to, breeding, feeding or sheltering. Incidental take is any take of Federally-listed wildlife or State-listed wildlife and plants that is incidental to, but not the purpose of, otherwise lawful activities.

Under the terms of this Agreement, the relict leopard frog will be treated as if it is listed under the ESA, regardless of its current regulatory status. Should the relict leopard frog be listed under the ESA, incidental take will be authorized through the section 10(a)(1)(A) enhancement of survival permit issued to the Department, consistent with the terms of this Agreement, the Permit, and the Cooperator's CA for the enrolled property.

Under the terms of this Agreement, the permits will authorize Cooperators for incidental take of relict leopard frogs and their progeny resulting from lawful activities within the enrolled property, consistent with Cooperator CAs, from the time this Agreement is signed until expiration of the permits. Such existing or future uses may include, but are not limited to: operation of vehicles and maintenance equipment, building or fence construction, gardening, hunting, recreational fishing, farming, mowing, maintenance of landscaping and recreational facility infrastructure including irrigation facilities, commercial and non-commercial recreational activities or cultivation of agricultural crops. The permits will also authorize incidental take that may result from implementation of conservation actions on the enrolled properties for the relict leopard frog, such as habitat enhancement and restoration activities, inventory and monitoring activities, and translocation of frogs, eggs, and/or larvae. Each CA will detail the take of individuals that is likely to occur. This level of take is not expected to be significant, since the purpose of each Cooperator's CA would be to establish a new population of relict leopard frogs on the Cooperator's property. Take of a small amount of individuals may occur occasionally as a result of land use activities, but is not expected to affect the established population as a whole. If the Cooperator is aware of an event or activity that is expected to negatively affect a significant number of frogs, the Cooperator will notify NDOW and provide an opportunity to relocate frogs out of harm's way (see section 9.0 below). Overall, implementation of this Agreement and the associated Cooperator CAs is expected to result in increased numbers of relict leopard frogs in excess of any enrolled property's original population.

The Service has determined that this level of take is consistent with the overall goal of precluding the need to list the relict leopard frog, if it is assumed that conservation measures were also to be implemented on other necessary properties.

## 9.0 NOTIFICATION OF TAKE

Each CA will identify those actions (conservation measures and covered activities) that are expected to result in take of relict leopard frog and for which the Cooperator will be required to give notice and

provide an opportunity for the Department, the Service, or their agents to relocate relict leopard frogs prior to the action. Such notice will be provided at least 30 days in advance of the action.

## 10.0 ASSURANCES PROVIDED

The assurances listed below apply to any Cooperator holding a COI and an approved CA, and thus covered under the section 10(a)(1)(A) permit associated with this Agreement, where the CA is being properly implemented. The assurances apply only with respect to the relict leopard frog.

### 10.1 Authorization of Incidental Take

Upon approval of the Agreement, and satisfaction of all other applicable legal requirements, the Service will issue a permit, in accordance with section 10(a)(1)(A) of the ESA, to the Department authorizing incidental take of relict leopard frogs by the Department and Cooperators after approval of CAs and issuance of COIs and LTAs to the Cooperators. If the relict leopard frog becomes listed under the ESA during the term of the Permit, incidental take would be authorized for the covered activities as described in section 8 above. The Service provides the Department and Cooperators the ESA regulatory assurances found at 50 CFR §§ 17.22(d)(5) and 17.32(d)(5).

Through this Agreement, the Service provides the Department and Cooperators assurances that no additional conservation measures nor additional land, water, or resource use restrictions, beyond those voluntarily agreed to and described in the "Conservation Measures" section of this Agreement and individual CAs, will be required should the relict leopard frog become listed in the future. These assurances will be authorized with the issuance of the section 10(a)(l)(A) permit.

### 10.2 Changed Circumstances

Changed circumstances are circumstances affecting a species or geographic area covered by the Agreement that can reasonably be anticipated by the Parties and Cooperators and that can be planned for (e.g., the listing of new species, or a fire or other natural catastrophic event in areas prone to such events). The Parties anticipate that five types of changed circumstances could occur within the covered area over the life of the Agreement:

(A) Drought: Droughts are a periodic phenomenon in arid environments and are almost certain to occur over the life of the Agreement. During drought, the Parties will monitor relict leopard frog population sites and habitat conditions in the covered area according to the needs of the situation and will implement corrective measures on a case-by-case basis. Responses to actual or potential drought conditions will include, as necessary and appropriate: (i) improvements in water reliability at selected sites through appropriate measures; (ii) salvage and relocation of relict leopard frogs from desiccated sites to other sites or temporary holding facilities; (iii) re-establishment of extirpated populations when drought conditions cease, as described in paragraph (4) of this section; and (iv) other measures as appropriate.

(B) Invasion of relict leopard frog habitat by non-native predators: Colonization or inadvertent introduction of fish, bullfrogs, crayfish, or other predators into relict leopard frog habitat is also a significant possibility over the life of the Agreement. Bullfrogs and crayfish are of special concern, because they can migrate substantial distances over land under the right conditions and are present throughout the covered area. Responses to predator colonization of relict leopard frog habitats within the covered area will be addressed by the Parties and Cooperators on a case-by-

case basis and will include, as necessary and appropriate: (i) removal of existing non-natives from new relict leopard frog population sites prior to translocation; (ii) periodic control and removal of non-natives from relict leopard frog habitat using available means; (iii) adjustment of the Agreement's conservation program to incorporate new scientific information concerning bullfrog migration, population dynamics, etc.; and (iv) other measures as appropriate.

(C) Disease and pollution: The effects of disease and pollution on the relict leopard frog are poorly understood (Service 2000b; Rosen 1999). However, chytridiomycosis has been implicated in the disappearance of leopard frogs from some areas, including stock tank populations in New Mexico in the 1980s (Service 2002b, Sredl and Jennings 2005). The CAS conservation program addresses the possibility of inadvertently transmitting disease into frog populations as a result of translocations and monitoring. If, however, disease or pollution becomes a problem despite such efforts, it is difficult to predict what effects these factors may have on relict leopard frog populations within the covered area or what measures might be undertaken to address them. The Parties and Cooperators will therefore address such issues, should they arise, as dictated by the severity of the problem, funding availability, technical feasibility, and scientific standards accepted at the time.

(D) Extirpation of relict leopard frog populations: It is expected that relict leopard frog population sites within the covered area will, from time to time, disappear or become extirpated as a result of one or more of the above factors or other factors. To some extent, this would be consistent with the Agreement's metapopulation approach. In any event, if and when previously extant populations disappear (as determined by the Agreement's monitoring program), the Parties will respond cooperatively as follows:

First, the cause will be determined if possible. At times, the cause will likely be an adverse condition such as drought or invasion by non-native predators and will usually have been identified in advance and an attempt made to correct it. Second, an appropriate response will be determined. In the case of sites in which no discernible problem has been identified, usually no action will be taken. In the case of sites in which a discernible problem has been identified, the decision whether or not to reestablish the relict leopard frog population will be made based on the following factors: (i) the technical feasibility of correcting the problem and likelihood of successful reestablishment; (ii) the biological importance of the population to its constituent metapopulation or as an isolated, robust population; and (iii) funding availability to undertake corrective action and reestablish the population.

(E) Emergency Maintenance: From time to time, aquatic habitat sites may be threatened via flash flooding and other events outside the control of the Cooperator. The emergency situation or the resulting maintenance may result in the loss of the enrolled aquatic habitat or the population of relict leopard frogs at the specific site. The responsibility for restoration or maintenance of the habitat would be that of the Cooperator to the extent that repairs are within the scope of normal land use activities; responsibility for responding to the loss of an established relict leopard frog population or degradation of habitat quality are not within the normal scope of Cooperator activities unless specifically addressed in an individual CA and would be addressed by the Parties.

(1) *Changed circumstances provided for in the Agreement*: If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and were provided for in the Agreement, the Cooperator will implement the measures specified in the Agreement.

(2) *Changed circumstances not provided for in the Agreement*: If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the Agreement, the Parties will not require any conservation and mitigation measures in addition to those provided for in the Agreement without the consent of the Cooperator, provided the Agreement is being properly implemented.

### 10.3 Unforeseen Circumstances

(A) In negotiating unforeseen circumstances, the Parties will not require the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for the relict leopard frog in the Agreement without the consent of the Cooperator.

(B) If additional conservation and mitigation measures are deemed necessary to respond to unforeseen circumstances, the Parties may request additional measures of the Cooperator where the Agreement is being properly implemented, but only if such measures are limited to modifications within conserved habitat areas, if any, or to the Agreement's operating conservation program for the affected species, and maintain the original terms of the Agreement to the maximum extent possible. Additional conservation and mitigation measures will not involve the commitment of additional land, water, or financial compensation, or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the Agreement without the consent of the Cooperator.

(C) The Parties will have the burden of demonstrating that unforeseen circumstances exist, using the best scientific and commercial data available. These findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the affected species. The Parties will consider, but not be limited to, the following factors:

(1) Size of the current range of the affected species;
(2) Percentage of range adversely affected by the Agreement;
(3) Percentage of range conserved by the Agreement;
(4) Ecological significance of that portion of the range affected by the Agreement;
(5) Level of knowledge about the affected species and the degree of specificity of the species' conservation program under the Agreement; and
(6) Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

## 11.0 MONITORING AND REPORTING PROVISIONS

### 11.1 Compliance Monitoring

The Department, with the assistance of the Service, may visit enrolled properties to ensure compliance with this Agreement, including any obligations of Cooperators under COIs and CAs. CAs will grant the

Parties, after reasonable prior notice to the Cooperator, the right to enter the enrolled lands to ascertain compliance with the Agreement.

### 11.2 Biological Monitoring

Following the placement of relict leopard frogs on enrolled lands or when frogs are otherwise known to be present, the Department, with the assistance of the Service, will monitor frogs by visiting occupied enrolled lands at least semi-annually using standardized protocols established by the RLFCT (2004) to assess population status and monitor aquatic and terrestrial habitat quality for the purpose of evaluating the success of any translocation or establishment efforts.

### 11.3 Annual Report

The Department will compile, and the respective Cooperator(s) will assist with the compilation of, an annual report on the implementation of this Agreement. Annual reports will cover the period from January 1st to December 31st each year and are due March 1st of each following year. Copies will be made available to the Service and the relevant Cooperator(s). The report will list all of the properties that are enrolled through CAs under this Agreement and their legal descriptions, current ownership, and presence or absence of relict leopard frogs on each property, including when that presence or absence was determined. The report will include copies of all COIs and the associated CAs executed during the reporting period. This annual report will include information on the results of biological and compliance monitoring, including overall status of the species on enrolled lands, management activities related to the species and occupied habitats, maintenance of conditions as described in the CAs, and any incidental take of relict leopard frogs on lands covered by CAs signed under this Agreement. The report will include an assessment of the contribution of enrolled properties to the success of conservation activities for the species through the augmentation of wild and refugium relict leopard frog populations.

## 12.0 ADAPTIVE MANAGEMENT

Adaptive management allows for mutually agreed upon changes to the Agreement's conservation measures in response to changing conditions or new information. If the conservation measures do not yield the expected results and appear ineffective, then management activities can be changed or alternative activities undertaken to achieve those expected results. Several aspects of relict leopard frog biology and population dynamics are not currently well understood, including dispersal distances, mortality during drought, adult and larval survivorship, the role of disease and pollution, and population dynamics (RLFCT 2005). Furthermore, the Agreement will need to respond to specific management opportunities and needs as they arise, and unforeseen conditions such as drought, which may independently affect individual relict leopard frog populations or occupied habitats. The Agreement therefore includes an adaptive management program to ensure flexibility, implementation of CAS objectives to the maximum extent practicable, and that the most up-to-date scientific information is used. Decisions related to adaptive management will be based primarily on an evaluation of the compliance and biological monitoring results detailed in the annual reports.

The need to incorporate adaptive management modifications into the Agreement may result from four potential sources: (1) new scientific information concerning the biology or population dynamics of relict leopard frogs or non-native predators of relict leopard frogs; (2) new scientific information concerning the effects of other biotic or abiotic factors on relict leopard frogs; (3) information derived from the

Agreement's monitoring program; and (4) management needs or recommendations described in future revisions of the CAS. The provisions of this Agreement are intended to be consistent with the CAS.

Adaptive management decisions can be made at any time as deemed necessary by the Parties; however, the Parties in coordination with the RLFCT will carry out a major evaluation of this Agreement every fifth year to ensure that it is achieving its conservation goals. Management activities will be evaluated as to whether they are resulting in the protection of relict leopard frogs on enrolled lands. If there is no increase in population sizes and/or an inability to successfully establish persistent translocation populations within the first five years of this Agreement, the Parties will identify changes in management activities to improve success.

If management activities need to be altered to improve benefits for the species, they will be altered by amending future CAs, not by altering the responsibilities of Cooperators in existing CAs. However, if existing Cooperators agree to alter their CAs, then any modification of their responsibilities in relation to adaptive management will be addressed on a case by case basis.

## 13.0 MODIFICATIONS AND AMENDMENTS

After execution of this Agreement, the Service and the Department may not impose any new requirements or conditions on, or modify any existing requirements or conditions applicable to, a landowner or successor in interest to the landowner except as stipulation in 50 CFR 17.22(c)(5) and 17.32(c)(5).

### 13.1 Modification of the Agreement

This Agreement may be modified to accommodate changed circumstances as provided by 50 CFR 13.23. Any Party may propose modifications or amendments to this Agreement by providing written notice to the other Party and obtaining their written concurrence. Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The Parties will make their best efforts to respond to proposed modifications within 60 calendar days of receiving the notice. Proposed modifications to this Agreement will not affect Cooperators' responsibilities under existing CAs.

### 13.2 Amendment of the Permit

The Permit may be amended to accommodate changed circumstances in accordance with all applicable legal requirements, including but not limited to the ESA, the National Environmental Policy Act, the Service's permit regulations at 50 CFR 13 and 17, and the State of Nevada's regulations at NRS 503. Any Party may propose amendments to the Permit by providing written notice to the other Party. Such notice shall include a statement of the proposed amendment, the reason for it, and its expected results. The Parties will make their best efforts to respond to proposed amendments within 90 calendar days of receiving the notice. Proposed amendments will become effective upon fulfillment of the legal requirements stated above. Any amendments to the Agreement will not affect Cooperators' responsibilities under existing Cooperative Agreements.

### 13.3 Modification of CAs

The Department or a Cooperator may propose modifications to a CA by providing written notice to the other party and obtaining their written concurrence. Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The parties to a CA will make their best efforts to respond to proposed modifications within 60 calendar days of receiving the notice. Proposed modifications will become effective upon the other party's written concurrence.

### 13.4 Adjustment to CAs

Unforeseen circumstances could involve habitat impacts resulting from catastrophic (force majeure) events such as hurricanes, rainstorms, severe drought, lethal fires, or disease epidemics. Such events are beyond the reasonable control of, and did not occur through the fault or negligence of, the Department or the Cooperator, including but not limited to "acts of God" or sudden actions of the elements such as those described above. Such catastrophes could either locally destroy the species' populations or render the habitat unsuitable, thereby reducing population numbers or occupied acreage below the conditions agreed upon in the individual CAs. For such circumstances beyond the control of the Department or the Cooperator, the Parties may agree to revise the conditions agreed upon in the individual CAs to reflect the new circumstances, rather than terminate the CA.

## 14.0 DURATION OF AGREEMENT, PERMIT, AND CAs

Except as otherwise provided by this Agreement, the Agreement, including the obligations of the Parties and any commitments related to funding, will be in effect for 30 years following the date of its signing by the Parties. The rights to take will hold for the duration of the Federal and State permits. Except as otherwise provided by this Agreement, the Federal section 10(a)(l)(A) enhancement of survival permit authorizing incidental take of the relict leopard frog will have a duration of 30 years from its effective date. Department authorization permitting incidental take of the relict leopard frog under NAC 503.093 will be provided for the period of 30 years from its effective date, but will be addressed through individual letters of authorization issued to individual Cooperators holding COIs and CAs to run concurrent with them. The Agreement and permits may be extended beyond their specified durations through amendment, with concurrence of both Parties. Given the probable time required to enroll individual Cooperators and protect or enhance habitats, the Parties estimate it may take a minimum of ten [10] years of implementing the Agreement to fully reach a net conservation benefit for the species, although some level of benefits will likely occur within a shorter time period. The 30-year duration of this Agreement is considered sufficient to allow a determination that the benefits of the conservation measures in the Agreement, when combined with those benefits that would be achieved if it is assumed that the conservation measures were also to be implemented on other necessary properties, would preclude or remove the need to list the relict leopard frog.

The Department may enroll Cooperators under CAs at any time from the date this Agreement is signed until 10 years before it terminates. Obligations under CAs will be in effect variable lengths of time depending on the property covered and the desire of the Cooperator and the Department, but the minimum duration of obligations will be for 10 years from the date each CA is signed. Upon the signing of a CA, the Department will issue a COI to a Cooperator authorizing the incidental take of the relict leopard frog on the Cooperator's lands, under those circumstances and conditions specified in the CA.

The rights and obligations under this Agreement and CAs are transferable to run with the ownership of the enrolled lands, as specified under Section 19.1, Succession and Transfer, in this Agreement.

### 14.1 Termination of COIs/CAs by Cooperators

Any Cooperator may terminate a CA/COI prior to its expiration date, for good cause (e.g., *force majeure* event), even if the expected benefits have not been realized. Upon termination of the CA, for any cause, the Cooperator is required to provide 90 days prior written notice to the Department or the Service who

will then notify the other Party. Upon termination of the CA, for any cause, the Cooperator must provide reasonable access to the Parties for 90 days to allow efforts for removal of relict leopard frogs from the enrolled property.

### 14.2 Termination of COIs/CAs by the Parties

Either Party has the right to cancel any CA and the associated COI where the Cooperator or its successor(s) is (are) found to be in non-compliance with the terms and conditions of their CA. If a Cooperator is found to be in non-compliance, the original signatory Party to the CA will issue a written letter of non-compliance to the Cooperator. The Cooperator shall have sixty (60) days from receipt of the letter to rectify the non-compliance issue(s). If the issue(s) is not resolved to the satisfaction of the Parties by mutual consent by the end of the 60-day period, the CA shall be declared null and void. At that point, the CA and the associated COI shall cease to be in effect. The Service reserves the right to utilize the provisions of this part at its discretion to review and/or terminate a Cooperator's CA/COI.

## 15.0 PERMIT SUSPENSION OR REVOCATION

The Service will not exercise its authority to suspend or revoke the Permit unless and until the following circumstances exist: (a) any reason set forth in 50 CFR 13.28(a) (1) through (4); and (b) if continuation of the permitted activity would either appreciably reduce the likelihood of survival and recovery in the wild of any listed species or directly or indirectly alter designated critical habitat such that it appreciably diminishes the value of that critical habitat for both the survival and recovery of a listed species. Before revoking a permit under (b) of this section, the Service, with the consent of the Department and in coordination with the affected Cooperators, will pursue all appropriate options to avoid permit revocation. These options may include, but are not limited to: extending or modifying the existing Permit, capturing and relocating the species, compensating the affected Cooperator(s) to forgo the activity, purchasing an easement or fee simple interest in the affected property (ies), or arranging for a third-party acquisition of an interest of the affected property (ies).

## 16.0 RENEWAL OF AGREEMENT

This Agreement can be renewed with or without modification upon the written approval of the Parties.

## 17.0 RENEWAL OF COIs and CAs

Any Party shall be authorized to renew any COI and CA with or without modification with the written approval of the other Party and the Cooperator, provided that this Agreement and its associated Permit are still in effect.

## 18.0 FUNDING

The responsibilities of each Party under this Agreement will be funded by respective Party or non-governmental organization resources. Implementation of conservation measures may be funded through various programs such as State Wildlife Grants, Landowner Incentive Program, Partners for Fish and Wildlife, Private Stewardship Grants, Farm Bill, or others. Each Party's responsibility under this Agreement is subject to, and contingent upon, appropriations and allocations of funds for this purpose. To the extent available and authorized, management activities undertaken by Cooperators will be paid for

with Party program funding or outside funding opportunities and will include matching Cooperator funds (10 to 25 percent depending on program).

Implementation of this Agreement is subject to the requirements of the Federal Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. Each Party acknowledges that it is not required to expend any available or appropriated funds unless and until an authorized official of that affected Party affirmatively acts to commit to such expenditures as evidenced in writing.

## 19.0 POLICY FOR EVALUATION OF CONSERVATION EFFORTS – Evaluation Criteria

| Certainty that the Conservation Effort will be Implemented | Document (CCAA[a], CA[b], CAS[c]) | Location in Document |
|---|---|---|
| 1. The conservation effort, the party(ies) to the agreement or plan that will implement the effort, and the staffing, funding level, funding source, and other resources necessary to implement the effort are identified. | CCAA | Pg. 1; Sec.2, pgs. 5-6; Sec. 4, pg. 10; Sec 5, pgs. 10-13; Sec 18, pgs. 28-29 |
| 2. The legal authority of the party(ies) to the agreement or plan to implement the formalized conservation effort, and the commitment to proceed with the conservation effort are described. | CCAA | Sec. 1.2, pgs. 4-5; Sec. 1.3, pgs. 5-6 |
| 3. The legal procedural requirements (e.g., environmental review) necessary to implement the effort are described, and information is provided indicating that fulfillment of these requirements does not preclude commitment to the effort. | CCAA | Sec. 1.5, Table 1, Pg. 6 |
| 4. Authorizations (e.g., permits, landowner permission) necessary to implement the conservation effort are identified, and a high level of certainty is provided that the party(ies) to the agreement or plan that will implement the effort will obtain these authorizations. | CCAA | Sec. 1.2, Pgs. 4-5; Sec. 1.5, Table 1, Pg. 6 |
| 5. The type and level of voluntary participation (e.g., number of landowners allowing entry to their land, or number of participants agreeing to change timber management practices and acreage involved) necessary to implement the conservation effort is identified, and a high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain that level of voluntary participation (e.g., an explanation of how incentives to be provided will result in the necessary level of voluntary participation). | CCAA | Sec. 5, Pg. 11 |
| 6. Regulatory mechanisms (e.g., laws, regulations, ordinances) necessary to implement the conservation effort are in place. | CCAA | Sec. 1.3, pgs. 5-6 |

| | | |
|---|---|---|
| 7. A high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain the necessary funding. | CCAA | Sec. 18.0, pg. 29 |
| 8. An implementation schedule (including incremental completion dates) for the conservation effort is provided. | CCAA<br>CAS | Sec. 2.1, pg. 7<br>Pgs. 70-75 |
| 9. The conservation agreement or plan that includes the conservation effort is approved by all parties to the agreement or plan. | CCAA<br>CA | Pg. 43<br>Pg. 7 |
| **Certainty that the Conservation Effort will be Effective** | **Document (CCAA[a], CA[b], CAS[c])** | **Location in Document** |
| 1. The nature and extent of threats being addressed by the conservation effort are described, and how the conservation effort reduces the threats is described. | CCAA | Sec. 3.2, pgs. 9-10; Sec. 6, pgs. 15-20 |
| 2. Explicit incremental objectives for the conservation effort and dates for achieving them are stated. | CCAA<br>CAS | Sec. 1.5, pg. 6<br>Pg. 70 |
| 3. The steps necessary to implement the conservation effort are identified in detail. | CCAA | Attachment B<br>(CA Template) |
| 4. Quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured are identified. | CCAA<br>CAS | Sec. 2.3, pgs. 7-8<br>Appendix 5 (Protocols and Techniques Manual) |
| 5. Provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided. | CCAA<br><br>CA | Sec. 7.0, pgs. 20-22; Sec. 11, pgs. 26-27<br>Sec. 4.2, pgs. 3-4 |
| 6. Principles of adaptive management are incorporated. | CCAA<br>CA | Sec. 12, pg. 27<br>Sec. 4.2, pgs. 3-4 |

[a] CCAA = Candidate Conservation Agreement with Assurances, or this Agreement
[b] CA = Cooperative Agreement Template (Attachment B of this Agreement)
[c] CAS = Conservation Agreement and Rangewide Conservation Assessment and Strategy for the Relict Leopard Frog (2005)

## 20.0 MISCELLANEOUS PROVISIONS

### 20.1 Succession and Transfer

This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective successors and transferees, in accordance with applicable Federal regulations (50 CFR 13.24 and 13.25). The rights and obligations under this Agreement and any CA(s) shall run with the ownership of the enrolled properties and are transferable to subsequent private property owners pursuant to 50 CFR 13.25. The Cooperator shall notify the Department of any transfer of ownership at least 90 calendar days prior to the intended transfer, so that the Department can attempt to contact the new owner, explain the responsibilities applicable to the property, explain the terms and conditions of the Agreement and CA, and determine whether the new landowner will become a Cooperator to the original CA, enter into a new CA, or cease enrollment under this Agreement.

Upon becoming a Cooperator, the new property owner will have the same rights and obligations with respect to the enrolled property as the original Cooperator. If the new property owner does not become a Cooperator, the new owner would neither incur responsibilities under the Agreement nor receive any assurances relative to section 9 restrictions that might result from listing of the relict leopard frog. Cooperators shall allow the Department and the Service reasonable access to remove any relict leopard frog individuals prior to change of ownership, if the new owner does not agree to become a Cooperator to the original CA or enter into a new CA.

**20.2 Dispute Resolution**

The Parties agree to work together in good faith to resolve any disputes that might arise from this Agreement and/or any CA(s) entered into in accordance with this Agreement. The Parties also agree to engage in dispute resolution procedures if funding is available and authorized.

**20.3 Remedies**

Each Party shall have all remedies otherwise available to enforce the terms of this Agreement and the Permit, except that no party shall be liable in damages for any breach of this Agreement, any performance or failure to perform an obligation under this Agreement or any other cause of action arising from this Agreement.

**20.4 No Third-Party Beneficiaries**

Neither this Agreement nor the associated CA(s) that will be entered into in accordance with this Agreement create any new right or interest in any member of the public as a third-party beneficiary. Neither this Agreement nor the associated CA(s) that will be entered into in accordance with this Agreement shall authorize anyone not a party to this Agreement and the associated CA(s) to maintain a suit for personal injuries or damages pursuant to the provisions of this Agreement and/or the associated CA(s). The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third parties shall remain as imposed under existing law.

**20.5 Relationship to Other Agreements**

This Agreement is intended to complement other conservation activities for wildlife which may be occurring or may occur in the future on enrolled properties. Nothing in this Agreement shall preclude the development between the Parties or between the Parties and Cooperators of cooperative agreements for activities under Partners for Fish and Wildlife, the Landowner Incentives Program, or similar conservation programs unless such activities are in conflict with the objectives and implementation of this Agreement.

**20.6 Additional Conservation Measures**

Nothing in this Agreement shall be construed to limit or constrain either Party or a Cooperator from implementing management actions for the relict leopard frog not provided in this Agreement as long as such actions maintain the original goals and objectives of the CA and do not otherwise interfere or affect the beneficial actions set forth in this Agreement.

**20.7 Other Species**

Surveys for other State protected or federally listed species will not be required of the Cooperators as a condition to participating in this Agreement. However, neither regulatory assurance nor incidental take authorizations will be conveyed to Cooperators for any State protected or federally listed animal not

identified in their COI. If other State protected or federally listed species are known to exist on the enrolled property(ies), then the Parties will seek cooperative and comprehensive solutions with the affected Cooperator(s) to tailor his/her management actions to avoid take and/or minimize any disturbance of these species.

**20.8 Subordination of CAs**

Each CA entered into under this Agreement shall be subordinate to this Agreement. This Agreement shall be incorporated by reference into each CA entered into under this Agreement.

**20.9 Notices and Reports**

Any notices and reports, including monitoring and annual reports, required by this Agreement shall be delivered to the persons listed below, as appropriate. Names and addresses may be changed upon written notification to all Parties.

[Cooperators contacts indicated on COIs/CAs]

Field Supervisor
Southern Nevada Fish and Wildlife Office
U.S. Fish and Wildlife Service
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

Supervising Fisheries Biologist
Nevada Department of Wildlife
Southern Region
4747 Vegas Drive
Las Vegas, Nevada 89108

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**Personal Communication**

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Haley, R. National Park Service, Lake Mead National Recreation Area, Boulder City, Nevada.

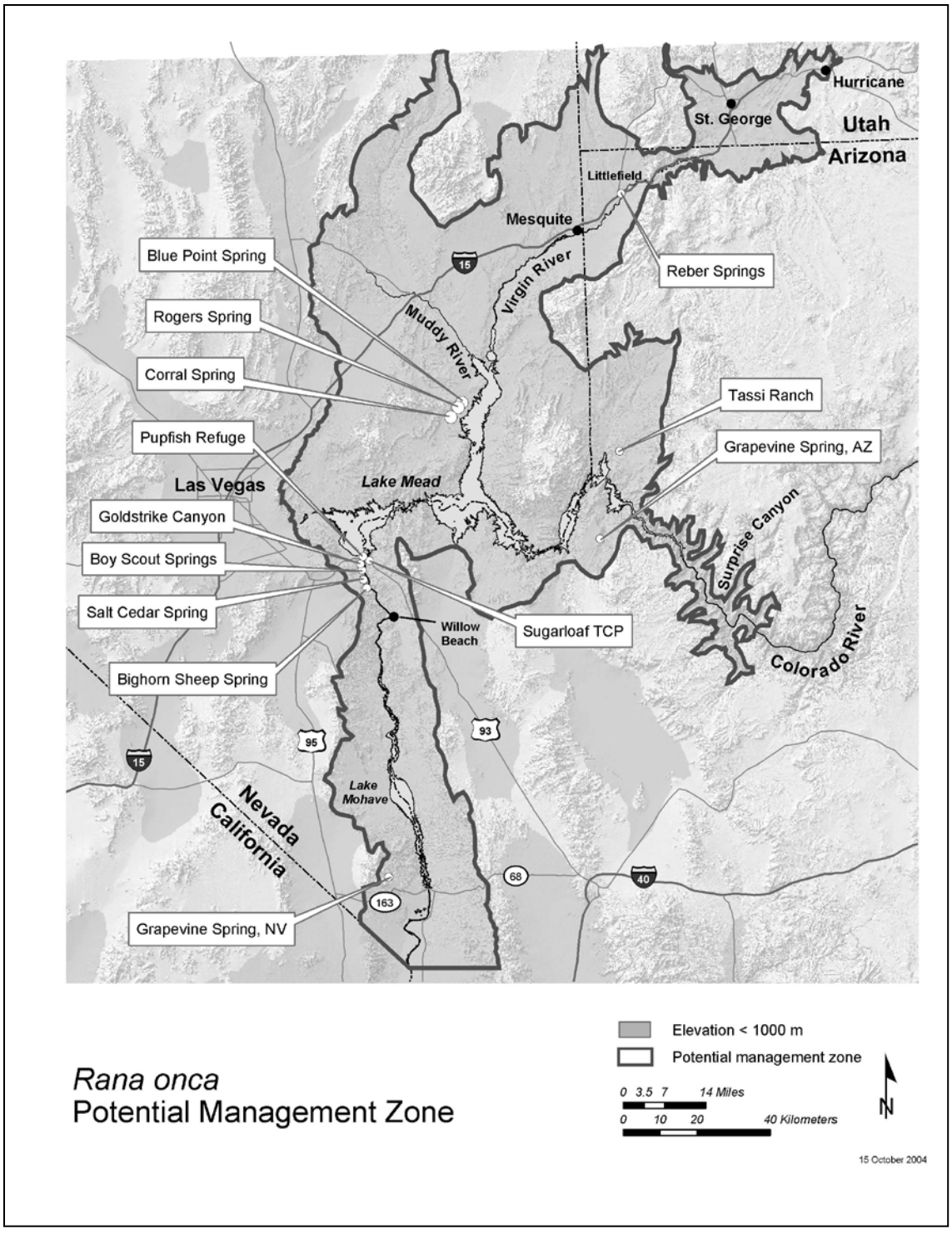


Figure 1. Potential Management Zone (PMZ) for relict leopard frog conservation (RLFCT 2005)

**ATTACHMENT A – TEMPLATE CERTIFICATE OF INCLUSION**

BRIAN SANDOVAL
*Governor*

STATE OF NEVADA
**DEPARTMENT OF WILDLIFE**
1100 Valley Road
Reno, Nevada 89512
(775) 688-1500 • Fax (775) 688-1595

TONY WASLEY
*Director*

JACK ROBB
*Deputy Director*

PATRICK CATES
*Deputy Director*

**PROGRAMMATIC CANDIDATE CONSERVATION AGREEMENT WITH ASSURANCES FOR THE RELICT LEOPARD FROG IN CLARK COUNTY, NEVADA**

**LANDOWNER CERTIFICATE OF INCLUSION TEMPLATE**

This certifies that the property described as follows [description of portion of property covered by the CCAA Permit] owned by [Cooperator's name], is included within the scope of the Section 10(a)(1)(A) permit issued by the U.S. Fish and Wildlife Service expiring on _____, under the authority of Section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (Permit number _____) and the incidental take authorization issued by the Nevada Department of Wildlife (NDOW) on [date] expiring on [date] under the authority of NAC §503.093. The Permits authorize certain activities by [Cooperator] as part of the Programmatic Candidate Conservation Agreement with Assurances for Relict Leopard Frog within Clark County, Nevada. The holder of this Certificate is authorized to engage in any otherwise lawful activity on the above described property that may result in the incidental taking of relict leopard frogs or their habitat subject to the terms and conditions of the permit and authorization. This Certificate is only valid as long as the Cooperator fulfills their responsibilities as described in the Cooperative Agreement [reference number] entered into by NDOW and [Cooperator's name] on [date].

_____
Tony Wasley, Director
Nevada Department of Wildlife

**ATTACHMENT B – TEMPLATE COOPERATIVE AGREEMENT**

# PROGRAMMATIC CANDIDATE CONSERVATION AGREEMENT WITH ASSURANCES FOR THE RELICT LEOPARD FROG IN CLARK COUNTY, NEVADA

## LANDOWNER COOPERATIVE AGREEMENT TEMPLATE

### 1. INVOLVED PARTIES

This Cooperative Agreement (CA), between the Nevada Department of Wildlife (Department) and _____ (Cooperator), is intended to promote good land stewardship by assisting the Cooperator in carrying out actions to benefit the relict leopard frog (*Lithobates onca*) on land owned or controlled by the Cooperator. Participation in this CA is a prerequisite for obtaining a Certificate of Inclusion (COI) [reference attachment to this Cooperative Agreement] from the Department issued as part of the agreement between the Department and the U.S. Fish and Wildlife Service (Service) titled, "Programmatic Candidate Conservation Agreement with Assurances for the Relict Leopard Frog in Clark County, Nevada" (Agreement).

### 2. ENROLLED PROPERTY

The Cooperator owns or has legal controlling authority for property in Clark County, Nevada, that contains habitat that may be used by relict leopard frogs. The Department will enroll [# of acres] of this property under the Agreement, as shown on the attached property map [reference map attached to this CA]. Other species of listed or candidate plants or animals may also occur on the property, but no incidental take of these other species is authorized or permitted under this CA.

### 3. DESCRIPTION OF EXISTING CONDITIONS

[Insert description of the extent and current condition of the enrolled lands and their acreage (e.g., major plant communities or habitat types, land use, location of existing ponds and aquatic habitats, water delivery and control systems, etc.) in terms appropriate for relict leopard frogs. Attach a map showing the boundaries of the property and areas of potential relict leopard frog habitat. A population estimate or distribution (number and location, if determinable) will be included if relict leopard frogs currently occupy the property.

*Force majeure* events such as severe storm events, drought, extreme sustained heat, or insect/disease epidemics are beyond the reasonable control of the Cooperator, and could either extirpate relict leopard frogs from enrolled lands or render relict leopard frog habitat on enrolled lands unsuitable for continued occupation. These events may reduce relict leopard frog numbers or habitat through no fault of or negligence of the Cooperator. In such circumstances the Cooperator, the Department, and the Service may agree to modify or adjust the CA's conditions to reflect the new circumstances.

## 4. CONSERVATION MEASURES AND RESPONSIBILITIES OF THE PARTIES

4.1 CONSERVATION MEASURES. The primary objective of this CA is to enhance the conservation status of the relict leopard frog in Clark County, Nevada through the restoration and maintenance of habitats suitable for the establishment of populations of the frog by translocation of animals of various life stages. In order to accomplish this, it is essential that private landowners, the Service, and the Department work together to provide suitable habitats and positive stewardship for relict leopard frogs. Management activities that are undertaken through this CA will result in additional habitat being available for relict leopard frogs, and an enhanced network of secure relict leopard frog populations becoming established across the presumed natural range of the species. If the property is not occupied by relict leopard frogs at the time of enrollment, the Cooperator will have no responsibilities under this CA except to report the absence of relict leopard frogs to NDOW on an annual basis until such a time as a Cooperator and the Department agree to place relict leopard frogs on the property.

Management actions that will be implemented once relict leopard frogs are placed on a Cooperator's property are detailed under Section 4.2 "Responsibility of Parties". Any additional management considerations and actions to benefit relict leopard frogs which are specific to the enrolled property, and which have been mutually agreed to between the Department and the Cooperator, are detailed in Attachment A to this CA.

Nothing in this CA prevents the Cooperator from implementing land management activities not described in the Agreement, as long as such actions do not affect the beneficial actions set forth in the Agreement, as long as the Cooperator implements the agreed upon conservation measures in the CA.

Emergency situations arising from natural disasters (e.g., fire, excessive rainfall, extreme drought, sustained extreme heat, insect infestations, or epidemic disease) may require the initiation of certain land management actions that may result in take of relict leopard frogs. The Cooperator will notify the Department within at least 5 working days of such a situation, and will make reasonable accommodations to the Department and/or the Service for survey and/or relocation of relict leopard frogs prior to initiation of the land management action. Certain other urgent emergency situations such as the failure of water supplies, water delivery systems or pond structures, may occur outside of the control or intention of the Cooperator, which could result in the take of relict leopard frogs. Under such situations the Cooperator will notify the Department as soon as is practicable to allow the salvage and/or relocation of affected relict leopard frog individuals. Department acknowledges that survey and/or relocation may be impossible in certain urgent situations.

4.2 RESPONSIBILITIES OF THE PARTIES. The Cooperator and the Department agree to carry out certain responsibilities under this CA.

Cooperator:

a. Manage aquatic habitats within the enrolled property to maintain water quality and other parameters necessary for the maintenance of relict leopard frogs, to the extent required under the terms of this CA.
b. Inform the Department within three working days of finding any dead or accidentally killed relict leopard frogs.
c. With reasonable advance notification, allow access to the enrolled lands by the Department and other cooperators/parties to the Agreement to manage or monitor relict leopard frogs, release or remove relict leopard frogs, or to carry out other management activities as necessary.
d. Inform the Department as soon as practicable of natural or man-caused emergency circumstances, such as storm events or failure of water delivery systems, which could negatively affect occupied aquatic or terrestrial habitats and could result in take of relict leopard frogs, and allow access to the Department for emergency salvage or relocation of affected individuals.
e. Inform the Department at least 30 calendar days in advance of planned, otherwise legal activities including the modification or alteration of occupied habitats, which might reasonably be anticipated to result in the indirect take of relict leopard frogs on the enrolled property, to allow for removal of relict leopard frogs to other habitats within the enrolled property or the removal of relict leopard frogs from the enrolled property.
f. Assist the Department in compiling an annual report on activities related to relict leopard frog management and any activities that resulted in or may have resulted in incidental take of relict leopard frogs.
g. With reasonable advance notification, allow access to the enrolled lands by the Department or parties to the Agreement for purposes of ascertaining compliance with this CA.
h. Follow guidelines provided by the Department for handling injured relict leopard frogs or carcasses of relict leopard frogs.
i. Provide appropriate information on avoidance of incidental take of relict leopard frogs to other users of the property who may contact the animals in the pursuit of lawful recreational activities.
j. Agree to consider adaptive management recommendations that the Department may present to the Cooperator.

Department:

a. Upon execution of the CA will authorize incidental take of relict leopard frogs as a result of lawful activities on the enrolled property for the term remaining on the federal 10(a)(1)(A) Enhancement of Survival permit and State of Nevada permits through issuance of a COI to the Agreement and a Letter of Take Authorization (LTA) to the Cooperator.

b. Provide technical assistance to the Cooperator for management of relict leopard frog habitat, to the maximum extent practicable, when requested.
c. Provide guidelines to the Cooperator for handling injured relict leopard frogs or carcasses of relict leopard frogs, and for avoiding incidental take during otherwise lawful recreational activities.
d. Ensure the Cooperator is implementing the terms of the CA.
e. Provide appropriate age classes of relict leopard frogs for release on the enrolled property.
f. Provide reasonable advance notification to the Cooperator before any visit by Department staff to the enrolled property.
g. Compile an annual report with assistance from the Cooperator on activities required by this CA and/or related to relict leopard frog management and any activities that resulted in or may have resulted in incidental take of relict leopard frogs.
h. Perform biological monitoring of relict leopard frogs.
i. Provide assistance for salvage or relocation of individual relict leopard frogs in the event of planned or emergency circumstances affecting occupied aquatic or terrestrial habitats which could result in indirect take of individual animals, following appropriate notification by the Cooperator.
j. If warranted, recommend procedures the Cooperator can take to avoid future incidental take based on incidental take described in past annual reports.

**5. AGREEMENT DURATION**

Obligations under this CA will be in effect for [minimum of 10] years from the date it is executed. Upon signing of the CA, the Department will issue a COI to the Cooperator under the federal 10(a)(1)(A) Enhancement of Survival permit (_____) NDOW holds, and a State of Nevada permit or LTA, authorizing the incidental take of relict leopard frogs on the enrolled lands. The COI will authorize incidental take of relict leopard frogs from [date] to [date], the remaining duration of the 30-year term of the permits at the time the COI is issued.

**6. INCIDENTAL TAKE**

Take is defined as actions or attempted actions to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect such species. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is further defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns including, but not limited to, breeding, feeding or sheltering. Incidental take is any take of Federally-listed wildlife or State-listed wildlife and plants that is incidental to, but not the purpose of, otherwise lawful activities.

Under the terms of this CA, the Cooperator is authorized to make use of their enrolled property in any manner that does not result in take of relict leopard frog or reduction of occupied habitat beyond that described below. The COI will authorize incidental take of relict leopard frogs and their progeny resulting from lawful activities within the enrolled property, from the time this CA

is signed until expiration of the permits. Such uses may include, but are not limited to: operation of vehicles and maintenance equipment, building or fence construction, gardening, hunting, recreational fishing, farming, mowing, maintenance of landscaping and recreational facility infrastructure including irrigation facilities, commercial and non-commercial recreational activities or cultivation of agricultural crops. The COI will also authorize incidental take that may result from implementation of conservation actions on the enrolled properties for the relict leopard frog, such as habitat enhancement and restoration activities, inventory and monitoring activities, and translocation of frogs, eggs, and/or larvae. The Cooperator may continue current land-use practices, undertake new ones, or make any other lawful use of the property, even if such use results in the take of relict leopard frogs or loss of occupied habitat as described in the Agreement. In the event of planned, otherwise legal activities including the modification or alteration of occupied habitats, which might reasonably be anticipated to result in the indirect take of relict leopard frogs on the enrolled properties, the Cooperator shall provide at least 30 calendar days notice to the Department to allow for the removal of relict leopard frogs to other habitats within the enrolled property or the removal of relict leopard frogs from the enrolled property.

[Insert description of level of take that may potentially occur on the enrolled property based on property acreage, habitat types, and current distribution and population status of relict leopard frogs.]

Relict leopard frog juveniles and adults may not be shot, captured, collected or otherwise directly "taken."

**7. FUNDING**

Funding for management activities undertaken by the Cooperator will be the responsibility of the Cooperator. Department will inform Cooperator of potential funding opportunities through State or Federal grant programs that may be relevant. Department may, with the agreement of the Cooperator, fund and/or undertake management activities on the enrolled property to benefit relict leopard frogs. Any such activities will be identified and detailed as an amendment to this CA.

**8. TERMS AND CONDITIONS**

This CA is subject to all the terms and conditions laid out in the Agreement. It is also subject to the following additional terms and conditions:

8.1. MODIFICATION OF COOPERATIVE AGREEMENTS. Department or Cooperator may propose modifications or amendments to this CA by providing written notice to the other party and obtaining their written concurrence. Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The parties will make their best efforts to respond to proposed modifications within 60 calendar days of receiving the notice. Proposed modifications will become effective upon the other Party's written concurrence.

8.2. TERMINATION OF THE COOPERATIVE AGREEMENT. As provided for in Part 8 of the Service's Candidate Conservation Agreement with Assurances (CCAA) final policy (64 *Federal Register* 32726, June 17, 1999), a Cooperator may, for good cause, terminate implementation of their CA before its expiration date for circumstances beyond the Cooperator's control, even if the expected benefits have not been realized. If the CA is terminated without good cause, however, the Cooperator is required to surrender their COI and LTA to the Department, thus relinquishing the Cooperator's take authority (if the species has become listed) and the assurances granted by the COI, LTA, and CCAA. A Cooperator is required to give 90 calendar days prior written notice to the Department of its intent to terminate the CA, and must provide the Department the opportunity to relocate relict leopard frogs within 60 calendar days of receiving such notice.

8.3. CERTIFICATE OF INCLUSION SUSPENSION OR REVOCATION. Department may suspend or revoke a Cooperator's COI if a Cooperator has breached their obligations under the CA and has failed to cure the breach in a timely manner, and the effect of the breach is to diminish the likelihood that the CA will achieve its goals. Termination of a CA, and removal of included species from the property, at the request of the Cooperator or the Department for reasons identified in Section 8.2, shall also result in revocation of the Cooperator's COI.

8.4. SUCCESSION AND TRANSFER. This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective successors and transferees, in accordance with applicable Federal regulations (50 CFR 13.24 and 13.25). The rights and obligations under this Agreement and any CA(s) shall run with the ownership of the enrolled properties and are transferable to subsequent private property owners pursuant to 50 CFR 13.25. The Cooperator shall notify the Department of any transfer of ownership at least 90 calendar days prior to the intended transfer, so that the Department can attempt to contact the new owner, explain the responsibilities applicable to the property, explain the terms and conditions of the Agreement and CA, and determine whether the new landowner will become a Cooperator to the original CA, enter into a new CA, or cease enrollment under this Agreement.

Upon becoming a Cooperator, the new property owner will have the same rights and obligations with respect to the enrolled property as the original Cooperator. If the new property owner does not become a Cooperator, the new owner would neither incur responsibilities under the Agreement nor receive any assurances relative to section 9 restrictions that might result from listing of the relict leopard frog. Cooperators shall allow the Department and the Service reasonable access to remove any relict leopard frog individuals prior to change of ownership, if the new owner does not agree to become a Cooperator to the original CA or enter into a new CA.

8.5. REMEDIES. Each party shall have all remedies otherwise available to enforce the terms of the CA and the COI, except that no party shall be liable in damages for any breach of this Agreement, any performance or failure to perform an obligation under this CA or any other cause of action arising from this CA.

**9. NOTIFICATION**

Communication and correspondence required by this CA should be directed to the addresses below. Names and addresses may be changed upon written notice to all Parties.

[name and address of Cooperator]

Nevada Department of Wildlife
Supervising Biologist – Fisheries
4747 Vegas Drive
Las Vegas NV 89108

IN WITNESS WHEREOF, each party hereto has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth opposite their signature.

COOPERATOR

By: _____

Date: _____

NEVADA DEPARTMENT OF WILDLIFE

By: _____
Tony Wasley, Director
Nevada Department of Wildlife

Date: _____

APPROVED AS TO FORM ONLY this_____ day of _____, 20__

OFFICE OF THE ATTORNEY GENERAL OF NEVADA

For:

By:
Deputy Attorney General

**ATTACHMENT C – TEMPLATE LETTER OF AUTHORIZATION FOR INCIDENTAL TAKE**

BRIAN SANDOVAL
*Governor*

STATE OF NEVADA
**DEPARTMENT OF WILDLIFE**
1100 Valley Road
Reno, Nevada 89512
(775) 688-1500 • Fax (775) 688-1595

TONY WASLEY
*Director*

JACK ROBB
*Deputy Director*

PATRICK CATES
*Deputy Director*

[DATE]

[Cooperator's name]
[Cooperator's address]
[Address 2]

RE: Authorization for incidental take of protected species under provisions of NDOW Landowner Certificate of Inclusion # RLF-XX

Dear [Cooperator]:

This Letter of Authorization issued under authority of NAC § 503.093 authorizes incidental take of relict leopard frogs when such take occurs while engaged in any otherwise lawful activity on [description of property or portion of property covered by the Certificate of Inclusion], as described in your Landowner Cooperative Agreement #LCA-XX and subject to the terms and conditions of Landowner Certificate of Inclusion #RLF-XX, the Programmatic Candidate Conservation Agreement with Assurances for Relict Leopard Frogs in Clark County, Nevada, and Section 10(a)(1)(A) Permit Number _____ issued by the U.S. Fish and Wildlife Service on _____.

This Authorization for Incidental Take is only valid as long as you fulfill your responsibilities as described in Landowner Cooperative Agreement #LCA-XX entered into by NDOW and [Cooperator's name] on [date], and shall run concurrent with the term of that cooperative agreement.

Thank you for your interest in and involvement with these important activities supporting the conservation of Nevada's protected wildlife species.

Sincerely,

Tony Wasley
Director
Nevada Department of Wildlife

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this Candidate Conservation Agreement with Assurances to be in effect as of the date last signed below:

| | |
|---|---|
| Field Supervisor<br>U.S. Fish and Wildlife Service<br>Southern Nevada Fish and Wildlife Office<br>Las Vegas, Nevada | Date |
| Director<br>Nevada Department of Wildlife<br>Reno, Nevada | Date |

APPROVED AS TO FORM ONLY this_____ day of _____, 2015

OFFICE OF THE ATTORNEY GENERAL OF NEVADA

For:

By:
Deputy Attorney General