

**Findings and Recommendations for Issuance of a Section 10 (a)(1)(A) Enhancement
of Survival Permit (TE097632-0) to the Idaho Department of Fish and Game in
Association with the Southern Idaho Ground Squirrel Programmatic Candidate
Conservation Agreement with Assurances**

I. DESCRIPTION OF THE PROPOSED ACTION

The Idaho Department of Fish and Game has applied to the U.S. Fish and Wildlife Service (Service) for an Enhancement of Survival Permit to authorize incidental take of southern Idaho ground squirrels (*Spermophilus brunneus endemicus*) within an approximately 1,051,752-acre project area in Adams, Gem, Payette, and Washington Counties, Idaho. As a condition of the proposed permit, the Idaho Department of Fish and Game (IDFG) and the Idaho Governor's Office of Species Conservation (OSC), (collectively, the Agencies), would be responsible for implementing a Candidate Conservation Agreement with Assurances (IDFG *et al.* 2004) (Agreement), which includes various southern Idaho ground squirrel (SIGS) conservation measures, and which will include site-specific plans for each participating landowner. The IDFG has submitted the Agreement as part of their permit application. The proposed 20 year permit would be issued in accordance with section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA), and the Service's Candidate Conservation Agreements with Assurances final policy (64 FR 32726).

Under the Agreement, the Agencies would provide various conservation benefits for SIGSs on the 1,051,752-acre project area (see Figure 1 of the Agreement). Also, under the Agreement, a permit authorizing incidental take of SIGSs would be issued to the IDFG on these enrolled lands, consistent with section 10 of the ESA. The permit would become effective concurrent with listing, should SIGs be listed during the 20 year term of the permit. The permit would authorize incidental take of SIGSs, should it occur, as long as the permit conditions, including implementation of the Agreement and its site-specific plans, are followed. The permit would authorize incidental take resulting from the otherwise lawful agricultural and recreational activities on the enrolled lands: crop cultivation and harvesting, livestock grazing and production, farm equipment operation, hunting, fishing, camping, hiking, and use of recreational vehicles on and off established roads. The permit would include ESA regulatory assurances as discussed in the Service's Candidate Conservation Agreement with Assurances final policy (64 FR 32726). These ESA regulatory assurances would limit the need for the IDFG and enrolled landowners to make additional changes in land use activities, beyond those identified in the Agreement, should SIGS be listed under the ESA in the future.

Threats to SIGSs include: habitat deterioration and fragmentation, direct killing from shooting, trapping or poisoning, predation, competition with Columbian ground squirrels (*Spermophilus columbianus*), and inadequacy of existing regulatory mechanisms. These threats currently occur throughout the range of the species.

The Agreement is intended to reduce or eliminate these threats, for a period of 20 years, across the known range of the species, where SIGSs occur now and in the future. The Agreement should result in an increase in the number and distribution of SIGSs, and increase

the long-term persistence of the species on enrolled lands. The Agreement contains two biological objectives intended to conserve SIGSs. First, implement habitat enhancement, rehabilitation, or protection measures to increase habitat quality and quantity or to maintain existing good quality ground squirrel habitat. Second, implement population management through the protection of ground squirrel populations to reduce direct and indirect ground squirrel mortality, and if appropriate, reintroduce/translocate ground squirrels to suitable, unoccupied habitat to create larger, interconnected populations in suitable SIGS habitat areas. These objectives are the basis for the conservation measures identified in the Agreement. The biological goal of the Agreement is the protection of all occupied SIGS sites on each participating landowner's land that is enrolled under the Agreement and permit.

Under the Agreement, the landowners would: (1) implement habitat maintenance or enhancement measures at occupied sites and sites identified for translocation/reintroduction; (2) reduce or eliminate direct killing of SIGSs (from humans and badgers); (3) allow translocation of SIGS into unoccupied, suitable habitat, if needed; (4) manage competition from Columbian ground squirrels; (5) allow access by the Agencies to conduct surveys and monitoring; (6) actively pursue funding, if necessary, to implement the site-specific plan; and (7) implement other measures to minimize the effects of land use activities on SIGSs, thereby conserving SIGS populations on enrolled lands. As part of the last measure, the Service recommends eliminating use of rodenticides in a manner likely to harm SIGS. We also offer technical assistance in identifying how to accomplish this, and clearly state that incidental take of SIGS resulting from pesticide use will not be authorized (see section IV. A. 3 of the Agreement). These efforts are intended to provide for the conservation of SIGSs in areas currently and historically occupied by the species. The Agreement's conservation goal will be met by giving landowners incentives to implement, or by allowing the Agencies to implement conservation measures for SIGSs, while providing landowners with regulatory certainty concerning land use restrictions that might otherwise apply should SIGSs become listed under the ESA in the future.

Site-specific plans for SIGS conservation will be developed collaboratively between landowners, the Agencies, and the Service, using SIGS survey and site-specific information. Each site-specific plan will include habitat protection/enhancement measures, other measures to reduce threats to the species, and provisions for adaptive management of lands and SIGS populations. Within 2 years of Agreement approval, the Agencies and the Service will conduct SIGS occupancy surveys of the enrolled lands to identify occupied sites. Site-specific protection measures will be identified and implemented by enrolled landowners and the Agencies as soon as necessary following discovery of an occupied site, but no longer than 1 year from discovery of the occupied site. Protective measures will also be identified and implemented prior to reintroducing/translocating SIGSs to a site.

Enrolled landowners and the Agencies will cooperate in good faith to develop site-specific SIGS protection measures at all occupied and reintroduction/translocation sites. Each site-specific plan must minimize all threats that occur on a parcel to ensure that adequate conservation benefits are being provided and to meet issuance criteria. The Service is responsible for reviewing each site-specific plan to determine whether it meets issuance criteria prior to the IDFG and the Service signing a certificate of inclusion to enroll a

landowner. If the parties cannot reach agreement on these measures, and the Service determines the measures will not meet intended conservation benefits, the landowner will not be enrolled in the Agreement. Should the landowner or the IDFG be found to not be in compliance with the conditions of the permit, the Service will retain the authority to immediately suspend the permit at its sole discretion, consistent with current regulations described in 50 CFR 13.27 (a).

For reference and additional details, the reader is referred to the Agreement (IDFG 2004).

II. EFFECTS TO SOUTHERN IDAHO GROUND SQUIRRELS

SIGSs are found in lower elevation shrub/steppe habitat. Their habitat is typified by rolling hills, basins, and flats composed of lacustrine and fluvial sediments between 2,200 to 3,200 ft (671-975 m) elevations. They inhabit an area once dominated by big sagebrush, bitterbrush, and a variety of native forbs and bunchgrasses (Yensen 1991). Experts suggested that these ground squirrels prefer areas with a high percentage of native cover types, especially areas with big sage; however, some non-native features may enhance their survival as well, specifically alfalfa fields, haystacks, or fence lines (Prescott and Yensen 1999). The predominant vegetation in these areas was formerly big sagebrush-bunchgrass-forb association, with bitterbrush found in the sandier locations (Yensen 2000). The big sagebrush-bunchgrass-forb complex has dramatically changed so that exotic annuals and other non-native species have replaced much of the former vegetative structure.

SIGSs require a high quality diet of green vegetation and seeds to store enough fat to survive long months of torpor. Though dietary requirements of SIGSs have not been studied extensively (Yensen and Sherman 1997), they are likely to be similar to those of other ground squirrels in Idaho (Dyner and Yensen 1996). SIGSs are thought to prefer native species of perennial grasses and forbs that provide a reliable source of nutritious forage (Yensen 1999, Prescott and Yensen 1999, Yensen *et al.* 1992). However, sites known to contain the largest populations of SIGS are the Scotch Pines Golf Course in Payette, Idaho where they apparently do well on irrigated lawn grasses. Prescott and Yensen (1999) found that occupied SIGS sites commonly were associated with human-created habitat features. It appears as though ground squirrels can successfully inhabit non-native habitats if nutrition and other requirements can be met.

The current range of the SIGS occurs within an approximately 518,000-acre (209,628 ha) area extending from Emmett, Idaho, northwest to Weiser, Idaho and the surrounding area of Squaw Butte, Midvale Hill and Henley Basin in Gem, Payette and Washington Counties (Yensen 1991). Its range is bounded on the south by the Payette River, on the west by the Snake River and on the northeast by lava flows with little soil development (Yensen 1991).

The historical range of SIGSs is estimated to have formerly extended farther north as far as Goodrich, Idaho in Adams County (Yensen 1980, Yensen 1991); however, recent studies have shown a severe decline in the number of population sites in the northern part of their range. For example, the only known historical site in Adams County was not occupied in

1999 (Yensen 1999, Yensen 2000), and SIGSs may currently be extinct in Adams County (Yensen 2001).

The population of the SIGSs was estimated at around 40,000 in 1985 (Yensen 1999). Surveys strongly suggest a precipitous decline in squirrel populations since the mid 1980s. A 1999 survey of 145 of the 180 known historical population sites indicated that only 53 sites (37%) were still occupied (Yensen 1999). Furthermore, 52 of the 53 occupied sites had what Yensen (1999) characterized as "remarkably low levels of activity". The percentage of active sites for SIGSs decreases from south to north; 58% of the sites in Gem County still had squirrels (Yensen 1999). The percentage dropped to 46% in Payette County and decreased to 27% of the sites in Washington County. Ground squirrels were seen at only 19 of the occupied sites despite 28 person-days of careful surveys of 145 sites. Furthermore, at 18 of the occupied sites only a single individual was seen, fecal pellets were found at 13 sites and vocalizations were heard at only one site. The only population site in the study with a high level of squirrel activity was at the golf course in Weiser (Yensen 1999).

In the spring of 2000, Yensen (2000) surveyed the remaining 35 historical sites that had not been surveyed in 1999. From March-June 2000, IDFG surveyed 93 exchange parcels of Bureau of Land Management (BLM) lands and about 30 mi² of contiguous rangeland for SIGS (Yensen and Haak 2000). As a result of surveys conducted in 1999 and 2000, a total of 219 sites (occupied and unoccupied) were identified (Yensen 2000). Of the 219 sites, 98 (44 %) were active sites in the year 2000. Activity was not confirmed or remained undetermined at the other 121 (56%) sites. Ground squirrel activity was low at all the sites surveyed. For comparison, in the early 1980s, several thousand individuals would likely have been observed during a survey throughout the range of the SIGS (Yensen 2000). Of the 219 sites, 85% (186) were located on private lands, mostly ranches and farms, 12% (26) were under federal management by the BLM, and 3% (7) were on lands managed by the Idaho Department of Lands. These data do not represent a census of SIGSs because they include only a small portion of the species' range.

A total of 76 new SIGS sites was identified during surveys in 2001 (Yensen 2001), and another 7 sites were identified during surveys in 2003 (Yensen 2003). The total number of known sites for the species range-wide is currently 302. However, consistent with results from surveys in recent years, the number of individual ground squirrels at each newly-identified site is very low. A number of additional sites were identified in 2003 that may support ground squirrels (sign was found but individuals were not detected); presence/absence surveys will be conducted at these sites during likely periods of peak ground squirrel activity in 2004 (Yensen 2003). Yensen (2001) estimated the current range-wide population of SIGS to be between 2,000 and 4,500 individuals.

In May 2003, IDFG personnel surveyed the Rolling Hills Golf Course and the Weiser Cemetery, in Weiser for SIGSs (IDFG 2003). Up to 26 individuals were observed in 7 locations at the golf course, and up to 38 individuals were observed in seven locations at the cemetery. It is suspected that both locations support higher numbers of ground squirrels than were observed during the May surveys. Burrows were not enumerated at either location, however, 40 burrows were counted in a 200-meter section along Indian Head Road, which

runs between the golf course and the cemetery. One ground squirrel was observed crossing Indian Head Road from the golf course to the cemetery. Ground squirrels were also observed moving between the cemetery grounds and adjacent fields to the west and south.

IDFG also surveyed land near Emmett and Sweet, Idaho for ground squirrels in 2003. Biologists conducted SIGS surveys on BLM land north of Emmett during May and June 2003 (IDFG 2003). A combination of hiking and motorcycles was used to conduct the surveys and a total of 133 ground squirrels were observed at 23 locations. Surveys conducted during June 2003, on private land near Sweet detected 45 individuals (IDFG 2003). Habitat on this parcel is a mixture of irrigated and mowed grass, landscaping, and unmowed areas. Ground squirrels may also occur on adjacent properties near Sweet. Staff from IDFG and the Service surveyed these areas in 2004; results are currently being compiled.

Threats to SIGSs include: habitat deterioration and fragmentation, direct killing from shooting, trapping or poisoning, predation, competition with Columbian ground squirrels, and inadequacy of existing regulatory mechanisms. 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 SIGSs.

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. There are threats to the SIGS related to each of these factors.

Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range ~ Habitat deterioration appears to be a leading cause of the population decline of SIGSs (Yensen 1999). In recent decades, invasion of exotic annuals has changed the species composition of vegetation and has altered the fire regime in a perpetuating cycle throughout much of the range of these SIGSs (Whisenant 1990). Cheatgrass and medusahead are of limited forage value to the SIGSs, have highly variable annual productivity, and now dominate much of the SIGSs' range (Yensen 1999, Yensen *et al.* 1992). Diversity of native forbs and grasses decreases where these exotics take over, limiting the dietary diversity available to SIGSs (Yensen 1999). Without the reliable and nutritious diet provided by native grasses and forbs, these SIGSs must rely on the highly variable productivity and nutritional value of exotic annuals. In years of low rainfall, low productivity of these exotics could prevent SIGSs from storing enough fat to overwinter successfully. Yensen *et al.* (1992) showed that populations of Pauite ground squirrels were highly unstable and prone to extinction in areas invaded by exotic annuals.

Overutilization for Commercial, Recreational, Scientific, or Educational Purposes ~ Recreational shooting of SIGSs is common and has a detrimental effect on ground squirrel populations. Evidence of recreational shooting was found at a SIGS population site where SIGS activity recently ceased (Yensen 1999). The IDFG recognizes the SIGS as a "Species of Special Concern" (Idaho Department of Fish and Game 1994). Species of Special Concern, by State law, are protected from taking (shooting, trapping, poisoning) or possession. To date, however, protection from recreational shooting has not been enforced by the State, and the SIGS remains vulnerable to this type of activity. While an undetermined number of SIGSs has been collected during a 30 year period for scientific and taxonomic study, scientific collection is not considered a significant factor in their overall decline (Moroz *et al.* 1995).

Disease or Predation ~ Because the number of SIGSs at occupied sites is generally small, a disease outbreak could have a severe effect on this species (Moroz *et al.* 1995). Disease has been suggested as potentially contributing to the decline of SIGSs (Prescott and Yensen 1999, Yensen 1999), though no epizootic infestation has been noticed in either subspecies of Idaho ground squirrel (Yensen *et al.* 1996, Yensen and Sherman 1997). Blood analyses to determine whether pandemic diseases are present have not been conducted. Plague, a contagious bacterial disease found in rodents, has not been identified in SIGSs (Yensen *et al.* 1996). The disease is of particular concern; once established, it could decimate the remaining small numbers of SIGSs at occupied sites.

Predation has not been suggested as one of the causes of the SIGSs' decline; however, predators can have a severe impact on prey populations that occur at critically low numbers. For example, badgers have been known to extirpate entire colonies of Washington Ground squirrels (Betts 1999).

Inadequacy of Existing Regulatory Mechanisms ~ Currently, the SIGS is not protected by Federal or local laws. The IDFG classified the SIGS as a "Species of Special Concern" in 1981. Because of this status, the species is protected by State law from taking (shooting, trapping, poisoning) or possession. To date, however, protection from recreational shooting or poisoning has not been enforced by the State, and the SIGS remains vulnerable to this type of activity.

The State and Federal agencies are aware of the apparent population decline of the SIGS. However, there is no requirement for an agency to cooperate with the Service in conserving unlisted or candidate species. Only species that are proposed for listing are covered by the conference procedures of section 7(a)(4) of the ESA.

Other Natural or Manmade Factors Affecting the Species Continued Existence ~ SIGSs are considered pests by many farmers and ranchers (Prescott and Yensen 1999). When available, alfalfa crops are one of the preferred food sources for SIGSs, resulting in localized crop losses during years of high SIGS populations (Prescott and Yensen 1999). Badgers are often attracted to population sites of SIGSs, where they dig large holes in the ground that can be dangerous to livestock (Prescott and Yensen 1999). Efforts to control ground squirrel populations are frequently undertaken regardless of species and most often include shooting

or poisoning. Control efforts can adversely affect population sites of SIGSs (Yensen 1998, Prescott and Yensen 1999, Yensen 2000). In addition, Yensen (1998) suggested that use of pesticides associated with crop production and insect infestation may also play a role in the decline of this species.

Competition with Columbian ground squirrels may constitute a threat to the continued existence of SIGSs. SIGSs are known to be limited by interspecific competition with Columbian ground squirrels (Moroz *et al.* 1995, Yensen and Sherman 1997, Haak 2000), including competition for burrow sites (Haak 2000) and for food resources (Dyni and Yensen 1996). Where the two species occur sympatrically, Columbian ground squirrels occupy the more productive, mesic habitat with deeper soils (Yensen 1980, Dyni and Yensen 1996, Haak 2000).

Habitat destruction and fragmentation have resulted in a distribution of relatively isolated population sites of SIGSs. Isolation of these small populations may play a role in the decline of this species. For example, genetic evidence indicates that different populations of the northern subspecies are isolated enough to be genetically distinct from one another (Gavin *et al.* 1999, Yensen and Sherman 1997); this is likely to be the case for the southern subspecies as well. Small, isolated populations are more susceptible to natural disasters, catastrophic invasions of predators, parasites, or diseases, and suffer from loss of viability associated with genetic drift and inbreeding (Moroz *et al.* 1995, Gavin *et al.* 1999).

Relationship of the Agreement to the Five Threat Factors ~ The Agreement is intended to reduce threats to SIGSs under each of the five threat categories. Conservation benefits for SIGSs from implementation of the Agreement and site-specific plans are expected in the form of enhancement and restoration of SIGS habitat and populations, and expansion of the current population of the species to currently unoccupied, historical range. This is intended to contribute to an increase and reestablishment of SIGSs over the enrolled lands. In addition, since non-Federal landowners control most of the sites containing SIGSs, conservation of SIGSs could be enhanced by improving and encouraging cooperative management efforts between the Agencies and other landowners.

Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range:

Deterioration of native shrub-bunchgrass-forb habitat complex could be the leading cause of the population decline of SIGSs (Yensen 1999). Habitat destruction and fragmentation appear to have resulted in a distribution of relatively isolated population sites of SIGSs. In addition, most of these sites support a low number of SIGSs. Under the Agreement and site-specific plans, habitat protection/enhancement measures would be implemented at SIGS-occupied and reintroduction/translocation sites on enrolled lands over the 1,051,752-acre range of SIGS. Currently, the distribution of SIGS on private lands is not well known. All enrolled lands will be surveyed for SIGS occupancy, and specific habitat conservation measures will be identified in site-specific plans. Surveys will also identify potential SIGS reintroduction/translocation sites. Under the Agreement, both individual animals and their habitat will be protected from land use activities that may have adverse effects at any sites identified in the future as occupied by SIGSs, or sites identified by the agencies as reintroduction/translocation sites. These site-specific protection measures will include,

among other things, habitat protection/enhancement measures. Site-specific conservation measures will be implemented within 1 year of identification of an occupied site or prior to reintroducing/translocating SIGSs to a site. Should additional information become available that indicates that the SIGS protection measures developed and incorporated into the site-specific plans or the Agreement are inadequate to conserve SIGSs in the future, the Service could suspend the permit. The Service will annually review the reports provided by the IDFG to make the determination of whether conservation measures included in the Agreement and site-specific plan are adequate to conserve the species; therefore, conservation measures will be adequate at these sites as long as the permit is in effect.

The habitat protection/enhancement measures are intended to provide a high quality, more dependable forage base for SIGSs. These habitat enhancement measures would include the rehabilitation of areas to native vegetation or other plant species that would provide high quality forage for SIGSs if the site is lacking an adequate amount of quality forage. The intent of these habitat conservation measures is to increase the population of SIGSs within protected areas, allowing expansion into adjacent areas of the enrolled lands. If naturally-occupied SIGS sites and reintroduction/translocation sites are close enough, SIGSs are expected to disperse between sites. Location of reintroduction/translocation sites in relation to naturally-occupied sites will be a primary factor when selecting sites for SIGS reintroduction/translocation. Due to the pervasive invasion of exotic annual vegetation throughout the range of the SIGS, without active management to change the vegetation composition at many important SIGS sites, current habitat conditions and the resulting negative effects to SIGSs are not expected to improve.

Under the Agreement, the Agencies will be allowed to conduct SIGS surveys and collect information on the status of SIGSs on the enrolled lands. This will benefit SIGS conservation by improving the information available on the status of the SIGS, and better inform management efforts throughout the range of the species. Currently, SIGS survey and management activities on other private lands are limited. The Agreement would provide an example to other landowners and hopefully further collaborative efforts between the Agencies and landowners to conserve SIGSs.

Overutilization for Commercial, Recreational, Scientific, or Educational Purposes:

Direct mortality from recreational shooting of SIGSs is a threat to the species. To date, protection from shooting of SIGSs has been minimal, and SIGSs remain vulnerable to this type of mortality. Under the Agreement and site-specific plans, SIGSs would be protected from shooting: all site-specific plans will include specific provisions for eliminating direct killing of SIGSs from shooting, trapping, or poisoning by landowners on all enrolled lands; and the Agreement contains provisions for minimizing direct killing of SIGSs by third parties, including the placement of signs to discourage recreational shooting of SIGSs. The Agreement and site-specific plans are expected to eliminate or significantly minimize SIGS mortality from recreational and other shooting on enrolled lands.

Disease or Predation:

Many sites occupied by SIGSs in the past are currently unoccupied. Isolation of small populations of SIGSs as a result of habitat deterioration and fragmentation is likely not

conducive to long-term survival of the species. Small, isolated populations are more susceptible to diseases and predators. The Agreement and site-specific plans are expected to benefit SIGSs by increasing SIGS populations on enrolled lands through habitat enhancement and other protection measures, and expanding the current range of the species by reintroducing/translocating SIGSs into currently suitable, but unoccupied habitat. Results from SIGS reintroduction efforts the past 4 years have been encouraging. Approximately 60 SIGSs were reintroduced each year during the spring of 2001 and 2002 at Soulen Livestock Company lands (which were enrolled in a CCAA for SIGS in 2002). Surveys conducted by the Service confirmed that ground squirrels reintroduced in 2001 successfully overwintered and produced young in 2002. SIGS reintroduced to other areas of Soulen lands in 2004, using temporary enclosures and imprinting techniques, survived the season and appear to have remained in the general vicinity of their release. These locations will be surveyed in 2005 to determine overwinter survival. SIGS populations should be less vulnerable to the effects from disease and predators as population sizes increase. In addition, the Agreement contains provisions for landowners to exercise limited control of badgers, a primary predator of SIGSs, if necessary for conservation purposes.

Inadequacy of Existing Regulatory Mechanisms:

The SIGS is classified by IDFG as a "Species of Special Concern", and is protected by existing State law from taking (shooting, trapping, poisoning) or possession. To date, however, protection from shooting, trapping or poisoning has not been enforced by the State, and the SIGS remains vulnerable to these activities. Direct mortality from these activities is a threat to the species. The Agreement contains commitments by participating landowners to protect SIGSs from shooting, trapping and poisoning over all enrolled lands. The Agreement and site-specific plans are expected to eliminate or significantly minimize SIGS mortality from shooting, trapping or poisoning.

Other Natural or Manmade Factors Affecting the Species Continued Existence:

The Agreement addresses the threats to SIGSs under all five factors upon which the Service would base a future ESA listing decision. The Agreement should reduce control actions by farmers and ranchers through enrollment and increased awareness of the status and needs of SIGS. Conservation commitments include measures to protect/enhance habitat, which is likely the single greatest threat to SIGSs. Conservation measures also include commitments to reduce direct SIGS mortality, as well as commitments to reintroduce/translocate SIGSs into unoccupied habitat, thereby, expanding the species' distribution. Some type of conservation commitment applies to all enrolled lands, although many specific measures will depend on future SIGS surveys and which lands are determined to be occupied by the species, or identified by the Agencies to contain suitable habitat for reintroduction/translocation sites. The Agreement will also expand the information on SIGS status and management, and provide an example to encourage collaborative efforts in SIGS conservation with other landowners. Should all necessary landowners within the historical range of the species participate and provide conservation measures similar to those in this Agreement such as habitat enhancement, reduction or elimination of shooting, trapping and poisoning, and reintroduction of SIGSs to unoccupied habitat, a substantial conservation benefit would be realized for the species. Although the Service recommends eliminating use of rodenticides in a manner likely to harm SIGS in the Agreement, incidental take of SIGS

resulting from pesticide use will not be authorized (consistent with Regional policy) by the enhancement of survival permit.

The Agreement and site-specific plans are expected to result in a population increase and a more widely distributed population of SIGSs. If conservation measures were implemented on all necessary properties, the Service believes that the need to list SIGSs would be precluded or removed.

The Service estimates that it may take up to 10 years of implementing the Agreement and site-specific plans to fully reach a net conservation benefit for SIGSs. This is primarily due to the expected lag time in SIGS population response to habitat enhancement measures and the time frame likely associated with the successful reintroduction of SIGSs into unoccupied habitat. Due to the arid environment of the enrolled lands and variable precipitation in the area, forb and grass seed (see page 16 of the Agreement for a list of potential species) germination rates and seedling survival will be highly variable between years. In addition, depending on the extent to which exotic annual grasses are established at a site, it could take multiple-year treatments to control these species. Depending on these factors, it could take 3 to 5 years for habitat enhancement measures to fully take effect, and several more years for the SIGS population at the site to respond to the higher quality vegetation that has been established. Over-winter survival of SIGSs is highly variable and likely dependent upon habitat quality at each individual population site; over-winter survival of SIGSs at six northern Idaho ground squirrel sites ranged from 0-52 percent during 2000 and 2001 (Haak 2002). As a result, reintroduction attempts will likely have to occur for 3 to 5 consecutive years in order for a population to become established. Although some level of SIGS conservation benefits would likely occur within 2 to 3 years, full benefits would not occur until the SIGS population has had the opportunity to fully take advantage of conservation measures under the Agreement; this may take up to 10 years.

III. ENHANCEMENT OF SURVIVAL PERMIT CRITERIA – ANALYSIS AND FINDINGS

As set forth in 50 CFR 17.32 (d)(2), the Service finds that the section 10 (a)(1)(A) permit issuance criteria for a Candidate Conservation Agreements with Assurances are met and outlined below.

1. The taking of SIGSs will be incidental and will be in accordance with the terms of the Candidate Conservation Agreement.

The Service finds that any take of SIGSs resulting from the list of approved activities included in the Agreement will be incidental to, and not the purpose of, these lawful activities. Otherwise lawful agricultural and recreational activities on the enrolled lands are approved in the Agreement and include crop cultivation and harvesting, livestock grazing and production, farm equipment operation, hunting, fishing, camping, hiking, and use of recreational vehicles on and off established roads. Enrolled landowners are responsible for obtaining other authorizations, if any, necessary under State, Federal, or local laws or regulations

in order to carry out these activities. The validity of the permit will be conditioned upon strict observance of all applicable State, local or other Federal laws.

2. The Agreement complies with the requirements of the Service's Candidate Conservation Agreement with Assurances policy.

Based, in part, on the analysis provided above in Part II of this document, the Service finds that the Agreement's conservation measures and expected benefits to SIGSs, 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 species, as discussed in the Candidate Conservation Agreement with Assurances Final Policy. The Agreement also complies with all other requirements of the Candidate Conservation Agreement with Assurances policy.

3. The probable direct and indirect effects of any authorized take of SIGSs under the permit will not appreciably reduce the likelihood of survival and recovery of the species in the wild.

Issuance of the section 10(a)(1)(A) Enhancement of Survival Permit to the IDFG was reviewed by the Service under section 7 of the ESA. In a conference opinion, which is incorporated here by reference (U.S. Fish and Wildlife Service 2004), the Service concluded that the direct and indirect effects of implementing the Agreement and issuing the permit authorizing incidental take of SIGSs, would not appreciably reduce the likelihood of survival and recovery of any listed species in the wild.

The Agreement is intended to provide for protection of SIGS populations over all enrolled lands. Under the Agreement, all occupied SIGS sites, and sites where SIGSs are reintroduced/translocated, will be protected by implementing site-specific conservation measures. For each site-specific agreement, protected areas will be identified in which conservation measures will be implemented and activities with potential adverse impacts to SIGS will be minimized. These areas will primarily include locations targeted for reintroduction or translocation and habitat enhancement. The Service does not believe the actual incidental take of SIGSs inside or outside protected areas will detract from the conservation benefit of having SIGS populations distributed across the enrolled lands, or prevent interchange of individual SIGSs between population sites. If two individual SIGSs are determined to have been incidentally taken at any protected area during any calendar year, the Service, IDFG, and the Permittee will identify and implement additional protective measures to minimize any further incidental take. In order to minimize direct mortality of SIGSs, the permit was conditioned to require the Agencies to identify and implement measures to modify land use practices that exceed the amount of incidental take authorized.

4. Implementation of the terms of the Candidate Conservation Agreement is consistent with applicable Federal, State, and Tribal laws and regulations.

The Agreement is consistent with all applicable Federal and State laws and regulations.

In accordance with the National Environmental Policy Act (NEPA), the Service prepared an Environmental Assessment (EA) and subsequently a Finding of No Significant Impact.

The permit authorizes incidental take of SIGSs in accordance with the Agreement and the ESA. The IDFG is responsible for obtaining other authorizations, if any, under State, Federal, or Local laws or regulations in order to carry out their activities. The validity of the permit will be conditioned upon strict observance of all applicable Foreign, State, Local or other Federal laws.

The issuance of the permit is an undertaking as defined by National Historic Preservation Act (NHPA). The Service has determined that the permit, in and of itself (without the enrolled landowners), is an undertaking of the type that has little or no potential to cause effects on historic properties (Section 800.3 a (1)). However, as private landowners enroll and specific information on the type of activities and where they will occur on the ground is made available, the Service will at that time assess the level of work that will be necessary for ensuring compliance with NHPA.

There are no Tribal laws or regulations applicable to the Agreement.

5. Implementation of the terms of the Agreement will not be in conflict with any ongoing conservation programs for SIGSs.

Approval of the Agreement and issuance of the permit will not be in conflict with any ongoing conservation program for the SIGS, in fact, Agreement approval would compliment ongoing conservation programs.

Over the past several years, the Agencies have worked with Federal and State land management and other agencies, and private landowners, to further conservation of SIGSs. The Agreement is consistent with that ongoing conservation program by implementing conservation measures for SIGSs, and by establishing a collaborative SIGS conservation program for enrolled lands. The Agreement's conservation measures would be implemented by the Agencies and participating landowners, and would generally consist of implementing SIGS population and habitat conservation measures along with reintroduction/translocation of SIGSs into suitable, but unoccupied habitat where needed.

6. The applicant has shown capability for and commitment to implementing all of the terms of the Candidate Conservation Agreement.

Signing of the legally binding Agreement by the Agencies assures that it will be implemented, and commits all parties to the obligations outlined under the Agreement. Implementation of the Agreement will be a condition of the permit, and a failure to perform obligations under the Agreement may be grounds for suspension or revocation of the permit and cancellation of the Agreement.

The IDFG has demonstrated their interest and capability in, and commitment to SIGS conservation over the past 3 years. During this time period, IDFG personnel have conducted SIGS surveys on private property (with landowner approval), participated in selection of reintroduction sites, and have assisted in translocation efforts and outreach to landowners. The IDFG recognized SIGS as a "Species of Special Concern" (IDFG 1994). Species of Special Concern, by State law, are protected from taking (shooting, trapping, poisoning) or possession. IDFG notified the public that SIGSs were protected from shooting in its 2002-2003, and 2003-2004 upland game regulations pamphlets.

The Agencies have also been active in SIGS conservation as well as working cooperatively with private landowners, and other State and Federal agencies to conserve this species for years. The Agencies have funded SIGS survey efforts to document population status and identify threats to the species. During 2001, the IDFG received funding in the amount of \$96,720 through section 6 of the ESA to fund implementation of SIGS conservation agreements. The Service's Snake River Fish and Wildlife Office (SRFWO) has been very active in SIGS conservation efforts. Over the last several years, the SRFWO has supported SIGS conservation efforts by expending office funds for SIGS surveys and management as well as working with non-Federal landowners. The SIGS is a high priority species for the SRFWO; however, due to requirements of the Anti-Deficiency Act, the Service is unable to specifically commit to funding implementation of the Agreement beyond those funds that have already been appropriated. This Agreement is the second such conservation agreement for the SIGS and covers the known range of the species; therefore, the Service believes the commitment of public funds are necessary and appropriate in order to receive conservation benefits for the SIGS and provide an example to landowners that are considering participating in the Agreement.

7. The duration of the Agreement (20 years) is sufficient to allow for conservation of SIGS.

The duration of this Agreement will be 20 years from the date upon which the Agencies have signed it. Given the probable ground squirrel response time to transplanting and habitat management, the Service estimates it may take 10 years of implementing the Agreement and site-specific plans to fully reach a net conservation benefit for the species, although some level of benefits will likely

occur within two to three years. Therefore, the duration of any individual site-specific plan will be a minimum of 10 years; the duration will be identified in each site-specific plan.

The permit will contain notification requirements pertaining to incidental take and land transfers. Enrolled landowners will notify the IDFG and the Service at least 30 days prior to new ground disturbing activities within ground squirrel protected areas. Enrolled landowners will notify the IDFG and the Service at least 60 days in advance of a potential land sale or transfer. Both requirements are designed to allow the Agencies to review the status of the Agreement and the distribution of SIGS on the land and make informed decisions about the best course of action.

IV. GENERAL CRITERIA AND DISQUALIFYING FACTORS

The Service has no evidence that the permit should be denied on the basis of the criteria and conditions set forth in 50 CFR 13.21 (b)-(c). The IDFG has met the criteria for the issuance of the permit and does not have any disqualifying factors that would prevent the permit from being issued under current regulations.

V. PUBLIC COMMENTS

The Service published a Notice of Availability of IDFG's permit application, including the Agreement and EA, in the Federal Register on May 7, 2004 (69 FR 25600). Publication of the notice initiated a 30-day comment period, which closed on June 7, 2004.

A total of 183 copies of the press release and Federal Register notice were transmitted (mail and facsimile) to members of the Idaho Federal and State congressional delegations, Federal and State government agencies, County governments, environmental organizations, private landowners, and other interested individuals and groups. Copies of the documents were also mailed to two interested individuals or organizations as a result of requests the Service received after publication of the notice in the Federal Register. The Service received written comments from the Idaho Department of State Parks and Recreation, Valley County Commissioners, U.S. Department of Agriculture – Animal and Plant Health Inspection Service (APHIS), Environmental Defense, Western Watersheds Project, Center for Biological Diversity, Idaho Conservation League, and Office of Species Conservation.

The Office of Species Conservation, in a letter dated June 7, 2004, indicated that they did not have any specific comments on the Agreement and supported the Agreement. We responded to all comments that were provided by the above listed entities; their comments and our responses are provided in Attachment 1.

VI. CHANGES BETWEEN DRAFT AND FINAL

We made nine changes between the draft and final Agreement, none of which altered the direction of the Agreement, or significantly changed the content of the Agreement. All changes were to increase the amount of information provided on a subject, or to clarify existing information provided in the Agreement. The changes we made are summarized below.

1. We added information to section IV.A regarding pesticide use, incidental take authorization, and the Service's regional policy on authorizing take associated with pesticide use. In brief, we will require enrolled landowners to limit use of rodenticides to uses in a manner that is unlikely to harm SIGS. We added details about application procedures to the final Agreement.
2. We added information to section V.F about the relationship between livestock and incidence of nonnative plants, stating that human and livestock use of occupied areas may contribute to habitat degradation, but the extent of this influence on the occurrence of nonnative plants is unknown.
3. In sections IV and V.F., we clarified the role of the Service and IDFG with respect to removal of southern Idaho ground squirrels from water impoundment dikes. In all cases, there will be joint responsibility between the two agencies.
4. In section VI, we clarified the role and responsibility of the Leopold Stewardship Fund (Fund) relative to the Agreement. We removed the indication that the Fund has any continuing financial obligation to the Agreement because they are unable to make this sort of commitment.
5. We clarified information contained in the draft Agreement relative to monitoring timelines in section IX.A.
6. We updated the estimated cost of annual SIGS surveys from \$10,000 to \$16,000 in section IX.A based on the cost increase we observed between the 2004 and 2005 field season.
7. In section X, we clarified the areas in which conservation measures will be focused, and named those areas 'protected areas'.
8. Throughout the document, we clarified that the intent of the Agreement is to include lands whose use is primarily for agricultural and recreational activities, and as a result, the only take authorized in the enhancement of survival permit will be incidental to agricultural and recreational activities.
9. We added an additional provision in section XII of the Agreement to clarify the notification requirement relating to new land uses. Enrolled landowners must notify the Service and IDFG at least 30 days prior to new ground disturbing activities. The

purpose of this requirement is to provide the Agencies with information and sufficient time to make decisions regarding the appropriate actions relative to SIGS conservation and management prior to take occurring.

VII. RECOMMENDATION ON PERMIT ISSUANCE

Based on the foregoing findings with respect to the proposed action, I recommend issuance of a section 10(a)(1)(A) Enhancement of Survival Permit to authorize incidental taking of the southern Idaho ground squirrel by the Idaho Department of Fish and Game in accordance with the Candidate Conservation Agreement with Assurances.



Deputy Regional Director

3/17/05

Date

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