



United States Department of the Interior

FISH AND WILDLIFE SERVICE

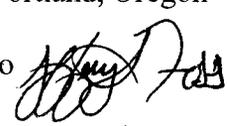
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MAR 07 2005

Memorandum

To: Assistant Regional Director-Ecological Services, Portland, Oregon

From: Supervisor, Snake River Basin Office, Boise, Idaho 

Subject: Intra-Service Section 7 Conference Opinion on the Proposed Issuance of a Section 10(a)(1)(A) Enhancement of Survival Permit for Southern Idaho Ground Squirrels to the Idaho Department of Fish and Game, Boise, Idaho (Permit Number: TE097632-0)
File # 6070.4000 OALS 05-0372

This document transmits the Fish and Wildlife Service's (Service) Conference Opinion (Opinion) based on our review of the proposed programmatic Candidate Conservation Agreement with Assurances (Agreement) and the associated Environmental Assessment (EA) for the issuance of a Section 10(a)(1)(A) Enhancement of Survival Permit for southern Idaho ground squirrels located in portions of Adams, Gem, Payette, and Washington counties, Idaho, and its effects on southern Idaho ground squirrels and listed species in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended. Your October 22, 2004 request for conference was received on October 27, 2004.

If you have any questions concerning this Opinion, the CCAA, or the EA, please contact Carmen Thomas of my staff at 208-378-5654.

cc FWS-AESFO, Phoenix (Kline)
FWS-SRFO, Boise (Thomas)
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OSC, Boise (Caswell)

1-4-05-F-0372

Idaho Department of Fish and Game

CONFERENCE OPINION

Issuance of a Section 10(a)1(A) Enhancement of Survival Permit for Southern Idaho Ground
Squirrels

Idaho Department of Fish and Game
Adams, Gem, Payette, and Washington counties, Idaho

March, 2005

FISH AND WILDLIFE SERVICE
SNAKE RIVER FISH AND WILDLIFE OFFICE
BOISE, IDAHO

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Introduction

This document transmits the Fish and Wildlife Service's (Service) Conference Opinion (Opinion) based on our review of the proposed section 10(a)(1)(A) Enhancement of Survival Permit for southern Idaho ground squirrels (*Spermophilus brunneus endemicus*) located in portions of Adams, Gem, Payette, and Washington counties, Idaho, and its effects on southern Idaho ground squirrels and listed species in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended. Your October 22, 2004 request for conference was received on October 27, 2004.

This Opinion is based on information in the December 2004 Programmatic Southern Idaho Ground Squirrel Candidate Conservation Agreement with Assurances (Agreement) (IDFG *et al.* 2004), the December 2004 Environmental Assessment for Approval of the Agreement (U.S. Fish and Wildlife Service 2004), and other sources of information referenced below. A complete administrative record of this Opinion is on file in the Services Snake River Fish and Wildlife Office, Boise, Idaho.

The Service concludes that survival and recovery of southern Idaho ground squirrel populations will not be jeopardized by the issuance of a Section 10(a)(1)(A) Enhancement of Survival Permit for southern Idaho ground squirrels to the Idaho Department of Fish and Game (IDFG). In subsequent sections of the Opinion, the amount and extent of incidental take are detailed and terms and conditions to minimize incidental take are presented. Finally, conservation recommendations and conditions for reinitiation of consultation are given.

The Service also identified several fish, wildlife, and plant species that are listed under the ESA and that may occur within the four-county area that likely comprised the historical range of the southern Idaho ground squirrel and constitute the action area for the proposed Agreement (Adams, Gem, Payette, and Washington counties). These species are: gray wolf (*Canis lupus*), northern Idaho ground squirrel (*Spermophilus brunneus brunneus*), bald eagle (*Haliaeetus leucocephalus*), bull trout (*Salvelinus confluentus*), and Idaho springsnail (*Fontelicella idahoensis*). Each of these species would either not likely occur in the area of lands that are likely to be enrolled under the Agreement, not likely occur in habitats that could be affected by implementation of the Agreement, or both.

Gray wolves are not known to occur within the lands likely to be enrolled in the Agreement. In addition, wolves are wide-ranging, prey-dependent species and the Agreement and permit would affect a relatively small area compared to the range of this species. The Agreement would not likely result in changes in primary prey species from current conditions for gray wolves. Issuance of the proposed permit would not authorize incidental take of gray wolves. For these reasons, approval of the Agreement and issuance of the proposed permit is not expected to affect gray wolves.

No northern Idaho ground squirrels or their habitat occur on or near lands likely to be enrolled in the Agreement. Northern Idaho ground squirrels are geographically separated from southern Idaho ground squirrels and occur farther north in Adams and Valley Counties, Idaho. Furthermore, issuance of the permit would not authorize incidental take of northern Idaho ground squirrels. For these reasons, approval of the Agreement and issuance of the permit is not expected to affect northern Idaho ground squirrels.

Bald eagles are not known to use the lands likely to be enrolled in the Agreement for nesting. The area may be used to some extent during spring and fall migrations, and occasionally during the winter by foraging bald eagles. During these periods, foraging would likely occur in the vicinity of larger reservoirs within the project area, and along powerlines that could be used as perch sites. The proposed Agreement and permit would not result in changes in eagle prey species or disturbance levels. Approval of the Agreement and issuance of the permit would not authorize incidental take of bald eagles. For these reasons, approval of the Agreement and issuance of the permit is not expected to affect bald eagles.

Although bull trout occur within some watersheds of lands likely to be enrolled in the Agreement, and issuance of the permit would not affect bull trout. Actions implemented pursuant to the Agreement will likely only occur in upland sagebrush/steppe areas, and focus on habitat restoration. The nature, extent, and effect of these activities will not extend into riparian areas, and therefore will not affect bull trout. In riparian areas where bull trout could occur, effects of the proposed project would be the same as those without approval of the Agreement and issuance of the permit. For these reasons, approval of the Agreement and issuance of the permit is not expected to affect bull trout. Only southern Idaho ground squirrels are considered in the following conference opinion.

Consultation History

The following correspondence has taken place within the Service prior to the issuance of this Opinion.

November 2003	Draft CCAA and EA were provided to the Regional Office for review and comment.
December 2003- March 2004	The Regional Office and solicitor reviewed the draft CCAA and EA and provided the Field Office with comments.
March-April 2004	The Field Office modified documents and submitted them to the Regional Office for publication in the Federal Register.

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May 7, 2004	The CCAA and EA were made available for public review and comment.
June 7, 2004	The comment period closed.
June-August 2004	The Field Office responded to comments on the draft CCAA and EA.
October 22, 2004	The Regional Office requested initiation of a section 7 conference.

CONFERENCE OPINION

I. Description of the Proposed Action

A. Action Area

The action area is defined as all areas to be affected directly or indirectly by the proposed Federal action. The proposed action area is the known range of the species, which is approximately 1,051,752-acres (425,630 ha) within Gem, Adams, Payette, and Washington counties, Idaho (see Figure 1 of the Agreement, IDFG *et al.* 2004). This area encompasses lower elevation shrub/steppe and grassland habitats and represents the estimated possible historical range of the southern Idaho ground squirrel. Of this area, approximately 72% is private land, the Bureau of Land Management (BLM) administers 23%, and 4% is managed by the Idaho Department of Lands. The area is largely shrub/steppe habitats interspersed with cropland. The primary land uses in the area are those related to crop cultivation and harvesting, and livestock production; these uses have been in place for over 100 years. These lands are also extensively used for dispersed recreation, primarily hunting during the fall months, and hiking, trail riding, or ATV use. Given the fact that the southern Idaho ground squirrel occupies only upland sagebrush/steppe areas throughout its range, any actions likely to be undertaken pursuant to the Agreement will occur on upland areas. No activities associated with the Agreement are anticipated to occur in riparian or other lowland areas within the proposed action area.

Therefore, for purposes of this conference opinion, the action area (the area where direct and indirect effects of the proposed action would occur) is defined as upland areas within the approximately 1,052,752-acre (425,630-ha) currently known range of the southern Idaho ground squirrel (see Figure 1 of the Agreement, IDFG 2004). See the Environmental Assessment (Service 2004) for additional information on vegetation, wildlife, local communities, and recreation in the action area.

B. Proposed Action

The proposed action for this intra-Service consultation is issuance, by the Service, of an Enhancement of Survival Permit (permit) under section 10(a)1(A), to the IDFG. The IDFG has applied to the Service for an Enhancement of Survival Permit to authorize incidental take of southern Idaho ground squirrels (a candidate species), should they be listed under the ESA at some time in the future. The permit would be issued in accordance with section 10(a)(1)(A) of the ESA, and the Service's Candidate Conservation Agreements with Assurances Final Rule (64 FR 32726). As part of their permit application, the IDFG proposes to enter into the Agreement with the agencies, and is seeking the Service's approval of the Agreement and issuance of the permit.

The permit would authorize limited incidental take of southern Idaho ground squirrels within an approximately 1,051,752-acre (425,630-ha) area in Adams, Gem, Payette, and Washington counties in Idaho (see Figure 1 of the Agreement). As a condition of the proposed permit, the IDFG, the Service, and the Idaho Governor's Office of Species Conservation (collectively, the agencies), would be responsible for implementing a Candidate Conservation Agreement with Assurances (IDFG 2004) (Agreement), which includes site-specific plans and various southern Idaho ground squirrel conservation measures. The IDFG has submitted the Agreement as part of their permit application.

Under the Agreement, the IDFG would provide various conservation benefits for southern Idaho ground squirrels on enrolled lands within the range of the species. Also under the Agreement, a permit authorizing limited incidental take of southern Idaho ground squirrels would be issued to the IDFG for certain activities occurring on non-federal lands enrolled in the Agreement, consistent with section 10 of the ESA. The IDFG would then extend a subset of the total amount of take authorized over the range of the species to each private landowner that enrolled their lands in the Agreement. This take delegation would occur through issuance of Service-approved certificates of inclusion (see Appendix B of the Agreement). The permit would authorize incidental take of southern Idaho ground squirrels, should it occur, as long as the permit conditions, including implementation of the Agreement and site-specific plan, are followed. Incidental take would be authorized for the otherwise lawful agricultural and recreational activities on the enrolled lands, including 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 Services Candidate Conservation Agreement with Assurances final policy. These ESA regulatory assurances would limit the need for participating landowners to make additional changes in land use activities, beyond those identified in the Agreement, should southern Idaho ground squirrels be listed under the ESA.

The Agreement is intended to reduce or eliminate threats to southern Idaho ground squirrels, for a period of 20 years, on enrolled lands where southern Idaho ground squirrels occur now and in the future. The Agreement contains two biological objectives intended to conserve southern Idaho ground squirrels. The first is to implement population and habitat enhancement, rehabilitation, or protection measures at individual sites thereby increasing ground squirrel populations. This objective may include reintroduction efforts where deemed necessary and appropriate. The second is to, where possible and appropriate, expand populations at specific sites using native vegetation rehabilitation or other habitat management measures to create larger, interconnected, suitable ground squirrel habitat areas. The biological goal of the Agreement is the adequate protection of all occupied southern Idaho ground squirrel sites and reintroduction/translocation sites identified by the agencies for southern Idaho ground squirrel conservation on the enrolled lands. These objectives and goal are the basis for conservation measures identified in the Agreement. The Agreements conservation goal will be met by giving

the IDFG and participating landowners incentives (financial or otherwise) to implement, or allow the agencies to implement, conservation measures for ground squirrels through funding, and regulatory certainty concerning land use restrictions that might otherwise apply, should southern Idaho ground squirrels become listed under the ESA.

On all enrolled lands, the IDFG is committing to implement the following ground squirrel conservation measures to the maximum extent practicable: (1) allow agency access to monitor ground squirrel populations and habitat characteristics to identify needed habitat enhancement/rehabilitation measures; (2) implement habitat enhancement measures such as seeding native or non-native vegetation species, fertilizing vegetation, prescribed burning, and providing escape cover; (3) minimize harassment, harm, and mortality from ground disturbing activities; (4) prohibit shooting, trapping, or poisoning of ground squirrels; and (5) control Columbian ground squirrels and badgers; (6) allow translocation of southern Idaho ground squirrels into unoccupied, suitable habitat, if appropriate; and (7) actively pursue funding, if necessary, to implement a site-specific plan. Control measures (eradication or removal) will only be authorized for individual animals and only in those situations where the population is at risk of extirpation by the predator. Participating landowners will work with the agencies to develop site-specific measures within each of the above categories that are appropriate to their lands, and commit to implementing those measures on their lands for the length of their site-specific plan and permit.

Under the Agreement, adaptive management measures exist that provide for conservation of ground squirrels, while providing ESA regulatory assurances for participating landowners. Ground squirrel conservation measures can be modified in site-specific plans for protected areas as monitoring and other information becomes available. Protected areas are specific areas within enrolled lands that will be identified for preservation of southern Idaho ground squirrels, and within which land use activities will be restricted (*e.g.*, development of these areas for row crops will be prohibited during the Agreement). Agricultural and recreational activities will be allowed in areas outside protected areas; incidental take that occurs in these "unprotected" areas would be authorized through this permit.

Under the Agreement, both individual ground squirrels and their habitat on enrolled lands will be protected from land use activities that may have adverse affects at any sites identified in the future as protected, or at sites identified by the agencies as reintroduction/translocation sites. Site-specific protection measures will be developed collaboratively between participating landowners and the agencies, will include habitat protection/enhancement measures and other measures to reduce threats to the species, and will be modified as necessary and appropriate using an adaptive management process. Each site-specific plan will be developed to include the conservation measures outlined above, and modified as needed to address areas occupied by ground squirrels and identified as potential future reintroduction/translocation sites. Methods for reintroduction/translocation are currently under development and evaluation by graduate students

affiliated with Boise State University (BSU). Any efforts that occur as part of this Agreement will use those methods that have been determined to be most successful by the BSU researchers or other qualified individuals.

The agencies will survey the enrolled lands during the first two years of the enrollment and identify all occupied ground squirrel areas. Additional surveys will be conducted during the first five years of enrollment to identify potential reintroduction/translocation sites. The provision allowing agency access to enrolled lands will facilitate annual monitoring of ground squirrel populations. The information gained from population monitoring will be used to track the status of individual local populations as well as the status of the species as a whole. Should monitoring information demonstrate a need for altered land management in protected areas, the Service and IDFG will work cooperatively with landowners to effect needed changes.

Participating landowners and the agencies will cooperate in good faith to develop these site-specific southern Idaho ground squirrel protection measures for all protected areas and reintroduction/translocation sites. If the parties cannot reach agreement on these measures, and the Service determines the measures will not meet intended conservation benefits, the IDFG will be found to not be in compliance with the conditions of the permit and 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). To ensure southern Idaho ground squirrel conservation measures will be adequate at these sites as long as the Agreement and permit are in effect, the Service will retain the authority to suspend the permit in this circumstance.

By February 1 of each year, the IDFG will provide the Service with a report on the previous year's implementation activities for the Agreement, a map of all enrolled properties, and a list of enrolled landowners and their contact information, and the status of ground squirrel populations and their habitat. In addition, each year, agencies will share information on ground squirrel distribution with participating landowners. This information sharing may be in the form of an annual meeting or as an annual report. Agencies will notify participating landowners if southern Idaho ground squirrels have expanded beyond the boundaries of any ground squirrel protected areas or into cultivated fields that are within or adjacent to protected areas. If ground squirrels have expanded to adjacent lands beyond the boundaries of a protected area or to the cultivated fields within protected areas, the agencies and participating landowners will develop measures to minimize any incidental take that could result from ground disturbance activities. This will also provide the agencies a reasonable opportunity to rescue and translocate any ground squirrels that may be occupying the area where the activity would occur.

Additional details on the proposed action were provided in IDFG (2004).

II. Status of the Species

A. Species Description

Southern Idaho ground squirrels are about 235-241 mm (9 inches) long, with a short, narrow tail, tan feet and ears, and a grey-brown throat (Yensen 1991). This small-eared mammal differs from a similar subspecies the northern Idaho ground squirrel in pelage coloration. The southernns have a noticeably paler coat than the northernns, which is attributed to the lower-elevation, sagebrush/grassland habitat in which it lives. The granitic sands and clays of the Weiser River Basin are thought to influence the southern Idaho ground squirrel's lighter coloration, while the deeper reddish-colored northernns are found in higher-elevation areas with shallow reddish soils of basaltic origin (Yensen 1985, 1991).

B. Life History

These squirrels spend much of their time underground. Adults emerge from seasonal hibernation in late January or early February, depending on elevation and habitat conditions (Yensen and Sherman 1997). As with other ground squirrels in the northwest, the adults have a short active season above ground of 4 to 5 months. During this time, the animals feed on large quantities of grass seed, stems and green leafy vegetation which are required for storage of fat to survive long months of hibernation. When squirrels emerge from their burrows, they begin breeding; young are born about three weeks later and emerge from the nest burrow in about 50 days (Moroz et al. 1995, Yensen and Sherman 1997, Sherman 2000). The ground squirrels cease their above-ground activity by late June or early July to return to their burrows for hibernation.

A high quality diet of green vegetation and seeds is required for southern Idaho ground squirrels to store enough fat to survive long months of torpor. Although dietary requirements of southern Idaho ground squirrels 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). Southern Idaho ground squirrels 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).

C. Population Dynamics

A number of studies have been conducted in the past three years to gather additional information about the natural history of southern Idaho ground squirrels and to better inform regulatory agencies' management decisions. These studies have focused on population demography, dispersal, and genetics. Brief summaries of available research results for each study are provided below; for additional information, please refer to IDFG (2004).

Researchers from Boise State University and Albertson College of Idaho began a study of the status and potential regulating factors of the southern Idaho ground squirrel population in 2002 (Barrett *et al.* 2003). Seven sub-populations located in Gem, Payette, and Washington counties were chosen to serve as study sites. The number of ground squirrels captured at each study site varied from 72 to 154 in 2003. The estimated population sizes of breeding individuals ranged from 23 to 56 in 2003. The estimated juvenile population ranged from 93 to 199 in 2003. Average productivity in 2003 was estimated at 5.8 juveniles per female in 2003 (see Barrett *et al.* 2003, Barrett and Munger 2003, and Barrett *et al.* 2004 for additional information).

Researchers from Boise State University and Albertson College of Idaho began a study of the dispersal of yearling and juvenile southern Idaho ground squirrels, as well as factors that maximize success in translocating ground squirrels in 2003 (Panek and Munger 2003). In the first year of tracking ground squirrel movements, none of the yearlings dispersed from the study population. Six of 34 juvenile ground squirrels (14%) dispersed from the study area. Gender was evenly split among the dispersers; all juveniles dispersed into currently occupied areas (see Panek and Munger 2003 for additional information). Two groups of squirrels were moved as part of the translocation study: one group was transferred to property owned by Soulen Livestock Company, and the second group was transferred to BLM land. Most of the ground squirrels that were transferred to the Soulen Livestock land did not survive until the end of the 2003 active season. Results of this portion of the experiment indicate that additional factors not considered during the 2003 field season are influencing the success of ground squirrel translocation efforts. Many of the juveniles that were transferred to BLM land remained in the area in which they were released. Additional results are pending (see Panek and Munger 2003 for additional information).

D. Status and Distribution

The International Union for Conservation of Nature (IUCN) classified the southern Idaho ground squirrel as *Avulnerable* (Hafner *et al.* 1998). The IDFG classified the southern Idaho ground squirrel as a *ASpecies of Special Concern* in 1981. The Service received a petition from the Biodiversity Legal Foundation, dated January 26, 2001, to list the southern Idaho ground squirrel as threatened or endangered under the ESA. On October 30, 2001, the Service formally identified the southern Idaho ground squirrel as a candidate for listing under the ESA (66 FR 54807).

The historical range of southern Idaho ground squirrels 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 southern Idaho ground squirrels may currently be extinct in Adams County (Yensen 2001).

As of 2001, the known range of the southern Idaho ground squirrel occurs within an approximately 518,000-acre 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 population of southern Idaho ground squirrels was estimated at around 40,000 in 1985 (Yensen 1999). Surveys indicate 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 southern Idaho ground squirrels 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. In 1999, 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 Rolling Hills Golf Course in Weiser (Yensen 1999). It appears as though ground squirrels can successfully inhabit non-native habitats if nutrition and other requirements can be met.

In the spring of 2000, Yensen (2000) surveyed the remaining 35 historical sites that had not been surveyed in 1999. From March-June 2000, the IDFG surveyed 93 exchange parcels of Bureau of Land Management lands and about 30 mi² (78 km²) of contiguous rangeland for southern Idaho ground squirrels (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 southern Idaho ground squirrel (Yensen 2000). Of the 219 sites, 85 percent (186) were located on private lands, mostly ranches and farms, 12 percent (26) were under federal management by the Bureau of Land Management, and 3 percent (7) were on lands managed by the Idaho Department of Lands. These data do not represent a census of southern Idaho ground squirrels because they include only a small portion of the species' range.

A total of 76 new southern Idaho ground squirrel 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 low. A number of additional sites were identified in 2003 that may support southern Idaho 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 the next few years (Yensen 2003). Yensen (2001) estimated the current range-wide population of southern Idaho ground squirrels to be from 2,000 to 4,500 individuals.

A number of surveys conducted in 2003 and 2004 identified additional populations of southern Idaho ground squirrels near Emmett and Sweet, Idaho. 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 un-mowed areas. Surveys conducted in 2004 observed approximately 70 individuals on two different parcels in Sweet, Idaho.

Most of the lands in the analysis area have not been surveyed for ground squirrels. Researchers identified a total of 76 new southern Idaho ground squirrel sites during surveys in 2001 (Yensen 2001). The total number of known sites (occupied and unoccupied) for the species range-wide as of 2001 was 295. However, consistent with results from surveys in recent years, the number of individual ground squirrels at each newly identified site was very low. Yensen (2001) estimated the current range-wide population of southern Idaho ground squirrels to be from 2,000 to 4,500 individuals. Since 2001, at least four additional southern Idaho ground squirrel occupied sites have been identified, including what appears to be a substantial population on the Scotch Pines Golf Course in Payette, Idaho.

Southern Idaho ground squirrels are found in the lower elevation shrub/steppe habitat of the Weiser River Basin. Their habitat is typified by rolling hills, basins and flats composed of lacustrine and fluvial sediments between 2,200 and 3,200 ft (671 to 975 m) elevations. They inhabit an area once dominated by big sagebrush (*Artemisia tridentata*), bitterbrush (*Purshia tridentata*), and a variety of native forbs and bunchgrasses (Yensen 1991). Prescott and Yensen (1999) suggested that these ground squirrels prefer areas with a high percentage of native cover types, especially areas with big sagebrush; however, some non-native features may enhance their survival as well, specifically alfalfa (*Medicago sativa*) fields, haystacks or fence lines. 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 composition.

III. Environmental Baseline

Regulations implementing the Act (50 CFR §402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area which have already undergone section 7 consultation, and the impacts of state and private actions which are contemporaneous with the consultations in progress.

A. Status of the Species within the Action Area

The proposed action area includes the entire range of the species as it is currently known. Please refer to the Status of the Species section of this Opinion for this information.

B. Factors Affecting Species Environment within the Action Area

Threats to southern Idaho ground squirrels include: habitat deterioration and fragmentation, direct killing from shooting, trapping or poisoning, predation, competition with Columbian ground squirrels, and inadequacy of existing regulatory mechanisms. Status of the species is summarized below relative to each of the five factors that the Service addresses when making a decision if a species is warranted for listing under the ESA.

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

Habitat deterioration appears to be a leading cause of the population decline of southern Idaho ground squirrels (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 ground squirrels (Whisenant 1990). Cheatgrass (*Bromus tectorum*) and medusahead rye (*Taeniatherium asperum*) are of limited forage value to the ground squirrels, have highly variable annual productivity, and now dominate much of the ground squirrels= 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 ground squirrels (Yensen 1999).

Most of the vegetation type found within the range of southern Idaho ground squirrels which has not been converted to agricultural or other uses, is described in the Interior Columbia Basin Management Project (ICBMP) Environmental Impact Statement (DOA and DOI 2000) as the "dry shrub" potential vegetative group. "Potential" refers to the native vegetation that would grow on these sites without unnatural disturbances or non-native invasive species. Potential vegetation can be regarded as that which evolved in pre-settlement conditions. While these conditions may no longer be attainable throughout the range of southern Idaho ground squirrels, its description provides a useful basis to compare current vegetation and its value as wildlife habitat.

In its current condition, the dry shrub potential vegetation group includes primarily native shrublands with lesser amounts of exotic herblands, seeded grasslands, native grasslands and woodlands. Representative shrub species include Wyoming big sagebrush (*Artemisia wyomingensis*), basin big sagebrush, low sagebrush (*Artemisia arbuscula*), antelope bitterbrush, shadscale (*Atriplex confertifolia*), winterfat (*Krascheninnikovia lanata*) and greasewood (*Sarcobatus vermiculatus*). Grass species include bluebunch wheatgrass (*Agropyron spicatum*), bottlebrush squirreltail (*Sitanion hystrix*), Thurbers needlegrass (*Achnatherum thurberianum*)

and Sandberg's bluegrass (*Poa secunda/sandbergii*). Over time, exotic species have been introduced and some are desirable from a forage standpoint for some species. They include crested wheatgrass and intermediate wheatgrass. Recurring fires of differing intervals define the changing mosaic of herblands and shrublands within this potential vegetation group (DOA and DOI 2000).

In recent years, the dominant change within the dry shrub potential vegetation group between historical and current conditions has been the conversion of both herblands and shrublands through the invasion and spread of exotic undesirable plants and noxious weeds (DOA and DOI 2000). The most common of these plants within the range of the southern Idaho ground squirrel is cheatgrass, but there are also significant invasions of rush skeletonweed (*Chondrilla juncea*), Medusahead rye, and hoary cress whitetop (*Cardaria chalepensis*). The conversion of wheatgrass and fescue bunchgrasses to exotic species has contributed to the decline of these cover types.

Cheatgrass has perhaps played the dominant role in the declines in the native cover types. Originating from Europe and Asia and coming to the intermountain West through contaminated seed in the 1890s, the species is a winter annual. Therefore, it germinates in the fall and grows during the winter, just the opposite of common native bunchgrass cycles. Mature cheatgrass ranges in height from one inch to two feet and its large, quickly developing root system robs slower germinating native species of springtime water. Since cheatgrass dries early and burns easily, it represents an easily ignited, "flashy" fuel that can carry fire quickly. As the cycle of cheatgrass germination and spread, followed by wildfire is repeated, native grasses and shrub species are killed and are displaced by cheatgrass.

Without the reliable and nutritious diet provided by native grasses and forbs, these ground squirrels 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 ground squirrels from storing enough fat to overwinter successfully. Yensen *et al.* (1992) showed that populations of Paiute ground squirrels were highly unstable and prone to extinction in areas invaded by exotic annuals.

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

Recreational shooting of ground squirrels is common and has a detrimental effect on populations of southern Idaho ground squirrels. Evidence of recreational shooting was found at a southern Idaho ground squirrel population site where squirrel activity recently ceased (Yensen 1999). The IDFG recognizes the southern Idaho ground squirrel as a ASpecies of Special Concern@ (IDFG 1994). Species of Special Concern by State law are protected from taking (shooting, trapping, poisoning) or possession. To date, however, protection from recreation shooting of the southern Idaho ground squirrel has not been enforced by the State, and the southern Idaho ground squirrel remains vulnerable to this type of activity. While an undetermined number of southern Idaho

ground squirrels have 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).

3. Disease or Predation

Because the number of southern Idaho ground squirrels 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 these ground squirrels (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 done. Plague, a contagious bacterial disease found in rodents, has not been identified in southern Idaho ground squirrels (Yensen *et al.* 1996). The disease is of particular concern, however, since once established, it could decimate the remaining small numbers of ground squirrels at occupied sites.

Predation has not been suggested as one of the causes of the southern Idaho ground squirrels= 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).

4. Inadequacy of Existing Regulatory Mechanisms

Currently, the southern Idaho ground squirrel is not protected by federal or local laws. The IDFG classified the southern Idaho ground squirrel as a ASpecies 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 southern Idaho ground squirrel remains vulnerable to this type of activity.

The state and federal agencies are aware of the apparent population decline of the southern Idaho ground squirrel. 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.

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

Ground squirrels are considered pests by many farmers and ranchers (Prescott and Yensen 1999). When available, alfalfa crops are one of the preferred food sources for southern Idaho ground squirrels, resulting in localized crop losses during years of high squirrel populations (Prescott and Yensen 1999). Badgers are often attracted to population sites of ground squirrels, 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 southern Idaho ground squirrels (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 southern Idaho ground squirrels. Southern Idaho ground squirrels 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 southern Idaho ground squirrels. Isolation of these small populations may play a role in the decline of this species. For example, genetic evidence indicates that different populations of northern Idaho ground squirrels 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 Idaho ground squirrel as well. Recent work by Garner and Rachlow (2004) indicates that southern Idaho ground squirrels exhibit lower genetic diversity compared with northern Idaho ground squirrels. In addition, southern Idaho ground squirrels may be grouped into three genetic complexes. The genetic differences among the three groups of southern Idaho ground squirrels may be random or may be the result of genetic divergence; additional information is required to make this distinction. Regardless, current populations of southern Idaho ground squirrels are relatively small, and as such, 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).

IV. Effects of the Proposed Action

Effects of the action are defined as “the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with the actions, that will be added to the environmental baseline” (50 CFR §402.02).

A. Direct and Indirect Effects

Direct effects are defined as the direct or immediate effects of the action on the species or its habitat. Direct effects result from the agency action, including the effects of interrelated and interdependent actions. Indirect effects are caused by or result from the agency action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the immediate footprint of the project area, but would occur within the action area as defined.

Critical habitat has not been proposed for southern Idaho ground squirrels; therefore, destruction or adverse modification of critical habitat will not occur.

1. Rangewide/Agreement Effects: Threat Reduction

The Agreement is intended to reduce the threats to southern Idaho ground squirrels (see **Factors Affecting Species Environment within the Action Area** section) on all enrolled lands. Conservation benefits for southern Idaho ground squirrels from implementation of the Agreement are expected in the form of enhancement and restoration of southern Idaho ground squirrel habitat and populations, and expansion of the species to currently unoccupied, historical range. This is intended to contribute to an increase and reestablishment of southern Idaho ground squirrels throughout its range.

Habitat Destruction or Modification

Deterioration of native shrub-bunchgrass-forb habitat complex could be the leading cause of the population decline of southern Idaho ground squirrels (Yensen 1999). Degraded habitat results in overwinter mortality due to reduced forage quality. All age classes of southern Idaho ground squirrel rely on the nutrient content of the vegetation to accumulate sufficient lipid reserved during the approximately five month active season to survive overwintering. Subadult squirrels are most at risk of this source of mortality because they have no lipid reserves during their first active season. Years of subsisting in degraded habitat has resulted in a distribution of relatively isolated population sites of southern Idaho ground squirrels. In addition, most of these sites support a low number of ground squirrels. Under the Agreement, habitat protection/enhancement measures would be implemented at ground squirrel-occupied and reintroduction/translocation sites on enrolled lands within the range of the species.

The habitat protection/enhancement measures are intended to provide a high quality, more dependable forage base for ground squirrels. These habitat enhancement measures would include the rehabilitation of areas to native vegetation or other plant species that would provide high quality forage for ground squirrels if the site is lacking an adequate amount of quality forage. By implementing these habitat conservation measures, we expect to reduce overwinter mortality resulting from habitat degradation. This will benefit southern Idaho ground squirrels by allowing ground squirrel populations to increase on enrolled lands through improving habitat quality and reducing overwintering mortality.

Due to the arid landscape and the relatively slow growth rates of some native plants, there will be a delay between the time habitat enhancement measures are implemented and the time benefits are realized for southern Idaho ground squirrels. This lag was recognized and incorporated into the minimum term of enrollees (10 years) in the Agreement. The Service believes that 10 years

should be sufficient time to realize benefits of habitat restoration for southern Idaho ground squirrels.

Many sites occupied by southern Idaho ground squirrels in the past are currently unoccupied. Isolation of small populations of southern Idaho ground squirrels as a result of habitat deterioration and fragmentation is likely not conducive to long-term survival of the species. The Agreement is expected to reduce loss of individuals and local populations through reintroduction/translocation efforts. These efforts will supplement small, isolated populations that are in danger of extirpation, and will also allow re-establishment of populations in areas that are currently suitable, but unoccupied. This measure will increase connectivity and genetic exchange between currently disjunct populations. Ground squirrel populations should be less vulnerable to stochastic and other adverse effects as population size, the number of occupied sites, and habitat and population connectivity increase.

We expect that the Agreement will result in an increase of the population of ground squirrels within protected areas and enrolled lands. Over time, this will allow population expansion into adjacent areas of the enrolled lands, and into currently unoccupied areas within the historical range of the species. Additional population connectivity resulting from such an expansion will reduce the risk of local population extirpation from stochastic and other events.

Overutilization

Direct mortality from recreational shooting of southern Idaho ground squirrels is a threat to the species. To date, protection from shooting of southern Idaho ground squirrels has been minimal, and southern Idaho ground squirrels remain vulnerable to this type of mortality despite their protection since 1994 by state law. Under the Agreement, ground squirrels would be afforded additional protection from shooting: the Agreement includes specific provisions for eliminating direct killing of ground squirrels from shooting, trapping, or poisoning by landowners and their visitors on all enrolled lands. The Agreement also contains provisions for minimizing direct killing of ground squirrels by third parties, including the development and placement of signs to discourage recreational shooting of ground squirrels by visitors or passersby. The Agreement is expected to minimize or eliminate ground squirrel mortality from recreational and other shooting, trapping and poisoning on lands enrolled in the program.

Predation

The small, isolated populations of southern Idaho ground squirrels that currently exist are more susceptible to diseases, predators, and stochastic events. The Agreement contains provisions for the Service and the IDFG to minimize the amount of mortality that occurs from badgers, a primary predator of ground squirrels. In situations in which the viability of a southern Idaho ground squirrel local population is at risk from badger predation and the local population is deemed critical to the species, the Service and IDFG will authorize control measures (removal or

euthanization) for the badger. Control measures will only be authorized for individual animals and only in those situations where the population is at risk of extirpation by the predator; therefore this measure is not expected to adversely affect populations of badgers.

Southern Idaho ground squirrels are also at increased risk of predation by raptors due to the degraded condition of most of their habitat. The pervasive occurrence of nonnative annual vegetation provides little or no cover for ground squirrels from raptors. The provisions in the Agreement for habitat improvement will, over time, reduce or normalize mortality due to raptors (see **Habitat Destruction or Modification** section above).

Inadequacy of Regulatory Mechanisms

The long-term survival of southern Idaho ground squirrels is dependent on non-Federal land which currently supports at least 85 percent of the 302 known ground squirrel sites. Landowners have regulatory concerns related to the potential listing of the southern Idaho ground squirrel under the ESA, and these concerns could negatively affect their interest in conserving the species. For example, a landowner that wishes to eliminate a population of southern Idaho ground squirrels on his land may choose to permanently modify the habitat to make it unsuitable. This action would cause take and be detrimental to the survival of the species. The ESA regulatory assurances that would be provided to participating landowners under the Agreement and this permit would limit the need to make additional changes in land use activities, beyond those identified in the Agreement, should southern Idaho ground squirrels be listed under the ESA. In doing so, the Agreement is expected to reduce take and thereby benefit southern Idaho ground squirrels by reducing participating landowners' regulatory concerns about the possible listing of the species. The Agreement will also encourage additional cooperative efforts toward conservation of ground squirrels on enrolled lands. Indirect benefits of the Agreement are also expected, by providing an example for similar Agreements and encouraging cooperative ground squirrel conservation efforts between the agencies and other landowners.

Other Natural or Manmade Factors

Competition with Columbian ground squirrels may constitute a threat to southern Idaho ground squirrels at specific sites. Columbian ground squirrels displace southern Idaho ground squirrels and may prey on young. Under the Agreement, the IDFG and the Service will control the use of southern Idaho ground squirrel population sites by Columbian ground squirrels, if appropriate. If a local population of southern Idaho ground squirrels is at risk of extirpation via competition with Columbian ground squirrels, the Service and IDFG will authorize the removal of Columbian ground squirrels from that site. Control measures will only be authorized for individual animals and only in those situations where the population is at risk of extirpation by the competitor; therefore this measure is not expected to adversely affect populations of Columbian ground squirrels.

2. Site-specific Effects

The Agreement, through site-specific plans, will reduce the effects currently resulting from land management activities on enrolled private lands. The predominant uses of privately owned agricultural lands within the proposed project area are farming and ranching (see Service 2004 for more details). These land uses typically entail ground-disturbing activities (*e.g.*, tiling, trenching for waterlines and trough placement, etc.). Ground-disturbing activities conducted in areas occupied by southern Idaho ground squirrels are likely to result in mortality, harm, and harassment of individuals. Use of pesticides in farming and ranching may also result in injury to southern Idaho ground squirrels. Recreational activities conducted on these lands (hunting, picnicking, etc.) are also likely to result in disturbance and behavioral disruption. Under the Agreement, effects of these activities is minimized. Surveys of lands to be enrolled will provide information on areas occupied by southern Idaho ground squirrels. Site-specific plans will describe existing land uses and provide maps of enrolled lands and protected areas for southern Idaho ground squirrels. Within the protected areas, ground disturbing activities will be restricted for the term of the site-specific plan, and other activities with the potential to harm or harass ground squirrels will be restricted. In addition, the agencies may cooperate with the landowner to implement habitat enhancement measures in protected areas.

By restricting ground disturbance in protected areas, adverse effects from these types of activities will be minimized. Limited impacts will still occur in protected areas during surveying and monitoring of southern Idaho ground squirrel populations, and possibly during landowner recreation, and implementation of habitat enhancement measures and other conservation commitments. Adverse effects will also occur outside of protected areas, particularly in cultivated fields. The amount and extent of these impacts depend on the season of use, depth of tillage, and other factors. In general, the protected areas will be delineated to include the largest local populations of southern Idaho ground squirrels on an enrolled property, thereby reducing effects to the maximum extent practicable while maintaining the existing land uses.

Disturbance and handling of individuals will also occur during transplantation/reintroduction efforts. Individuals selected for these efforts will be subjected to increased levels of stress during transport and in the initial days after release. These individuals may also be more vulnerable to predation during the initial days after release, due to the learning curve involved in becoming knowledgeable with refuges in an unfamiliar setting. Some individuals may die during transplantation/reintroduction efforts. Over the term of the Agreement (30 years), however, it is likely that transplantation/reintroduction efforts will result in an increased distribution of southern Idaho ground squirrels, and may also result in increased abundance. Despite the short-term impacts involved in such efforts, the overall contribution to conservation of the species is anticipated to be beneficial.

3. Summary

In summary, direct and indirect beneficial effects to southern Idaho ground squirrels from conservation measures under the Agreement are expected to occur and increase ground squirrel habitat quantity and quality. Limited adverse effects in the form of killing and harassment will occur due to continued land uses such as farming of row crops in areas occupied by southern Idaho ground squirrels. However, the net effect of this Agreement will be to reduce the amount of disturbance, injury, mortality, and habitat impacts that occur on private lands throughout the range of the species by increasing landowner awareness of the species' needs, by protecting certain occupied areas from future ground disturbance for the term of the Agreement, and through the conservation measures that participating landowners will commit to implement (conservation commitments). The Agreement includes conservation commitments that address the primary threats to southern Idaho ground squirrels. These commitments are expected to result in an increase in the number of ground squirrels at individual sites, an increase in habitat connectivity, and an expansion of the species' distribution to areas where ground squirrels do not currently occur. The combination of these benefits with the Agreement's regulatory assurances encouraging a cooperative relationship with the IDFG and participating landowners, is expected to result in an overall benefit to southern Idaho ground squirrel conservation. By reducing landowner's regulatory concerns related to the potential listing of southern Idaho ground squirrels, and gaining increased cooperation with and support from landowners for the Agreement and measures contained therein, conservation of ground squirrels should be enhanced. The anticipated net result of the Agreement is a larger number and more widely distributed population of ground squirrels than occurs currently, and enhancement of the long-term survival of the species.

B. Effects of Interrelated or Interdependent Actions

Interrelated actions are those that are a part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration.

No activities or other actions are known to be interrelated or interdependent to the proposed action.

V. Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

In general, land use activities, including agricultural activities, on non-Federal lands are expected to continue. Since current land-use activities are expected to continue, for lands not enrolled under the Agreement, most of the threats to southern Idaho ground squirrels would also continue, including those related to habitat degradation (see section III.B of this opinion for additional details). Lands that are not enrolled under the Agreement would likely remain similar to their current habitat condition. For these areas, ground squirrels would likely be maintained in low numbers at scattered, isolated sites, similar to current conditions. The amount and extent of cumulative effects depends on the number of landowners that enroll in the Agreement: cumulative effects will decrease as the number of participants increases. Conversely, cumulative effects will be greater if fewer landowners enroll in the Agreement.

If other landowners work cooperatively with the agencies to develop and implement similar conservation measures as those proposed under the Agreement, threats to southern Idaho ground squirrels would be further reduced. Any such projects outside of the Agreement would undergo separate section 7 consultation.

VI. Conclusion

After reviewing the current status of southern Idaho ground squirrels, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Services conference opinion that approving the Agreement and issuing the permit, as proposed, is not likely to jeopardize the continued existence of southern Idaho ground squirrels. No critical habitat has been proposed for this subspecies, therefore, none will be affected.

Approval of the Agreement, including issuance of the section 10(a)(1)(A) permit, will reduce multiple threats to southern Idaho ground squirrels and restore the subspecies to formerly occupied range. Specifically, conservation measures under the Agreement will provide direct southern Idaho ground squirrel population and habitat conservation benefits and facilitate a cooperative environment with participating landowners and other private landowners who control most of the suitable ground squirrel habitat within the range of the species. Although incidental take will be authorized under the permit for the IDFG, the Agreement's conservation goal is expected to be met. As a result, the Agreement is expected to be beneficial and contribute significantly to successful long-term conservation of the subspecies.

Although the extent of beneficial effects resulting from the Agreement is unknown due to uncertainty of enrollment, no significant harm to southern Idaho ground squirrels will occur through implementation of the Agreement, and therefore the proposed action is not likely to jeopardize the continued existence of this species. The proposed action will have impacts on the species ranging from neutral to beneficial, depending on the amount of landowner enrollment and the resulting extent of the range that is included in the Agreement.

VII. Incidental Take Statement

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Service so that they become binding conditions of any grant or permit issued to the Service, as appropriate, for the exemption in section 7(o)(2) to apply. The Service has a continuing duty to regulate the activity covered by the incidental take statement. If the Service (1) fails to assume and implement the terms and conditions or (2) fails to require the IDFG to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the IDFG must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR § 402.14(i)(3)] The prohibitions against taking the species found in section 9 of the ESA do not apply until the species is listed.

A. Amount or Extent of Take Anticipated

Based on the Agreement and on the analysis of effects of the proposed action provided above, the Service authorizes incidental take of southern Idaho ground squirrels on all enrolled lands throughout the 1,051,752-acre range of the subspecies, as a result of agricultural-related and recreational activities including crop cultivation and harvesting, livestock grazing and production, and farm equipment operation. The IDFG and designated agents are authorized under the Act to incidentally take (injure, kill, harass, harm) the southern Idaho ground squirrel, if and when it becomes listed. Take is authorized to the extent that take of this species would otherwise be prohibited under section 9 of the Act and its implementing regulations, or pursuant to a rule promulgated under section 4(d) of the Act. Take must be incidental to otherwise lawful activities on the enrolled lands in the action area and consistent with implementation of the Agreement. The level of incidental take can best be described using two categories of enrolled lands: enrolled lands within protected areas, and enrolled lands outside of protected areas.

Within protected areas, incidental take of southern Idaho ground squirrels is expected to be minimal. Under the Agreement, protected areas are intended to be core conservation areas supporting populations of southern Idaho ground squirrels over the long-term. Conservation measures in the Agreement, including the site-specific plans, will ensure impacts to the species from land use activities in these areas will be kept to a minimum. While many land use activities consistent with specific conservation measures conducted within these areas may have minimal negative effects on ground squirrels, some minor chance of incidental take could occur. It is this level of infrequent, minor, incidental take that is intended to be authorized under the permit within protected areas. The actual level of incidental take is difficult to quantify, but is expected to range from none to minor harassment (*e.g.*, from population and habitat monitoring, and during reintroduction/transplantation efforts). Incidental take is authorized for two individual southern Idaho ground squirrels per protected area per calendar year. If two individual southern Idaho ground squirrels are determined to have been incidentally taken at any protected area during any calendar year, the Service, the IDFG, and participating landowners will identify and implement additional protective measures to minimize any further incidental take.

The greatest level of incidental take would likely occur outside of protected areas on enrolled lands. The level of incidental take is difficult to quantify. Take in these areas would most likely occur as a result of activities in areas which are not known to be occupied or have not been identified as potential future translocation/reintroduction sites. A small percentage of these unprotected areas may include squirrels that have dispersed from established protected areas. The timing and extent of incidental take would likely be highly variable, depending on the specific land use activities occurring on the lands. In some cases, incidental take may not occur at all, while in others incidental take may occur in the form of complete loss of all ground squirrels. For example, if the land use activity proposed is occasional livestock grazing, incidental take may not occur at all; whereas, if crop cultivation is a proposed activity, all ground squirrels may be injured, killed, harassed, or harmed. However, even in the case of effects from crop cultivation, since the primary crop in the action area is alfalfa hay, and alfalfa is reseeded approximately every 8 to 10 years, even if ground squirrels did occupy an area to be plowed, impacts would likely only occur occasionally over the 20 year life of the permit. Consistent with Regional Service policy, no take is authorized for pesticide use.

Take in protected areas will primarily be in the form of harm and harassment; more severe forms of take are not expected to occur during activities that will be allowed in protected areas. Take in non-protected areas may occur in the form of harm, harassment, wounding, or mortality, depending on the cause. Take resulting from cultivation practices is likely to be present in all four forms listed above. Land uses such as grazing and recreation in non-protected areas are likely to result in harm and harassment of ground squirrels. Overall, the Service believes that no more than 80 individuals of southern Idaho ground squirrels will be incidentally taken as a result of the proposed action in protected areas, and that no more than 40 individuals will be incidentally taken as a result of the proposed action in non-protected areas. This amount of take is estimated from an average of 20 participating landowners, each with an average of 2 protected

areas on their lands with authorized take of 2 southern Idaho ground squirrels per protected area, and authorized take of 1 southern Idaho ground squirrel per non-protected area. The total of 120 individuals is less than 3 percent of the recent high-end population estimate of 4,500 southern Idaho ground squirrels provided by Yensen (2001).

B. Effect of the Take

Should southern Idaho ground squirrels be listed under the Act, the IDFG and participating landowners would be authorized for incidental take from their otherwise lawful activities (crop cultivation and harvesting, livestock grazing and production, farm equipment operation, and recreational activities) on enrolled lands. By restricting ground disturbing activities in protected areas, the Agreement is likely to result in a reduction of take relative to that which is currently occurring, and thereby result in a net benefit to the species. Limited take will still be authorized to allow implementation of conservation commitments in these areas such as population and habitat monitoring, habitat enhancement actions, and transplantation/reintroduction efforts. The effect of take in these areas is unknown uncertain due to the indefinite amount and extent of landowner enrollment. However, we expect the long-term benefits of implementing conservation commitments to greatly outweigh minor negative effects (primarily harm and harassment) of limited take authorized in these areas by this opinion.

In areas not designated as protected (non-protected), the net effect of the Agreement on southern Idaho ground squirrels is also neutral or beneficial, again depending on the amount and extent of landowner participation. Currently, agricultural and ranching practices occur without any provisions to minimize take of southern Idaho ground squirrels, and take likely occurs. In contrast, landowners participating in the proposed action will agree to provisions designed to minimize harm, harassment, and mortality to southern Idaho ground squirrels from ground disturbing activities. Due to variations in land management practices throughout the action area, the exact nature of these provisions is unknown at this time but will be identified in site-specific plans. In addition, a notification requirement is contained in the proposed action that requires participating landowners to notify the agencies at least one month prior to new ground disturbance activities within protected areas, and develop measures with the agencies to minimize incidental take of ground squirrels from these activities. If direct mortality cannot be avoided, this will give the agencies the opportunity to translocate ground squirrels prior to ground disturbance. These measures should result in a net reduction in take occurring in non-protected areas relative to current practices.

Overall, the expected effect of the Agreement is a net reduction in take of southern Idaho ground squirrels throughout its range and therefore a net benefit to the species, resulting from increased ground squirrel distribution and abundance on all enrolled lands. The long-term conservation of the species will be enhanced by the Agreement despite authorization of limited incidental take under the permit. Incidental take that does occur under the permit will likely occur sporadically

geographically and temporally, and the benefits of conservation commitments expected to accrue under the Agreement will offset the negative effects this take.

C. Reasonable and Prudent Measures

The proposed action (Agreement) is designed to minimize take, therefore, no reasonable and prudent measures are needed.

D. Terms and Conditions

There are no terms and conditions associated with this opinion because no reasonable and prudent measures are needed or provided.

E. Reporting Requirements

The IDFG and enrolled landowners will notify the Service of any new ground squirrel sightings or occupied sites within 7 working days. Upon locating any dead, injured, or sick individuals of any southern Idaho ground squirrel, the IDFG and enrolled landowners shall, within 3 working days, notify the Fish and Wildlife Services Snake River Basin Fish and Wildlife Office (208-378-5243). The notification shall include the date, time, and location of the specimen, a photograph, cause of death, if known, and any other pertinent information. Care should be taken in handling the dead specimens to preserve biological material in the best possible state for later analysis.

The IDFG will be responsible for completion of an annual report on Agreement implementation by 1 February each year. Information in annual reports will include, but is not limited to: (1) a summary of the site-specific plans approved over the past year (including a list of landowners and their contact information and a map of all enrolled lands), (2) habitat management or other activities conducted under each site-specific plan over the past year, (3) effectiveness of these management activities in meeting the desired results, (4) status of habitat or other ground squirrel management actions conducted in previous years, (5) results of ground squirrel population, productivity, and habitat surveys, if any, on the enrolled lands, (6) the results of any ground squirrel translocation/reintroduction efforts, and (7) recommendations for future ground squirrel management activities consistent with the Agreement. A copy of the report will be made available to the agencies and each participating landowner.

IDFG and enrolled landowners shall refer to permit number TE-097632-0 in all correspondence and reports concerning permit activities. Any questions you may have about this permit should be directed to the Field Supervisor, U.S. Fish and Wildlife Service, Snake River Basin Office, 1387 S. Vinnell Way, Room 368, Boise, Idaho 83709 or at the above mentioned number.

IX. Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. No conservation recommendation is provided here because the intent of the action is to promote the conservation of southern Idaho ground squirrels throughout their range; additional recommendations are not necessary.

X. Reinitiation-Closing Statement

This concludes the conference for the potential effects of the approval of the Agreement and issuance of the section 10(a)(1)(A) permit on the southern Idaho ground squirrel. You may ask that this conference opinion be confirmed as a biological opinion issued through formal consultation if the southern Idaho ground squirrel is listed or critical habitat designated. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

After the listing and/or designation of critical habitat for southern Idaho ground squirrels, should either occur, and any subsequent adoption of this conference opinion, the federal agency shall request reinitiation of consultation if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action (50 CFR §402.16). In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The incidental take statement provided in this conference opinion does not become effective until/if the species is listed and the conference opinion is adopted as the biological opinion issued through formal consultation. At that time, the project will be reviewed to determine whether any take of southern Idaho ground squirrels has occurred. Modifications of the opinion and incidental take statement may be appropriate to reflect that take. No take of southern Idaho ground squirrels may occur between the listing of southern Idaho ground squirrels and the adoption of the conference opinion through formal consultation, or the completion of a subsequent formal consultation.

Should you have any questions regarding this conference opinion, please contact Carmen Thomas at (208) 378-5243.

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