

DRAFT ENVIRONMENTAL ASSESSMENT

Approval of a programmatic Candidate Conservation Agreement with Assurances for Southern Idaho Ground Squirrels (*Spermophilus brunneus endemicus*), in Adams, Gem, Payette, and Washington Counties, Idaho

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Abstract:

The purpose of this draft environmental assessment is to evaluate the proposal and several alternatives for implementing a Programmatic Southern Idaho Ground Squirrel Candidate Conservation Agreement with Assurances on southern Idaho ground squirrels (*Spermophilus brunneus endemicus*), and other resources. The need for this type of an agreement stems from the fact that the entire range of the species occurs in an area largely comprised of private land. Under the proposed action, individual landowners could sign up under the Agreement to cover specific land use activities, and agree to implement conservation practices on their lands to benefit southern Idaho ground squirrels. Under the proposed Agreement, these participating landowners would be granted authorization to incidentally take southern Idaho ground squirrels under a permit issued pursuant to section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended, if the species is subsequently listed within the duration of the permit.

The Agreement is consistent with the U.S. Fish and Wildlife Service's "Candidate Conservation Agreement with Assurances Final Policy" (64 *Federal Register* 32726). This policy encourages the implementation of conservation measures for species that have not been listed under the Endangered Species Act, but warrant agency concern. The Agreement identifies obligations of the parties, including participating landowners. Approval of the Agreement would provide conservation benefits for southern Idaho ground squirrels on those private and state-owned lands enrolled under the Agreement throughout the estimated 1,051,752-acre project area in Adams, Gem, Payette, and Washington Counties, Idaho. Also, under the Agreement, a permit authorizing incidental take of southern Idaho ground squirrels would be issued to each participating landowner enrolled under the Agreement consistent with section 10 of the Endangered Species Act.

This draft environmental assessment analyzes four alternatives, plus an additional alternative that was considered but eliminated because it did not meet the Service's Purpose and Need for the proposed project. These alternatives include:

Alternative A, the "No Action" alternative, would mean that the Agreement would not be approved, a permit would not be issued, and landowners would not receive any further incidental take authorization (there is one previously approved permit in the area).

Alternative B, the "Proposed Action Alternative", provides that the Agreement would be approved, and a permit would be issued to the Idaho Department of Fish and Game. Participating Landowners would sign up under the Agreement through a Certificate of Inclusion and be covered by the permit. Participating Landowners would implement, or allow the agencies to implement, ground squirrel conservation measures on their land as identified in their site-specific ground squirrel management plan, and would receive incidental take coverage for certain activities. These activities could include farming and ranching related activities: crop cultivation and harvesting, livestock grazing and production, farm equipment operation, and recreational activities (e.g., hunting of other State-approved species, fishing, dog training, camping, hiking, and use of recreational vehicles on and off established roads).

Under Alternative C, the programmatic Agreement would not be approved in its current form, but rather individual agreements would be made, on a case-by-case basis, with each landowner interested in conserving ground squirrels obtaining a separate permit from the Service.

Under Alternative D, State and Federal wildlife agencies would identify important sites occupied by southern Idaho ground squirrels and then the Fish and Wildlife Service would negotiate a conservation easement with each individual landowner that would fully protect ground squirrels and their habitat at the sites such that all impacts to ground squirrels would be avoided.

One additional alternative was considered but eliminated. Under this alternative, State and Federal agencies would identify important southern Idaho ground squirrel occupied sites and then undertake intensive predator control in order to protect and rebuild these existing populations. The costs of such an effort, combined with likely negative public perceptions associated with predator control would likely be prohibitive. In addition, such an alternative would do nothing to protect or restore important ground squirrel habitat that is considered to be an important conservation need of the species. Due to the failure of this alternative to adequately address the purpose of the Service's proposed project, which is to conserve ground squirrels, combined with likely high costs and low public acceptance, this alternative was dropped from further consideration.

The "No Action" alternative would negatively impact the southern Idaho ground squirrel population at this time. Since current land-use activities would be expected to continue under the No Action Alternative, most of the threats to southern Idaho ground squirrels would also continue, particularly those related to habitat degradation. Under this alternative, there would be no assurances of getting ground squirrel conservation measures implemented on any of the State and private lands within the historical range of the species.

Southern Idaho ground squirrels would receive positive benefits under Alternative C from the ground squirrel conservation practices employed through each agreement with individual landowners. Southern Idaho ground squirrel conservation would be greater than that under the No Action Alternative because some (as opposed to none) of the proposed proactive conservation measures would be implemented. However, Alternative C is less desirable for ground squirrel conservation than Alternative B, the proposed alternative, since it would require more time-consuming, expensive individual agreements. As a result, it is expected that fewer landowners would enter into agreements under Alternative C than that of the proposed action Alternative.

Alternative D would provide positive conservation benefits for southern Idaho ground squirrels at occupied locations and where landowners would be willing to largely set aside other uses of their land as a result of conservation easements. However, the cost of implementing the program and the willingness of landowners to dedicate some of their farm or rangelands exclusively to ground squirrel protection would likely limit the success of this alternative. It is likely that only a limited number of sites and accompanying habitat acreage would be protected, and overall southern Idaho ground squirrel conservation would be equally limited.

Under the “Proposed Action Alternative”, Alternative B, southern Idaho ground squirrel conservation would be enhanced to a greater extent than under the “No Action” alternative since implementation of the Agreement and site-specific plans for participating landowners would allow for conservation measures for southern Idaho ground squirrels throughout the estimated 1,051,752-acre project area (approximately 500,000 acres of squirrel habitat). The Proposed Action Alternative also would have a greater positive conservation benefit for southern Idaho ground squirrels than Alternative C or D because it would likely result in greater landowner participation and ground squirrel conservation measures being implemented over a larger area. In addition, the Proposed Action Alternative would have greater conservation benefits than Alternatives A or D, because it could include ground squirrel translocation/reintroduction efforts on participating landowner’s property.

Positive direct and cumulative effects from approval and implementation of the Agreement would occur on lands throughout the estimated 1,051,752-acre project area, which encompasses the entire known range of the southern Idaho ground squirrel. As ground squirrel conservation measures are implemented by individual landowners who sign up under the Agreement and enter into site-specific plans with the agencies, a positive additive impact would be gained. In fact, should these conservation measures be implemented on all necessary properties throughout the range of the southern Idaho ground squirrel, it is anticipated that listing of the species under the ESA would be avoided.

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Section I: PURPOSE AND NEED FOR ACTION

A. Purpose for the Environmental Assessment:

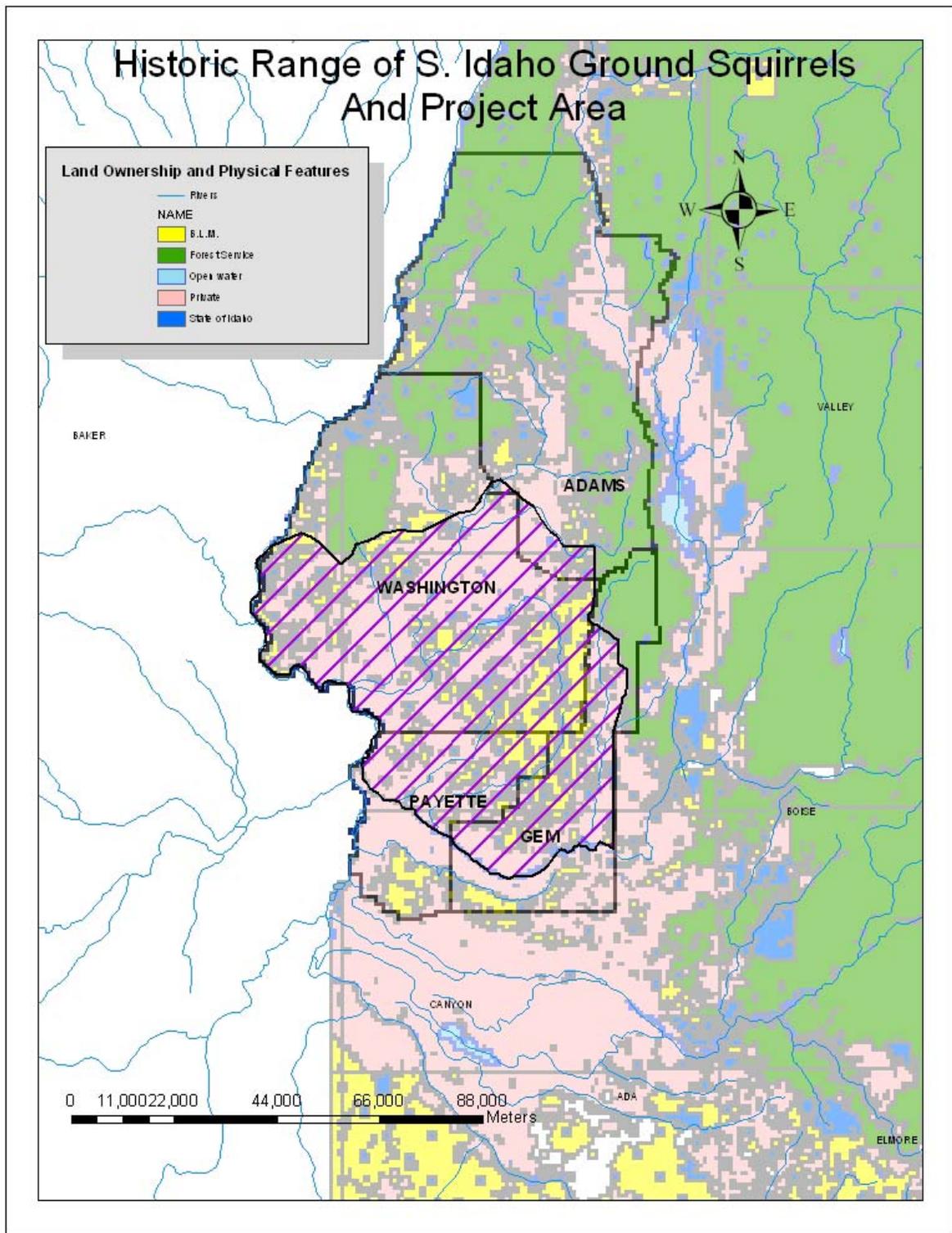
The purpose of this draft environmental assessment is to evaluate the proposal and several alternatives for implementing a Programmatic Southern Idaho Ground Squirrel Candidate Conservation Agreement with Assurances for southern Idaho ground squirrels (*Spermophilus brunneus endemicus*), and other resources (the “Agreement”) (Idaho Department of Fish and Game et al. 2003). This Agreement is needed to improve conservation of the species across its entire range; a large percentage being private and State lands. The proposed Agreement would allow the Idaho Department of Fish and Game (IDFG), the Idaho Governor’s Office of Species Conservation (OSC), and the U.S. Fish and Wildlife Service (Service) (collectively “the agencies”), in cooperation with participating landowners, to implement conservation measures for southern Idaho ground squirrels in Adams, Washington, Payette and Gem Counties, Idaho.

Among other actions, the proposed programmatic Agreement would support efforts to translocate/reintroduce ground squirrels into suitable, but currently unoccupied habitat, plus the enhancement, protection, or rehabilitation of shrub/grassland and other habitats with the purpose of conserving southern Idaho ground squirrels in areas that it historically occupied. The conservation measures would be implemented by the IDFG, the Service, and by participating landowners, and would generally consist of reintroduction of southern Idaho ground squirrels and management of their habitat and populations.

The proposed Agreement is a programmatic plan covering non-federal land within the project area identified in Figure 1. Under the Agreement, individual “Participating Landowners” would be issued a section 10(a)(1)(A) permit, upon the signing of a Certificate of Inclusion and become a party to the Agreement. Prior to signing the Certificate of Inclusion, the individual landowner must work with the agencies and develop a mutually agreeable site-specific Southern Idaho Ground Squirrel Management Plan (site-specific plan) that provides adequate conservation for ground squirrels consistent with the landowner’s land use activities and the Agreement.

As proposed, when the site-specific plan is completed and the Certificate of Inclusion signed, the Participating Landowner would be issued a permit that authorizes incidental take of southern Idaho ground squirrels as long as the permit conditions, including implementation of the Agreement and site-specific plan, are followed. Should the species eventually be listed under the Endangered Species Act of 1973, as amended (ESA), the proposed permit would authorize incidental take of southern Idaho ground squirrels, consistent with the Agreement and site-specific plan, as the result of specified land management practices. The proposed covered practices are largely related to agriculture and livestock production activities, including: crop cultivation and harvesting, livestock grazing and production, farm equipment operation, and the use of these lands for recreational purposes. The permit would include ESA regulatory assurances as discussed in the Service’s Candidate Conservation Agreement with Assurances Final Policy (64 Federal Register 32726).

Figure 1. Project Area for the Southern Idaho Ground Squirrel Programmatic Candidate Conservation Agreement with Assurances



Consistent with the Service's Candidate Conservation Agreement with Assurances Final Policy, the conservation goal of the Agreement is to encourage development and protection of suitable southern Idaho ground squirrel habitat and populations on non-Federal lands and support the successful translocation/reintroduction of the species to currently unoccupied, suitable habitat within the project area in western Idaho. The conservation goal would be met by giving private landowners incentives to implement conservation measures, through funding and regulatory certainty concerning land use restrictions that might otherwise apply should southern Idaho ground squirrels become listed under the ESA. This draft environmental assessment is intended to inform the public, and help the Service decide whether to accept the Agreement and issue the section 10 permit pursuant to the ESA, including compliance with the requirements of the Service's Candidate Conservation Agreement with Assurances Final Policy.

B. Need for the Proposed Action:

Southern Idaho ground squirrels currently occur over an approximately 518,000-acre area in southwestern Idaho, although the historic range is estimated to be approximately twice this size. Surveys of southern Idaho ground squirrels indicate a substantial decline in the total population of ground squirrels, the number of ground squirrels at individual sites, and the number of occupied sites since 1985 (Yensen 1999, Yensen 2000 and Yensen 2001). In addition, the current range of the species is more restricted than it was historically, with a severe decline in the number of ground squirrel population sites in the northern part of the species's historical range (Yensen 1980, Yensen 1991, Yensen 1999, Yensen 2000 and Yensen 2001). Of the 219 southern Idaho ground squirrel occupied sites known to occur through 2000, 85% (186) were located on private lands, mostly ranches and farms, 12% (26) were under Federal management by the Bureau of Land Management, and 3% (7) were on lands managed by the Idaho Department of Lands (Yensen 2000).

The International Union for Conservation of Nature (IUCN) classified the southern Idaho ground squirrel as "vulnerable" (Hafner et al. 1998). The IDFG classified the southern Idaho ground squirrel as a "Species 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 Federal Register 54807).

Identified threats to southern Idaho ground squirrels 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. In addition to these threats, most of which are the result of human actions, diseases are likely playing a role in the decline of southern Idaho ground squirrel populations.

The proposed Agreement is intended to reduce or eliminate the threats to the species that can be controlled through human actions on private and State lands where southern Idaho ground squirrels occur. If successful, the proposed Agreement will result in an increase in the number and distribution of ground squirrels and increase the long-term persistence of the species on these lands.

The proposed Agreement has two general biological objectives intended to conserve southern Idaho ground squirrels. First, habitat enhancement or protection measures are intended to increase habitat quality and quantity or maintain good quality ground squirrel habitat. Second, population management through protection of individual ground squirrels and ground squirrel populations is intended to reduce direct and indirect ground squirrel mortality, and if appropriate, reintroduce/translocate ground squirrels to suitable, unoccupied habitat. The proposed Agreement is intended to advance these biological objectives while also meeting the specific land use objectives of each Participating Landowner. Combining the biological objectives of the Service with the land use objectives of individual landowners would be the basis for specific conservation measures identified in each site-specific plan. The biological goal for success of the Agreement is the adequate protection of all occupied southern Idaho ground squirrel sites (as identified in the Agreement) on Participating Landowners' land enrolled under the Agreement and permit.

Under the proposed Agreement, individual Participating Landowners and the agencies would enhance, protect, or rehabilitate shrub/grassland habitats needed by ground squirrels, reduce or eliminate direct killing of ground squirrels (from humans and predators), manage competition from Columbian ground squirrels, and otherwise protect ground squirrel populations on the enrolled lands. Ground squirrel translocation/reintroduction efforts, to areas identified by the Service and the IDFG, would occur if necessary to further conservation of the species. These efforts are intended to provide for the conservation of southern Idaho ground squirrels in areas currently and historically occupied by the species.

The proposed Agreement's conservation goal would be met by giving Participating Landowners incentives to implement, or allowing 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. Successful conservation of southern Idaho ground squirrels is heavily dependent on non-Federal land. Of the 219 southern Idaho ground squirrel occupied sites known to occur through 2000, 85% (186) were located on private lands, mostly ranches and farms, 12% (26) were under Federal management by the Bureau of Land Management, and 3% (7) were on lands managed by the Idaho Department of Lands (Yensen 2000).

Private landowners are concerned about land activity restrictions, given the possible listing of the species under the ESA, and wish to work cooperatively with the agencies to develop their own site-specific plans to provide coverage under the Agreement and its associated permit. Approval and implementation of this Agreement and associated site-specific plans for Participating Landowners will provide an opportunity for species conservation that precludes or removes the need to list the southern Idaho ground squirrel under the ESA. The need for the action is due to the decline of southern Idaho ground squirrel populations throughout their range. The agencies have an opportunity to reverse the decline and conserve the species by working collaboratively with non-federal landowners in the area.

C. Decision to be Made by the Responsible Official:

The Service will decide whether or not to approve the Agreement and issue the permit, in accordance with section 10 of the ESA, based on the Agreement as proposed or on the Agreement as further conditioned. To approve the Agreement, the Service must find that:

1. Take of southern Idaho ground squirrels will be incidental to otherwise lawful activities, and will be in accordance with the terms of the Agreement;
2. The Agreement complies with the requirements of the Candidate Conservation Agreement with Assurances final policy;
3. The probable direct and indirect effects of any authorized take will not appreciably reduce the likelihood of survival and recovery in the wild of this species;
4. Implementation of the terms of the Agreement is consistent with applicable Federal, State, and Tribal laws and regulations;
5. Implementation of the terms of the Agreement will not be in conflict with any ongoing conservation programs for species covered by the Agreement; and
6. The agencies and Participating Landowners have shown the capability for and commitment to implementing all of the terms of the Agreement.

D. Issues Considered During Agreement Development:

Five primary issues were considered during the development of the proposed Agreement: (1) how to accurately account for impacts that would be cumulative (though positive), (2) how to apply standards and regulations both at the programmatic and the individual landowner levels, (3) predator control, (4) partners and priorities, and (5) community outreach. We expect that the proposed Agreement and the resulting site-specific agreements would result in a net benefit to southern Idaho ground squirrels. Most of the benefits would be realized at a scale smaller than the proposed project; most benefits would be achieved on portions of private land. To deal with this issue, the IDFG and the Service would cooperate in conducting annual population and habitat monitoring, and the Service would act as the repository for all data generated by or through the proposed agreement and the site-specific plans. This will facilitate analyses of cumulative impacts of the proposed agreement by the Service, and allow the IDFG and the Service to monitor the progress of conservation of the southern Idaho ground squirrel.

The second issue, as described above, is consistency in the requirements of the proposed Agreement between the programmatic level and the individual landowner level, and also among individual landowners. To ensure this consistency in the proposed Agreement, all Participating Landowners would agree to four conservation measures: (1) prohibit shooting, trapping, or poisoning of southern Idaho ground squirrels on their property; (2) implement habitat maintenance or enhancement measures on their property; (3) minimize adverse effects of land use activities on southern Idaho ground squirrels; and (4) allow Agency access to monitor ground squirrel populations and habitat status. These measures would result in a net benefit to southern Idaho ground squirrels on enrolled properties, and likely also across the range of the species.

The third issue, as previously identified, deals with predator control. Idaho Conservation League (League) and the Animal and Plant Health Inspection Service, Wildlife Services (APHIS-WS) indicated that predator control may be needed to facilitate reintroduction efforts and long-term survival of the southern Idaho ground squirrel. We agree that predator control may be necessary in some areas and have included predator control as a potential conservation measure in the proposed Agreement. However, because we do not know that predator control will be necessary on all lands enrolled in the proposed Agreement, we would not require that predator control occur on all areas. We would address the issue of predator control on a site-by-site basis, with details provided in each Participating Landowner's site-specific plan.

The fourth issue considered during the development of the proposed Agreement is its partners and priorities. The League indicated that the list of potential partners in the proposed Agreement should be expanded to include local businesses, community organizations, and other parties. Potential partners for the proposed Agreement would include all non-federal landowners within the project area. The League also suggested that the proposed Agreement focus on primary threats to each population. The proposed Agreement is programmatic in nature and is intended to address all known threats to the species and to cover the entire range. As a result, the discussion of threats in the proposed Agreement is broad. We agree that the threats to individual southern Idaho ground squirrel populations may vary with location. Site-specific conservation measures and plans would address the known threats to southern Idaho ground squirrels within the local area.

The League recommended including, in the proposed Agreement, a study of the effects of grazing on southern Idaho ground squirrels. While the proposed Agreement is structured to allow such a study, through requiring agency access to monitor southern Idaho ground squirrels and habitat and by requiring Participating Landowners to implement measures to minimize effects of land use activities, the proposed Agreement is not structured to require such a study. Participation in a grazing study may not be feasible or practical for all enrolled landowners and therefore, would not be included as a requirement to enroll in the proposed Agreement. If Participating Landowners indicate an interest in developing/conducting a study of this nature, the Service would work with them to obtain funding, and to design and conduct the study.

The League indicated that an active public education program is critical to long-term survival of southern Idaho ground squirrels. We agree that public education will benefit ground squirrels. We have worked with the IDFG to include "No Shoot" information in various game regulation brochures, and are currently working with Zoo Boise to expand and improve their existing southern Idaho ground squirrel display. This information includes distinguishing characteristics for the different ground squirrel species that occur within the range of the southern Idaho ground squirrel, and the fact that it is illegal to shoot southern Idaho ground squirrels. We plan on creating and installing "No Shoot" signage at various locations within the range of the ground squirrel. In addition to these passive types of public education, the Service would be happy to engage in active public education by giving presentations to, and answering questions of, various interested parties.

The prior approval of a candidate conservation agreement with assurances for southern Idaho ground squirrels with a single landowner provides experience in the issues to be addressed at the site-specific level (Soulen Livestock Company *et al.* 2002). The Soulen Livestock agreement and environmental assessment were made available for public comment (67 Federal Register 13189), and approved by the Service on September 29, 2002, after revisions were made in response to the public comments received. The primary issue considered by Soulen Livestock and the Agencies during development of that agreement and site-specific plan was to find ways to integrate conservation of southern Idaho ground squirrels with Soulen Livestock's land use objectives given the combination of known occupied ground squirrel sites and lands with unknown ground squirrel status. This issue was addressed by developing site-specific ground squirrel conservation measures at currently known, occupied ground squirrel sites, and obtaining commitments for development and implementation of additional conservation measures at ground squirrel-occupied and reintroduction/translocation sites identified in the future. We would develop similar site-specific conservation measures and plans under the proposed Agreement.

Section II. DEVELOPMENT AND CONSIDERATION OF ALTERNATIVES

Each of alternatives was developed with the objective of minimizing controllable threats to southern Idaho ground squirrels and barriers to increasing populations of the species. These include: habitat deterioration and fragmentation; direct killing from shooting, trapping or poisoning; predation; and competition with Columbian ground squirrels (*Spermophilus columbianus*). With this objective in mind, four alternatives have been developed for analysis in this draft environmental assessment.

A. Alternative A—“No Action”

Under the “No Action” Alternative, the proposed Agreement would not be approved, the permit would not be issued to the IDFG, and Participating Landowners would not be covered under the programmatic Agreement or permit. Agricultural activities would continue within the project area in accordance with applicable laws, likely similar to current activities for all landowners. The primary agricultural activities in the area that would continue are those related to crop cultivation and harvesting and livestock production.

It is uncertain if southern Idaho ground squirrel reintroduction and other conservation measures would occur under the “No Action” Alternative. Southern Idaho ground squirrels are largely dependent on private lands, and landowner attitudes toward the species are important if ground squirrel conservation is to occur. The State/Federal agencies are concerned that, should southern Idaho ground squirrels be listed under the ESA, landowner concerns over potential land-use restrictions could be a disincentive for them to cooperate and ground squirrel conservation efforts could be hampered. Successful conservation of southern Idaho ground squirrels will require active management on private lands in the form of ground squirrel reintroduction/translocation, habitat enhancement/restoration measures, and other conservation measures. Without cooperation from landowners, the prospects for southern Idaho ground squirrel conservation would be diminished.

Under the “No Action” Alternative, in the short-term, habitat would be sufficient to support scattered ground squirrel population sites, but with a continuation of low numbers of ground squirrels and isolated population sites. However, continuation of current land management activities and persistence of the threats to the species could result in continued population declines of the species and a pose a threat to long-term survival. Thus, the “No Action” Alternative could be detrimental to the long-term conservation of the species unless proactive ground squirrel conservation programs are initiated.

B. Alternative B—“Proposed Action”

Under the Proposed Action Alternative, the programmatic Agreement (*Idaho Department of Fish and Game et al. 2003*) would be approved, the permit would be issued to the IDFG, and Participating Landowners would enroll under the Agreement through Certificates of Inclusion and be covered under the permit. Participating Landowners would implement, or allow the agencies to implement, ground squirrel conservation measures on their land as identified in their individual site-specific plans. Participating Landowners would receive a permit authorizing incidental take of southern Idaho ground squirrels and would receive regulatory assurances from the Service that disruption of their land-use activities will be minimal should the species be listed under the ESA. Providing Participating Landowners ESA regulatory assurances should reduce concerns over a potential listing and enhance landowner cooperation in southern Idaho ground squirrel conservation efforts. Under this alternative, a programmatic ground squirrel conservation effort would be initiated over 500,000 acres (20,234 ha) of the species’ historical range to enhance the long-term survival of the species.

Conservation measures under the Agreement that would be addressed in each Participating Landowner's site-specific plan include:

1. Implement habitat maintenance or enhancement measures on the enrolled lands at all southern Idaho ground squirrel-occupied sites and sites identified for ground squirrel translocation/reintroduction. These measures could include, but are not limited to, maintenance of vegetation currently providing adequate ground squirrel habitat, seeding plant species, fertilizing, prescribed burning, and providing rock jacks, woody debris or other material suitable for ground squirrel escape cover. Habitat enhancement measures are particularly desirable at sites dominated by cheat grass and/or Medusahead rye;
2. Prohibit southern Idaho ground squirrel shooting, trapping, or poisoning to protect individual ground squirrels and ground squirrel populations;
3. Implement measures to minimize the effects of land use activities on southern Idaho ground squirrels at occupied sites and translocation/reintroduction sites to protect ground squirrel populations. These measures could include, but are not limited to, no use of rodenticides, modifications in pesticide application, and modification of mechanical ground cultivating activities;
4. Allow translocation of southern Idaho ground squirrels into unoccupied, suitable habitat if necessary for ground squirrel population conservation purposes;
5. If appropriate, control use of occupied southern Idaho ground squirrel sites by Columbian ground squirrels and badgers;
6. Allow agency access to the Participating Landowner's property to identify occupied southern Idaho ground squirrel sites and document habitat conditions, implement conservation measures, and monitor effectiveness and compliance with the Agreement and site-specific plan; and,
7. Actively pursue funding, if necessary, to implement the Agreement and each site-specific plan. This could be in the form of, for example, providing in-kind cost-share or application for funds under the Farm Bill, Partners for Fish and Wildlife Program, or the Private Stewardship Grants Program.

Monitoring will be conducted by the IDFG and the Service under this alternative in the form of ground squirrel occupancy surveys in currently unsurveyed habitat, intensive and extensive ground squirrel population censuses at occupied sites, and habitat monitoring.

C. Alternative C—"Landowner by Landowner"

Under this alternative, the proposed programmatic Agreement would not be approved in its current form, but rather individual agreements would be made and section 10 permits issued by the Service on a case-by-case basis, with each landowner interested in conserving ground squirrels. The agencies would work with interested landowners to develop individual Candidate

Conservation Agreements with Assurances and, as individual agreements are approved, issue the landowner a section 10 permit. The landowner would receive ESA regulatory assurances from the Service, and disruption of their land-use activities would be minimal should the species be listed under the ESA.

Providing ESA regulatory assurances should reduce concerns over a potential listing and enhance landowner cooperation in southern Idaho ground squirrel conservation efforts. However, gaining these assurances under this alternative would require an individual agreement for each landowner. Such agreements are expensive and time-consuming to produce for landowners, which increases the difficulty of developing them. Under this alternative, cooperative efforts with private landowners for conservation of southern Idaho ground squirrels could only occur on a landowner-by-landowner basis and this would likely result in less landowner participation than through the proposed action, which includes much of the costs and efforts in the initial development of the programmatic Agreement. Given the piecemeal approach of Alternative C, broad, overall planning for southern Idaho ground squirrel conservation within the project area would be minimal as opposed to that which would occur under the proposed Agreement.

D. Alternative D—“Protected Areas”

Under this alternative, the State/Federal agencies would embark upon an intensive effort to locate all occupied sites within the range of the southern Idaho ground squirrel. Once located, these sites would be protected from land uses that might change the habitat or pose a threat to the species. The primary tool for achieving this level of protection would be for public agencies, or perhaps nonprofit groups, to secure an interest in the property through a conservation easement, a lease, or an outright purchase.

In theory, this alternative could provide significant conservation benefits. Occupied sites would be fully protected and agency specialists could decide on any need to improve habitat within those sites. In reality, however, two aspects of this alternative would work against its conservation effectiveness: (1) there are likely insufficient funds to acquire all the interests in the lands needed to achieve biological goals, and, (2) landowner resistance to the concept would likely be high because traditional agricultural land use might be decreased. Such a decrease may impact the species negatively because southern Idaho ground squirrels successfully inhabit areas of traditionally intensive agriculture and livestock use. Finally, landowners would not receive any “incidental take” coverage under this alternative, despite the likelihood that southern Idaho ground squirrels will be discovered in unprotected areas or will migrate from the conservation areas to other lands. This lack of incentive for landowners could also decrease community support for this alternative.

E. Alternatives Considered but not Chosen for Analysis

An alternative was considered that identified occupied sites within the range of southern Idaho ground squirrels and then proposed to undertake an intensive effort to minimize predation of the ground squirrels that are found there. Possible predators include various raptors, badgers, snakes and coyotes, as well as domestic cats and dogs. The planning team felt there were numerous

drawbacks to this approach. First, any adequate control effort could be prohibitively expensive, requiring a huge amount of time to monitor occupied sites and implement control efforts. Second, similar approaches have met with significant public opposition. Third, even if the effort were successful, the success would rest upon an unnatural manipulation of the predator-prey balance that could not reasonably be sustained over time. Finally, such an alternative would do nothing to protect or restore important ground squirrel habitat that is considered to be an important conservation need of the species. Due to the inadequacy of this alternative to adequately meet the purpose of the proposed project, which is to feasibly conserve ground squirrels, combined with likely high costs and low public acceptance, the alternative including intensive predator control was dropped from further consideration.

Section III: AFFECTED ENVIRONMENT

A. Introduction

The lands to be covered in the proposed action and the analysis area for this draft environmental assessment include 1,046,569 acres in Adams, Gem, Payette, and Washington Counties, Idaho, near the Oregon border (Figure 1). 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.

Deterioration of native shrub-bunchgrass-forb habitat complex, resulting in large-scale invasion of exotic annual vegetation such as cheatgrass and Medusahead rye, could be a leading cause of the population decline of southern Idaho ground squirrels (*Yensen 1999*). These species are of limited forage value to ground squirrels, have highly variable annual productivity, and currently dominate much of the ground squirrels' range (*Yensen 1999; Yensen et al. 1992*). Without the reliable and nutritious diet provided by native grasses and forbs or other perennial vegetation, ground squirrels must rely on the highly variable productivity and nutritional value of exotic annuals. Habitat destruction and fragmentation could be a major factor that has resulted in a distribution of relatively isolated populations of southern Idaho ground squirrels. In addition, most of these sites support a low number of ground squirrels.

Included in the detailed analysis below are the potential impacts to wildlife (including ESA-listed or candidate species), vegetation (including ESA-listed or candidate plants), recreation, and local economies.

B. Southern Idaho Ground Squirrel Ecology

Southern Idaho ground squirrels 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; Prescott and Yensen 1999) 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. 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.

The southern Idaho ground squirrel requires a high quality diet of green vegetation and seeds to store enough fat to survive long months of torpor. Though dietary requirements of the southern Idaho ground squirrel have not been studied extensively (Yensen and Sherman 1997), they are likely to be similar to those of other ground squirrels in Idaho (Dyni 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). However, sites known to contain the largest populations of southern Idaho ground squirrels are the Rolling Hills Golf Course and the cemetery in Weiser, Idaho where they apparently do well on irrigated lawn grasses. Prescott and Yensen (1999) found that occupied southern Idaho ground squirrel 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.

(1) Southern Idaho Ground Squirrel Range and Populations ~

The current 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 historical range of southern Idaho ground squirrels formally extended further 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 historic site in Adams County was not occupied in 1999 (Yensen 1999, Yensen 2000). Southern Idaho ground squirrels may currently be extinct in Adams County (Yensen 2001).

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. 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).

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 southern Idaho ground squirrel (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.

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, multiple 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, however, detailed data on these sites are still being compiled.

(2) Threats to Southern Idaho Ground Squirrels ~

(a) 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 and Medusahead rye are of limited forage value to the ground squirrels, have highly variable annual productivity, and now dominate much of the ground squirrel's 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). 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 Piute ground squirrels were highly unstable and prone to extinction in areas invaded by exotic annuals.

(b) 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 ground squirrel activity recently ceased (Yensen 1999). The IDFG recognizes the southern Idaho ground squirrel as a “Species of Special Concern.” Species of Special Concern are protected, by State law, from “taking” (shooting, trapping, poisoning) or possession. In its 2002-2003 upland game regulations pamphlet (IDFG 2002), the IDFG notified the public that northern and southern Idaho ground squirrels are protected from shooting. However, this law will likely be difficult to enforce due to the dispersed nature of southern Idaho ground squirrel populations and insufficient IDFG law enforcement staff, and direct mortality from recreational shooting is likely to remain a threat to the species for some time. Yensen (1998) suggested that the impact of recreational shooting on populations of southern Idaho ground squirrels should be evaluated throughout its range. 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).

(c) Disease and 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 squirrels (Prescott and Yensen 1999; Yensen 1999), though no epizootic infestation has been noticed in either subspecies of Idaho ground squirrel (Yensen 1996, Yensen and Sherman 1997). Blood analyses to determine whether pandemic diseases are present have not been done but should be considered in the future. Plague, a contagious bacterial disease found in rodents, has not been identified in southern Idaho ground squirrels (Yensen 1996). The disease is of particular concern because once established, it could decimate the remaining small numbers of 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).

(d) Inadequacy of Existing Regulatory Mechanisms

Currently, Federal laws do not protect the southern Idaho ground squirrel. As previously discussed, the IDFG classified the southern Idaho ground squirrel as a “Species of Special Concern” and “taking” them is prohibited under State law. However, this law will likely be difficult to enforce due to the dispersed nature of southern Idaho ground squirrel populations and insufficient IDFG law enforcement staff, and direct mortality from recreational shooting is likely to remain a threat to the species for some time. The Service has made state and federal agencies aware of the 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.

(e) Other Natural or Manmade Factors Affecting the Species Continued Existence

Farmers and ranchers may consider ground squirrels to be pests (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 the continued existence of 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 1999, 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 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).

C. Vegetation

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 (Interior Columbia Basin Supplemental Draft Environmental Impact Statement, 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.

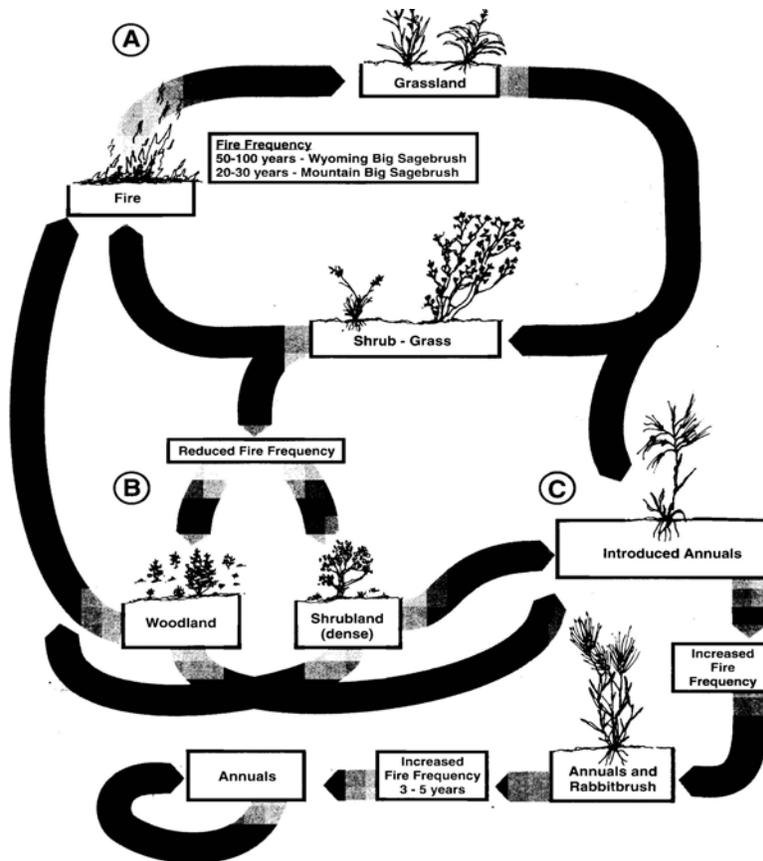
In its current condition, the dry shrub potential vegetation group includes primarily native shrublands with lesser amounts of exotic herblands, seeded grasslands, native grasslands and woodlands. Representative shrub species include Wyoming big sagebrush, basin big sagebrush, low sagebrush, antelope bitterbrush, shadscale, winterfat and greasewood. Grass species include bluebunch wheatgrass, bottlebrush squirreltail, Thurber needlegrass and Sandberg bluegrass.

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 (Interior Columbia Basin Supplemental Draft EIS, 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 (Interior Columbia Basin Supplemental Draft EIS, 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, Medusahead rye, and whitetop. 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 (Pacific Northwest Labs (PNL) Sagebrush Steppe Series) (Figure 2).

Figure 2. General Rangeland Successional and Disturbance Processes



Three common pathways of succession in the sagebrush steppe, including “A”, succession from a grassland to a shrub-grass community, “B” shrub dominated community to woodland or shrubland in the absence of fire, and, “C” dominance by cheatgrass or other invasives following a wildfire.

From Interior Columbia Basin Supplemental Draft EIS, 2000.

The Service, BLM and the Idaho Native Plant Society have identified 32 plant species that appear to be relatively rare throughout the analysis area. In Idaho, the Conservation Data Center maintains the lists of plant and animal species judged to be rare or listed as “endangered” or “threatened” pursuant to the Endangered Species Act (*see Table 1*). Of these species, only one, Slick Spot Peppergrass, has been proposed for listing as “threatened” or “endangered” or is formally a candidate for such a listing. All the rest are termed “species of interest” or something similar, depending upon the listing source.

Table 1. Rare Plants and Their Status Within the Project Area

<u>Common Name</u>	<u>Scientific Name</u>	<u>County of Occurrence</u>	<u>Status</u>
Swamp Onion	<i>Allium Madidum</i>	Adams, Washington	Spec. Int.
Green-Band Mariposa Lily	<i>Calochortus Macrocarpus v. Maculosus</i>	Adams	Spec. Int.
Indian Valley Sedge	<i>Carex Aboriginum</i>	Adams, Washington	Spec. Int.
Mahala-Mat Ceanothus	<i>Ceanthosus Prostratus</i>	Adams	Spec. Int.
Idaho Hawksbeard	<i>Crepis Bakeri s. Idahoensis</i>	Adams	Spec. Int.
Bacigalupi's Downingia	<i>Dowlingia Bacigaluppi</i>	Adams	Spec. Int.
White Eatonella	<i>Eatonella Nivea</i>	Adams	Spec. Int.
Giant Helleborine	<i>Epicactis Gigantea</i>	Adams	Spec. Int.
Puzzling Halimolobos	<i>Halimolobos Perplexa</i>	Adams	Spec. Int.
Blandow's Helodium	<i>Helodium Blandowii</i>	Adams	Spec. Int.
Hazel's Prickly Phlox	<i>Leptodactylon Pungens s. Hazeliae</i>	Adams	Spec. Int.
Bank Monkeyflower	<i>Mimulus Clivicola</i>	Adams, Washington	Spec. Int.
Stalk-leaved Monkeyflower	<i>Mimulus Patulus</i>	Adams	Spec. Int.
Bartonberry	<i>Rubus Bartonianus</i>	Adams	Spec. Int.
Tobias Saxifrage	<i>Saxifraga Bryophora v. Tobiasiae</i>	Adams	Spec. Int.
Douglas Clover	<i>Trifolium Douglasii</i>	Adams, Washington	Spec. Int.
Aase's Onion	<i>Allium Aaseae</i>	Payette, Gem, Washington	Spec. Int.
Packard's Milkvetch	<i>Astragalus Cusickii v. Parkardiae</i>	Payette	Spec. Int.
Mulford's Milkvetch	<i>Astragalus Mulfordiae</i>	Payette, Washington	Spec. Int.
Shining Flatsedge	<i>Cyperus Rivularis</i>	Payette, Gem, Washington	Spec. Int.
Calcareous Buckwheat	<i>Eriogonum Ochrocephalum v. Calcareum</i>	Payette	Spec. Int.
Cronquist's Stickweed	<i>Hackelia Cronquistii</i>	Payette, Washington	Spec. Int.
Snake River Goldenweed	<i>Haplopappus Radiatus</i>	Payette, Washington	Spec. Int.
Tolmie's Onion	<i>Allium Tolmiei v. Persimile</i>	Gem, Washington	Spec. Int.
Cusick's Camas	<i>Camassia Cusickii</i>	Gem, Washington	Spec. Int.
Slick Spot Peppergrass	<i>Lepidium Papilliferum</i>	Gem, Payette, Washington	Prop. E
Tall Swamp Onion	<i>Allium Validum</i>	Washington	Spec. Int.
Dwarf Gray Rabbitbrush	<i>Chrysothamnus Nauseous s. Nanus</i>	Washington	Spec. Int.
Squaw Apple	<i>Peraphyllum Ramosissimum</i>	Washington	Spec. Int.
Biennial Princesplume	<i>Stanleya Confertiflora</i>	Washington	Spec. Int.
American Wood Sage	<i>Teucrium Canadense v. Occidentale</i>	Washington	Spec. Int.
Plumed Clover	<i>Trifolium Plumosum v. Amplifolium</i>	Washington	Spec. Int.

(Source: Conservation Data Center, Idaho Department of Fish and Game)

D. Wildlife

The Interior Columbia Basin Management Project identified twelve “terrestrial families,” or groups of vertebrate species with specific habitat requirements. Of these twelve families, five are likely to be present in the dry shrub potential vegetation group that constitutes the majority of the range of the southern Idaho ground squirrel. These families and the species included in the are:

- Terrestrial family 7 (forest, woodland and sagebrush)—Nine species of the genus “myotis” (bats);
- Terrestrial family 8 (rangeland and early and late seral forest)—Western bluebird;
- Terrestrial family 10 (range mosaic)—Ferruginous hawk, burrowing owl, short-eared owl, vesper sparrow, lark sparrow, western meadowlark, pronghorn antelope, Mojave black-collared lizard, longnose leopard lizard, ground snake, Preble’s shrew, white-tailed antelope squirrel, Washington ground squirrel, Wyoming ground squirrel, and Uinta ground squirrel;
- Terrestrial family 11 (sagebrush)—Sage grouse, sage thrasher, Brewer’s sparrow, sage sparrow, lark bunting, pygmy rabbit, sagebrush vole, black-throated sparrow, kit fox, and loggerhead shrike; and,
- Terrestrial family 12 (grassland, open-canopy sagebrush)—Columbian sharp-tailed grouse, clay-colored sparrow, grasshopper sparrow and Idaho ground squirrel (ICBMP EIS).

A variety of other important wildlife species use the shrub/steppe and cropland habitats that occur in the covered area. These species include mule deer, elk, ring-necked pheasant, chukar and gray partridge, badgers, coyotes, several species of songbirds, hawks, eagles, and owls, among others. Some of these are identified as “rare” or “sensitive” by various entities and a smaller number is either listed as “threatened” or “endangered” or are candidates for such listings. The rare or sensitive species that might occur within the counties that contain the project area are summarized in Table 2.

Table 2. Sensitive Wildlife Species Which May Occur In Counties That Contain The Project Area

<u>Species</u>	<u>County</u>	<u>Status</u>
Gray Wolf	Adams, Gem, Payette, Washington	Experimental/Nonessential
Northern Idaho Ground Squirrel	Adams, Washington	Threatened
Bald Eagle	Adams, Gem, Payette, Washington	Threatened
Canada Lynx	Adams, Gem	Threatened
Steelhead Trout	Adams	Threatened
Spring/summer Chinook Salmon	Adams	Threatened

Bull trout	Adams, Gem, Payette, Washington	Threatened
Townsend's Big-eared Bat	Adams, Washington	Spec. Int.
California Myotis	Washington	Spec. Int.
Coast Mole	Adams, Washington	Spec. Int.
Southern Idaho Ground Squirrel	Adams, Gem, Payette, Washington	Candidate
Pygmy Rabbit	Gem, Payette, Washington	Spec. Int.
Yellow-billed Cuckoo	Gem, Payette, Washington	Candidate
Columbian Sharp-tail Grouse	Adams, Washington	Spec. Int.
Greater Sage Grouse	Adams, Gem, Payette, Washington	Spec. Int.
Northern Goshawk	Adams, Gem, Washington	Spec. Int.
Ferruginous Hawk	Adams, Gem, Payette	Spec. Int.
Mountain Quail	Adams, Washington	Spec. Int.
Flammulated Owl	Adams, Washington	Spec. Int.
Northern Pygmy Owl	Adams, Washington	Spec. Int.
Long-billed Curlew	Gem, Payette, Washington	Spec. Int.
Woodhouse's Toad	Adams, Gem, Payette, Washington	Spec. Int.
Longnose Snake	Adams, Gem, Payette, Washington	Spec. Int.
Short-horned Lizard	Adams, Gem, Payette, Washington	Spec. Int.
Mojave Black-collared Lizard	Adams, Gem, Payette, Washington	Spec. Int.

(Source: U.S. Fish and Wildlife Service and Idaho Department of Fish and Game, Conservation Data Center)

E. Local Communities and Economies

The counties that make up the project area are heavily rural with agricultural roots, lifestyles and economies. While Gem County has experienced the highest rates of growth, this is largely a phenomenon of its proximity to the huge growth of the Boise area and its growing attraction as a bedroom community. However, even in this county, once one leaves the Emmett area, most of the county is sparsely populated, rural, and agricultural. Similar changes are evident in Payette and Washington Counties, with much of the growth concentrated around the expanding community of Ontario, Oregon. Table 3 summarizes population trends for these counties between 1990 and 2000.

Table 3. Human Population by County

County	2000 Pop	% Pop. Change, 1990-2000	% Pop. That is Rural
Adams	3,476	6.8	100
Gem	15,181	28.2	63.8
Payette	20,578	25.2	47.2
Washington	9,977	16.7	46.4

(Source: Id. Dept. of Commerce)

Economically, this portion of the state has not fared as well as more urbanized areas over the past decade. Unemployment rates have remained relatively high and per capita incomes throughout all the counties are less than the state average (Table 4). Much of this is probably attributable to layoffs in the wood products industries over the last decade, coupled with low commodity prices and traditionally low-paying farm worker and food processing jobs.

Table 4. Employment and Income by County

County	1999 Total Employment	1999 Farm Owners	1999 Farm Employment	1999 % Unemploy.	% of Per Cap. Inc. for State
Adams	1,962	299	339	14.9	79.6
Gem	5,730	577	813	6.9	79
Payette	8,696	578	885	7.3	79.3
Washington	5,032	497	775	8.2	70.3

(Source: Id. Dept. of Commerce)

The rural nature of these counties is highlighted in Table 5 which shows that generally urbanized areas make up no more than 1% of the total land area in each county. Of the agricultural lands, “rangelands” is the largest category in all counties except Adams, where forestlands become an important component. Predictably, the abundance of rural lands means that much of it is devoted to agricultural land uses, as noted in Table 6.

Table 5. Land Use by County

County	Urban Land	Agricultural Land	Rangeland	Forests	Water
Adams	800	59,800	285,900	532,100	4,000
Gem	1,800	66,300	238,100	49,800	3,000
Payette	2,800	87,900	167,200	0	3,200
Washington	3,500	134,000	706,100	92,700	12,200

(Source: Idaho Department of Commerce)

Table 6. Agricultural Land Use by County

County	Total # Farms and Ranches	Total Farm, Ranch Acres	Irrigated Acres	Range, Dryland Acres
Adams	279	200,480	27,701	172,779
Gem	552	182,981	37,183	145,798
Payette	564	148,467	52,566	95,901
Washington	489	443,184	44,686	398,498

(Source: Id. Dept. of Commerce)

Finally, the rural lands of the counties in the project area include significant amounts of both public and private ownership (Table 7). Of the public owners, BLM lands predominate, particularly where there are rangelands, and in all counties except Adams. However, it is to be noted that total private lands (virtually all of which are rural, agricultural) exceed total public ownerships in all but Adams County. In fact, information in Tables 5 and 7 indicate that throughout the project area, private farm and rangelands predominate.

Table 7. Land Ownership by County

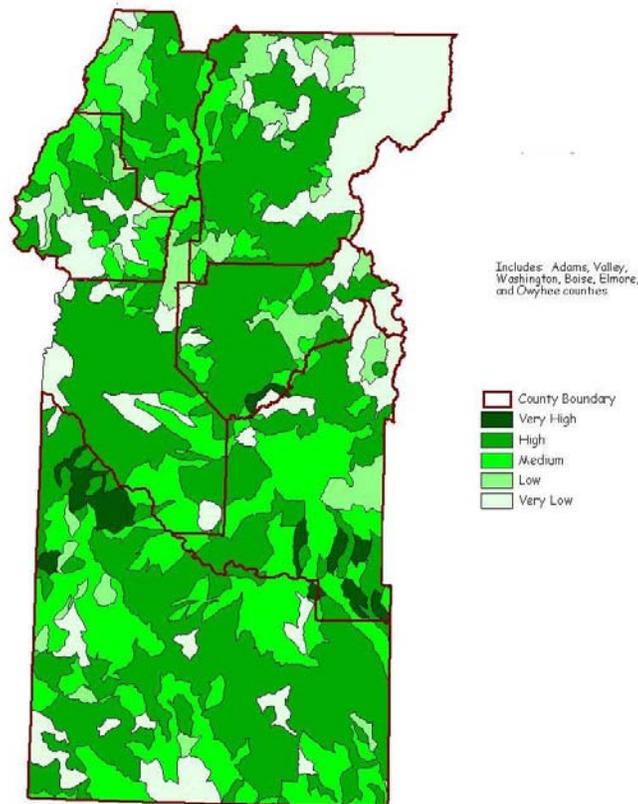
County	BLM	FS	State	Private	Other	Total Acres
Adams	54,032	511,034	37,529	268,573	2,240	873,408
Gem	71,884	60,968	20,325	202,825	1,905	360,064
Payette	66,052	0	8,624	183,860	2,180	260,800
Washington	220,515	123,753	71,962	511,815	3,115	932,096

(Source: Id. Dept. of Commerce)

E. Recreation

The mixture of public and private lands, proximity to Boise, and abundant fish and wildlife resources virtually assures a heavy recreational use of the lands in the project area. Most of this is dispersed recreation. There are no resorts, ski areas or recreational attractions that concentrate large numbers of people in single locations. Big game and bird hunting are very popular in the fall, with hiking and trail riding (either on horseback or on recreational vehicles) also popular. Most of the hiking and trail riding appears to be concentrated in the northernmost portions of the counties, where there are a higher percentage of forested and public lands. Finally, fishing in streams and impoundments is also popular. The relative importance of roaded, dispersed recreation within the study area and the surrounding counties is illustrated in Figure 3.

Figure 3. Roaded, Dispersed Recreational Use



(Source: ICBEMP, Draft EIS)

Section IV. ENVIRONMENTAL CONSEQUENCES

General Differences Among Alternatives

The types of land-use activities that occur under any of the alternatives would be the same as under the “No Action” alternative. The primary differences between the alternatives would be the types of ground squirrel conservation measures implemented at any of the specific sites where permits are administered. The lands that could conceivably be enrolled in the programmatic Agreement would remain as rural lands, almost exclusively dedicated to agriculture, and/or mostly used as dryland pastures. There are no foreseeable changes in private land ownership or land tenure under any of the alternatives and, as noted above, no effects to air quality, water quality or fisheries, cultural values, geology and soils, or scenic values are expected.

The differences in environmental consequences among the four alternatives are manifested in rather subtle changes in on-the-ground management and in changes to vegetation, wildlife, local community and economic values and recreation. It is anticipated that none of these changes will be broad scale or significant, but rather confined to the relatively small portion of the enrolled lands that is actually occupied by southern Idaho ground squirrels. Following is a summary of the expected changes in these values for each alternative.

A. Alternative A, “No Action”

Under the “No Action” Alternative, the proposed Agreement would not be approved and the permit would not be issued. It is uncertain whether ground squirrel habitat protection/enhancement measures would occur. Incentives, in the form of funding and ESA regulatory assurances, for landowners to conserve southern Idaho ground squirrels would not occur. Agricultural activities would continue consistent with applicable laws. The primary agricultural activities within the project area that would continue are those related to crop cultivation and harvesting, and livestock production. For analysis purposes, and to avoid undue speculation, we assume these agricultural activities would occur in a similar manner to current conditions. We expect under the No Action Alternative that grassland areas will continue to be grazed, and that crops will continue to be grown to a similar extent as at present. Should southern Idaho ground squirrels be listed under the ESA, landowners would have to avoid “take” of the species in accordance with section 9 of the ESA. Since avoiding take would depend largely on the location and other site-specific biological factors of southern Idaho ground squirrels when the species is listed, it is overly speculative to estimate how avoiding take of ground squirrels might affect land use activities and ground squirrel habitat under the No Action Alternative.

If southern Idaho ground squirrels are listed in the future under the “No Action” Alternative, landowners that propose activities that are likely to adversely affect the species would be required, under the ESA, to obtain an incidental take permit prior to initiating the proposed activity. This requirement applies to any project with a Federal nexus, which occurs when a project is funded, permitted, or authorized by a Federal agency. When a species is listed under the ESA, landowners have two options to obtain an incidental take permit and thereby proceed

with their proposed project: to complete consultation (pursuant to section 7 of the ESA) with the FWS through their Federal nexus action agency, or to complete a habitat conservation plan (no Federal nexus action agency involvement is required).

Southern Idaho Ground Squirrels: The effects to southern Idaho ground squirrels from the No Action Alternative would be negative. Since current land-use activities are expected to continue under the No Action Alternative, most of the threats to southern Idaho ground squirrels would also continue, including those related to habitat degradation. Without the ESA regulatory assurances provided under the Agreement, landowners would have little incentive to conserve southern Idaho ground squirrels. In fact, landowners would have an incentive not to conserve ground squirrels in order to minimize the chance that having an ESA-listed species on their property would result in land use restrictions. Under the No Action Alternative, there would be no assurances of getting ground squirrel conservation measures implemented on any non-Federal lands, which comprise approximately two-thirds of the southern Idaho ground squirrel's estimated current range. Without proactive southern Idaho ground squirrel habitat and population management, it is likely that the species will continue to decline or remain in low numbers at scattered, isolated population sites, similar to current conditions. Under the No Action Alternative, translocating ground squirrels to unoccupied habitat on private land likely would not occur, since without the regulatory assurances provided under section 10 of the ESA, most landowners would probably not be willing to establish a species on their property that may be listed under the ESA. The No Action Alternative could be detrimental to the long-term conservation of the species without the initiation of proactive ground squirrel conservation programs on private lands. Threats to the species would not be addressed in a proactive manner, and the likelihood of a listing as "threatened" or "endangered" would likely be greater than under the other alternatives. Even if southern Idaho ground squirrels are listed under the ESA in the future, there is an advantage to the species to obtaining habitat conservation and species protection measures now. These measures, which would be achieved to varying extents under Alternatives B, C, and D, would assist in stabilizing the status of the species and its habitat, likely preventing further population decline and habitat degradation on covered areas.

Vegetation: Effects to plant species, including rare and sensitive species, under the No Action Alternative would be similar to current conditions. In general, these species would be negatively affected by the conversion of native shrub/steppe habitat to habitat dominated by exotic annual vegetation species or maintenance of habitat in degraded condition. Plant species would be affected by ground disturbing activities that directly harm individuals or alter the species' habitat. Changes in vegetative cover and species composition would continue to be shaped by fire and human actions.

Wildlife: Effects to other wildlife species, including sensitive species, under the No Action Alternative would be similar to current conditions. In general, these species would be negatively affected by the conversion of native shrub/steppe habitat to habitat dominated by exotic annual vegetation species or maintenance of habitat in degraded condition. Negative changes in vegetative cover and species composition would continue as a result of fire and human actions and could adversely affect many of these wildlife species, particularly those changes causing increases in exotic annuals.

Local Communities and Economies: Landowners raised the concern that Federal grazing permits could be affected if the southern Idaho ground squirrel is listed under the ESA. They also indicated that some land use activities could be affected on private lands should the “take” prohibitions under section 9 of the ESA occur. Should southern Idaho ground squirrels be listed under the ESA, landowners would have to avoid “take” of the species in accordance with section 9 of the ESA. If the species is listed under the ESA in the future, landowners that propose to conduct activities likely to adversely affect the species would be required to obtain an incidental take permit prior to initiating the proposed activity. There are two methods of obtaining an incidental take permit in this situation: to complete section 7 consultation (pursuant to the ESA) with the FWS through their Federal nexus agency (the agency that funds, permits, or authorizes their project), or to complete a habitat conservation plan with the FWS. The effects to local communities and economies of such a listing is unknown at this time due to the potential variation in take avoidance measures that would be implemented if the species is listed in the future.

Recreation: Recreational shooting of southern Idaho ground squirrels would still be prohibited under the No Action Alternative by State law. Currently recreational shooting of southern Idaho ground squirrels is regulated by the IDFG, and the species is protected from recreational shooting under State law. If the southern Idaho ground squirrel were listed under the ESA, recreational shooting would also be regulated under Federal law and prohibited under the ESA.

Alternative B, “Proposed Action”

Under the Proposed Action Alternative, the Agreement would be approved, the permit would be issued to the IDFG, and Participating Landowners would develop individual site-specific southern Idaho ground squirrel management plans, and after signing a certificate of inclusion, would be covered under the Agreement and permit. Participating landowners and the agencies would implement ground squirrel conservation measures on the lands covered under each site-specific plan.

Southern Idaho Ground Squirrels: This alternative would provide conservation measures on lands enrolled under the Agreement for translocation/reintroduction of ground squirrels into currently unoccupied habitat, protection of ground squirrel populations at occupied sites, and the enhancement, protection, or rehabilitation of shrub/grassland and other habitats with the purpose of conserving southern Idaho ground squirrels. The permit would authorize incidental take of southern Idaho ground squirrels, consistent with the proposed Agreement, caused by the management of rural lands including agricultural and livestock operations. Under the Agreement, some areas, within the approximately 800,525-acre project area, that become enrolled would experience some level of change in these agricultural activities during the 20-year term of the Agreement. These changes would generally be those that result in beneficial effects to southern Idaho ground squirrels.

Under the Proposed Action Alternative, agricultural activities would generally occur on the enrolled lands as under the No Action Alternative except as modified by site-specific protection measures. Participating Landowners would receive ESA regulatory assurances through the proposed Agreement and permit that disruption of their land-use activities will be minimal

should the species be listed under the ESA. Providing landowners ESA regulatory assurances would reduce their concerns over a potential listing and enhance collaboration in southern Idaho ground squirrel conservation efforts.

Under the Proposed Action Alternative, southern Idaho ground squirrel conservation would be enhanced to a greater extent than under the No Action Alternative since implementation of the Agreement and site-specific plan would require conservation measures for southern Idaho ground squirrels on the Participating Landowner's enrolled lands. The Proposed Action Alternative also would have a greater conservation benefit for southern Idaho ground squirrels than Alternative D, because it would include ground squirrel translocation/reintroduction efforts into unoccupied habitat within the species' historical range.

Conservation benefits for southern Idaho ground squirrels from the Proposed Action Alternative are expected in the form of: enhancement and restoration of southern Idaho ground squirrel populations; and expansion of the current ground squirrel population to currently unoccupied, historical range. In addition, since non-federal landowners control most of the sites containing southern Idaho ground squirrels, providing a plan that would encourage cooperative management and education efforts between the agencies and landowners would enhance conservation of ground squirrels.

Under the Proposed Action Alternative, Participating Landowners would provide conservation benefits to southern Idaho ground squirrels by allowing habitat protection/enhancement measures to be implemented at ground squirrel sites identified in their site-specific plan. These measures are expected to provide a more dependable forage base for ground squirrels. Habitat enhancement measures could include the rehabilitation of areas to native vegetation or other plant species that would provide high quality forage for ground squirrels. Under the proposed Agreement, native or non-native vegetation could be seeded to provide high-quality forage for southern Idaho ground squirrels, to improve the nutritional value at ground squirrel sites and increase the ground squirrel populations.

Effects to ground squirrels from enhancing habitat with selected native and non-native vegetation species are expected to be beneficial. Effects to other species from this activity are expected to be positive for some species, for the same reasons as for ground squirrels, or negligible for other species, due to the relatively small area that is likely to be affected by habitat enhancement measures. The intent of these conservation measures is to increase the population of ground squirrels within occupied sites identified in the site-specific plans, and provide for expansion of ground squirrel populations into adjacent areas. Due to the current, pervasive, and continuing invasion of exotic annual vegetation throughout the range of the southern Idaho ground squirrel, without active management to change the vegetation composition at important ground squirrel sites (such as proposed under the Agreement), current habitat conditions and the resulting negative effects to ground squirrels are not expected to improve.

Direct mortality from recreational shooting or poisoning southern Idaho ground squirrels is a threat to the species. Under the Agreement, ground squirrels would be protected from shooting, trapping, and poisoning on all lands enrolled by Participating Landowners. The Agreement is

expected to eliminate or significantly minimize ground squirrel mortality from shooting, trapping and poisoning on enrolled lands.

Many sites occupied by southern Idaho ground squirrels in the past are currently unoccupied, probably a result of a combination of the threat factors discussed, including habitat degradation and direct killing. Isolation of small populations of ground squirrels is likely not conducive to the long-term survival of the species. 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 (random loss of alleles and thereby loss of genetic diversity) and inbreeding.

Under the Proposed Action Alternative, the Service and IDFG can control Columbian ground squirrels and badgers within occupied ground squirrel sites, to conserve southern Idaho ground squirrels. Both badgers and Columbian ground squirrels can present a threat to southern Idaho ground squirrels, as noted above, particularly when southern Idaho ground squirrels occur in small populations. The intent of these control efforts is to control only these two species, and not other potential ground squirrel predators. It is also the intent to only control badgers and Columbian ground squirrels on a limited, case-by case basis when either of these species is threatening the viability of an existing or transplanted southern Idaho ground squirrel population. For example, these species would only be controlled in the vicinity of the southern Idaho ground squirrel population and not over a large area. Badgers would be controlled by live-trapping, use of leg-hold traps, or shooting. Columbian ground squirrels would be controlled by live trapping, shooting, or the use of poison such as Fumitoxin® by certified applicators. Use of Fumitoxin® is a lawful activity for controlling non-listed ground squirrels and pocket gophers, and it is possible to avoid taking SIGS during its use. While take of SIGS from any pesticide use will not be covered under the proposed action, FWS will provide guidance to landowners and applicators, on a site-specific basis, on how to avoid take of SIGS during use of Fumitoxin®. In addition, FWS or IDFG will monitor nearby SIGS populations before and after application of Fumitoxin® to ensure no take has occurred. Effects to badger and Columbian ground squirrel populations would be negligible since these two species are very common in the area, and control actions are expected to occur on a very limited, case-by-case basis over relatively small areas. Indirect effects to species such as raptors that may use Columbian ground squirrels as a food source are also expected to be negligible due to the small scale of the potential control efforts.

The Proposed Action Alternative is expected to benefit ground squirrels by increasing ground squirrel populations on Participating Landowner's enrolled lands from habitat enhancement measures, and expanding the current range of the species by translocating ground squirrels into currently suitable, but unoccupied habitat. These benefits are expected to increase long-term conservation of the species by increasing and expanding ground squirrel populations.

Unlike Alternative D, the Proposed Action Alternative includes commitments for reintroduction of southern Idaho ground squirrels into unoccupied habitat. Given the current restricted and fragmented condition of the overall southern Idaho ground squirrel population, reintroduction of the species into unoccupied historical habitat could be critical to the long-term survival of the species.

The proposed Agreement addresses the threat factors to southern Idaho ground squirrels discussed above. Conservation commitments to protect/enhance habitat address what is likely the single greatest threat to southern Idaho ground squirrels. Conservation measures also include commitments to reduce direct ground squirrel mortality, as well as commitments to reintroduce/translocate ground squirrels into unoccupied habitat, thereby, expanding the species' distribution. Should all necessary landowners within the historical range of the species participate, enroll lands under the Agreement, and provide conservation measures in the Agreement such as habitat enhancement, reduction or elimination of shooting, trapping and poisoning, and reintroduction of ground squirrels to unoccupied habitat, a substantial conservation benefit would be realized for the species. The Agreement is expected to result in a larger number and more widely distributed population of ground squirrels than occurs currently. If similar conservation measures were implemented on all necessary properties, the Service believes that the need to list southern Idaho ground squirrels under the ESA would likely be precluded or removed.

Under the Proposed Action Alternative, Participating Landowners would be covered under the permit that would authorize some level of incidental take of southern Idaho ground squirrels on the enrolled lands. Within occupied sites, incidental take of southern Idaho ground squirrels is expected to be minimal. Site-specific conservation measures in these areas are intended to ensure impacts to the species from land use activities in these areas will be kept to a minimum. While 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. The actual level of incidental take is unquantifiable, but is expected to range from none to minor disturbance and harassment or, in some rare cases, injury or death of ground squirrels from equipment operation or livestock trampling.

Similar to Alternative C, if incidental take did eventually occur, there would be some adverse effects to southern Idaho Ground squirrels. These impacts to ground squirrels would be mitigated by the up-front habitat and population management measures implemented on Participating Landowner's enrolled lands under the Agreement and their site-specific plans, and would be much reduced from the probable impacts under the No Action Alternative.

Conservation of southern Idaho ground squirrels would be enhanced under the Proposed Action compared to the No Action Alternative due to the ground squirrel conservation measures that would be implemented on Participating Landowner's property.

Conservation benefits to southern Idaho ground squirrels will occur more rapidly under the Proposed Action relative to Alternatives A, C, and D. Alternative C would require each landowner that is interested in the conservation of southern Idaho ground squirrels to go through, individually, the process of developing an Agreement. Due to the limited staff available to develop and process these agreements, it would take longer to complete individual agreements, and therefore take longer for conservation benefits for southern Idaho ground squirrels to be realized. Alternative D would require parties that are interested in the conservation of southern Idaho ground squirrels to secure interest in properties that either currently support ground squirrels, or could support the species in the future. This Alternative would also require

additional time to realize conservation benefits for ground squirrels, since parties would have to negotiate the type and term of the interest, and secure the necessary funds for each parcel. There are likely limited funds available to pursue Alternative D, and there may also be a limited number of landowners that would consider or agree to this method of conserving ground squirrels. The Proposed Action would shorten the process of enrollment for interested landowners, which would create opportunities for ground squirrel conservation the most rapidly.

The Proposed Action would also have greater conservation benefits to southern Idaho ground squirrels than Alternatives C and D, primarily because it would provide a comprehensive plan that would encourage landowners to collaborate with the agencies in ground squirrel conservation, and provide a more efficient process for landowners to enter into a formal conservation agreement with the agencies. Landowners will likely be more interested in cooperating with southern Idaho ground squirrel conservation efforts if the administrative tasks in doing so are minimized and streamlined, and costs are reduced. For these reasons, the Proposed Action Alternative provides the greatest overall conservation benefit to southern Idaho ground squirrels of all the alternatives considered.

Vegetation: Those landowners who participate in the Proposed Action and initiate conservation actions can be expected to, over time, conserve or enhance the vegetative cover of occupied ground squirrel habitat. Fire control will likely be more aggressive and some landowners may restore native vegetation or take steps to otherwise enhance vegetation that is currently found at these sites. Such efforts will likely increase sagebrush and bunchgrasses and forbs on these sites. Generally, ground disturbance that may occur as a result of ground squirrel habitat enhancement would be on a small scale, and restricted to occupied ground squirrel sites. In addition, if ground squirrel habitat enhancement is necessary, it will likely be because of extensive invasion of exotic annuals, and sensitive plant species will likely already have been impacted and probably displaced from the area. Due to the small scale of possible habitat enhancements and likely enhancement of highly disturbed habitat, the effects of the Proposed Action on rare and sensitive plant species are expected to be negligible.

The effects to vegetation for the Proposed Action Alternative would be similar to those under Alternative C, except that there would likely be a somewhat greater number of landowners participating under the Proposed Action Alternative. Therefore, there would be a greater number of conservation actions occurring to benefit ground squirrels over the project area than under Alternative C; however, the magnitude of this number is unquantifiable.

Wildlife: Changes will be slight and concentrated mostly on the sites where there are actual changes in vegetation from the ground squirrel conservation measures. For wildlife species that are dependent on sagebrush/bunchgrass habitat, there would be some small-scale indirect benefits in areas where ground squirrel conservation measures result in rehabilitation of this habitat. Control of badgers and Columbian ground squirrels as a conservation measure may reduce populations of these species and increase other species, however, similar to habitat enhancement measures, if badger and Columbian ground squirrel control did take place, it would occur in relatively small areas at ground squirrel occupied sites. Therefore, effects to these species would be minimal under the Proposed Action.

Several sensitive species such as gray wolves, northern Idaho ground squirrels, bald eagles, and Canada lynx either do not occur in southern Idaho ground squirrel habitat, or if they do, are likely just moving through the area. The Proposed Action would not negatively impact these species. Also, riparian dependent species such as mountain quail and yellow-billed cuckoo would not be affected by the Proposed Action because any conservation measures would take place in upland habitats. Other sensitive species dependent on sagebrush/bunchgrass habitat would receive minor indirect benefits from habitat enhancement measures designed to benefit ground squirrels. We do not anticipate that any native species would be negatively affected by habitat enhancement measures that are likely to result from the Proposed Action.

Conservation of sensitive species other than southern Idaho ground squirrels will likely indirectly benefit from actions in the Proposed Action, because of the focus on those lands where collaborative efforts are projected to occur between Participating Landowners and the agencies. While most of this attention will be directed toward southern Idaho ground squirrels, it is reasonable to expect that rare or sensitive plants and animals will be noted, with accompanying recommendations from the agencies for their protection, as well.

Local Communities and Economies: Under the Proposed Action Alternative, the likelihood of listing the species under the ESA would be minimized to a greater extent than the other alternatives, assuming a greater number of landowners participate under the Proposed Action than under the other alternatives. Providing ESA regulatory assurances to Participating Landowners should provide for greater certainty for these landowners to operate their businesses and provide for some level of economic stability. In addition, possible incentive payments to landowners for accepting translocated ground squirrels and habitat would have a small positive effect on local economies.

Recreation: Recreational shooting of southern Idaho ground squirrels would still be prohibited under the No Action Alternative by State law. Currently recreational shooting of southern Idaho ground squirrels is regulated by the IDFG, and the species is protected from recreational shooting under State law. If the southern Idaho ground squirrel were listed under the ESA, recreational shooting would also be regulated under Federal law and prohibited under the ESA.

C. Alternative C, “Landowner by Landowner Permitting”

Under this alternative, the proposed Agreement would not be approved in its current form, but rather individual agreements would be made, on a case-by-case basis with each landowner interested in conserving ground squirrels and obtaining a section 10 permit from the Service.

Southern Idaho Ground Squirrels: More landowners would enter into agreements and obtain permits than under the No Action Alternative, but likely fewer than under the Proposed Action Alternative, given the greater administrative difficulty and cost of developing individual Candidate Conservation Agreements with Assurances. Ground squirrel protection would be enhanced under this alternative, compared to the No Action Alternative.

Southern Idaho ground squirrels would receive benefits under this alternative from the site-specific ground squirrel conservation benefits under each individual agreement with landowners. These conservation measures would likely be similar to those under the Proposed Action Alternative, such as: (1) a variety of habitat protection or enhancement/rehabilitation measures at occupied sites, and (2) translocating ground squirrels to unoccupied habitat. Southern Idaho ground squirrel conservation would be greater under Alternative C than under the No Action Alternative since proactive conservation measures would occur on a landowner-by-landowner basis. However, Alternative C would be less efficient than the Proposed Action Alternative because it would not contain a programmatic conservation plan that would serve to coordinate actions and minimize duplication of effort. Alternative C would also divert agency staff-time away from on-the-ground conservation actions due to the greater administrative effort required by the agencies than under the Proposed Action Alternative due to the increased number of agreements, and the related documents, which would have to be prepared for each landowner. Ground squirrel conservation and community education will be enhanced, and landowners will likely be more interested in cooperating with southern Idaho ground squirrel conservation efforts if the administrative tasks in doing so are minimized and streamlined (as in the proposed alternative).

Under Alternative C, Participating Landowners would be covered under a permit, which would authorize some level of incidental take of southern Idaho ground squirrels consistent with each landowner’s individual agreement. There would be some adverse, though not significant impacts to southern Idaho ground squirrels from incidental take; however, these impacts would be mitigated by the up-front habitat and population management measures required under each individual agreement.

Vegetation: The effects to vegetation for Alternative C would be similar to those under the Proposed Alternative, except that there would likely be a somewhat greater number of landowners participating under the Proposed Action Alternative. Therefore, there would be a greater number of conservation actions occurring to benefit ground squirrels over the project area than under Alternative C; however, the magnitude of this number is unquantifiable.

Similar to the No Action Alternative, under Alternative C, plant species, including rare and sensitive species, would be affected by ongoing ground disturbing activities that directly harm individuals or alter the southern Idaho ground squirrel’s habitat, particularly by increases in

exotic annuals. The only ground squirrel conservation measures envisioned under Alternative C that could negatively impact sensitive plant species are those related to ground squirrel habitat rehabilitation that involves ground disturbance. Generally, ground disturbance that may occur as a result of ground squirrel habitat enhancement would be on a small scale, and restricted to occupied ground squirrel sites. In addition, if ground squirrel habitat enhancement is necessary, it will likely be because of extensive invasion of exotic annuals, and sensitive plant species will likely already have been impacted and probably displaced from the area. Due to the small scale of possible habitat enhancements and likely enhancement of highly disturbed habitat, the effects of Alternative C on rare and sensitive plant species are expected to be negligible.

Wildlife: The effect to wildlife species and their associated habitats are similar to those under the Proposed Action, except, as noted above, there would likely be a somewhat greater number of ground squirrel related conservation measures implemented under the Proposed Action than under Alternative C, although this number is unquantifiable. Effects to other species from this activity are expected to be positive for some species, for the same reasons as for ground squirrels, or negligible for other species, due to the relatively small area that is likely to be affected by habitat enhancement measures. We do not anticipate that any native species would be negatively affected by habitat enhancement measures.

Local Communities and Economies: Increased conservation measures for southern Idaho ground squirrels through individual landowner agreements would reduce threats to the species and the likelihood of the species being listed. Providing ESA regulatory assurances to Participating Landowners should provide for greater certainty for these landowners to operate their businesses and provide for some level of economic stability. Potential incentive payments to landowners for accepting translocated ground squirrels would also be possible under Alternative C. Due to limited staffing available in the FWS and the IDFG to process individual landowner agreements, the rate of completing individual agreements will be relatively slow, thereby reducing the rate at which ESA regulatory assurances and possible incentive payments can be delivered to Participating Landowners. There are no foreseeable impacts to local communities and economies from the conservation measures themselves.

Recreation: Recreational shooting of southern Idaho ground squirrels would still be prohibited under the No Action Alternative by State law. Currently recreational shooting of southern Idaho ground squirrels is regulated by the IDFG, and the species is protected from recreational shooting under State law. If the southern Idaho ground squirrel were listed under the ESA, recreational shooting would also be regulated under Federal law and prohibited under the ESA.

D. Alternative D, “Protected Areas”

Under this alternative, State and Federal agencies would embark upon an intensive effort to locate all occupied southern Idaho ground squirrel sites within the range of the species. Once located, these sites would be protected, through conservation easements, from land uses that might degrade the habitat or pose a threat to the species.

Southern Idaho Ground Squirrels: On the surface, ground squirrel protection would be maximized under this alternative, since occupied sites would be identified and then managed solely for ground squirrel habitat values. However, the number of landowners who would sell an interest in their lands for this purpose is unknown and could be quite low; therefore, it is questionable if this alternative would have a high conservation value for the species.

At ground squirrel sites that are protected under this proposed alternative, the conservation value to the species would be high where extensive habitat improvements in the form of habitat rehabilitation with native shrubs, bunchgrasses and forbs would occur. Human activities that could negatively affect ground squirrels would also be potentially eliminated. Threats to the species within these conservation areas would be minimized. Southern Idaho ground squirrel conservation would be greater under Alternative D than under the No Action Alternative since conservation measures would occur at sites covered under conservation easements. The conservation value to ground squirrels of Alternative D could be limited by a lack of both agency funding to purchase conservation easements and the interest in landowners to encumber their lands. Alternative D would be less beneficial to southern Idaho ground squirrel conservation than the Proposed Action Alternative, because no programmatic conservation plan would be developed and implemented to measure, monitor, and enhance ground squirrel populations and habitats. A programmatic conservation plan under the Proposed Action Alternative would be designed to encourage collaboration between the agencies and Participating Landowners to conserve ground squirrels throughout the range of the species.

Vegetation: Vegetation within the proposed protected sites would be manipulated to the maximum extent to increase its utility as ideal ground squirrel habitat. Native shrub and bunchgrasses would increase on these sites and there would be intensive efforts to eradicate such invasive plant species such as cheatgrass or Medusahead rye.

Ground squirrel conservation measures under Alternative D that could affect sensitive plant species are those related to ground squirrel habitat rehabilitation that involves ground disturbance. Ground disturbance that may occur as a result of ground squirrel habitat enhancement would be on a small scale, and restricted to the areas protected by conservation easements. Due to the small scale nature of possible habitat enhancements in areas protected by conservation easements, the effects of Alternative D on rare and sensitive plant species is expected to be negligible.

Wildlife: Consistent with the theme of maximizing ground squirrel numbers in the protected sites, there would be an expected increased control effort near these sites for badgers and Columbian ground squirrels. For those wildlife species largely dependent on

sagebrush/bunchgrass habitat, there would be some small-scale indirect benefits in areas where ground squirrel conservation measures result in rehabilitation of this habitat.

Local Communities and Economies: Assuming enough occupied ground squirrel sites could be protected, this alternative would reduce the likelihood of a listing of the species under the ESA. Proposed management of the protected areas could exclude livestock grazing to protect efforts to restore native vegetation, and the effects of such exclusions could be negative if there were enough protected areas so that a large number of acres were removed from livestock grazing. On the other hand, payments to purchase interests in the lands to be managed as ground squirrel conservation areas would have a positive effect on local economies. The degree to which impacts occur would be a function of the acres to be protected under this alternative.

Recreation: Effects on recreational shooting from Alternative D would be similar to those under Alternative C. Recreational shooting of southern Idaho ground squirrels would be prohibited at ground squirrel areas; however, shooting of southern Idaho ground squirrels is already prohibited under State law. Again, the impact of restrictions would be a function of the acres protected under this alternative.

Summary

The limited nature of the project analyzed—development of a Candidate Conservation Agreement with Assurances that will benefit conservation of southern Idaho ground squirrels—when compared to the No Action alternative, serves to define the environmental consequences that must be analyzed in this draft environmental assessment. There are no reasonably anticipated impacts to environmental, social or economic values related to fisheries, visual, air and water quality, or cultural resources. Impacts to these values are anticipated to be negligible or minor.

No large-scale changes in land use are expected under the proposed Agreement. Land use changes that do occur are expected to be in upland habitat, away from riparian and aquatic habitats, therefore, effects to fisheries and water quality are not expected to change. In addition, scenic/visual, geology and soil, and water quality resources are expected to remain similar with or without the Agreement and permit, and, therefore, no effects to these resources are expected. We assume over the long-term, the vegetation composition in areas covered by the Agreement will increase in native and decrease in nonnative species. The magnitude of this alteration is difficult to quantify, but likely to be greater at the local (site-specific) scale relative to the regional scale. A shift from nonnative vegetation, which has a higher fire frequency (*e.g.*, cheatgrass and medusahead rye), to native vegetation, which has a lower fire frequency (*e.g.*, sagebrush) will result in fewer wildfires and less ash/dust in the air. Therefore, improvement of air quality over the long-term is possible under the proposed Agreement, although the extent of this improvement is difficult to quantify. Approval of the Agreement is not expected to result in additional impacts to cultural and historic sites found in the area from those that would occur without the Agreement. The effects to all resources are summarized in Table 8.

Table 8. Summary of Environmental Impacts of Each Alternative

Impacts to Selected Environment Parameters

Alternative	S. Idaho Ground Squirrels		Vegetation	Other Wildlife	Local Communities and Economies		Recreation
Alt. A--"No Action"	Ground squirrels likely persist in isolated populations, but in low numbers	No impact from human actions associated with the alternative	No impact resulting from human actions associated with the alternative	Increased potential for listing may pose economic threats	Increased potential for listing may further restrict recreational shooting		
Alt. B--"Proposed and Preferred Action"	Ground squirrels would increase and be protected on lands where there is an agreement; number of agreements maximized under this alternative	Native species would benefit from site-specific rehab and protection associated with individual agreements	Species associated with conservation actions of the agreements would benefit; increased control of SIGS predators	Reduced likelihood of a listing and increased stability of local economies; positive impact of possible incentive payments	Slight additional restrictions on shooting for lands where there is an agreement		
Alt. C--"Individual Landowner Permitting"	Ground squirrel populations likely increase where protected, but likely not many areas protected	Native species would benefit from site-specific rehab and protection of individual SIGS protected areas	Species associated with protected sites would benefit. Maximum control of SIGS predators	Positive economic benefit from payments to landowners for areas to be protected. Reduced ability to economically use these sites	Increased restrictions on recreational shooting and recreational use of protected sites		
Alt. D--"Protected Areas"	More landowners likely to engage in conservation measures but with more difficulty and in fewer numbers than Alt. B	Slight trend toward more native species for lands where there is an agreement	Slight changes to species associated with vegetative changes for lands where there is an agreement	Reduced likelihood of a listing and increased stability of local economies, but less than for Alt D	Slight additional restrictions on shooting for lands where there is an agreement		

Table 8. (Continued)

Impacts to Selected Environment Parameters

Alternative	Listed Animal Species	Listed Plant Species	Fish	Visual Quality	Air Quality	Cultural/Historic Resources
Alt. A--"No Action"	There is an increased likelihood of a listing of the ground squirrel; no significant impacts on other listed species	No impact to listed plant species associated with the alternative	No impact from human actions associated with the alternative	No impact from human actions associated with the alternative	No impact resulting from human actions associated with the alternative	No impact from human actions associated with the alternative
Alt. B--"Proposed and Preferred Action"	The potential for listing SIGS would be reduced; no significant impacts on other listed species	Positive trend for species associated with the conservation actions of individual agreements	No impact from human actions associated with the alternative	No impact from human actions associated with the alternative	Potential increase due to reduced wildfire incidence	No impact from human actions associated with the alternative
Alt. C--"Individual Landowner Permitting"	The potential for listing SIGS is decreased; no significant impacts on other listed species	Possible slight positive trend for species to be protected through agreements	No impact from human actions associated with the alternative	No impact from human actions associated with the alternative	Potential increase due to reduced wildfire incidence over time; change likely to occur over longer periods and to lesser extent than Alt. B	No impact from human actions associated with the alternative
Alt. D--"Protected Areas"	The potential for listing SIGS would be reduced; no significant impacts on other listed species	Positive trend for species that occupy protected sites	No impact from human actions associated with the alternative	No impact from human actions associated with the alternative	Slight potential increase due to reduced wildfire incidence over time; change likely to occur over longer periods and to lesser extent than Alt. B	No impact from human actions associated with the alternative

Cumulative Effects

Cumulative impacts are those impacts on the environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions (either Federal or non-Federal actions). Cumulative impacts can result from individually minor, but collectively significant actions that take place over a period of time.

Effects under Alternative B, C, and D would be related to land management actions taken to conserve southern Idaho ground squirrels at various sites throughout the four-county project area. These actions would generally be habitat improvements for ground squirrels in the form of vegetation manipulation, including rehabilitation of shrub/steppe habitat and reintroduction of southern Idaho ground squirrels to currently unoccupied habitat. These management actions would likely occur at more sites under the Proposed Action Alternative than under Alternatives C and D due to that alternative's greater likelihood for attracting landowners into collaborative ground squirrel conservation measures under the Agreement.

There are likely two types of cumulative positive effects that could occur under Alternatives B, C or D: (1) approval of agreements under any of the alternatives could result in other landowners developing similar agreements in the future, and (2) changes through time in habitats and

wildlife species populations will occur from implementation of ground squirrel conservation measures at certain sites under any alternative.

Under either alternative B or C, if an agreement and site-specific plans are approved, and permits are issued to individual Participating Landowners, it is reasonable to foresee other landowners who are interested in ground squirrel conservation, and/or desire ESA regulatory assurances, entering in to similar agreements with the agencies. Cumulative effects could occur on lands throughout the estimated 1,046,569-acre project area from ground squirrel conservation measures being implemented by other landowners who enter into similar agreements. Effects from other landowners implementing similar conservation measures would be positive, in fact, should similar conservation measures be implemented on all necessary properties throughout the range of the species, the Service believes that the possible listing of southern Idaho ground squirrels would be precluded or removed.

Cumulative impacts would be positive, though not significant, for southern Idaho ground squirrels and other wildlife species dependent on habitats preferred by ground squirrels, including native shrub/grasslands. Under Alternative B, C, or D, cumulative positive impacts would be expected to occur over time as a result of an increase in the quantity and quality of suitable habitat for ground squirrels and other wildlife species at sites where ground squirrel habitat conservation measures are implemented. Habitats would be expected to increase in quantity from additional landowners implementing similar agreements, and habitat quality would be expected to improve over time from habitat improvements implemented to conserve southern Idaho ground squirrels. These positive cumulative impacts would likely occur beyond the 20-year duration of the Proposed Action Alternative B since habitat improvements would be expected to extend over a longer period of time. These positive cumulative effects are expected to contribute to the recovery and sustainability of southern Idaho ground squirrels and other species dependent on similar habitats.

With the exceptions of air quality and soils, cumulative effects to resources other than biological resources (geology, water quality and quantity, cultural and historic resources, and visual resources) will not differ substantially between the “No Action” Alternative and Alternatives B, C or D. Cumulative impacts to geology, and water quality and quantity would be negligible due to the minor land use changes that could occur that may affect these resources. Some minor changes in recreation may occur as a result of additional restrictions on recreational shooting of ground squirrels under Alternatives B, C and D, should other landowners implement similar agreements, however these effects to recreation would be negligible due to the proportionally small area affected.

Although it is difficult to quantify, air quality is likely to improve, through reduced wildfire frequency due to changes in vegetation composition, under the Proposed Action Alternative B. Air quality is likely to improve to a lesser extent under Alternatives C and D, and is not likely to change under the “No Action” Alternative A. Some changes in soils may occur as a result of the Proposed Action, through re-establishing native plants in areas that currently support nonnative plants. Altering community composition to favor native species may alter soil chemistry, through reduced incidence of wildfire, which temporarily increases nitrogen levels in soils. These effects on air quality and soils are positive and will benefit the human environment (air

quality), and will contribute to the recovery and sustainability of southern Idaho ground squirrels (soils).

Section V: COMPLIANCE, CONSULTATION AND COORDINATION WITH OTHERS

Environmental justice is achieved when everyone, regardless of race, culture or income, enjoys the same degree of protection from environmental and health hazards and equal access to a healthy environment. None of the alternatives would have an impact upon women, minority groups, or civil rights of any citizen of the United States (*Executive Order 12898*). No Native American tribal resources would be negatively affected by the Agreement (*Secretarial Order 3206*).

The Service will provide the Agreement, and this draft environmental assessment to the public for review and comment for a period of 30 days, consistent with pertinent ESA and National Environmental Policy Act regulations and policy. The Service will send copies of the Agreement, and this draft environmental assessment directly to interested individuals including, Native American Tribes, private landowners, County Commissioners, congressional and State representatives, State and Federal agencies, and other potentially interested parties.

Section VI: Document Preparers and Contacts

Document Preparers

Dennis Mackey, U.S. Fish and Wildlife Service, Boise
Carmen Thomas, U.S. Fish and Wildlife Service, Boise
Joe Hinson, Northwest Natural Resource Group, LLC

Agencies, Organizations, and Persons Contacted

Please see Appendix II for contact grid.

Section VII: REFERENCES

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Appendix I: Scoping Process and Results

In order to prepare this draft environmental assessment, the Service conducted scoping in November, 2003. A 21-day comment period was held, during which the Service requested input from interested parties regarding whether to prepare an environmental assessment or an environmental impact statement. We mailed letters (Dear Interested Party) to over 220 contacts to inform them of the comment period and to request their input on developing our environmental compliance document. The contact grid is comprised of, within the State of Idaho, all members of congress, the Governor's office, State Senators and Representatives, all State agencies, county commissioners, all Federal agencies, all mayors, U.S. Attorneys, Natural Resource Conservation Service, all Tribes, universities, Zoo Boise, Idaho Cattle, Idaho Wool growers, the Farm Bureau, International Forest Associates, private landowners, industry (such as Boise Cascade, Idaho Power, etc.), non-governmental organizations (such as Nature Conservancy, Idaho Conservation League, Western Watersheds Project, etc.), research centers, ranches, irrigation districts, public libraries, and rangeland groups. The complete list of contacts to whom this notice was sent is included in Appendix II.

We received comment letters from two parties: Idaho Conservation League, and the Animal and Plant Health Inspection Service (U.S. Department of Agriculture). Neither letter suggested development of an environmental impact statement. The content of these letters and our consideration and response to issues presented in them is discussed in section **I.D. Issues Considered During Agreement Development** of this draft environmental assessment.

Appendix II: Southern Idaho Ground Squirrel Contact List

Members of Congress

Senator Larry Craig
Senator Mike Crapo
Congressman C.L. Otter
Congressman Mike Simpson

State Government

Governor Dirk Kempthorne
Office of Species Conservation
Idaho Department of Fish and Game
Conservation Data Center
Idaho Department of Agriculture
Idaho Department of Fish and Game, Wildlife
Health Lab
Idaho Department of Fish and Game,
Conservation Officer
Idaho Department of Lands
Idaho Department of Parks and Recreation
Idaho Transportation Department

State Senate

R. Skipper Brandt
Brad Little
Laird Noh

State House of Representatives

Gary Bauer
Lawrence Denney
Clete Edmunson
Kathy Skippen

County Government

Adams County Commissioners
Gem County Commissioners
Payette County Commissioners
Valley County Commissioners
Washington County Commissioner

City Government

Mayor of City of Cascade
Mayor of City of Council
Mayor of City of Emmett
Mayor of City of New Meadows
Mayor of City of Weiser

Federal Agencies

Army Corps of Engineers

Boise National Forest
Bureau of Land Management
Center for Disease Control and Prevention
Department of Energy
Federal Highway Administration Regional
Office
Natural Resources Conservation Service
Patuxent Wildlife Research Center
Payette National Forest
Sawtooth National Forest
U.S. Attorney
U.S.D.A. Forest Service
U.S. Geological Survey
Wildlife Services

Native American Tribes

Nez Perce Tribe of Idaho
The Confederated Tribes of Umatilla Indian
Reservation

Universities

Albertson College of Idaho
Cornell University
University of Idaho
Boise State University
Oregon State University, Cooperative Fish and
Wildlife Research Unit
Colorado State University

Non-governmental Organizations

Advocates for the West
Biodiversity Legal Foundation
Boise Cascade Corporation
Boise Corporation
Center for Biological Diversity
CH2M Hill
Committee for Idaho's High Desert
Defenders of Wildlife
Environmental Defense Fund
Fund for Animals, Inc
Idaho Cattle Association
Idaho Conservation League
Idaho Farm Bureau Federation
Idaho Power Company
Idaho Rangeland Resource Commission
Idaho Wildlife Federation
Idaho Wool Growers Association
Intermountain Forest Industry Association
Northwest Natural Resources Group

Non-governmental Organizations (continued)

Northwest Power Planning Council
Rocky Mountain Elk Foundation
OX Ranch
The Nature Conservancy
Van Deusen Ranch
Weiser Irrigation District
Western Watersheds Project
Wildlife Forever
Zoo Boise
1,000 Springs Ranch

Public Libraries

Boise Public Library
Council Public Library
Emmett Public Library
McCall Public Library
Nampa Public Library
Weiser Public Library

Media

Associated Press
Boise Weekly
Central Idaho Star News
Idaho Press Tribune
Idaho Statesman
Independent Enterprise
KAID TV
KBCI TV
KBOI
KBSU
KIDO
KIVI TV
KNIN TV
KTVB TV
KUID
Long Valley Advocate
Messenger Index
The Adams County Record
Weiser Signal-American

Numerous private citizens