Texas Conservation Plan

for the

Dunes Sagebrush Lizard
(Sceloporus arenicolus)

Developed in consultation with:

U.S. Fish and Wildlife Service – Southwest Region
U.S. Department of Agriculture - Natural Resources Conservation Service
Texas A&M University
Texas Comptroller of Public Accounts
Texas Endangered Species Task Force
Texas Department of Agriculture
Texas Parks and Wildlife Department
Texas Railroad Commission
University of Texas System, University Lands
Texas Farm Bureau
Texas Oil & Gas Association
Texas Royalty Council
Texas & Southwestern Cattle Raisers Association
Texas Wildlife Association
Texas Association of Business

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TEXAS CONSERVATION PLAN FOR THE DUNES SAGEBRUSH LIZARD *(SCELOPORUS ARENICOLUS)*

This Texas Conservation Plan (Plan) is between the U.S. Fish and Wildlife Service (FWS) and the Texas Comptroller of Public Accounts (Comptroller or Permit Holder). Property Owners (as defined under 50 Code of Federal Regulations (CFR) § 17.3) who voluntarily agree to participate may be included under the Plan by signing Certificates of Inclusion (CIs) under the Candidate Conservation Agreement with Assurances (CCAA) or Certificates of Participation (CPs) under the Habitat Conservation Plan (HCP) (collectively, Participants). The CCAA will become effective upon approval of the Plan by FWS. The enhancement of survival and incidental take permits associated with the Plan will be issued and become effective on the effective date of a final rule, if any, that lists the dunes sagebrush lizard as endangered or threatened. Key terms used throughout the Plan are defined in the Glossary (Appendix F).

Agreeing to the terms of the Permit or the Texas Conservation Plan shall not constitute or be construed as a waiver of any of the privileges, rights, defenses, remedies, or immunities available to the Comptroller as an agency of the State of Texas or otherwise available to it. The Comptroller does not waive any privileges, rights, defenses, or immunities available to it as an agency of the State of Texas, or otherwise available to it, by applying for or receiving this Permit or by its conduct prior to or subsequent to applying for the Permit.

1.0 INTRODUCTION

The Plan is a comprehensive Endangered Species Act of 1973 as amended (ESA) conservation plan for the Dunes Sagebrush Lizard (DSL). The goal of the Plan is to facilitate continued and uninterrupted economic activity in the Permian Basin, which accounts for over 20% of national domestic energy production, and to promote compliance with the ESA for the Covered Activities described in Section 6.1 in response to the proposed listing of the DSL by the FWS. The Plan will be implemented as two separate components, as needed. The CCAA portion of the Plan will apply while the DSL remains unlisted, and will encourage non-Federal Participants to proactively manage property in exchange for the ability to obtain coverage under

the enhancement of survival permits pursuant to Section 10(a)(1)(A) of the ESA if the DSL is listed. If the DSL is listed, the Plan will also allow issuance of a Section 10(a)(1)(B) incidental take permit authorizing the take of the DSL in accordance with the HCP that is incorporated herein. As required by the ESA, the HCP describes, among other things, how the impacts caused by take authorized by the permit will be minimized and mitigated to the maximum extent practicable.

An advisory committee structure was established to develop the Plan. The committees consisted of various stakeholders and were divided into a Science Committee, a Policy Committee, and a Steering Committee. Decisions were made either on a consensus basis or vote. The Science Committee included biologists from the Texas Parks & Wildlife Department, Texas Department of Agriculture, United States Department of Agriculture's Natural Resource Conservation Service (NRCS), Texas A&M University, and the Texas Wildlife Association. The Policy and Steering Committees included various stakeholders from the above agencies and the Railroad Commission of Texas and affected parties, including landowners, Texas and Southwestern Cattle Raisers Association, Texas Farm Bureau, Texas Oil and Gas Association, Texas Royalty Council, and University of Texas System University Lands. FWS provided technical guidance. Meetings were open to the public (in person or via phone) and agendas, documents and meeting notes were posted on the Permit Holder's website.

Pursuant to ESA Sections 10(a)(1)(A) and (B), the following Plan describes a locally controlled and innovative approach for compliance with the ESA. Should the DSL be listed, permits issued to the Permit Holder would provide assurances to Participants and authorize incidental "take" of the DSL to Participants who voluntarily enroll and fully implement their conservation commitments. The Plan will continue economic development and promote habitat protection for the DSL across its range in Texas.

The Texas state agencies and other entities listed on the cover of this plan assisted in its preparation. However, nothing herein or the fact that these agencies or other entities are so listed is intended to be nor shall it be construed as an admission that the DSL is endangered or should be listed under the ESA. Each Texas state agency or entity reserves the right to contest any such listing or otherwise take action to preserve its rights.

2.0 AUTHORITIES, PURPOSE, AND NEED

2.1 Legal and Regulatory Framework

2.1.1 Overview of the ESA

The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. When evaluating a species for listing, the FWS considers five factors: (1) damage to, or destruction of, a species' habitat; (2) overutilization of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing protection; and (5) other natural or manmade factors that affect the continued existence of the species. When one or more of these factors imperils the survival of a species, the FWS takes action under ESA Section 4 to protect it. The FWS also maintains a list of "candidate" species. These are species for which the FWS has enough information to warrant proposing them for listing but is precluded from doing so by higher listing priorities. While listing actions of higher priority go forward, the FWS works with States, Tribes, private landowners, private partners, and other Federal agencies to carry out conservation actions for these species to prevent further decline and possibly eliminate the need for listing.

The ESA protects endangered and threatened species and their habitats by prohibiting the "take" of listed animals. Section 9 of the ESA prohibits "take" of any federally endangered wildlife species (16 United States Code (USC) § 1538(a)). As defined by the ESA, "take" means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC § 1532(19)). "Harm" is further defined by FWS regulations as "an act which actually kills or injures wildlife and may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding or sheltering." 50 CFR § 17.3. "Harass" in the definition of take is defined by FWS regulations as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent

as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering." *Id*.

The ESA allows for the take of listed species that is incidental to otherwise lawful activities. Two methods of allowing such authorized takes are the issuance of enhancement of survival and incidental take permits. *See* 50 CFR § 17.22. These permits can be obtained through the development of a CCAA or a HCP and application to the FWS.

2.1.2 Candidate Conservation Agreements with Assurances and Enhancement of Survival Permits

As defined by the FWS, a CCAA is a conservation tool that provides regulatory assurances to non-Federal property owners who voluntarily agree to manage their lands or waters in such a way that threats to candidate species, proposed species, or species that may become candidate or proposed species in the future, are removed or significantly reduced.

Sections 2, 7, and 10 of the ESA allow the FWS to enter into a CCAA. Section 2 of the ESA states that encouraging interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation's heritage in fish, wildlife, and plants. Section 7 of the ESA requires the FWS to review programs that it administers and to utilize such programs in furtherance of the purposes of the ESA. By entering into a CCAA, the FWS is utilizing its Candidate Conservation programs to further the conservation of the Nation's fish and wildlife. Lastly, Section 10(a)(1)(A) of the Act authorizes the issuance of permits to "enhance the survival" of a listed species. Enhancement of survival permits are not issued for candidate or other non-listed species unless and until those species are listed as threatened or endangered.

FWS may issue enhancement of survival permits to eligible applicants if it finds that: (1) the take will be incidental to an otherwise lawful activity and will be in accordance with the terms of the CCAA; (2) the CCAA complies with the requirements of the CCAA Policy available from the Service; (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 any species; (4) implementation of the terms of the CCAA is consistent with applicable Federal, State, and

Tribal laws and regulations; (5) implementation of the terms of the CCAA will not be in conflict with any ongoing conservation programs for species covered by the permit; and (6) the applicant has shown capability for and commitment to implementing all of the terms of the CCAA. 50 CFR § 17.22(d)(2); 17.32(d)(2). A non-Federal Participant who signs a CI pursuant to a CCAA is provided with the assurances that he or she will not become responsible for additional Conservation Measures and will not incur additional, future regulatory obligations if the covered species is later listed under the ESA.

Under a CCAA, the Participant is only responsible for implementing and maintaining the Conservation Measures and/or management actions that he or she agreed to in the CI, as long as the CCAA is being (or has been) properly implemented. A non-Federal Participant is only required to address those threats, or the proportion of those threats, that he or she can control pursuant to its property rights. Some Participants can do this by protecting, managing, and/or enhancing existing populations and habitats, restoring degraded habitat, creating new habitat, augmenting existing populations, restoring historic populations, or undertaking other activities on the property that remove threats to the covered species or otherwise improve the covered species' status. In some cases, asking a Participant not to undertake an activity that would harm a covered species may be a sufficient way to remove threats to the covered species pursuant to a CCAA.

The FWS CCAA Handbook provides guidance on the elements of a CCAA. Generally, when evaluating a potential CCAA, the FWS must determine that the benefits of Conservation Measures implemented under a CCAA, when combined with those benefits that would be achieved if the Conservation Measures were also to be implemented on other necessary properties, would preclude or remove any need to list the covered species. One of the great strengths of the CCAA is its flexibility to address both the need for protection for the species and habitat and the needs of Participants enrolling property under the CCAA. One advantage of a "programmatic approach" to a CCAA is that the FWS can more quickly provide regulatory assurances to multiple participants.

2.1.3 Habitat Conservation Plans and Incidental Take Permits

An HCP is another voluntary ESA compliance tool that offers incidental take coverage to Participants after a species is listed, if ever. The purpose of the habitat conservation planning process and subsequent issuance of incidental take permits is to authorize the take of federally listed species that is incidental to otherwise lawful private activities while providing a conservation benefit by minimizing and mitigating the effects of the authorized incidental take on the covered species. Incidental take of threatened or endangered species is authorized when appropriate mitigation and Conservation Measures have been taken. Section 10(a)(1)(B) of the ESA (16 USC § 1539(a)(1)(B)) authorizes the FWS to issue a permit allowing take of species providing that the taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Section 10(a)(2)(A) of the ESA provides that the FWS must issue an incidental take permit provided that the applicant meets all of the required issuance criteria, including that the applicant submit a conservation plan that: (1) describes the impact that will likely result from the taking; (2) identifies the steps the applicant will take to minimize and mitigate the impacts and the funding available to implement those steps; (3) describes what alternative actions to the taking were considered and the reasons the alternatives were not chosen; and (4) includes other measures that the Secretary of the Interior may require as necessary or appropriate for purposes of the conservation plan. 16 USC § 1539(a)(2)(A).

The FWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook ("HCP Handbook – in revision") provides guidance on the elements of a HCP. The HCP Handbook encourages the development of "programmatic" plans. HCP Handbook at 3.C.2. FWS has also developed an "Addendum" to the HCP Handbook clarifying certain components for a successful HCP. *See* 65 FR 35242 (June 1, 2000). Like the HCP Handbook, the Addendum, also known as the five-point policy, provides clarifying guidance for those applying for an incidental take permit under Section 10(a)(1)(B). In particular, the Addendum provides guidance on key components of the Plan, including (1) the biological goals and objectives of HCPs; (2) adaptive management; (3) monitoring; (4) permit duration; and (5) public participation.

2.1.4 National Environmental Policy Act

The issuance of enhancement of survival and take permits is a federal action subject to the requirements of the National Environmental Policy Act (NEPA). 42 USC §§ 4321-4327. NEPA requires federal agencies to: (1) study proposed projects to determine if they will result in significant impacts to the human environment; and (2) review the alternatives available for the project and consider the impact of the alternatives on the human environment. 42 USC § 4332(c). The scope of NEPA is broader than the ESA in that it requires the FWS to consider the impacts of the action on the "human environment," including a variety of resources such as water, air quality, cultural and historic resources, and socioeconomic resources. However, there are various levels of NEPA review and FWS determines what level is appropriate. For the Plan, the scope of the NEPA analysis covers the direct, indirect, and cumulative effects of the proposed incidental take and the beneficial effects of the proposed mitigation and minimization measures described herein (FWS and NMFS 1996). The HCP Handbook describes the FWS procedures for complying with NEPA with respect to HCPs. FWS is conducting a separate analysis pursuant to NEPA which will be published for public review and comment.

2.1.5 State Law

The Comptroller was created by the Republic of Texas provisional government as an appointed position on December 30, 1835. After statehood, the office became an elected position authorized by Article IV, Section 23, of the Texas Constitution of 1850. The Comptroller serves as the chief financial officer for the state of Texas. Most of the powers and duties of the Comptroller are enumerated in Chapter 403 of the Texas Government Code and the Texas Tax Code. The agency is the state's chief tax collector, accountant, revenue estimator, and purchasing manager.

In performing these functions, the Comptroller provides assistance to local governments and aids local economic development efforts by promoting best practices among cities, counties, economic development officials and other entities. In 2009, the Texas Legislature assigned the Comptroller to chair the Interagency Task Force on Economic Growth and Endangered Species

to help local officials implement the regulatory programs of the ESA and to coordinate economic development in conjunction with the implementation of the ESA. The Comptroller actively seeks to balance economic growth and endangered species regulation, and to do so by developing strategic alliances among farmers, ranchers, industry, conservation groups and agencies, universities and research institutions. To further this effort, Article 67 of Senate Bill 1 in the first called Special Session of the 82nd Texas Legislature (S.B. 1) authorizes the Comptroller to apply for and receive permits under the ESA. S.B. 1 further authorized the creation of a Habitat Protection Fund to be held in the Texas state treasury.

The Comptroller will use its procurement authority to contract with Qualified Third Party Contractors for research, administration, and audits of the Plan to meet the terms of the Permit such as the enrollment of Participants, tracking of the mitigation and recovery activities and funds, distribution of research funds, performance of research activities, and compliance monitoring and reporting. To obtain these services, the Comptroller may execute contracts with governmental entities such as state universities and state agencies through interagency contracts. The Comptroller may also solicit qualifications and/or proposals from individuals or companies following state procurement requirements. It is expressly understood that wherever in this Plan there is a duty, responsibility, or function assigned or undertaken by the Permit Holder, the Comptroller may, at its discretion, have such duty, responsibility, or function performed by its designated Qualified Third Party Contractors. The Permit Holder is the applicant for the ESA Section 10(a)(1)(A) enhancement of survival permit. In the event that the DSL is listed as a threatened or endangered species, the Permit Holder is the applicant for the ESA Section 10(a)(1)(B) incidental take permit. The Permit Holder, through its Qualified Third Party Contractors, will have the responsibility for the implementation of the Plan and ensuring compliance with the terms and conditions set forth in agreements with participants.

To implement the Plan, the Permit Holder acting through its Qualified Third Party Contractors, will identify Potential Participants that are voluntarily willing to execute contracts (designated CIs for the CCAA (Appendix A) or CPs for the HCP (Appendix B)) for implementation of elements of this Plan. The basis of enforcement of this Plan will be the existence of a contractual relationship with the Participant. The contract with the Participant will

authorize the Participant to undertake specifically identified activities (Covered Activities) that may result in incidental take within specifically identified habitat (DSL Habitat). In exchange, the Participant agrees to provide necessary access to the DSL Habitat and information regarding the Participant's activities as described in the Plan. The Participant will agree to provide access to the Permit Holder acting through its Qualified Third Party Contractors for two activities: (1) monitoring of the activities to which the Participant has agreed to engage; and (2) research activities necessary for enhancing the existing knowledge of the DSL. Information obtained under this Plan from Participants will be confidential, as described in Section 8.2.4 Confidentiality, and the template CI and CP. Participants who fail to commit to perform the Conservation Program required of them will not be eligible for the incidental take coverage provided for under the Permit. Likewise, Participants who do not perform their commitments under the terms of their contracts will have their participation suspended or terminated in accordance with the processes specified in the CI and CP.

Accounts will be created in the Habitat Protection Fund to administer all aspects of the Plan, including accounts for program administration (Administration Account), mitigation (Mitigation Account), and recovery (Recovery Account), as described in Section 11, to assure adequate funding of the Plan. Participation Fees and Participation Assessments will be deposited into the Administration Account and used for research and administrative activities; funding for Mitigation Activities will be deposited into the Mitigation Account and used to offset impacts resulting from incidental take; and, funding for Recovery Activities will be deposited into the Recovery Account and used to contribute to the recovery of DSL through Recovery Awards.

2.2 Purpose and Need for Action

The overarching purpose of the Plan is to promote the conservation of the DSL in Texas while balancing the need for economic development in an area important to the nation's domestic energy supply in response to the proposed listing of the DSL by the FWS. To achieve this purpose, the Permit Holder will work with Participants who voluntarily enroll and commit to implementation of Conservation Activities under this Plan for the DSL in the Permit Area identified in Section 4.2. The Plan will support issuance of an ESA Section 10(a)(1)(A)

enhancement of survival permit by establishing Conservation Measures that may preclude the listing of the DSL. The Plan will also support the issuance an ESA Section 10(a)(1)(B) incidental take by establishing a minimization, mitigation and recovery program. The Conservation Program detailed in this Plan would be implemented by or on behalf of the Participants or the Permit Holder as appropriate. Any non-Federal Potential Participant may voluntarily seek coverage under the Plan. This may include any private, State, or Tribal entity. FWS regulations define "property owner" with respect to agreements outlined under 50 CFR §§ 17.22(c), 17.22(d), 17.32(c), and 17.32(d) to mean "a person with a fee simple, leasehold, or other property interest (including owners of water or other natural resources), or any other entity that may have a property interest, sufficient to carry out the proposed management activities, subject to applicable State law, on non-Federal land." Participants are Property Owners that enroll in the Plan.

The CCAA approach offers an opportunity for Participants and government agencies to work together voluntarily to proactively identify and implement best management practices to preserve DSL and their habitat across a large landscape. The HCP addresses the need to balance habitat conservation with property rights and continued economic development in the region. Overall, the Plan will allow for economic development to continue in a seamless manner by providing an efficient mechanism to comply with the ESA. Without the Plan, there could be significant regulatory delays in obtaining a permit, disruption to economic activity in an area vital to state and national interests, and little incentive to conserve DSL Habitat to potentially preclude listing of the DSL. The Plan encourages Participants to immediately enact proactive and voluntary Conservation Activities in response to the proposed listing of the DSL and provides regulatory certainty and an efficient mechanism to comply with the ESA if the DSL is listed.

2.3 Benefits of the Plan

The overall conservation goal of the Plan is to encourage conservation of the DSL and DSL Habitat on non-federal lands in the Permit Area in response to the proposed listing of the DSL by FWS. A major benefit of the Plan is a reduction in the regulatory uncertainty that Texas

businesses could face if the DSL is listed. The Plan not only addresses minimization of impacts and impact mitigation, but it will also contribute to the recovery of the DSL (as more fully described in Section 8.8 and Section 13). This goal will be met by giving private landowners incentives to implement Conservation Activities and by providing Participants with regulatory certainty concerning land use restrictions that might apply should the DSL become listed under the ESA.

This Plan and its associated enhancement of survival permit and incidental take permit, issued pursuant to Section 10 of the ESA would provide Participants regulatory certainty. With the CCAA, Participants would voluntarily enroll in the Plan and be guaranteed an enhancement of survival permit by agreeing to the appropriate terms of the Plan and the permit by signing a CI (Appendix A). Participants who voluntarily cooperate and conduct Conservation Measures for DSL Habitat on land under the CCAA would receive assurances that they will not incur additional land-use restrictions on property should the species become listed. If a Participant voluntarily seeks to participate in the Plan after the DSL is listed, and it meets the conditions of the HCP components of the Plan, it may receive a CP authorizing the incidental take of the DSL (Appendix B).

By developing and implementing the Plan and the conservation program outlined under Section 8, the Permit Holder will achieve a number of benefits for the DSL and Texas, including:

- Coordinated conservation planning with a long-term focus over a regional scale.
- Minimization of negative impacts to the Texas economy.
- Establishment of a conservation program that proactively encourages conservation and minimizes and mitigates to the maximum extent practicable the impacts of authorized take of the DSL.
- Research on DSL, DSL Habitat, and threats and effectiveness of Conservation Measures, as described in Section 8.
- Use of a new, streamlined mechanism to comply with the ESA that would be available to private landowners, businesses, and other entities. This new compliance option provides an innovative solution to endangered species issues and recognizes stakeholder concerns by ensuring uninterrupted economic development.

- Reduction in the time and cost associated with obtaining enhancement of survival and incidental take authorization under the ESA, particularly with respect to developing individual CCAAs and HCPs (based on management plans, oil and gas development plans, etc.), waiting for applications to be processed by the FWS, and obtaining appropriate mitigation for project impacts.

The Plan will provide a streamlined and innovative mechanism for the Permit Holder and other public and private entities to comply with the ESA. Processing individual enhancement of survival permits or incidental take permits typically takes one to two years. Under the Plan, incidental take authorization could be obtained within a matter of weeks and with potentially less resources than obtaining individual take authorizations. By providing an efficient and reliable mechanism for ESA compliance that has been developed by affected stakeholders, the Permit Holder anticipates that there will be an increase in conservation actions for the DSL.

3.0 BACKGROUND

3.1 Description of the DSL and DSL Habitat

The DSL is a small, light brown phrynosomatid lizard (family Phrynosomatidae, genus *Sceloporus*) with a maximum snout-to-vent length of 70 millimeters (mm) (2.8 inches (in)) for females and 65 mm (2.6 in) for males (Degenhardt *et al.* 1996, p.160). DSLs are active primarily in the morning and late afternoon from March to October, with peak adult activity between mid-April and July (Fitzgerald and Painter 2009). Breeding occurs from May to early July (Fitzgerald and Painter 2009). Females can reach sexual maturity during their first spring following hatching and produce one–two clutches per year between June and August, typically with three–six eggs per clutch (Degenhardt and Jones 1972, Cole 1975, Fitzgerald and Painter 2009). Nests are known to occur on west-facing, open sand slopes with little to no vegetation, approximately 18 cm (7.1 in) below the sand surface (Hill and Fitzgerald 2007). Hatchlings emerge about 30 days after the eggs are laid, thus emerging between July and September. DSLs usually live two–four years (Snell *et al.* 1997, Fitzgerald and Painter 2009). They feed on ants, small beetles, crickets, grasshoppers, and spiders (Degenhardt and Jones 1972, Fitzgerald and Painter 2009). Predators include snakes, such as coachwhips (*Masticophis flagellum*; Hill and Fitzgerald 2007), and likely predatory birds, such as loggerhead

shrikes (*Lanius ludovicianus*) and American kestrels (*Falco sparverius*) that favor perch sites from which to forage, or ground-dwelling species like greater roadrunners (*Geococcyx californianus*; Hughes 1996, Yosef 1996, Smallwood and Bird 2002).

The DSL is native to a narrow band of shinnery oak dunes in southeastern New Mexico and West Texas (Axtell 1988, Laurencio *et al.* 2007, Laurencio and Fitzgerald 2010). A habitat specialist, the DSL occurs in sand dune complexes dominated by shinnery oak (*Quercus havardii*) which are often separated by shinnery oak flats (Painter *et al.* 1999, Fitzgerald and Painter 2009). The structural characteristics of shinnery oak support and maintain the dune system along with providing shelter for DSLs and habitat for the lizard's prey base (Sena 1985, Fitzgerald *et al.* 1997, Peterson and Boyd 1998). DSLs are typically found in deep, wind-hollowed depressions called blowouts bordered by shinnery oak; blowouts provide sites for thermoregulation, feeding, and display while the nearby vegetation provides shade and cover (Axtell 1988, Fitzgerald *et al.* 1997). Large, deep dunal blowouts appear to provide ideal habitat with more area for cover (*e.g.*, thermoregulation and predator avoidance) and steeper slopes needed as breeding habitat (Fitzgerald *et al.* 1997). DSLs are less likely to use small, shallow blowouts (Fitzgerald *et al.* 1997, Snell *et al.* 1997).

The DSL was first classified as a candidate species by the FWS in 1982 (47 FR 58454). Over subsequent years, the FWS shifted the species between different candidate categories which, along with policy changes in identifying candidate species, resulted in the species' exclusion from several annual notices of review (*e.g.*, 50 FR 37958, 59 FR 58982, 61 FR 7596). In 2001, the DSL was placed on the candidate list with a listing priority number of two, indicating "imminent threats of a high magnitude" to the species and citing habitat loss and fragmentation as the primary threats (66 FR 54807). Since 2001, the DSL has remained on the candidate list as a priority two species. The majority of research on the species since its original listing in 1982 has occurred on public lands in New Mexico.

The shinnery oak sand dunes in which DSLs occur encompass approximately 419,000 acres (ac) (169,500 hectares (ha)) in New Mexico and 197,606 ac (79,768 ha) in Texas (Painter *et al.* 1999, Hibbitts 2011). However, within the geographic range of the species, habitat is localized and fragmented where known populations are separated by areas of unoccupied

habitat (Snell *et al.* 1997). Fitzgerald *et al.* (1997) observed isolated areas of apparently Suitable Habitat that did not contain DSLs. It is possible that these observations are the result of local extinction events in isolated areas where recolonization is either impossible or has not yet occurred; it is also possible that these areas have never been occupied and other abiotic or biotic factors prevent DSL occupation in otherwise Suitable Habitat (Fitzgerald *et al*. 1997).

The landscape created by the shinnery oak sand dune community is a spatially dynamic system (Muhs and Holliday 1995, 2001). Areas that contain components of Suitable Habitat (*i.e.*, large, deep blowouts) will not always provide Suitable Habitat. With natural processes like wind and rain eroding sand dunes, areas that are currently shinnery flats could build into dune complexes that support DSLs (Fitzgerald *et al.* 1997, Muhs and Holliday 2001). However, the movement of this dynamic system could be interrupted by habitat fragmentation that would stop the natural shift in dunes and cause the current dune structures to collapse. Any natural processes or human activities that negatively impact the integrity of shinnery oak dune complexes (*e.g.*, loss of shinnery oak by drought or herbicide) can impact the occurrence of DSL (Snell *et al*. 1997, Peterson and Boyd 1998).

In Texas, DSLs were historically found in Andrews, Crane, Gaines, Ward, and Winkler Counties (Degenhardt and Jones 1972, Axtell 1988, Painter and Sias 1998). Laurencio *et al.* (2007) conducted surveys in 2006 and 2007 to determine the current distribution of the DSL in the state. They surveyed 27 sites (including 19 historic localities) that contained DSL Habitat in Andrews, Crane, Cochran, Gaines, Ward, and Winkler Counties, and found DSLs at only three sites (Laurencio *et al.* 2007). Two of the sites were in large patches of shinnery oak dunes that stretch through Ward, Winkler, and Andrews Counties; many DSLs were found at a site in Gaines County that is within the easternmost contiguous habitat that stretches from the southernmost population in New Mexico. In north and western Crane County, shinnery oak dune habitat exists, but DSLs were not detected during the surveys (Laurencio *et al.* 2007). In June of 2011, the most comprehensive survey effort in Texas to date was completed. Fifty sites were surveyed in Andrews, Crane, Ector, Ward, and Winkler Counties. Efforts were made to get a better idea of the distribution of the lizard in Texas so historic localities were not prioritized as survey sites. DSLs were found at 27 of the 50 survey sites.

DSL populations in Texas are all on non-federal land. Monahans Sandhills State Park is on private land that is a leased 3,840-ac (1,554-ha) park where DSLs were thought to be extirpated after surveys were completed in 2007 (Laurencio *et al.* 2007). In 2010, the park was again surveyed and DSLs were present (Fitzgerald 2010). Monahans Sandhills State Park is a well-known historic locality that is the only area where DSLs have been known to occur on public access lands in Texas. It is evident that the DSL is still present at the park, but the lack of detections from 2007 suggests they may be present in small numbers, and that further monitoring should be done at this site (Fitzgerald 2010).

4.0 DESCRIPTION OF THE AREA TO BE ANALYZED

4.1 Plan Area

The Plan Area includes those portions of the following Texas counties which have Suitable Habitat for the DSL: Andrews, Cochran, Crane, Ector, Gaines, Ward, Winkler, and Yoakum. An additional six counties, including Bailey, Hale, Hockley, Lamb, Upton, and Terry contain shinnery sands ecoregion, which is not currently considered DSL Habitat, but is included in the Plan Area for further research and Recovery Activities. While DSLs have not been documented in all of these counties, the broader Plan Area is intended to allow flexibility for Participants to undertake research and Recovery Activities in areas where appropriate. Figure 1-1 (attached) highlights the counties outlined above. Section 4.2, Permit Area, explains where DSL Habitat is located, where DSLs have recently or historically been found, and where Covered Activities after listing of the DSL, if any, may require incidental take authorization.

4.2 Permit Area

The Permit Area will include only those portions of DSL Habitat where DSLs have recently or historically been found in Andrews, Crane, Gaines, Ward, and Winkler Counties. Ector County, where DSLs have never been found, may have DSL Habitat and will also be included in the Permit Area because of its proximity to other counties with DSL Habitat and recent and historic occurrence of DSLs. Figure 1-1 (Plan Area, attached) highlights these six counties; however, Figure 1-2 (DSL Likelihood of Occurrence, attached), illustrates the portions

of these counties which contain DSL Habitat where DSLs have recently and historically been found and is the area where Covered Activities occurring after listing of the DSL, if ever, may require incidental take authorization. Public or private entities conducting otherwise lawful activities within the Permit Area that may cause incidental take of the species covered by the Plan may elect to participate and obtain authorization for incidental take of the DSL.

5.0 DURATION

The proposed term for the Plan is 30 years from the date FWS approves the Plan. At the end of this term, the Permit Holder may apply to the FWS to renew the permit. If Permit Holder applies for a renewal at least 30 days prior to the expiration of the Permit, the Permit Holder and Participants may continue the activities authorized by the Permit until the FWS acts on the application for renewal. If approved by the FWS, the assurances and permit language agreed to at the time of the renewal request will be honored by the FWS. The FWS may also deny application for renewal of the Permit or have the option of terminating the Permit in accordance with 50 CFR § 13.22(d).

6.0 PROPOSED ACTION

6.1 Covered Activities

The Permit issued in conjunction with the Plan will authorize incidental take of DSLs, if the DSL is listed, from otherwise lawful activities described below and herein referred to as Covered Activities as long as the Participant is in compliance with the terms of the CI or CP, as appropriate, including the requirements for mitigation described in Section 12. The impacts to the DSL and DSL Habitat from Covered Activities are described in Section 7, the net benefit to recovery attributable to the Conservation Activities required under this Plan are described in Section 13, and the expected benefits from specific Conservation Measures are explained more in Appendix E.

The following Covered Activities are organized by industry but may be conducted by any Participant. They include, but are not limited to:

6.1.1 Oil and Gas Activities

- Seismic and Land Surveying: Seismic activities are generally performed in the exploration mode of oil and gas development or in areas of development for refining knowledge of the geology and improving well siting. Seismic activities are conducted for periods of short duration in any given area. Activities consist of a small crew laying/stringing cables on foot or possibly using off-highway vehicles (OHVs). A Crew removes cables when the project is complete. OHV training is required for crew members with a company representative present for oversight.

- Construction: Construction of facility sites and access roads may include clearing vegetation, contouring, compacting, stabilizing soils and erosion control (including silt fencing, earthen berms, etc. per Clean Water Act permitting requirements). Heavy equipment and trucking associated with construction activities may cause DSL mortality due to collision and behavioral modifications. Well Site construction may include pit construction and closure, as well as temporary fencing around pit for livestock and wildlife protection. A water well may be drilled adjacent to the location and possible trenching related activities associated with installation of flowlines, pipelines, and utilities may occur.

- Drilling and Completion: Related drilling and completion activities include rig mobilization and can include heavy equipment and frequent traffic. Wellbore completion activities, such as hydraulic fracturing, will not directly impact dune complexes because they are contained and take place on location. Well Site fencing may be utilized after completion operations for security and to limit access.

- Operations and Maintenance: Routine operations can include daily inspections and maintenance, flowline repairs, emergency response and remediation of spills, workovers (recompletions), and weed control.

6.1.2 Agricultural Activities

- Brush management (shinnery oak reduction on dunes): Brush management consists of using approved herbicide to control or suppress shinnery oak in DSL Habitat. Removal or reduction of the shinnery oak population on the dune can cause destabilization of the dune/blow out complex within DSL Habitat.

- Grazing: Lack of proper grazing management may lead to occasional browsing of shinnery oak on the dunes and adjacent rangeland by grazing animals. Shinnery oak is known to be toxic to grazing livestock when budding out in the spring. Loss of shinnery oak habitat due to occasional browsing by grazing animals is attributed to drought conditions when preferred herbaceous plant communities are not available.
- Building and maintaining fences: Fence construction and maintenance of new and existing fences may occur in DSL Habitat. Construction is typically short-term but fences may create possible perches for predatory avian species.
- Water/windmill: Water development may include water storage facilities, windmills and water trough placement in DSL Habitat. Minimal impacts from predatory avian species could result from perches on windmills.

6.1.3 General Activities

- Hunting: Recreational hunting may result in occasional travel by hunters through dunes to seek and retrieve targeted game.
- OHV activity: OHV activity in DSL Habitat includes OHV use for recreation (including hunting) and for ranching and oil and gas development.
- General construction: General construction and development activities by a variety of sectors, public and private, may occur in DSL Habitat. For example, a water utility line planned by multiple counties in the region may involve construction in or near DSL Habitat. Other construction or access dozing by alternative energy producers or for recreational purposes is also contemplated.
- Other land management: Other land management activities may include prescribed burns and game and predatory management.
- Recreational OHV activity may be permitted in Monahans Park. This activity, which is authorized on state park lands, may result in OHV use in or near DSL Habitat.

7.0 ANALYSIS OF THE IMPACTS

7.1 Species Effects and Impacts Analysis

The Plan addresses potential impacts to the DSL and DSL Habitat due to Covered Activities in the Permit Area. As detailed in Section 9.1, if the DSL is listed, the Permit would authorize incidental take of up to 21,257 acres of DSL Habitat to meet the need for development in the Permit Area. This estimate of incidental take authorization represents a worst-case maximum that considers suitable shinnery oak dune complexes and buffers surrounding such

complexes on the same basis as if that area were shinnery dune complexes occupied by DSL, as more particularly described in Sections 9 and 13 below. The impacts analysis and take estimate under Section 9.1 accounts for a scenario based on the highest level of development and impact. For example, the supporting infrastructure is accounted for in the take estimate although it will likely be located outside of habitat or in existing development corridors.

The Plan authorizes some activities that, according to the proposed listing of the DSL by FWS, may threaten the DSL as stated in the proposed listing by FWS and that would have direct or indirect impacts on the DSL. Direct or indirect impacts include:

(A) destruction, modification, or curtailment of DSL Habitat or range (Section 7.1.1);

(B) increased predation (such as creation of avian perches) (Section 7.1.2); and

(C) additional natural or manmade factors affecting the DSL's continued existence (Section 7.1.3).

The following briefly summarizes the potential impacts to the DSL and DSL Habitat resulting from the Covered Activities under the Plan.

7.1.1 Loss, Destruction, Modification, or Fragmentation of Habitat

7.1.1.1 Impacts from Oil and Gas Extraction

In the proposed listing by the FWS, it was stated that there is some impact to DSL Habitat as a result of continued oil and gas development and operations in the Permit Area. However, many of the specific direct and indirect effects to DSL Habitat are unknown due to the limited amount of scientific knowledge and data on the DSL. Based on various studies on similar lizard species, potential negative impacts to DSL Habitat as a result of roads and locations associated with oil and gas development include: vehicular traffic; heavy equipment; human activity; soil compaction; loss of habitat; decreased habitat quality; division of the ecosystem with artificial gaps; potential subdivision of populations into smaller and more vulnerable patches; inhibited access to resources for foraging, breeding, nesting, predator avoidance, and thermoregulation; behavior modification; and direct mortality due to collisions. Excluding associated roads, each Oil Well Location averages two acres and each Gas Well

Location averages three acres. Once roads and habitat fragmentation associated with roads, flowlines, pipelines and power lines are considered, additional adverse effects may be possible. Because not all Well Sites, roads and other oil and gas infrastructure in DSL Habitat will be able to be avoided, roads and locations associated with oil and gas development may result in fragmentation and adverse impacts to DSL Habitat.

Pipelines and flowlines located throughout DSL Habitat may also have negative direct and indirect effects on DSL Habitat. Heavy equipment used to remove shinnery oak and bury the lines in the sand may destabilize dunes. Pipelines and flowlines may expose DSLs to petroleum chemical leaks and an increased likelihood of being crushed by OHV travel due to maintenance crews using vehicles along those lines. Flowlines are located throughout the range of the DSL, are currently being built with every Well Site, and will continue to be built in the future with or without the Plan. While some lines will be able to be routed around DSL Habitat, pipelines and flowlines may result in some continued adverse impacts on DSL Habitat.

Seismic exploration is conducted prior to the development of oil and gas fields to determine the below surface availability of oil or gas and refine the placement of wells. Seismic exploration for oil and gas may have direct and indirect impacts to the DSL and its habitat to the extent it is associated with pulsating equipment traveling through dune complexes. While some seismic activities can be avoided or structured in a manner that minimizes impacts to DSLs, some adverse impacts from seismic activities may still occur as a result of human activity, collisions, soil compaction and behavioral modification.

Finally, ongoing oil and gas operations and incidents associated with oil and gas operations, such as oil spills, hydrogen sulfide (H_2S) gas emissions, and exposure to chemicals and other toxins in the vicinity of oil and gas wells may also adversely affect DSLs. While the direct and indirect impacts of oil field pollutants on DSL populations, fecundity, and survivorship are unknown, pollutants from oil and gas production may be a factor that has impacts on the survival of the species. *See also* Section 7.1.3.2.

Potential threats are based on the limited science and assumptions set forth in the proposed listing. Research under the Plan is intended to assess the impacts, if any, of the threats

identified in the proposed listing. Adaptive Management under Section 8.3 of the Plan will be used to adjust Conservation Activities based on the further assessed impact of the identified threats in the proposed listing.

7.1.1.2 Impacts from Agricultural and Ranching Practices

Agricultural activities generally have a minimal impact on DSL Habitat. However, improper land management practices and increased infrastructure development, such as roads, windmills, water pipelines, and fences related to agricultural practices may lead to habitat loss and fragmentation. These land management activities are compounded by extended drought periods. Some potential indirect impacts from agricultural and ranching practices may include the creation of avian predator perches, which can provide observation points for predator avian species in DSL Habitat and may make it easier for predators to search for DSL, and soil compaction and DSL Habitat loss resulting from animals congregating near water tanks. Increases in the number of available perches could increase presence of avian predators which could result in higher mortality within local DSL populations, which depending on population size, heterogeneity in habitat features, and conductivity with other occupied sites could result in local extirpation events. Impacts from other land management practices may be short term and long term and beneficial (in the case of some prescribed burns) or adverse depending on the activity and range of effects.

7.1.1.3 Impacts from Tebuthiuron

Misapplication of tebuthiuron (in this regard, to DSL Habitat) may lead to loss of sand shinnery (*Quercus havardii*) within the dune/blow out complexes. Full application rates of 1.0 pound active ingredient per acre will result in 100% kill (lethal effects) of sand shinnery, but realistically 90% or greater control is achieved to the area where the herbicide is applied. Suppression rates of 0.3 pound active ingredient per acre will achieve approximately a 35% reduction of canopy (sub lethal effects). However, because application of tebuthiuron is not typically used in DSL Habitat in Texas, it is not expected to be a source of significant impacts as a result of this Plan.

The control of sand shinnery within the habitat of the DSL is generally not economically significant to ranchers and landowners in these agricultural communities. The soils associated with the dune complexes are stabilized with the oak community and if removed can result in active erosion or "blowouts" occurring resulting in damage to the landscape.

It must be noted that the use of tebuthiuron within habitat may be needed in the future to maintain desired plant community for DSL as a means to suppress sand shinnery. Suppression rates of 0.3 pound active ingredient per acre is recommended for this purpose. Additional scientific research will need to be conducted in order to support the use of chemical brush management as a means to enhance and sustain DSL Habitat.

A 100 foot buffer is suggested to protect DSL Habitat from bleed over of the chemical where tebuthiuron is applied and uptake of chemical through roots outside and along fringe of treated areas. The recommended buffer of 100 feet from DSL Habitat is based and supported by recommendations and studies from researches at Texas Tech University and Texas Agricultural Extension (AgriLife) Texas A&M University.

7.1.1.4 Impacts from OHV

While OHV use is not considered a general threat to the DSL, OHV use may directly and indirectly contribute to a decline of DSL Habitat in areas where it is prevalent. Extensive OHV use causes soil compaction, reduces plant cover, and degrades DSL Habitat. An indirect effect is that use of OHVs can create ruts in dunes and erosion from precipitation events could lead to erosion of dune complexes. Continued use of OHV for oil and gas development, agricultural and ranching, and hunting and recreation uses may also lead to habitat fragmentation and loss by promoting conditions favorable for shrub encroachment. Impacts to DSL from hunting will be minimal as primary time of use by hunters will be outside the active period of the DSL.

7.1.1.5 Impacts from Alternative Energy Development

West Texas is highly suitable for wind and solar energy development. Continued development of wind and solar energy infrastructure may have adverse impacts on the DSL to the extent it may directly disturb DSL Habitat or cause habitat fragmentation.

7.1.2 Predation

During radio telemetry experiments, pit fall studies, and surveys, a number of predators were observed eating DSLs. Loggerhead shrikes are a predatory bird with weak feet that are of little use for grasping prey while eating. Instead, they impale their prey on sharp objects, such as stout thorns or barbed-wire fences, and use their sharp bills to consume their catch (Alderfer 2006). DSLs have been found impaled on barbed-wire fences within shinnery oak dunes (Jones and Holmes 2003). Infrastructure development, such as power lines that may provide perch landings for predatory birds, may indirectly increase predators of the DSL. Snakes are a predatory threat to the DSL. A coachwhip snake was observed leaving a pit fall with a DSL in its mouth; and, five out of twenty (20%) in a radio-tracking study were preyed upon by snakes, (Hill and Fitzgerald 2007). Feral hog populations have also grown in the area and are believed to be a predator in addition to causing habitat destruction.

The DSL is an extreme habitat specialist associated with a single plant species that exists in a limited ecosystem. Factors such as short life span, small clutch size, and the presence of natural competitors and predators contribute to the precarious status of this species. According to the proposed listing, the species occurs in a range that is fragmented by both natural and manmade influences, where populations are not connected for genetic exchange and are vulnerable to genetic drift and population loss due to random events. The species is not known to cross large expanses of unsuitable habitat and there is little chance of Suitable Habitat being recolonized without human intervention. Sudden Oak Death, drought, freezes, infestation of root boring insects, and a known lepidopteran parasite can quickly defoliate and kill giant stands of shinnery oak (Peterson and Boyd 1998).

7.1.3 Other Natural or Manmade Factors

7.1.3.1 Extreme Natural Conditions

Catastrophic events such as wild fires, tornadoes, prolonged periods of severe drought, and similar events may temporarily remove or degrade DSL Habitat. Higher temperatures, less rainfall, and changes in storm frequency and severity could negatively affect DSL Habitat by reducing habitat and by converting shinnery oak vegetation to other vegetation inhospitable to

DSL. In particular, events such as drought and late freezes could cause dramatic shifts in the available habitat. Smaller habitat patches may be less resilient to natural events, so extreme short-term and long-term weather shifts could cause declines in DSL Habitat.

7.1.3.2 Impacts from Exposure to Toxic Chemicals and Hydrogen Sulfide (H_2S) Emissions

According to the U.S. Environmental Protection Agency, oil fields can contain a variety of activities that release toxic pollutants, including petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAH) (*e.g.*, phenanthrene, fluoranthene, and benzo[a]anthracene), oil spills, and air pollutants (U.S. Environmental Protection Agency 1999). Because DSL Habitat is co-located with oil and gas development, there is potential for exposure to toxic pollutants including incidental releases such as oil spills, emissions containing H_2S, and chemical leaks. While the effects of pollutants from oil and gas operations on DSLs are largely unknown, there may be some impacts from ongoing operations on the DSL. Further research will determine the significance of these impacts.

7.2 Additional Species

This Plan may collaterally benefit 41 additional species, including those listed in Appendix C (Additional Species). The Permit Holder is not seeking incidental take authorization for these additional species. These species may reap some collateral benefits from the Plan's conservation program under Section 8.

8.0 CONSERVATION PROGRAM

As discussed previously, the Plan will incorporate two separate conservation strategies encouraged under the ESA. Until the DSL is listed, if ever, as endangered or threatened, Potential Participants will have the opportunity to enroll in a CCAA and to implement Conservation Measures that may preclude the need to list the DSL as endangered or threatened. In return for the Participant's proactive conservation efforts, FWS will provide enhancement of survival permit coverage under Section 10(a)(1)(A) of the ESA that is effective upon listing. This permit would allow Participants to take individual DSLs or modify habitat to return

population levels and habitat conditions to those agreed upon and specified in the CCAA. As called for in the FWS's CCAA policy and associated regulations, the Plan describes how the proposed Conservation Measures would reduce or avoid the threats to the DSL from the Participant's Covered Activities. *See* Section 13 and Appendix E. In particular, the CCAA is specifically focused on avoidance, minimization, and enhancement activities. The benefits of Conservation Measures to be implemented by a Participant under the CCAA, when combined with those benefits that would be achieved if the Conservation Measures were also to be implemented on other necessary properties, should preclude or remove any need to list the covered species.

Any participation under the CCAA component of the Plan is purely voluntary and no Potential Participant, landowner or property owner will be forced or required to participate. Once enrolled, Participants in the CCAA will be required to comply with the terms of the CI. Any property owner may create its own compliance strategy or create its own individual CCAA directly with the FWS to ensure compliance with the ESA rather than participate in the Plan. The Permit Holder will not require participation in the CCAA as a prerequisite or requirement for obtaining any state permit and will not discriminate against a permit application or permit approval for land that is designated as critical habitat under the ESA or has endangered species or endangered species habitat.

If the DSL is ultimately listed, Potential Participants desiring to undertake otherwise lawful activities resulting in take will be provided coverage under the Section 10(a)(1)(B) permit issued to the Permit Holder consistent with the HCP portion of the Plan. The Section 10(a)(1)(B) permit will authorize take that is incidental to otherwise lawful activities as long as Participants comply with the terms of their CP. In addition, the Plan will include measures that will contribute to the recovery of the DSL and that should provide a net benefit to the recovery of the species and promote the conservation of the DSL in Texas. The effectiveness of the Plan's proposed conservation strategy will also be continually monitored and potentially adjusted through the Adaptive Management provisions described in Section 8.3.

Similar to the CCAA component, any participation in the HCP component of the Plan is purely voluntary and no Potential Participant, landowner or property owner will be forced or

required to participate in the Plan. Once enrolled, Participants in the HCP will be expected to comply with the terms of their CP. Any property owner is free to create an individual compliance strategy or create an individual HCP directly with the FWS to ensure compliance with the ESA, rather than participating in this Plan. The Permit Holder will not require participation in the HCP as a prerequisite or requirement for obtaining any state permit and will not discriminate against a permit application or permit approval for land that is designated as critical habitat under the ESA or has endangered species or endangered species habitat.

Consistent with the objectives and policies for each conservation strategy, Section 8 is organized according to those requirements that apply to both the CCAA and the HCP and other elements that are unique to each conservation tool. The following sections apply to both the CCAA and HCP portions of the Plan:

- Biological Goals and Objectives (Section 8.1);
- Compliance and Effectiveness Monitoring and Reporting (Section 8.2);
- Adaptive Management (Section 8.3);
- Research Activities (Section 8.4);
- Recovery Strategy (Section 8.8);
- Violations and Remedies (Section 8.9);
- Notification of Take (Section 8.10);
- Succession and Transfer (Section 8.11)
- Modification/Amendment of the CCAA/Permit (Section 8.12);
- Termination of Participant CI and CPs (Section 8.13);
- Permit Suspension or Revocation (Section 8.14);
- Dispute Resolution (Section 8.15);
- No Third-Party Beneficiaries (Section 8.16);
- Applicable Law (Section 8.17);
- Cooperating Agencies and Parties (Section 8.18);
- Reservation of Rights (Section 8.19); and
- Conservation Recovery Award System (Section 12).

Those sections that are unique to the CCAA include:

- Assurances (Section 8.5.1);
- Availability of Funds (Section 8.5.2);
- Conservation Measures (Section 8.6); and
- Obligations of the Parties under the CCAA (Section 8.6.4).

Those sections that are unique to the HCP include:

- Minimization Strategy (Section 8.7.1)
- Mitigation Strategy (Section 8.7.2); and
- Obligations of the Parties under the HCP (Section 8.7.2).

8.1 Biological Goals and Objectives

The FWS defines biological goals as the broad, guiding principles that clarify the purpose and direction of the conservation components of an HCP. 65 FR 35241. The biological goals and objectives are designed to address the potential impacts of the proposed activities while taking into account the overall conservation needs of DSL and its habitat. In general, the biological goals will be accomplished by: (1) conserving DSL and their habitat in the Permit Area, and (2) mitigating the impacts of take contemplated by the Plan by conserving and managing certain known DSL Habitat areas throughout the Permit Area. In addition to these general objectives, the Plan will include a recovery strategy that will strive for the implementation of activities that, if the species is listed, move the status of the species toward recovery and potential delisting. Accordingly, the biological goals and objectives of the Plan will be as follows:

Goal: Promote an innovative and flexible approach that meets ESA standards for the protection of the DSL while maintaining economic viability of the Permit Area.

Objective: The Plan will provide for an efficient, flexible and reliable mechanism for ESA compliance in the Permit Area. The Permit Holder anticipates this approach will increase ESA compliance across the Permit Area which will have long-term benefits for the DSL and the economy of Texas.

Goal: Create a program within the Permit Area that encourages proactive conservation (including enhancement of habitat) for the DSL prior to it being listed as endangered or threatened under the ESA.

Objective: The CCAA portion of the Plan will encourage Participants to limit Covered Activities in protected habitat areas, reduce threats, and enhance habitat for the DSL by granting Participants regulatory assurances in exchange for proactive conservation commitments.

Goal: Create a program within the Permit Area that effectively minimizes potential threats and also mitigates for incidental take of the DSL that cannot be avoided once the DSL is listed.

Objective: The HCP component of the Plan will include documentation of habitat conditions, establishment of ecologically appropriate habitat boundaries, limitations on activities in protected habitat areas, and reduction of potential threats to the DSL throughout its range in Texas. The development of a conservation recovery award system will effectively mitigate incidental take that cannot otherwise be avoided.

Goal: Coordinate and consolidate mitigation and Recovery Activities in areas that have the highest likelihood of perpetuating and enhancing DSL habitat and contribute to DSL recovery.

Objective: The Conservation and Recovery Award System (*see* Section 12) will prioritize Mitigation Activities and Recovery Activities in higher quality and over larger contiguous blocks of DSL Habitat and Suitable Habitat. Monitoring and research activities will measure key habitat and population parameters and the results will be used to inform adaptive management decisions.

Goal: Enhance knowledge and comprehensive understanding of the DSL.

Objective: In order to increase the knowledge of the DSL and the potential threats that may exist to its survival, reliable science is needed. The Plan includes a substantial research effort that will provide data on the DSL that is not available today. This data will be used to determine what measures, if any, are needed to enhance the conservation of the DSL. Additionally, the Plan includes a robust Adaptive Management provision (Section 8.3) to continually monitor and make appropriate changes to the Plan's conservation strategy based on the increased knowledge of the DSL from the research being conducted.

8.2 Compliance and Effectiveness Monitoring and Reporting

The Qualified Third Party Contractor as stated in Section 2.1.5 will be responsible for required monitoring and reporting for the Plan. Consistent with FWS's guidance on appropriate monitoring for CCAAs and HCPs, monitoring will ensure both compliance with the Permit and effectiveness of Conservation Activities, mitigation activities and recovery activities.

8.2.1 Compliance Monitoring

Compliance monitoring and reporting activities will focus on overall compliance of all parties with the Plan including Participant compliance with approved Conservation Activities. Monitoring protocols will be established and will cover:

- Frequency of Monitoring
- Duration of Monitoring
- Data Collection
- Data Analysis
- Non-Compliance
- Information Tracking and Documentation
- Report Development, Review and Dissemination
- Onsite and Desktop Compliance Demonstration
- Confirmation of Mitigation Credit and Recovery Award needs, credits, valuation and usage under Conservation Recovery Award System.

Methods for ensuring compliance with the Permit may include both random on-site and desk monitoring of Participants' activities. Frequency of monitoring and the number of Participants monitored will be determined according to risk assessments, participation level, and other factors determined by the Permit Holder. Should a Participant be in non-compliance with their CI (under the CCAA) or CP (under the HCP), it will be documented upon discovery and reported to relevant parties within 30 days of determining that a potential instance of non-compliance has occurred. The Permit Holder will provide 60 days written notice describing the alleged non-compliance to the Participant and give it the opportunity to cure consistent with the terms of the CI and CP. The level of non-compliance will determine the type of corrective action

that will be taken. The process for addressing non-compliance is specifically set forth in the CI (under the CCAA) or CP (under the HCP). If the Participant fails to take the corrective action after this procedure, then the Participant's CI or CP may be suspended or terminated in accordance with the processes outlined in the CI and CP. After the first instances of non-compliance are resolved through the CI or CP dispute resolution process, the Permit Holder will report to FWS on the effectiveness of the process.

8.2.2 Effectiveness Monitoring

Effectiveness monitoring activities will focus on the overall effectiveness of the Plan's Conservation Program. Activities will include baseline surveys and appropriate research on the Conservation Program to determine if it is achieving desired results. Effectiveness monitoring and reporting efforts will be incorporated into periodic audits on the effectiveness of the Plan's Conservation Program, and adapted as necessary in accordance with the Adaptive Management provisions under Section 8.3. FWS-approved biological effectiveness protocols will be developed (including DSL survey protocols for habitat quality surveys by March 2012) to ensure that the Plan is achieving the biological goals and objectives of the Plan.

8.2.3 Reporting

The Permit Holder or its Qualified Third Party Contractor may provide regular updates to stakeholders, Participants and the general public on the progress of the Plan. Required annual reports to FWS will include the following:

- Number of Participants/Certificates Obtained
- Activities Undertaken
- Habitat Update
- Species Update
- Studies or Surveys Conducted
- Level of Incidental Take
- Funding
- Overall Effectiveness of Plan

Information obtained by the Permit Holder or its Qualified Third Party Contractors to meet its reporting requirements may include habitat location, participation information, and on-site Conservation Activities. The Permit Holder must provide sufficient information to enable FWS to enforce the Permit and monitor compliance, but Participant and other identifying information will be removed.

8.2.4 Confidentiality

Under Texas law, information collected by the Permit Holder from a private landowner or other participant or potential participant in the CCAA or HCP portions of the Plan and relating to the specific location, species identification, or quantity of any animal or plant life cannot be disclosed to FWS or any other person, including a state or federal agency the information; and, further, it is not subject to the Texas Public Information Act. *See* Act of June 29, 2011, 82nd Leg., 1st C.S., S.B. 1, § 67.01 (to be codified at TEX. GOV'T CODE § 403.454). The Permit Holder may only disclose to the person who provided it information that relates to the specific location or quantity of the species for which the Plan is being prepared, unless the person consents in writing to full or specified partial disclosure of such information. *Id*.

Notwithstanding this statutory confidentiality provision, the Permit Holder must provide sufficient information as required by Section 8.2 or other provisions of the Plan to enable FWS to enforce the Permit and monitor compliance, but Participant and other identifying information will be removed. Information submitted to FWS by Permit Holder may be subject to federal Freedom of Information Act requests. Information establishing a violation of any law is not subject to the confidentiality provisions of this Plan.

8.3 Adaptive Management

8.3.1 Rationale for Adaptive Management

Adaptive Management is a dynamic process that helps reduce uncertainty in natural resource management by incorporating into flexible management plans new information as it becomes available. Adaptive Management strategies allow for mutually agreed-upon changes to

the Conservation Program to occur in response to changing conditions or new information, including those identified during monitoring.

According to FWS policy (*see* 65 FR 35242), Adaptive Management is defined as a formal, structured approach to dealing with uncertainty in natural resources management, using the experience of management and the results of research as an ongoing feedback loop for continuous improvement. Adaptive approaches to management recognize that the answers to all management questions are not known and that the information necessary to formulate answers is often unavailable. Adaptive management also includes, by definition, a commitment to change management practices when determined appropriate.

The FWS's framework for addressing adaptive management in HCPs includes: (1) identifying areas of uncertainty and questions that need to be addressed to resolve this uncertainty; (2) developing alternative management strategies and determining which experimental strategies to implement; (3) integrating a monitoring program that is able to acquire the necessary information for effective strategy evaluation; and (4) incorporating relevant feedback loops that link implementation, monitoring and research to the decision-making process that result in appropriate changes in management.

The primary reason for using Adaptive Management in the Plan is to allow for changes in the Conservation Program that may be necessary to reach the long-term goals and biological objectives of the Plan. Under Adaptive Management, the Mitigation and Recovery Activities of the plan can be monitored and analyzed to determine if they are producing the required results. Adjustments in the conservation strategy can be considered based on analysis of results. In particular, Adaptive Management can be particularly useful when tied in with research activities that provide additional scientific information for the DSL and test less established conservation practices. Such activities may include research on:

- DSL Habitat restoration options;
- Genetic research examining DSL dispersal between habitat patches;
- DSL species biology;
- Refining and validating DSL Habitat map(s), including dispersal corridors; and

- Potential use of translocation of DSL (from an area of occupied but impacted habitat to an area of unoccupied Suitable Habitat or DSL Habitat).

8.3.2 Adaptive Management Process

Due to the Plan's innovative nature and due to the Permit Holder's intent to develop and include a robust research/feedback mechanism in the Plan, FWS will continue to participate in the advisory committee process established by the Permit Holder, including participation and deliberation with the Science, Policy and Steering Committees. As part of the adaptive management strategy, the Permit Holder and FWS, as often as agreed to by both parties, will review the results of Baseline evaluations, compliance and effectiveness monitoring, ongoing research activities, and research design and implementation to ensure that the sum of the voluntary and/or required conservation measures implemented under the Plan are resulting in a net benefit to the DSL and that the sum of the mitigation measures, as appropriate, are commensurate with the sum of the impacts associated with incidental take occurring from those actions authorized by the Permit, to make adjustments, as necessary, and to evaluate changed circumstances.

The first step in the Plan's overall effectiveness monitoring and Adaptive Management strategy will be for the Qualified Third Party Contractors for compliance and effectiveness monitoring and reporting to develop a Baseline (current status of species and delineation of existing DSL Habitat) to accurately measure the effectiveness of the Plan's Conservation Program on the DSL. In conjunction with Section 8.2's Compliance and Effectiveness Monitoring and Reporting provisions, the feedback loop for monitoring and Adaptive Management under the Plan will then operate as follows:

- The Conservation Activities adopted under the plan will be tracked and presented as part of the compliance monitoring and reporting obligations under Section 8.2;
- Research on the DSL, potential threats and effectiveness of the Conservation Program will be prioritized based on ecological uncertainty and benefit to the DSL and focused on those activities which are likely to have the most benefit to conservation of the DSL;
- Follow-up Baseline surveys and evaluations will be conducted by the Qualified Third Party Contractors;

- The Permit Holder and FWS will review the data from Baseline evaluations, annual compliance and effectiveness monitoring, and ongoing research activities once every year for the first five years, and then once every five years, or as frequently as needed thereafter, to determine if the Plan is providing adequate Conservation Activities to balance the impacts of incidental take authorized by the Permit and to evaluate changed circumstances;
- An advisory committee process (including recommendations from Science, Policy and Steering Committees established by the Permit Holder) will be fully utilized to make final decisions on the use of any new scientific information through the Adaptive Management process;
- The Permit Holder will adapt the Conservation Program under the Plan as necessary based on the effectiveness review.

Research activities aimed at better understanding the DSL specifically as it relates to species population and habitat will inform compliance and effectiveness monitoring, reporting and Adaptive Management. The Plan's compliance and effectiveness monitoring and reporting program described in Section 8.2, in conjunction with the regular review and revision of baseline assessments, management plans, and monitoring data to adapt to new conditions or incorporate new information under Adaptive Management, will address the significant uncertainty regarding the DSL, potential threats, and effective habitat management practices.

8.4 Research Activities

The following research activities provide additional scientific information for the DSL. Peer review quality research will be conducted that has implications for the management and conservation of the DSL and DSL Habitat in Texas. Permit Holder will collaborate with FWS on research activities in accordance with Section 8.3.2. Potential research projects include:

Impact Assessments

- Assess the impact of human activities occurring both inside and outside shinnery oak dune complexes on DSL occupancy, abundance, movements, behavior and productivity within the complexes (*e.g.*, Before-After/Control-Impact studies), including type and duration of activity, and density of development.
- Evaluate effect of well density and roads, both inside and outside DSL Habitat and in the buffer areas.

- Evaluate the effects of DSL Habitat loss and fragmentation on DSL populations – including occurrence, abundance, and reproductive success.
- Investigate levels of H_2S concentration in soil and near ground environment in DSL Habitat.
- Evaluate impact of seismic activity during active and inactive periods of the DSL.
- Evaluate effect of electrical current on burrowing species from buried three phase power lines.
- Validate effect of perches on predation of DSLs.
- Investigate DSL occupancy, abundance, and productivity relative to activities within or near habitat (*e.g.*, grazing, fencing, OHV use, road construction and traffic, oil and gas activities).
- Evaluate effects of various indirect or short-term impacts on the DSL (*e.g.*, seasonal grazing).

Restoration

- Test and establish techniques for reclamation of abandoned oil and gas locations and roads leading to DSL Habitat restoration.
- Test the impact of habitat manipulations to recreate dune blowouts suitable for DSL, including opening densely vegetated dunes. Investigate thresholds for shinnery oak loss and dune destabilization.
- Investigate potential translocation of DSL (as described in Section 8.3 on Adaptive Management).
- Examine creation of shinnery oak dune habitat.
- Examine dune creation/stabilization processes.
- Investigate establishment of shinnery oak.
- Evaluate whether DSLs use or traverse previously reclaimed Oil and Gas Locations and roads.

DSL Biology

- Examine DSL movement between shinnery oak dune complexes (*e.g.*, radiotelemetry, and adequate sampling design with pitfall traps).
- Investigate the species' genetic status with particular attention to the impacts of isolation and implications relating to genetic exchange among habitat patches.
- Conduct population viability analyses (PVAs).
- Investigate habitat use, abundance, and diet of potential predators (*e.g.*, snakes, birds) and/or competitors (*e.g.*, side blotched lizard).
- Refine and validate DSL Habitat map(s), including dispersal corridors.

8.5 Unique Components of the CCAA

Although this Plan includes both a CCAA and an HCP, not all provisions of the Plan apply equally to both. The following provisions under this Section 8.5 and Section 8.6 apply specifically to the CCAA:

8.5.1 Assurances Provided

The FWS provides the Permit Holder and Participants under the CCAA the ESA regulatory assurances found at 50 CFR § 17.32(d)(5). Consistent with the FWS's CCAA Final Policy (USFWS and NMFS 1999), Conservation Measures and land, water, or resource use restrictions, in addition to the measures and restrictions described in this CCAA, will not be imposed with respect to legal activities on a Participant's property should the DSL become listed under the ESA in the future. These assurances are authorized by the enhancement of survival permit issued under Section 10(a)(1)(A) of the ESA for the Participant's property identified in the CI under the CCAA. In the event of unforeseen circumstances, the FWS will not require the commitment of additional land, water, or other natural resources beyond the level otherwise agreed to for the species in this CCAA. The FWS may request additional conservation, but since it is voluntary on the part of the Permit Holder and Participants, consent of the Permit Holder and any affected Participants must be in writing. The permit, if issued, will authorize the incidental take of DSLs by Participants as long as such "take" is consistent with the Covered Activities under Section 6.1 and Conservation Measures outlined under Section 8.6 of the Plan.

8.5.2 Availability of Funds

Implementation of this CCAA is subject to the requirements of the Anti-Deficiency Act and the availability of funds. Nothing in this CCAA will be construed by the parties to require the obligation, appropriation, or expenditure of any money from the U.S. Treasury. The parties acknowledge that the FWS will not be required under this CCAA to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures in writing.

8.6 Conservation Measures Under the CCAA

The following outlines the Conservation Measures that Participants may undertake under a CCAA in order to meet the conservation goals of the Plan. The Conservation Measures outlined apply within DSL Habitat and within buffer zones surrounding such habitat and are appropriate for the DSL because they are expected to avoid or reduce the potential threats to DSL Habitat on the Participant's property as well as enhance and restore DSL Habitat. The Conservation Measures included in the Plan are intended to be a suite of strategies that can be used, as appropriate, under the CCAA. Specific Conservation Measures used by a Participant will be determined on a case-by-case basis as appropriate as part of the CI process, and once case-by-case Conservation Measures are established in a CI, performance of those measures by Participant is required in accordance with the terms of the CI. If a Participant enters into a CCAA and the DSL is listed, the assurances provided in the CCAA will remain in effect if the Participant continues to comply with the conservation measures outlined under their CCAA. Additionally those assurances will extend to those locations previously identified in the CCAA on which operations have not yet begun.

The Conservation Measures organized by the type of Participant (but not limited to the type of Participant) include:

8.6.1 Agriculture and Ranching Conservation Measures

Agricultural and ranching Participants will implement the following types of Conservation Measures:

- Brush management (shinnery oak reduction): Brush management practices will include avoidance and minimization to limit adverse impacts to DSL Habitat loss. Herbicide application to dune/blow out complexes and surrounding buffer areas and dispersal corridors will be avoided. To minimize impacts, suppressed rates of approved herbicides will be applied to shinnery oak populations on adjacent flats outside dune habitat (Tebuthiuron specific measures are included under Section 8.6.4.2). A minimum of a 30.48 meter (100 foot) buffer will be utilized to reduce bleed over into DSL Habitat. Other management practices include control of mesquite, and other invasive and problematic herbaceous and woody species that would degrade or impair DSL Habitat.

- Grazing: Grazing will be managed in accordance with NRCS Prescribed Grazing Standards, and will include proper stocking rates. Developing improved herbaceous plant community outside the DSL Habitat will reduce the need of domestic livestock to infringe into DSL Habitat to forage.

- Building and maintaining fences: New fences will be constructed outside DSL Habitat when possible. Where avoidance is not an option, construction of new fences and maintenance of new fences should be confined to the period during which the DSL is inactive, i.e. October – March.

- Water/windmill: Livestock water facilities and windmills will be constructed or placed outside and away from DSL Habitat when possible. This will reduce the possible usage of shinnery oak by domestic livestock in DSL Habitat. Water lines should avoid DSL Habitat and should use existing rights-of-way when possible. When avoidance is not possible, activities should be restricted to the inactive period of October – March.

8.6.2 Oil and Gas Conservation Measures

- Seismic and Land Surveying:

  - Limit seismic surveying to areas outside of DSL Habitat or utilize walk in geophone (or other smaller seismic surveying equipment) where possible.

  - When feasible in the reasonable judgment of the Participant, avoid DSL Habitat; if necessary, lay lines over DSL Habitat via foot, while seismic truck can be located 200 meters from lines.

  - Consider seasonal periods of activity for impact level as appropriate and based on information from continued scientific research.

- Construction:

- Maximize use of existing developed areas and rights-of-ways for infrastructure supporting the development of the well (roads, power lines, pipelines, flowlines).
- When feasible in the reasonable judgment of the Participant, Well Sites should be developed outside of DSL Habitat.
- Minimize footprint for development, *i.e.* size of Well Site; centralized facilities; interim reclamation (reclaim portion of location after drilling and completion).
- When feasible, schedule temporary surface disturbance activities such as installation of lines during periods of seasonal DSL inactivity (*i.e.* October to March).
- Utilize directional drilling for avoidance of DSL Habitat, when practical.

- Drilling and Completion:
  - Control dust by actions such as vehicle speed limits and/or water application to roads.
  - Restrict traffic to existing roads.
  - Restrict, to extent feasible, vehicle travel off road.
  - Properly manage trash and human waste.
- Operations and Maintenance:
  - Improve DSL Habitat through Reclamation of plugged and abandoned locations in compliance with terms of any applicable lease or contractual agreement.
  - Reduce footprint through management of abandoned wells, locations, roads and other infrastructure within the terms of any applicable lease or contractual agreement.
  - Reclaim DSL Habitat with habitat appropriate native vegetation, using locally-sourced native seeds and vegetation in restoration efforts when possible.
  - Evaluate relocation of infrastructure as development creates opportunity.
  - Avoid introduction of non-native vegetation. If an activity is identified that introduces new non-native vegetation, the activity or source will be controlled to manage or remove the invasive vegetation in accordance with landowner agreements.

- Minimize spills through inspection, monitoring and maintenance programs.
- Avoid aerial sprayed application of approved herbicide for weed control (*e.g.*, utilize pellets, hand applicators or manual removal).
- Minimize OHV activity in DSL Habitat.
- Use scada or remote well monitoring, where appropriate, to reduce traffic in and around DSL Habitat.
- When feasible in the reasonable judgment of the Participant, utilize closed loop drilling systems to reduce pit construction and heavy equipment activity.
- Where feasible in the reasonable judgment of the Participant, transfer hydrocarbon liquid product via pipeline rather than truck hauling.
- Train employees in spill response procedures.

8.6.3 Other Measures

- Hunting and OHV Activity: OHV activity in occupied and potential shinnery dune/blowout DSL Habitat will be minimized through public outreach, education or training.

Based on the scientific information currently available, it is expected that the Plan's conservation strategy will be effective and will benefit the DSL and DSL Habitat. However, just as there are varying degrees of uncertainty associated with the threats and impacts identified by the FWS in its proposed listing of the DSL, there are varying degrees of uncertainty associated with the management techniques and conditions within and outside the Permit Area. In addition, the status of the DSL and natural communities may change in unexpected ways during Plan implementation. It is possible that additional and different Conservation Measures not identified in the Plan will be identified in the future and prove to be more effective than those currently implemented. Results of effectiveness monitoring may also indicate that some Conservation Measures are less effective than anticipated. To address these uncertainties, the Adaptive Management provisions of this Plan under Section 8.3 will be used to inform management; and the monitoring program under Section 8.2 will be designed to support this adaptive approach.

8.6.4 Obligations of the Parties under the CCAA

The parties to the CCAA will meet the following obligations:

8.6.4.1 Permit Holder

a. Qualified Third Party Contractors implement and administer the Plan including monitoring of the DSL distribution and status on lands within the Permit Area.

b. Qualified Third Party Contractors enroll Participants in accordance with this CCAA via CIs.

c. Qualified Third Party Contractors complete the CIs (Appendix A) under the CCAA to document that the Participant's proposed habitat enhancement or protection measures (Conservation Measures) will provide net conservation benefits to the DSL.

d. Qualified Third Party Contractors conduct compliance and effectiveness monitoring and prepare annual reports on implementation of the CCAA in accordance with Section 8.2 of this Plan.

e. Establish advisory committees (including a Steering Committee, Policy Committee, and Science Committee) that is composed of representatives of the Permit Holder; Qualified Third Party Contractors; Participants eligible to enroll in the Plan; and other interested stakeholders. The committees shall assist in the dispute resolution process as described in Section IX of the CI and in recommending changes to the Plan under Section 8.3 of the Plan, and may be asked by the Permit Holder to provide input on other matters arising under the Plan.

8.6.4.2 Participants

Common to all Participants:

a. Cooperate with the Permit Holder in completion of the CCAA's CI (Appendix A).

b. Comply with the terms of the CCAA's CI. Participants can enroll under the Plan whether or not the Participant receives funding from the Permit Holder or other sources. In addition, if a Participant chooses to voluntarily conserve or enhance DSL Habitat, technical assistance is available from the NRCS and FWS, and other organizations as identified by the Permit Holder (The Qualified Third Party Contractor contracted to implement the plans will have technical expertise). Financial assistance for the implementation of these plans may be available through conservation programs of the U.S. Department of Agriculture's National Food Security Act of 1985, as amended (Farm Bill) and/or the FWS's Partners for Fish and Wildlife (PFW) Program depending on annual funding. The CI will identify, among other things, DSL Habitat to be avoided by reference to Figure 1-2 and the definition of DSL Habitat.

c. Subject to appropriate rights and confidentiality provisions, allow the Qualified Third Party Contractors reasonable access, with prior notification and consent, to survey lands for the presence of DSLs and for habitat suitability for this species as may be required under the Plan and CI.

d. Subject to appropriate rights and confidentiality provisions, allow the Qualified Third Party Contractors reasonable access, with prior notification and consent, to survey for purposes of monitoring DSL populations and habitat as may be required under the Plan and CI.

e. Subject to appropriate rights, and confidentiality provisions, allow the Qualified Third Party Contractors reasonable access, with prior notification and consent, to survey for purposes of compliance monitoring of conservation commitment as may be required under the Plan and CI.

f. Subject to appropriate rights and confidentiality provisions, provide access for the Qualified Third Party Contractors to study the DSL on their lands as may be required under the Plan and the CI.

g. Use herbicides for shinnery oak management only when habitat goals cannot be achieved by other means, including grazing system management. When herbicide use cannot be avoided, the following measures will be implemented:

    i. No herbicide application for the control of shinnery oak in dune complexes (NRCS sand hills ecological sites) and dispersal corridors between dune complexes. Maintain buffer around dune complexes of 30.48 meters (100 feet) to ensure dune stability where tebuthiuron (20 K Pellets) will be applied until additional science has been gathered for the use of tebuthiuron within the dune complexes. Herbicide application for the management/control of Mesquite and other problematic woody and herbaceous plants will be conducted with the approval of FWS.

    ii. In conducting herbicide treatment, the goal will be to temporarily reduce shinnery oak competition with grasses, allowing grass cover to increase naturally. Herbicides should be used at appropriate suppression rates.

    iii. Application should follow the natural patterns on the landscape such that only patches needing treatment are treated.

    iv. Post-treatment grazing management is essential to success. Grazing will be deferred one growing season following treatment. If vegetation response to treatment has been hindered due to drought or other factors additional deferments to ensure success of the treatment may be required.

v. Experimental treatments outside these guidelines may occur with the approval by FWS. Experimental treatments must be part of a quantitative research design to study vegetation response, viability of shinnery oak, drift, sub-surface spread, the interaction of herbicide treatment and/or grazing management and the response of the DSL to various treatments.

h. Provide information to the Qualified Third Party Contractors on implementation of conservation commitment, observations of the DSL on property, any mortality of the species observed, and the habitat loss – expected or unexpected.

i. At the discretion of each Participant, they may choose to participate in meetings with the Permit Holder, FWS, Qualified Third Party Contractors, and other Participants to discuss progress in recovery of DSLs on participating lands.

j. Contribute information to an annual progress report, consistent with confidentiality provisions under Section 8.2.4 and the CI, about range conditions, land management activities, DSL abundance and distribution, and factors that may be having positive and negative effects on DSL populations.

8.6.4.3 FWS

a. Issue an enhancement of survival permit to the Permit Holder under Section 10(a)(1)(A) of the ESA in accordance with 50 CFR § 17.22(d), should the Plan be approved, that would become effective when the species is listed and continuing through the remainder of the term of the Plan that would provide the Permit Holder and Participants with authorization for incidental take of DSLs and provide regulatory assurances of a CCAA. The permit, once issued, would authorize take of DSLs resulting from otherwise lawful activities on lands that are consistent with the incidental take anticipated under the Plan.

b. If available, provide funding through PFW and assist in securing funding from other sources, as applicable, to improve DSL Habitat on private lands within the Permit Area.

8.7 Unique Components of the HCP

8.7.1 Minimization Strategy

The Permit Holder will encourage public and private entities and Participants whose activities may impact the DSL to avoid and minimize impacts to the DSL and DSL Habitat. For the general public, the Permit Holder will conduct public outreach with maps of DSL Habitat and information on the DSL with guidelines to help the public avoid impacts. Specific Minimization Measures used by a Participant will be determined on a case-by-case basis consistent with those

outlined under Section 8.6 as appropriate as part of the CP process, and once case-by-case Minimization Measures are established in a CP, performance of those measures by Participant is required in accordance with the terms of the CP. Public outreach and the use of Minimization Measures should reduce the amount of incidental take of DSL requiring authorization under the Plan.

8.7.2 Mitigation Strategy

If the DSL is listed as endangered or threatened, Covered Activities that occur in DSL Habitat will require coverage for incidental take under the Plan. Those Participants requiring mitigation will pay into a Mitigation Account (*see* Section 11.2.3), designated for Mitigation Activities. Mitigation must be in place prior to the occurrence of any incidental take and take will not be allowed until a Participant has conducted sufficient mitigation on its own or obtained sufficient Mitigation Credits or Recovery Awards to offset its planned activities resulting in take. The following activities, herein referred to as Mitigation Activities, will be used as mitigation in DSL Habitat and surrounding buffers:

- Reclaim plugged and abandoned locations and restore to Pre-Disturbance Conditions, to the extent possible;
- Remove abandoned service roads and restore to Pre-Disturbance Conditions, to the extent possible;
- Remove equipment from abandoned locations;
- Remove abandoned or unused fencing, windmills, or water storage devices;
- Establish preservation lands, when possible, for perpetual preservation; and
- Conduct research and monitoring programs to assess the impacts of mitigation efforts.

8.7.3 Obligations of the Parties under the HCP

8.7.3.1 Permit Holder

a. Qualified Third Party Contractors implement and administer the HCP, including monitoring of the DSL distribution and status on Participant's properties within the Permit Area.

b. Qualified Third Party Contractors enroll Participants in accordance with the HCP via CPs.

c. Qualified Third Party Contractors complete the CPs (Appendix B) to ensure that the Participant will minimize and mitigate impacts to the DSL to the maximum extent practicable.

d. Qualified Third Party Contractors administer the Conservation Recovery Award System, including establishment of accounts and creation of bid process to manage the exchange of Mitigation Credits and Recovery Awards in accordance with Section 12 of this Plan.

e. Qualified Third Party Contractors conduct compliance and effectiveness monitoring and prepare annual reports on implementation of the HCP in accordance with Section 8.2 of this Plan.

f. Establish advisory committees (including a Steering Committee, Policy Committee, and Science Committee) that is composed of representatives of the Permit Holder; Qualified Third Party Contractors; Participants eligible to enroll in the Plan; and other interested stakeholders. The committees shall assist in the dispute resolution process as described in Section VIII of the CP and in recommending changes to the Plan under Section 8.3 (Adaptive Management) of the Plan, and may be asked by the Permit Holder to provide input on other matters arising under the Plan.

8.7.3.2 Participants

Common to all Participants:

a. Cooperate with the Qualified Third Party Contractors in completion of the CP (Appendix B).

b. Comply with all applicable obligations of the CP for the duration of the CP. CPs can be obtained under the Plan and the Permit whether or not the Participant receives funding from the Permit Holder or other sources.

c. Subject to appropriate rights and confidentiality provisions, allow the Qualified Third Party Contractors reasonable access, with prior notification and consent, to survey Participant's property for the presence of DSLs and for habitat suitability for this species as may be required under the Plan and the CP.

d. Subject to appropriate rights and confidentiality provisions, allow the Qualified Third Party Contractors reasonable access, with prior notification and consent, to the Participant's property for purposes of monitoring DSL populations and habitat as may be required under the Plan and CP.

e. Subject to appropriate rights and confidentiality provisions, allow the Qualified Third Party Contractors reasonable access, with prior notification and consent, to

the Participant's property for purposes of compliance monitoring as may be required under the Plan and the CP.

f. Subject to confidentiality provisions, provide information to the Qualified Third Party Contractors on compliance with the CP, observations of the DSL on Participant's property, and any mortality of the species observed in accordance with reporting and monitoring provisions under Section 8.2 and the CP.

g. Subject to appropriate rights and confidentiality provisions, provide access for Qualified Third Party Contractors to study the DSL on their lands as may be required under the Plan and the CP.

h. At the discretion of each Participant, they may choose to participate in meetings with the Permit Holder, FWS, Qualified Third Party Contractors, and other Participants to discuss activities and Minimization Measures conducted by Participant.

i. Consistent with confidentiality provisions under Section 8.2.4 and the CP, contribute information to an annual progress report about range conditions, land management activities, DSL abundance and distribution, and factors that may be having positive and negative effects on DSL populations as required by the CP.

8.7.3.3 FWS

a. If all regulatory requirements are met, issue an incidental take permit to the Applicant under Section 10(a)(1)(B) of the ESA that would provide the Permit Holder and Participants with authorization for incidental take of DSLs resulting from Covered Activities by Participant that is consistent with the incidental take anticipated under the Plan.

b. Assist in securing funding from other sources, as applicable, to improve DSL Habitat on private lands within the Permit Area. PFW may work with individual Participants on enhancement projects, but these cannot be requirements of the HCP.

8.8 Recovery Strategy

Issuance of a Section 10 permit must not "appreciably reduce the likelihood of the survival and recovery of the species in the wild." 50 CFR § 17.22(b)(2). ESA regulations do not explicitly require a CCAA or HCP to recover listed species, or even to directly contribute to recovery objectives outlined in a recovery plan. *See* HCP Handbook at 3-20; *Spirit of the Sage Council v. Kempthorne*, 511 F. Supp. 2d 31 (D.D.C. 2007) (holding that "the ESA does not require [Section 10 permits] to promote or maintain the recovery of species"). This reflects the

fact that HCPs were designed by Congress to authorize incidental take, not to be mandatory recovery tools.

The use of Recovery Awards, detailed more fully in Section 12, will encourage property owners to be proactive in adopting Conservation Activities that contribute to the recovery of the species. FWS has generally promoted the use of innovative conservation tools focused on recovery. For instance, FWS piloted a recovery strategy as one conservation tool for use by federal agencies to mitigate temporary and permanent impacts on federal lands with Conservation Activities conducted on non-federal lands. In developing this strategy, FWS acknowledged that incentives to encourage recovery might be one of several conservation tools that will help the success of a species, particularly if used to complement other measures. As FWS explained in its guidance on this strategy:

> Examples of innovative conservation tools under the ESA include safe harbor agreements, habitat conservation plans, recovery permits, and conservation banks. The ultimate success of conservation and recovery of endangered and threatened species depends on a variety of innovations, such as these, that may be used in concert with one another or alone. We expect Recovery Credit Systems (RCS) to complement them further.

73 FR 44762 (July 31, 2008).

The development of this recovery strategy was motivated in part as a means to encourage landowners to participate in programs that do not indefinitely encumber their lands. FWS highlighted this unique aspect of this recovery strategy in its final guidance to federal agencies implementing this conservation tool:

> The most apparent distinguishing characteristics of recovery crediting are the possibility of encumbering property on a less than permanent basis and of protecting habitat in a dispersed array over a landscape. Some landowners may find non-permanent arrangements more attractive than conventional banks, and thus be induced to participate where they might not otherwise.

73 FR 44765 (July 31, 2008).

This recovery strategy was also developed in part to address temporary adverse impacts and to encourage restoration of degraded habitat that has been temporarily affected. *Id.* at 44768. As an example, many construction projects require temporary workspace for construction, but that space is later returned to Pre-Disturbance Conditions. A Participant should be encouraged to restore degraded habitat that has been temporarily affected. Under this Plan, a Recovery Award could be based on benefits achieved at the restored site.

While originally developed for use by federal agencies under the ESA Section 7 federal agency consultation process, the concept of using credit programs for recovery has always had potentially wider application. As FWS noted in its proposal for its conservation recovery strategy:

> The Service recognizes that recovery crediting is a mechanism with broad potential application. The Service may expand recovery crediting to entities other than Federal agencies or employ additional methods for Federal agencies.

72 FR 62258 (Nov. 2, 2007); *see also* 73 FR 44762.

Because the Section 7 "no jeopardy" standard is substantially the same as the Section 10 issuance criteria for an incidental take permit, *see* HCP Handbook at 7-4, the use of Recovery Awards with an HCP under Section 10 of the ESA is a logical extension of a unique conservation tool available to federal agencies under Section 7, particularly when it is used to compliment a CCAA and an HCP under Section 10 permitting. Moreover, since many of the potential impacts anticipated in DSL Habitat are non-permanent, and because of the unique property interests involved preventing widespread use of permanent preservation lands, the Permit Holder and stakeholders coming together to develop this Plan developed Recovery Awards as one additional tool to help conservation efforts aimed at the DSL. Thus, as part of the unique comprehensive nature of this Plan, the CCAA and HCP will not only address avoidance, minimization and (in the case of the HCP) impact mitigation, they will also contribute to the recovery and potential delisting of the DSL should the DSL be listed. The Recovery Strategy under this Section and Section 12 is being voluntarily included in this Plan because of the unique factors existing in this region and to advance the status of the species and result in a net benefit

to recovery of the DSL before the species is even listed (a standard not strictly required for ESA compliance).

The following Recovery Activities were ranked by the Science Committee and approved by the Policy and Steering Committees and will be prioritized for the performance of activities generating Recovery Awards:

Table 8-1: Initial Prioritization of Recovery Activities

Practice	Potential Benefit	Recovery Value	Probability of Success
Oil & Gas (O&G) surface location removal and restoration	Reduces fragmentation, enhances habitat, and restores larger contiguous blocks of mosaic habitat.	1.0	High
Road/caliche removal and restoration	Reduces fragmentation, enhances habitat, and restores larger contiguous blocks of mosaic habitat.	1.0	High
Reclamation of plugged and abandoned Well Sites	Reduces fragmentation, enhances habitat, and restores larger contiguous blocks of mosaic habitat.	1.0	High
Research on establishing restoration of habitat	Contributes to understanding of recovery of habitat and the species and informs adaptive management decisions.	1.0	High
Approved feral hog control program	Reduces disturbance to DSLs.	1.0	High
Approved mesquite and invasive species management program	Prevents habitat degradation.	1.0	High
Removal of overhead infrastructure	Reduces perching habitat for predatory birds.	0.6	Medium
Purging pipelines (threat removal)	Reduces threat from chemical seepage.	0.6	Medium
Relocation of infrastructure as development creates opportunity for centralization and/or enhancement of habitat	Enhances habitat, and restores larger contiguous blocks of mosaic habitat. Reduces or minimizes impacts that can cause fragmentation and degradation of DSL Habitat.	0.4	Low
Fence removal	Reduces perching habitat for predatory birds.	0.4	Low

The Plan recognizes that, as with the impacts from the potential threats identified in the proposed listing, there remains scientific uncertainty concerning the value of Recovery Activities for the DSL. For that reason, and to promote a net benefit to recovery of the DSL, the use of a Recovery Award will be subject to three limitations (collectively, the Recovery Award Use Limitations):

- First, only one half of the Recovery Award will be available for use when the Recovery Activity is completed. The remaining half of the Recovery Award, less 10% percent, will be available for use once research and monitoring demonstrate the extent of the biological effectiveness of the Recovery Activities.
- Second, 10% of all Recovery Awards will be retained and will be available for use under the Plan to support a net benefit to recovery of the DSL.
- Third, the Participants requiring mitigation will be required to use available Mitigation Credits before allowing use of Recovery Awards for mitigation.

Subject to the foregoing use limitations, Recovery Awards will be "banked" for use by the Qualified Third Party Contractors and Participants should Covered Activities by a Participant after listing of the DSL, if ever, result in incidental take. As explained in Section 12, a Recovery Award Acre Unit will be equivalent to a Mitigation Credit Acre Unit. Because Recovery Awards will ultimately be used for mitigation, and because Mitigation Credits will have to be secured before any take occurs, there will be a significant incentive for Property Owners and Participants to begin implementing Recovery Activities proactively under the CCAA. This will result in efforts to protect and contribute to the recovery of the DSL before listing occurs, if ever.

The proposed listing and the available science indicate that much additional research is needed on the DSL. Adaptive Management can only be successfully implemented with adequate collection of data and feedback through research and monitoring. Therefore, a portion of the Mitigation Account and Recovery Account will be used in research to evaluate the effectiveness of proposed Mitigation Activities and Recovery Activities. Whether the use limitations have been satisfied will be determined as part of the effectiveness monitoring and Adaptive Management provisions under Section 8.3. It is therefore incumbent that adequate research is implemented concurrent with these Recovery Activities. A review process will be established

for prioritizing Recovery Activities, a part of which may include recommendations from the advisory committees established under the Plan.

8.9 Violations and Remedies

As long as the Permit under Section 10(a)(1)(A) or (B) remains in effect and a Participant is in compliance with the CI (for CCAA) or CP (under the HCP), that Participant shall be deemed to have with respect to the Participant's activities or property covered by the CI or CP, the full benefits and authorities of the Permit.

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

In the event that the FWS may seek to suspend, terminate, or revoke the Permit for reasons not the fault of a Participant, and that Participant is in compliance with the terms of its CI or CP, the FWS shall assist the Participant in crafting a remedy that does not affect that Participant's rights, benefits, and responsibilities under the Permit prior to suspending, terminating, or revoking the Permit. If it is not practicable to craft such a remedy and the FWS suspends, terminates, or revokes the Permit, the FWS will process for issuance to any such Participant a permit conferring the same or similar rights, benefits, and responsibilities with respect to the Participant's activities or property as provided under the Permit, without additional requirements or conditions beyond those applicable to the Participant under its CI or CP.

In the event a Participant has materially breached the CI or CP and, after reasonable notice and opportunity to cure, such Participant fails to cure, remedy, rectify, or adequately mitigate the effects of such breach, then the Permit Holder may terminate that Participant's CI or CP in accordance with Section IX of the CI and CP.

8.10 Notification of Take

Beyond the required reporting requirements under this Plan, no requirement is made in this Plan for Participants to notify the Permit Holder, Plan Administrator, or FWS prior to any expected incidental take of DSLs.

8.11 Succession and Transfer

This Plan shall be binding on and shall inure to the benefit of the parties and their respective successors and transferees, in accordance with applicable regulations (currently codified at 50 CFR §§ 13.24 and 13.25) for the duration of the Plan.

If the Participant has received funding from other sources, such as PFW or NRCS, they may need to repay other funding sources in accordance with agreements the Participant makes with these funding sources. If the new landowner does not become a party to the Participant's CI or CP and the CI or CP is not transferred, he/she will not receive the benefits of the permit authorizing incidental take of a DSL nor the assurances.

8.12 Modification/Amendment of the Permit

Any party may propose modifications or amendments to the Permit by providing written notice to, and obtaining the written concurrence of, the other Parties. Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The Parties will use their best efforts to respond to proposed modifications within 60 days of receipt of such notice. Proposed modifications will become effective upon the other Parties' written concurrence.

Modifications may include but not be limited to compliance with the ESA, NEPA, or the FWS's permit regulations. Upon issuance of a proposed amendment or modification, the party proposing the modification or amendment will coordinate a meeting or conference call between the affected parties to discuss and explain their proposal. Amendments or modifications made in accordance with Section 10 of the ESA will become final when signed by the Permit Holder and FWS. Approved amendments shall be attached to the original Plan. Participants enrolled prior to an amendment will not be required to implement additional conservation, but they may

voluntarily choose to. Participants enrolling after an amendment will be required to implement the Plan as amended at the time of enrollment.

8.13 Termination of Participant CI or CP

A Participant may terminate implementation of its voluntary management actions under a CI or CP in accordance with the specific terms and process of those agreements. The Participant is required to surrender the benefits it receives under the Permit at termination, thus relinquishing his or her take authority (if the species has become listed) and the assurances granted by the permit going forward. Termination does not negate or diminish the benefits or assurances provided to Participant under the CI or CP for Covered Activities prior to the date of termination.

8.14 Permit Suspension or Revocation

The FWS may suspend or revoke the Permit and CIs and CPs for cause in accordance with the laws and regulations in force at the time of such suspension or revocation, including the provisions for revocation of permits under 50 CFR § 13.28.

8.15 Dispute Resolution

The FWS, the Permit Holder, and Participants agree to work together in good faith to resolve any disputes, using dispute resolution procedures agreed upon by all parties.

8.16 No Third-Party Beneficiaries

This Plan does not create any new right or interest in any member of the public as a third-party beneficiary, nor shall it authorize anyone not a party to this Plan to maintain a suit for personal injuries or damages pursuant to the provisions of this Plan. The duties, obligations, and responsibilities of the parties to this Plan with respect to third parties shall remain as imposed under existing law.

8.17 Applicable Law

The terms of this Plan shall be governed by and construed in accordance with applicable Federal and Texas law. Nothing in this Plan is intended to limit the authority of the FWS to

fulfill its responsibilities under Federal laws. All activities undertaken pursuant to this Plan or its associated permit must comply with all applicable local, state, and Federal laws and regulations.

8.18 Cooperating Agencies and Parties

The stakeholder process has involved many agencies, institutions, and individuals that have been interested in participating in this effort. Many of these stakeholders have expertise in these species, or in applying conservation practices, and will continue to be involved (*e.g.*, in the committee process) in the implementation of the Plan.

8.19 Reservation of Rights

The existence of the Plan, its contents and/or any statements or representations made in connection with the preparation of the Plan shall not prejudice any claim that the State of Texas or the Permit Holder may have that the DSL does not qualify as a threatened or endangered species as those terms are defined under the ESA and/or that the DSL should not be determined to be a threatened or endangered species pursuant to Section 4 of the ESA, 16 U.S.C. § 1533, and all rights and defenses related to any such claims are hereby expressly reserved.

Nothing in the Plan shall be construed to place any obligations or restrictions on any lands owned by the State of Texas in the Plan Area or Permit Area, unless a state agency charged by state law with management of such state-owned lands voluntarily elects to become a Participant in the Plan with respect to state-owned lands it manages. The Texas Comptroller of Public Accounts lacks legal authority under state law to determine whether the State of Texas, in its capacity as an owner of lands in the Plan Area or Permit Area, will become a Participant in the Plan or will agree to any other obligations or restrictions on use of state-owned land.

9.0 LEVEL OF EFFECT ANTICIPATED

9.1 Level of Incidental Take

Should the DSL be listed, if ever, incidental take could occur as a result of Covered Activities that involve the agricultural use of the land, oil and gas activity, and other construction and uses. The implementation of the Plan is intended to avoid and minimize the sources of

incidental take from these activities and reduce the potential threats to the species. However, one purpose of an HCP is to allow for the continued and uninterrupted economic activity as described in Section 1 and Section 14 while balancing federal requirements associated with incidental take that might occur as a result of ongoing development. The Permit would authorize incidental take of DSL on up to 21,257 acres of DSL Habitat to meet the need for development in the Permit Area. This estimate of incidental take represents a worst-case maximum that considers potentially suitable shinnery oak dune complexes and buffers surrounding such complexes on the same basis as if that area were shinnery oak dune complexes occupied by DSL, as more particularly described herein and in Section 13 below. The incidental take estimate also considers a scenario based on the highest level of development and impact. For example, the supporting infrastructure is accounted for in the take estimate although it will likely be located outside of habitat or in existing development corridors.

Incidental take could occur as a result of grazing or brush management practices that modify DSL Habitat to an extent that impairs or eliminates successful reproductive and recruitment activities by DSLs (*e.g.*, removal or significant reduction of shinnery oak on dunes or dune complexes destabilizes DSL Habitat), or is a source of DSL mortality.

Incidental take could also occur as a result of ongoing oil and gas development in the Permit Area as discussed in Section 7.1.1.1. Many of these impacts are expected to be non-permanent and sporadic in nature. For instance, activities associated with seismic operations will be short-term and will not permanently disturb DSL Habitat.

Incidental take of the DSL under the Plan will be measured in terms of the direct and indirect impacts to acres of DSL Habitat resulting from the activities described in Section 6.1. Since reliable estimates of the total population of DSLs in West Texas are not available, impacts to habitat will be used as a proxy for impacts to individual DSLs.

Using habitat as a proxy for take of individual DSLs is consistent with the FWS approach with respect to habitat specialists, and has been utilized in myriad incidental take permits and ESA Section 7 consultations with respect to other species. This approach also appears consistent with the limited case law addressing the issue of habitat as a proxy. For example, in *Arizona*

Cattle Growers' Association v. FWS, the Ninth Circuit Court of Appeals held that the use of ecological conditions, such as impacting acres of potential habitat, may be used as a surrogate for defining the amount or extent of incidental take so long as these conditions are linked to the take of the covered species. *See* 273 F.3d 1229, 1249-50 (9th Cir. 2001); *see also Oregon Natural Resources Council v. Allen*, 476 F.3d 1031, 1037 (9th Cir. 2007).

According to a 2011 map developed by Texas A&M (Hibbitts 2011, Figure 1-2), there are approximately 197,606 acres of DSL Habitat in Texas, 3% of which overlaps with oil and gas development, 0.05% with cultivated crops, 0.33% with human development, and 14% with grassland. The following process was used to estimate the total incidental take of DSL Habitat that may occur as part of this Plan:

- The 217,367 acres used as base acreage for calculations of take was determined by estimating DSL Habitat from surveys conducted by Texas A&M (Hibbitts 2011) and other historical data and reflected in Figure 1-2 (197,606 acres) with 10% added to account for buffers.

- The total county acreage was derived by retrieving the total square miles within a county from The Texas Handbook Online and multiplying it by 640 acres to arrive at the total number of acres per county.

- The base acreage was represented as a percentage of each county's total acreage.

- To determine the estimated acreage currently in use by oil and gas development, the number of oil and gas producing wells were added together for all counties in the Permit Area. Since some of the well count is representative of more than one completion zone or formation, *i.e.* multiple completions, the total number of wells was multiplied by 75%. The number of 1,435 existing producing wells in DSL Habitat was estimated using Railroad Commission data and industry expertise.

- To determine the total number of potential acreage that might be developed by oil and gas operations, including oil and gas production, the maximum available acreage was calculated based on 40-acre spacing units. The typical size of spacing in the Permian Basin is 40 acres, or 1 well per 40 acres. The acreage within habitat was divided by 40 acres to estimate a maximum number of wells that could populate the habitat acreage. There is no expectation that every 40-Acre unit will be developed but the decision was to err on the side of a maximum estimate. The total number of potential wells based on 40-acre spacing units is 5,434.

- The oil and gas well count to utilize in the determination of take was calculated by subtracting the existing wells (1,435) from the maximum potential wells (5,434) associated with full development on 40-acre spacing. This resulted in an estimated number of 3,999 wells that could be developed in DSL Habitat. This potential well estimate was multiplied by 4.5 acres per well to provide potential disturbance based on a maximum development scenarios. The 4.5 acre per Well Site estimate is a worst-case estimate of the incidental take per Well Site (Estimates in the proposed listing were 2-3 acres in size). The estimate for potential DSL Habitat acres to be disturbed by oil and gas development is therefore 17,996 acres.

- The estimated take by oil and gas development is based on a well count, representative of maximum future development potential, multiplied by an average of 4.5 acres per well. That average will include location, roads, flowlines and associated infrastructure and addresses the fragmentation of habitat that may occur as a result of each Well Site. This approach recognizes that infrastructure may co-exist with other land uses such as access roads but does not necessarily account for that in the estimation of take.

- Other activities were estimated based on assumptions of minimal impact but with maximum estimates of total acres of DSL Habitat affected. It is estimated that approximately 1,087 acres of DSL Habitat will be taken by agricultural and ranching activities and 2,174 acres by other activities.

Using these calculations, and considering the amount of acres anticipated to be disturbed by other activities, the estimated worst-case and maximum number of acres of DSL Habitat taken over the life of the permit is 21,257 acres. This is approximately 9.78% for all activities, including oil and gas development, cultivated crops, grassland/grazing, recreation and other development, wind/solar, etc. No federally funded activities such as interstate highway construction were considered in this take acreage.

10.0 CHANGED/UNFORESEEN CIRCUMSTANCES

An important incentive to encourage participation in the Plan is the assurance provided by the FWS regulation known as the "No Surprises" rule (63 FR 8859, codified at 50 CFR §§ 17.22, 17.32). Under the No Surprises Rule, the FWS assures incidental take permittees that, as long as an approved HCP is being properly implemented, no additional land use restrictions or financial compensation will be required of the permittee with respect to the covered species,

even if unforeseen circumstances arise after the permit is issued indicating that additional mitigation is needed. The No Surprises Rule recognizes that the permittee and the FWS can reasonably anticipate and plan for some changes in circumstances affecting a species or geographic area covered by a HCP (*e.g.*, a natural catastrophic event in areas prone to such events). To the extent that changed circumstances are provided for in the HCP, the permittee must implement the appropriate measures in response to the changed circumstances if and when they occur.This section describes the changed circumstances anticipated by and provided for in the Plan and explains the FWS's assurances to the Permit Holder with respect to any unforeseen circumstances.

10.1 Changed Circumstances

As defined in the No Surprises rule, changed circumstances are "circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the Service and that can be planned for..." 63 FR 8859.

An HCP must identify provisions to help compensate for any negative impacts to covered species from changed circumstances to qualify for No Surprises assurances. If circumstances change, the permittee must implement any provisions included in the HCP and/or incidental take permit that address such circumstances. The Permit Holder and the FWS recognize that many changes in human conditions and attitudes, development pressures, environmental conditions, and scientific understanding of ecological systems, among other things, could and will occur over the 30-year Plan planning horizon and duration of the incidental take permit. To address this situation, the Plan contains a procedure by which the FWS and the Permit Holder will deal with reasonably anticipated changes in circumstances affecting the DSL.

If additional Conservation Activities are deemed necessary to respond to changed circumstances and such measures are not provided for in the Plan, the FWS will not require any Conservation Activities in addition to those provided for in the Plan without the consent of the Permit Holder, provided that the Plan is being properly implemented.

Changed circumstances that can reasonably be anticipated by Permit Holder and the FWS and that can be planned for are:

- The levels of funding currently anticipated to adequately cover costs become inadequate to meet future needs (Section 10.1.1);
- Protected habitat for covered species within the Plan is temporarily lost or substantially degraded due to catastrophic events or extreme natural conditions (Section 10.1.2);
- The DSL becomes delisted and no longer has the protection of the ESA (Section 10.1.3); and
- The Permit becomes detrimental to the survival or recovery of the DSL (Section 10.1.4).

The following sections describe how the Permit Holder will address each of the changed circumstances listed above, if they occur during the life of the Permit.

10.1.1 Funding Becomes Inadequate

The funding plan described in Section 11 is adequate for meeting the Permit Holder's obligations to fully implement the Plan and comply with the terms and conditions of the Permit. Moreover, the funding assurances outlined under Section 11 include periodic audits to ensure that funding will be adequate throughout the duration of the Plan. However, in the event that circumstances change with respect to anticipated costs, available revenue or changes in inflation, the Permit Holder will implement one or more of the following procedures as needed to ensure that Conservation Measures can be implemented:

- Increase Participation Fees or Participation Assessments;
- Change the values of Mitigation Credits and Recovery Awards to account for changes in inflation and other costs (*e.g.* increase the percentage of Recovery Awards held back in reserve for increased land management costs);
- Reduce or suspend funding for non-essential aspects of the Plan, such as outreach and education programs, and use funds for the implementation of essential activities; or
- As the last resort, negotiate alternative management, monitoring, or reporting requirements with the FWS to reduce the cost of Plan implementation.

The Permit Holder will notify FWS if changes in funding levels occur that substantially affect the implementation of the Plan and will coordinate with the FWS to implement one or

more of the procedures described above to ensure the Plan will be implemented as intended. If this is not rectified, the Permit and all authorization therein will be surrendered.

10.1.2 Habitat Is Lost Due To Catastrophic Events

Catastrophic events such as wild fires, tornadoes, prolonged periods of severe drought, and similar events could temporarily remove or degrade DSL Habitat. Many of these events are a normal part of the West Texas ecosystem and may be reasonably foreseen.

In response to catastrophic events, the Permit Holder will act to minimize damage to Suitable Habitat and DSL Habitat, to the extent practicable. The Permit Holder will notify the FWS of loss or damage to DSL Habitat within the Permit Area within 30 days if more than 20% of DSL Habitat is affected.

The Permit Holder will update the Plan for an area affected by a catastrophic event within one year if the event affects more than 20% of DSL Habitat. The updates will focus management activities on regenerating DSL Habitat in an amount equal to or in excess of the amount of habitat that was lost or substantially degraded by the catastrophic event.

There is currently insufficient knowledge upon which to base a projection of the potential for the DSL Habitat to be affected by extreme natural conditions. Nor is there sufficient knowledge at present upon which to design alternative or additional Conservation Activities that would compensate for any adverse effects of extreme natural conditions. If such changes cause DSL Habitat to substantially increase or decrease, Permit Holder will consult with the FWS to determine whether any changes in conservation practices are appropriate to respond to the effects of such natural conditions.

To the extent that knowledge about the effects of extreme natural conditions on the DSL and DSL Habitat is gained over the life of the Plan from information collected as part of the Conservation Program or through research activities, Permit Holder will take such knowledge into account when revising and/or evaluating the Conservation Program.

10.1.3 DSL Becomes Delisted

If the DSL is listed and then later becomes delisted due to recovery, the Permit Holder may discuss with the FWS any potential changes or amendments to the Plan or Permit conditions that may be appropriate under this changed circumstance.

10.1.4 Permit Becomes Detrimental to Survival or Recovery of the DSL

Should the Permit become detrimental to the survival or recovery of the DSL due to a variety of factors across its range, Permit Holder will consult with FWS on an expedited schedule to determine how the Plan can be amended or changed to make it more effective. If outcomes make the ongoing use of the Permit detrimental to the survival or recovery of the DSL, and an amendment or change cannot be agreed on by both Permit Holder and FWS, the Permit Holder may terminate the Plan and associated permits.

10.2 Unforeseen Circumstances

"Unforeseen circumstances" are changes in circumstances affecting a species or geographic area covered by the Plan that could not reasonably have been anticipated by the Plan developers and the FWS at the time of the Plan's negotiation and development, and that result in a substantial and adverse change in the status of any covered species. The FWS will have the burden of demonstrating that unforeseen circumstances exist and must base the determination on the best scientific and commercial data available. The FWS shall notify the Permit Holder in writing of any unforeseen circumstances the FWS believes to exist.

No Surprises assurances apply to the species that are "adequately covered" under the Plan. Species are considered to be "adequately covered" if the Plan satisfied the permit issuance criteria contained in ESA Section 10(a)(2)(B) with respect to that species. The species currently considered adequately covered under the Plan, and thus benefited by the No Surprises policy, is the DSL.

The No Surprises rule states that FWS may require additional conservation commitments of an incidental take permittee as a result of unforeseen circumstances "only if such measures are limited to modifications within conserved habitat areas, if any, or to the Plan's operating

conservation program for the affected species, and maintain the original terms of the conservation plan to the maximum extent possible."

In the event of an unforeseen circumstance, the FWS shall provide at least 30 days written notice of a proposed finding of unforeseen circumstances to Permit Holder and will work with the Permit Holder to develop an appropriate response to the new conditions. The Permit Holder shall have the opportunity to submit information to rebut the proposed finding, if it deems necessary.

FWS will not require the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for the DSL covered by the Plan without the consent of the Permit Holder. *See* 50 CFR § 17.22(b)(5)(iii).

11.0 FUNDING ASSURANCES

This section describes the funding that will be available to implement the Plan. The funding described herein demonstrates that there will be adequate financial resources and funding to accomplish the objectives of the Plan and to monitor, minimize and mitigate impacts to the DSL that are authorized under the enhancement of survival and incidental take permits.

Methods for assembling and equitably distributing the costs associated with the Plan have been the subject of extensive discussion and consideration by the stakeholders and officials from State and Federal agencies. The Plan was developed by representatives of the referenced entities on the title page of the Plan and through the advisory committee structure of Science, Policy and Steering Committees. These committees—composed of representatives of agriculture, ranching, oil and gas interest holders and private property owners, and public agencies—helped to develop and recommend strategies for assembling and funding the Plan. The Plan, which incorporates the input from this diverse group, offers a balanced approach to conserving species and habitats while equitably distributing the costs and the opportunities to perform the Mitigation Activities and Recovery Activities that will result in the creation of Mitigation Credits and Recovery Awards.

Without the Plan, the responsibility for mitigating impacts on endangered species and their habitats would rest only with those entities whose activities could result in take of the DSL and its habitat, and the responsibility for conservation actions designed to aid recovery of endangered species would rest primarily with government agencies representing the public at large. The Plan will address both the goals of mitigation and recovery. Consequently, the Plan distributes the responsibility for conservation more widely than would a mitigation plan under the assumption that the benefits of a successful Plan will be shared by a broader group. As a variety of groups will directly benefit from the Plan and will share in the responsibility for implementing the Plan, this shared responsibility includes the costs and opportunities associated with the implementation of the Plan.

11.1 Program Activities under the Plan Requiring Funding

The Comptroller is authorized under S.B. 1 to create the Habitat Protection Fund to hold all fees and contributions made in support of the Plan. *See* Act of June 29, 2011, 82nd Leg., 1st C.S., S.B. 1, §67.01 (to be codified at TEX. GOV'T CODE §403.452 (a)(4)). The Habitat Protection Fund is "held outside the treasury" which under state law means that it is not subject to the biennial appropriation process of the Texas Legislature. Monies held in a fund outside the state treasury are not subject to "being swept" at the end of the last fiscal year of the biennium. As such, fees and contributions deposited to the Habitat Protection Fund may only be used for the purposes identified in the statute creating the Habitat Protection Fund. Pursuant to the statute, the Habitat Protection Fund can be used to support the development or coordination of this Plan and to pay the costs of monitoring and administering the implementation of the Plan. The Permit Holder also has the authority to provide for the imposition of fees in connection with the Plan. These fees may be used to implement, monitor, or support the implementation of the Plan. The Permit Holder may solicit and accept appropriations, fees, gifts, or grants from any public or private source, including the federal government, the State of Texas, a public agency or a political subdivision of the state, for deposit to the credit of the Habitat Protection Fund. The Permit Holder will create three accounts (the Administration Account, Mitigation Account, and Recovery Account) to administer the following three types of program activities requiring funding under the Plan:

- Program Administration (Section 11.1.1);
- Mitigation (Section 11.1.2); and
- Recovery (Section 11.1.3).

11.1.1 Program Administration

Program administration funding refers to the monetary and in-kind contributions of the Permit Holder and Participants to set up the Plan, conduct public outreach and involvement, oversee the enrollment of Participants into the Plan, compliance and effectiveness monitoring, periodic audit of the Plan, facilitate the generation, registration and transfer of Mitigation Credits and Recovery Awards, research activities, conduct remedial measures for changed circumstances, and implement the adaptive management provisions under the Plan. Program administration costs involve the support of employees, facilities, equipment, and vehicles to support the staff of the Permit Holder or the reasonable expenses of the Qualified Third Party Contractors that it may retain to implement the Plan. Program administration costs also include associated costs such as travel, insurance, legal and financial assistance, meeting stipends, and contingency budgets. Program administration costs are estimated to be $3,000,000 for the first four years of the Plan, and thereafter $250,000 annually, adjusted upward at an inflation rate of 3%. It is anticipated that Participation Fees and Participation Assessments will generate $710,100 annually to cover the costs of Program Administration as detailed in Appendix D. Funding shall be deposited into an Administration Account in the Habitat Protection Fund. The Permit Holder may allocate surplus funds in the Administration Account to the Recovery Account or, after listing, to the Mitigation Account, in order to provide funding for the generation of Recovery Awards or Mitigation Credits.

The Parties acknowledge receipt of an in-kind contribution from the Texas Oil and Gas Association in the form of DSL presence and habitat surveys conducted by Texas A&M University and research on the effectiveness of proposed Mitigation Activities and Recovery Activities. In addition, the Parties acknowledge that DSL presence and habitat surveys, as well as research on the effectiveness of proposed Mitigation Activities and Recovery Activities, may be conducted by other qualified biologists hired by various stakeholders. To the extent that any

Participant desires to share such survey results or research findings with the Permit Holder or the FWS, that work will be valued similarly as other work under this Plan.

11.1.2 Mitigation

Mitigation funding includes the monetary and in-kind contributions that will be necessary to implement the mitigation contemplated under the Plan for incidental take resulting from Covered Activities. The Mitigation Account will be used to manage Mitigation Credits, including directed research that may be conducted into the effectiveness of the contemplated Mitigation Activities. Funds generated for Mitigation shall be deposited into a Mitigation Account in the Habitat Protection Fund. Because all mitigation must occur prior to a take occurring, initial Mitigation Credits may be available from surplus Participation Fees or in-kind contributions from entities.

11.1.3 Recovery

Recovery funding includes the monetary and in-kind contributions that will be necessary to implement Recovery Activities contemplated under the Plan. The Recovery Account will be used to manage Recovery Awards, including directed research that may be conducted into the effectiveness of the proposed Recovery Activities. Recovery funding shall be deposited into a Recovery Account in the Habitat Protection Fund. As with mitigation funds, initial Recovery Awards may be available from surplus Participation Fees or in-kind contributions from entities.

11.2 Plan Funding Sources

Plan funding will come from a number of different sources, including the ones described below.

11.2.1 Participation Fees

The Permit Holder will assess an annual Participation Fee for processing voluntary applications for CIs under the CCAA and CPs issued with the HCP. The amount of this fee is estimated to be between $10 and $1,000 per unit per year, depending on the nature and extent of the Participant's existing and proposed activities in the Permit Area, in accordance with the

initial Fee Schedule in Appendix D. The initial Fee Schedule includes a Participation Fee for CIs or CPs by oil and gas-sector Participants that is $200 per well (active or inactive) in the Permit Area adjusted (as necessary) on January 1 of each year, and similar unit-based fees ranging from $10 – $1,000 per unit per year for other Participants. The total estimate for funding from Participation Fees from all sectors for the first year is $710,100 and $2,840,400 over the first four years. Participation Fees shall be deposited into the Administration Account. Participation Fees will be adjusted as necessary as part of the periodic audits contemplated as part of the Adaptive Management provisions under Section 8.4.

11.2.2 Private, Local, State or Federal Funding and In-Kind Contributions

Other private individuals or companies, as well as local, State and Federal governmental units may provide additional monetary or in-kind contributions to assist in program administration and implementation. The current estimate of private, local, state and federal funding and in-kind contributions is $135,750 for the first year and $543,000 for the first four years. Any monetary contributions shall be deposited into the Administration Account, Mitigation Account, or Recovery Account, as appropriate.

11.2.3 Mitigation Account for Covered Activities

Participants, who enroll voluntarily in the Plan, shall provide funds to the Mitigation Account for the performance of Mitigation Activities required under the Plan in an amount sufficient to create Mitigation Credits for their incidental take. The amount payable by Participants shall be determined by the Qualified Third Party Contractors in accordance with Section 12 below. The Qualified Third Party Contractors may also generate and sell Mitigation Credits for research and other Mitigation Activities conducted by the Qualified Third Party Contractors. Funds for Mitigation Credits shall be deposited in the Mitigation Account, but fees can be used for Program Administration as appropriate.

11.2.4 Recovery Account for Recovery Activities

Participants, who enroll voluntarily in the Plan, may provide funds to the Recovery Account for the performance of Recovery Activities required under the Plan for the creation of

Recovery Awards. The amount payable by these Participants shall be determined in accordance with Section 12 below. The Qualified Third Party Contractors may also generate and sell Recovery Awards for Recovery Activities conducted by the Qualified Third Party Contractors. The use of Recovery Awards by the Qualified Third Party Contractors and Participants is subject to the Recovery Award Use Limitations set forth in Section 8.8. Funds generated by sale of Recovery Awards shall be deposited in the Recovery Account, but fees held back in reserve can be used for Program Administration.

11.3 Adjustment of Fees and Potential Imposition of Participation Assessment

The dynamic nature of the costs associated with the implementation of the Plan, including program administration, mitigation, and recovery, requires a flexible approach to funding through time. Many existing conservation plans have not incorporated sufficient flexibility into their funding mechanisms and, as a result, have found that funding lags behind increasing costs, compromising plan implementation. This is due in part to the impossibility of perfectly predicting future cost changes.

To ensure that the fees are adequately covering Plan costs, a thorough fee audit will be completed by the Permit Holder on a periodic basis throughout the life of the Permit consistent with Adaptive Management reviews conducted under Section 8.3. A schedule will be developed to balance the need for appropriate assessments with the need to accumulate enough data on which to base a meaningful audit and contain administrative costs. The Permit Holder may perform the audit itself or hire an outside, independent financial auditor to conduct this analysis and these audits will be considered part of the covered administration costs. Following completion of the fee audits, fees may be reasonably adjusted to reflect the Plan's cost estimates at that time. Adjustments could only be used to meet costs necessary to administer the Plan. Additionally, to the extent that the funding sources described in Sections 11.2.1 to 11.2.4 are insufficient to fund Program Administration, the Permit Holder may assess a periodic Participation Assessment on Participants, who enroll voluntarily, following the completion of the audit. The amount of the Participation Assessment may range from $10 to $1,000 per applicable

unit, depending on the nature and extent of the Participant's existing and proposed activities in the Permit Area, and shall be deposited into the Administration Account.

11.4 Summary of Funding

The following funding Table 11-1 estimates the costs and revenues for the first four years of the program. The Permit Holder will review the need for an assessment and reasonable adjustment of fees as part of the Adaptive Management reviews outlined under Section 8.3 once a year for the first five years and will adjust the funding as necessary to assure adequate funding for program administration. Other sources of funding may also change.

Table 11-1. Anticipated Estimated Funding Sources Summary Table

	Year 1	**Years 1 – 4**
Projected Costs		
Program Administration	$662,000	$3,000,000[1]
Projected Revenues by Source		
Participation Fees & Participation Assessments	$710,100[2]	$2,840,400
Orphan Well Clean Up	$85,750	$343,000
Foundations and Other Donors	$50,000	$200,000
Total Revenue	$822,350	$3,289,400

1 Assumes higher initial cost of start-up for program administration.

2 Estimated fees based on Participants that may have need for incidental take coverage. *See* Appendix D.

12.0 CONSERVATION RECOVERY AWARD SYSTEM

The Plan uses the Conservation Recovery Award System (CRA System) through which Mitigation Credits and Recovery Awards will be used to offset the incidental take authorized under this Plan and to promote the recovery of the DSL. Under the proposed CRA System, Mitigation Activities and Recovery Activities for the DSL conducted on private land will be credited and banked as Mitigation Credits or Recovery Awards for use by Participants. Participants requiring mitigation will pay into a Mitigation Fund to be used to implement Mitigation Activities. A Recovery Fund will also be created to fund Recovery Activities. The following outlines how the CRA System was developed and how it will operate.

12.1 CRA System Rationale

Many HCPs mitigate for loss of habitat through the preservation or permanent protection of similar habitat, sometimes in combination with other non-permanent measures. This preservation component is implemented through fee-simple acquisition of habitat or the use of perpetual conservation easements.

Conservation of DSL Habitat presents unique circumstances and challenges to the FWS and other stakeholders. The known range of the DSL is limited to a small portion of the Permian Basin, which accounts for over 20% of national domestic energy production. Ownership and occupancy of these lands is not limited to a single entity, but rather expressed through a complex and severed relationship of surface estate, mineral estate and surface and mineral leasehold interests. Any effort to create a permanent set-aside of meaningful acreage for the DSL will require the written agreement from all interest holders, which may be an insurmountable task due to the inability to identify and obtain agreement of all owners of the surface and mineral estates. In fact, the FWS's own guidance (HCP Handbook, 7.B.6) for issuance of Individual Take Permits as part of an HCP states:

> The Services have received such other assurances as may be required that the HCP will be implemented. The applicant must ensure that the HCP will be carried out as specified. Since compliance with the HCP is a condition of the permit. The

> authority of the permit is a primary instrument for ensuring that the HCP will be implemented. When developed, Implementing Agreements also provide assurances that the HCP will be properly implemented. Where a local government agency is the applicant, the Agreement should detail the manner in which local agencies will exercise their existing authorities to effect land or water use as set forth in the HCP. Under an HCP, government entities continue to exercise their duly constituted planning, zoning, and permitting powers. However, actions that modify the agreements upon which the permit is based (*e.g.*, rezoning an area contrary to land uses specified in the HCP) could invalidate the permit. In addition, failure to abide by the terms of the HCP and Implementing Agreement (if required) is likely to result in suspension or revocation of the permit.
>
> Some HCPs may involve interests other than the applicant or permittee. In these cases, the applicant must have specific authority over the other parties affected by the HCP and be willing to exercise that authority, or must secure commitments from them that the terms of the HCP will be upheld. In the latter case, agreements between the FWS or NMFS and the other groups, or legally binding contracts between the applicant and such individuals or interests, may be necessary to bind all parties to the terms of the HCP.

The challenges of identifying and acquiring written agreement from all of these interests, particularly the surface and mineral interests which in this area are typically severed and held by different people and entities, make the establishment of a permanent preserve in most cases impracticable, if not impossible. This is for several reasons. First, the task of determining who owns the interests and contact information for these property owners is a significant undertaking in and of itself. Even if the Permit Holder could identify fully unified owners of DSL Habitat land that are "willing sellers," even by including conservation easements with private landowners, being able to secure sufficient property interests at an affordable price is highly improbable once the substantial mineral interests in the area are accounted for. Further, the potential for property owners and other interest holders to delay or disrupt an acquisition program through reluctance or refusal to sell targeted or key properties creates even more issues. Because it is unknown whether any non-Federal property with DSL Habitat is currently available for permanent preserve, let alone whether it is feasible to identify sufficient preserve land needed

to mitigate expected take, it was determined that a significant preservation of DSL Habitat through a permanent preserve would be unlikely. However, in the event that property owners are identified that do have unified interests and DSL Habitat available for perpetual preservation, they will have the ability to enroll property to generate Mitigation Credits and this type of mitigation will be valued appropriately. *See* Section 8.7.

As discussed under Section 8.8, FWS allows for additional recovery efforts to be taken into consideration as programs for the conservation of species listed under the ESA. With the non-permanent impacts from many Covered Activities taken into account, along with the impracticability of obtaining sufficient dedicated DSL preserve lands in the Permit Area to offset incidental take, the Plan's CRA System is based on two core ideas:

(1) Tiered mitigation in a broad spectrum of DSL Habitat; and

(2) Use of voluntary recovery efforts and programs not typically part of CCAAs and HCPs.

The Plan recognizes that approaches to both mitigation and recovery will need to be flexible, taking into account the actual impact to the species and its habitat. Because of the difficulty in estimating impacts to individuals of the species, impacts to DSL Habitat are used as a surrogate for impacts to the species. *See* Section 9.1. In the Plan, both mitigation and recovery consider the potential impact of Covered Activities to the species through its habitat and a surrounding buffer.

12.2 Buffers

Buffers associated with the protection of DSL Habitat were recommended by the Science Committee to:

- Protect habitat against external influences, both natural and human-induced;
- Allow for shifting of habitat over time (*e.g.*, dune migration);
- Maintain connectivity between nearby patches of habitat;
- Offer habitat for species the DSL preys on; and
- Minimize nearby habitat for competitors (*e.g.*, side blotched lizard).

However, the Science Committee determined that significant scientific uncertainty exists for how much buffer is needed to achieve these goals for the DSL. Therefore, it is difficult to determine appropriate buffer widths around DSL Habitat.

Because of the scientific uncertainty and lack of research specifically related to what buffer distances would benefit the DSL, the stakeholders determined that a tiered buffer coupled with tiered mitigation would maximize mitigation in a practical and flexible approach. The tiered buffer approach uses different Buffer Multipliers for determining the value of Mitigation Credits and Recovery Awards. This approach was chosen after extensive discussion by stakeholders and recommendations from the Steering, Policy, and Science Committees.

For mitigation, the buffer tiers are as follows:

(1) The shinnery oak dune complex;
(2) 0–30 meters;
(3) 31-50 meters;
(4) 51–100 meters; and
(5) 101–200 meters.

For recovery, the buffer tiers extend out further as follows:

(1) The shinnery oak dune complex;
(2) 0–30 meters;
(3) 31-50 meters;
(4) 51–100 meters;
(5) 101–200 meters;
(6) 201 to 300 meters; and
(7) 301 to 600 meters.

Buffer Multipliers based on these tiers are as follows:

- Shinnery oak dune complex = 1
- 0–30m = 1.0
- 31-50 m = 0.75
- 51–100 m = 0.5

- 101–200 m = 0.25
- 201 to 300 m = 0.2
- 301 to 600 m = 0.15
- Beyond 600 m = 0.1 (on a case by case basis).

The tiered buffer and Buffer Multiplier require mitigation for incidental take up to 200 meters from the edge of all possible DSL Habitat. This is consistent with Science Committee recommendations to incorporate a tiered approach to mitigation with varying buffers and an outermost buffer distance of 200 meters for mitigation. Similarly, the Buffer Multipliers for recovery focus recovery efforts on areas most beneficial to the species. But for Recovery Activities, the Policy Committee recognized that there may be some benefit to doing recovery and restoration activities as much as 600 meters from the edge of DSL Habitat. Any credit given past the 600 meter buffer will be associated with dispersal corridors identified by the biologist as part of the habitat assessment on a case-by-case basis. The same buffers and Buffer Multipliers apply regardless of the type and quality of DSL Habitat. Applicable mitigation and recovery ratios *within* DSL Habitat are outlined under the following Section 12.3.

12.3 Tiered Mitigation

Unlike some conservation agreements, where all exchanges are valued the same and habitat is narrowed down to only the precise habitat where a species is found, the tiered mitigation in this Plan includes a range of habitat where mitigation for Covered Activities is required but adjusts mitigation values based on the habitat most likely to be occupied by DSL. Mitigation is an offset for a direct impact to DSL Habitat and varies based on the value of the DSL Habitat impacted.

The DSL Likelihood of Occurrence Map (Figure 1-2, attached) provides a foundation for mitigation values. Figure 1-2 was created by Dr. Toby Hibbitts of Texas A&M in May of 2011 and was used as the baseline of DSL Habitat. The map was created using aerial photography to identify the shinnery dunes habitat. All historical museum records, all survey records from Laurencio *et al.* (2007), and recent survey information by Texas A&M was overlaid onto the map. Habitat descriptions were also available for all of the surveys from Laurencio *et al.* (2007)

and from the Summer 2011 Texas A&M effort. Areas that are Dark Green (Very High Likelihood of Occurrence) had positive results from multiple surveys or were areas that are known to have recently contained DSL (based on museum records within the last 20 years). Survey sites in the Dark Green areas also had habitat descriptions that were generally "Shinnery dunes with large open blowouts." Dune "complexes" (expanses of the same geologic dune formation) could also be identified from aerial photography and, unless survey data was available to indicate otherwise, entire dune "complexes" were considered the same likelihood of occurrence. Areas that are Light Green (High Likelihood of Occurrence) had some historical records or had few positive surveys. Survey site habitat descriptions in these areas were generally similar to those of Dark Green areas but the areas of good habitat were generally smaller. Orange areas (Low Likelihood of Occurrence) were areas where no records of DSL were known; however, these areas are in all cases in contact with areas of Dark Green or Light Green. Survey site habitat descriptions varied from "shinnery dunes with blowouts" to "some shinnery dunes with sparse blowouts and lots of mesquite in flats and blowouts." Areas that are Red (Very Low Likelihood of Occurrence) were areas where no DSL have been found in surveys and the habitat patches were usually separated from areas that were considered Dark Green or Light Green by patches of unsuitable habitat. Those Red areas that are connected to a Green area are obviously a different dune "complex" and the habitat within those areas was considered to not be ideal for DSL (*e.g.*, the sites contained shinnery dunes but there were either few blowouts or the blowouts were grown in with grasses or mesquite). Otherwise the habitat within Red areas was similar to that observed in Orange areas. The main factors used when making decisions about likelihood of occurrence were survey results and specimen records. Habitat characteristics were used in areas where few surveys were conducted and in areas where different dune complexes came into contact. All areas (Dark Green to Red) of likelihood of occurrence can and do have what appears to be areas of good quality DSL Habitat but other factors such as connectivity and survey results exclude those areas from having higher likelihoods of occurrence.

Based on this methodology, DSL Habitat in Figure 1-2 is classified by Texas A&M in four approximated gradients of likelihood of DSL occupancy, with the highest being Very High Likelihood of Occurrence (Dark Green), followed by High Likelihood of Occurrence (Light Green), Low Likelihood of Occurrence (Orange) and Very Low Likelihood of Occurrence (Red). Take that occurs in the Dark Green habitat in Figure 1-2 is likely to have a greater impact to the DSL and should be mitigated at a higher rate. Take that occurs in the Red habitat in Figure 1-2 is likely to have a lesser immediate impact to the species and should be mitigated at a lower rate. By requiring mitigation in all quality habitat areas, regardless of the current status of DSL occupancy in the habitat, the Plan maximizes mitigation and conservation of the DSL.

Mitigation is more restricted than recovery in where it can be applied. In recognition of the FWS policy regarding the relationship between take and mitigation, the Plan provides that mitigation should occur as close as possible to impacts that may result in take. From the HCP Handbook:

> The type of mitigation habitat and its proximity to the area of impact will need to be considered. Generally, the location of replacement habitats should be as close as possible to the area of impact; it must also include similar habitat types and support the same species affected by the HCP.

HCP Handbook at 3-21.

Mitigation Activities will be closely tied to the same area as the take, at least at the beginning of the permit period. From a practical standpoint this means that those abandoned wells in Dark Green habitat (Figure 1-2 Very High Likelihood of Occurrence) will become highly desired as mitigation of those in need of such. Since these are finite in number, at some point in time those abandoned locations in all habitat gradients will be exhausted as a source of mitigation and recovery actions will be the best available option. Consistent with the effectiveness reviews conducted under the Adaptive Management process outlined in Section 8.3, the Qualified Third Party Contractors will make the determination of when Recovery Awards will be able to be used for Mitigation.

The mitigation ratios are described below:

- Very High Likelihood of Occurrence (Figure 1-2, Dark Green) x 2.5
- High Likelihood of Occurrence (Figure 1-2, Light Green) x 2
- Low Likelihood of Occurrence (Figure 1-2, Orange) x 1.5
- Very Low Likelihood of Occurrence (Figure 1-2, Red) x 1

This means that for construction of a new Well Site with a total of 3 acres of impact occurring in the Dark Green DSL Habitat, the impact would be mitigated at 2.5x the impact for a total of 7.5 Acre Units of required mitigation, with a sliding scale of 6, 4.5 and 3 Acre Units for Light Green, Orange and Red respectively. The following shows two examples of what mitigation may cost based on an estimate of the value of a Mitigation Credit (which will be market driven):

Table 12-1. Examples of Mitigation Cost Calculations for New Development (if the DSL is listed)

Example 1

	Acres Disturbed	Mitigation Ratios	Mitigation Debits Needed in Acre Units	Assumed Cost per Acre Unit	Per Site (~4.5 acres disturbance assumed)
Figure 1-2, Dark Green	4.5	2.5	11.25	$2,000	$22,500
Figure 1-2, Light Green	4.5	2	9	$2,000	$18,000
Figure 1-2, Orange	4.5	1.5	6.75	$2,000	$13,500
Figure 1-2, Red	4.5	1	4.5	$2,000	$9,000

Example 2

	Acres Disturbed	Mitigation Ratios	Mitigation Debits Needed in Acre Units	Assumed Cost per Acre Unit	Per Site (~3 acres disturbance assumed)
Figure 1-2, Dark Green	3	2.5	7.5	$5,000	$37,500
Figure 1-2, Light Green	3	2	6	$5,000	$30,000
Figure 1-2, Orange	3	1.5	4.5	$5,000	$22,500
Figure 1-2, Red	3	1	3	$5,000	$15,000

12.4 Recovery Awards

When talking about recovery, it is understood that recovery is a post-listing objective and FWS cannot develop a Recovery Plan for DSL until listing occurs. However, since this Plan combines both a CCAA and an HCP, and the intent is to retain consistent standards for both pre- and post-listing activities, it was determined that Recovery Activities should be a component of this Plan even before listing occurs.

Recovery Activities should be designed to accomplish a net benefit to the recovery of the DSL. Recovery Activities are flexible in ways that mitigation actions are not. Recovery should provide a large menu of actions across the range of the species, rather than be limited by association with take. Recovery actions should be prioritized through different gradient values from those expressed for mitigation. Recognizing that Dr. Hibbitts' map is not a habitat quality map, and is a likelihood of occurrence map, all areas will benefit from Recovery Activities. However, recovery actions implemented in the Light Green and Orange areas, where the species needs help, and where the habitat is most suitable for potential occupation by the DSL, would have the highest recovery value. The recovery ratio is described below:

- Very High Likelihood of Occurrence (Figure 1-2, Dark Green) x 1
- High Likelihood of Occurrence (Figure 1-2, Light Green) x 2
- Low Likelihood of Occurrence (Figure 1-2, Orange) x 2.5
- Very Low Likelihood of Occurrence (Figure 1-2, Red) x 1.5

This means three acres of positive impact in Orange habitat meeting the highest recovery efforts and programs will generate 7.5 Acre Units, while three acres of the same impact in the lower Dark Green habitat will generate only 3 Acre Units.

A broader range of actions is anticipated for this category since there is much less likelihood that recovery actions will be exhausted at the same pace as mitigation actions. As previously discussed, at some point all abandoned Oil and Gas Locations approved as mitigation will be restored, at which point those Acre Units in the Recovery Account would become available for mitigation.

When it is determined by the Qualified Third Party Contractors that Recovery Awards are available for mitigation, it will be incumbent upon the Qualified Third Party Contractors to see that some reserve of Recovery Awards always remains unused in the account. There are several ways to accomplish this. One method is to simply establish an award reserve of 10% that can never be expended. In this way the plan will always have a net balance of unexpended awards that go toward recovery. This balance, or reserve of awards, acts as an insurance policy against any future changed or unforeseen circumstances. The following represents two examples of how Recovery Activities would generate Recovery Awards consistent with the Recovery Award Use Limitations discussed in Section 8.7:

Table 12-2. Examples of Recovery Award Cost Calculations (if the DSL is listed)

Example 1

	Acres Benefitted	Recovery Ratios	Total Recovery Award Acre Units Possible	Recovery Award Acre Units Held in Reserve by Permit Holder (10% of Total)	Recovery Award Acre Units Awarded on Completion (50% of Total)	Recovery Award Acre Units Awarded on Demonstration of Effectiveness (40% of Total)	Assumed Cost per Acre Unit	Assumed Total Cost for Specific Recovery Activity Project
Figure 1-2, Dark Green	10	1	10	1	5	4	$2,000	$20,000
Figure 1-2, Light Green	10	2	20	2	10	8	$2,000	$40,000
Figure 1-2, Orange	10	2.5	25	2.5	12.5	10	$2,000	$50,000
Figure 1-2, Red	10	1.5	15	1.5	7.5	6	$2,000	$30,000

Example 2

	Acres Benefitted	Recovery Ratios	Total Recovery Award Acre Units Possible	Recovery Award Acre Units Held in Reserve by Permit Holder (10% of Total)	Recovery Award Acre Units Awarded on Completion (50% of Total)	Recovery Award Acre Units Awarded on Demonstration of Effectiveness (40% of Total)	Assumed Cost per Acre Unit	Assumed Total Cost for Specific Recovery Activity Project
Figure 1-2, Dark Green	20	1	20	2	8	10	$5,000	$100,000
Figure 1-2, Light Green	20	2	40	4	16	20	$5,000	$200,000
Figure 1-2, Orange	20	2.5	50	5	20	25	$5,000	$250,000
Figure 1-2, Red	20	1.5	30	3	12	15	$5,000	$150,000

Recovery Award Cost per Acre Unit will be based on market values established in a bid process.

12.5 Establishing the CRA System for the DSL

The CRA System is designed to restore and enhance DSL Habitat and Suitable Habitat through contracts with property owners that include Management Plans designed to benefit the DSL. Through the CRA System, the implementation of these Management Plans translates into Mitigation Credits or Recovery Awards that can be collected and held in trust for use by Participants. The CRA System allows the Qualified Third Party Contractors to quantify and certify contributions to conservation through a crediting process. The Qualified Third Party Contractors may then sell these Mitigation Credits or Recovery Awards to Participants with mitigation obligations under the Plan.

The CRA System elements important for this assessment were developed through the advisory committee structure with the input from biologists on the Science Committee as well as input from the Policy and Steering Committees. The biologists designed the science-based rationale for quantifying credits for the species, the process for acquiring credits, elements included in a management program, and the prescribed framework for monitoring. These are summarized in the following sections.

12.5.1 Defining and Quantifying Credits and Awards

Mitigation Credits and Recovery Awards are to be established through first defining a measurable unit (Acre Unit) for the species. For the DSL, an Acre Unit is determined as a 1 acre block of Suitable Habitat or DSL Habitat. Once Acre Units are delineated for a property, then a series of criteria are applied to adjust for a Acre Unit's potential to support viable populations of DSL which provide the greatest mitigation or recovery benefits. This is accomplished by applying multipliers depending on location relative to existing DSL Habitat. Once the number of conservation units on a property is adjusted for these factors, the product is either a Mitigation Credit Acre Unit or a Recovery Award Acre Unit. A Recovery Award Acre Unit is equivalent to a Mitigation Credit Acre Unit.

12.5.2 Criteria for Valuation of Credits and Awards

12.5.2.1 Acre Unit

An Acre Unit is defined as a 1 acre area that is verified as meeting the criteria for areas that are likely to be inhabited by DSL. Mitigation Activities within DSL Habitat and a surrounding buffer of 200 meters (m) in the Permit Area will result in Mitigation Credits (expressed in Mitigation Credit Acre Units). Recovery Activities conducted in DSL Habitat and the surrounding 600-meter buffer or in Suitable Habitat, if that activity will result in a positive impact to DSL Habitat, will result in Recovery Awards expressed in Acre Units (expressed in Recovery Award Acre Units).

12.5.2.2 Screening Criteria

Proposed Mitigation Credit Acre Units must be within the Permit Area and proposed Recovery Award Acre Units must be within either the Permit Area or Plan Area.

12.5.3 Credit and Award Accrual Process

The Mitigation Credits and Recovery Awards developed through this system will be accounted for through a process maintained by the Qualified Third Party Contractors and managed in accounts as appropriate for use by Participants. The Qualified Third Party Contractors may use a committee process to determine specific priorities among potential contracts. The following standardized procedure will be used to accrue Mitigation Credits and Recovery Awards for activities benefitting the DSL:

- Non-Federal lands with Suitable Habitat or DSL Habitat are identified. DSL Habitat and Suitable Habitat are identified by reference to the definitions of Plan Area and Permit Area in Section 4, subject to periodic review in accordance with Adaptive Management, Section 8.3.
- Participants or other property owners confirm interest in participating in the program. Qualified Third Party Contractors reach Participants and property owners through public information and outreach programs.
- Initial site assessments are conducted. The Qualified Third Party Contractors confirms DSL Habitat and Suitable Habitat by reference to the definitions of Plan Area and Permit Area in Section 4 and employs the methods identified in

Sections 12.5.1 and 12.5.2 to calculate Mitigation Credit Acre Units or Recovery Award Acre Units.

- A Management Plan is prescribed for the property. Specific mitigation or recovery activities to restore DSL Habitat or Suitable Habitat are developed by the Qualified Third Party Contractors to meet Plan requirements and Participant or property owner objectives. These activities are set forth in a Management Plan.

- For Participants that are performing mitigation and recovery activities for their own benefit, the following bid provisions do not apply:

  - Property owner prepares a bid proposal. Property owners will then develop a bid package based on specific activities prescribed in the Management Plan.

  - Property owner bids evaluated. The bids are evaluated by the Qualified Third Party Contractors and a calculation is performed to determine the cost per Mitigation Credit or Recovery Award. The bids are preliminarily ranked according to best value per Mitigation Credit or Recovery Award.

  - Bid selection. The Qualified Third Party Contractors select contracts based upon best fiduciary value.

- Contract signed and funded. Standardized contracts (Mitigation Credit or Recovery Award Agreements) with Participants or property owners are processed through the Qualified Third Party Contractors and funded by Participants (initial funding for generation of Mitigation Credits and Recovery Awards may come from other sources).

- Implementation and Compliance Monitoring. Management Plans are implemented through coordination of the Qualified Third Party Contractors, Participant or property owners. Implementation of Management Plans is documented through compliance checks, photos, and remote sensing consistent with the provisions to be developed under the standardized contracts. These records are used to satisfy contract compliance with individual property owners or Participants and to document site-specific changes resulting from management. Sufficient information for FWS compliance is provided to FWS without Participant-identifying information in accordance with the Plan and confidentiality provisions.

- Effectiveness Monitoring and Adaptive Management. The biological effectiveness of Management Plans is periodically reviewed as part of the Monitoring and Adaptive Management provisions under Sections 8.2 and 8.3, and recommended Conservation Activities and Management Plans are adapted according to information gleamed from research.

The Qualified Third Party Contractors will work collaboratively with FWS to ensure that Mitigation Credit and Recovery Award assessments are performed in accordance with the methodology described in this Plan. FWS reserves the right to review mitigation assessments. The Permit Holder will, subject to the confidentiality provisions of this Plan under Section 8.2, provide mitigation assessments to the FWS on request. No individual property owner, Potential Participant, or Participant identifying information will be provided to FWS. If the FWS is satisfied with the accuracy of the Qualified Third Party Contractors' assessments, it may reduce or eliminate its review.

12.5.4 Determining Incidental Take and Required Mitigation

The method for determining the amount of Mitigation Credits required for a particular Participant's activities under the HCP will be similar to the method for accruing Mitigation Credits and Recovery Awards. The determination of specific required mitigation amounts and the initial enrollment process for a Participant will be as follows:

- Potential Participants anticipating the need to conduct Covered Activities on non-Federal lands with DSL Habitat will contact the Qualified Third Party Contractors. DSL Habitat is identified by reference to the definition of Permit Area in Section 4, subject to periodic review in accordance with Adaptive Management, Section 8.3. A general application may be developed to help process interest from potential Participants.

- Initial take assessments are conducted. Participants or Qualified Third Party Contractors determine the effects of the proposed Covered Activities on DSL Habitat by employing the methods described in Sections 12.2 – 12.5 to calculate Acre Units disturbed (*e.g.*, using mitigation ratios and buffer multipliers) and to determine the amount of Mitigation Credits or Recovery Awards required to compensate for any incidental take.

- Potential Participant finalizes CP with the Qualified Third Party Contractors. The Qualified Third Party Contractors and Potential Participant will finalize specific provisions of the CP (consistent with the minimum provisions provided for in the template included as Appendix B).

- Potential Participant pays required Participation Fee. The CP is processed through the Qualified Third Party Contractors and potential Participant pays the participation fee required under the Plan.

- Implementation and Compliance Monitoring. The terms of the CP are implemented by the Participant. Implementation of CP is documented through compliance checks, photos, and remote sensing. Sufficient information for FWS compliance is provided to FWS without Participant-identifying information in accordance with the Plan and confidentiality provisions.

- Effectiveness Monitoring and Adaptive Management. The biological effectiveness of the CP is periodically reviewed as part of the Monitoring and Adaptive Management provisions under Sections 8.2 and 8.3.

13.0 EXPECTED BENEFITS

There are three overarching reasons why the Plan is expected to have an overall net benefit to the DSL:

(1) The Plan's Conservation Program will proactively reduce and minimize the potential threats to the DSL resulting from Habitat Loss and Fragmentation (Section 13.1);

(2) The Plan will maximize mitigation by requiring offsets for incidental take in an expanded area of DSL Habitat (Section 13.2);

(3) The Plan's Recovery Strategy encourages voluntary Recovery Activities that will enhance DSL Habitat and contribute to the recovery of the DSL (Section 13.3).

13.1 Reduction and Minimization of Threats to the DSL

Under the CCAA, DSL conservation will be enhanced by encouraging conservation of DSL Habitat prior to any eventual listing of the DSL as endangered or threatened. Without regulatory assurances, property owners may be unwilling to initiate Conservation Activities for the DSL before it is listed as endangered or threatened. It is therefore expected that the CCAA will encourage proactive conservation management activities that, when combined with similar activities on other properties, will conserve and enhance DSL Habitat and potentially preclude listing. Moreover, by encouraging voluntary Recovery Activities through the development of the CRA System outlined in Section 12, DSL Habitat will be further enhanced, resulting in additional benefits for the species. These benefits are summarized as follows:

13.1.1 Reduction in Habitat Loss and Fragmentation of Habitat

As discussed under Section 7, the three core threats to the species, as stated in the proposed listing by FWS, are:

(A) destruction, modification, or curtailment of DSL Habitat or range (Section 7.1.1);

(B) increased predation (such as creation of avian perches) (Section 7.1.2); and

(C) additional other natural or manmade factors affecting the DSL's continued existence (Section 7.1.3).

While significant scientific uncertainty exists regarding how certain activities result in these potential threats, using the limited available science, it can be expected that the Plan will substantially reduce these potential threats through effective implementation of the Conservation Program outlined under Section 8. Appendix E specifies which Conservation Activities are tied to which threats and the expected benefits that these measures will have under the Plan.

While many of the specific direct and indirect effects to DSL Habitat resulting from the Plan's Covered Activities are unknown, the following outlines how the key threats to the DSL as stated in the proposed listing by FWS will be addressed by the Conservation Program outlined in the Plan:

- Reduction in Habitat Loss: By limiting and reducing Covered Activities in DSL Habitat believed to adversely affect DSL Habitat, it is expected that DSL Habitat loss will be significantly reduced by the Plan. Further, as more scientific knowledge establishes how activities conducted in certain DSL activity periods affect the DSL, Conservation Activities oriented around DSL activity schedules will be refined and used to reduce associated adverse impacts and inform Adaptive Management decisions. In general, Covered Activities will be conducted outside and away from DSL Habitat when possible. Activities such as directional drilling might be used if feasible. These activities will reduce possible impacts to DSL Habitat. When avoidance is not possible, the footprint affecting DSL Habitat will be minimized and Covered Activities might be restricted to the inactive period of October – March as defined by ongoing research.

- Reduction in Habitat Fragmentation and Removal of Potential Causes of Fragmentation: To the extent pipelines, flowlines, power lines and roads located throughout DSL Habitat may fragment DSL Habitat and adversely affect the DSL, it is expected that the consolidation and removal of lines when possible may

reduce habitat fragmentation. Some new pipelines, flowlines, and power lines will be able to be routed around DSL Habitat or use existing rights of way when possible. An indirect benefit of reducing fragmentation is the improved resiliency of habitat patches to natural events, including extreme short-term droughts and long-term weather shifts.

Recovery Awards will prioritize removal of causes of fragmentation, including removal and/or restoration of abandoned wells and caliche roads to conditions that will allow for DSL movement between Suitable Habitat or DSL Habitat. As explained in Section 8.8, Recovery Activities will be prioritized according to their potential to positively affect the DSL and DSL Habitat. But recognizing that there is significant scientific uncertainty regarding the benefits of Recovery Activities, the appropriate prioritization of Recovery Activities will be a particular focus of the Plan's Adaptive Management strategy outlined under Section 8.3.

- Reduction of other man-made threats to the DSL: While significant research still must be done to determine if and how ongoing oil and gas operations affect the DSL and DSL Habitat, the minimization of oil spills, H_2S gas emissions, and exposure to chemicals and other toxins in the vicinity of oil and gas wells will benefit DSLs. While the direct and indirect impacts of oil field pollutants on DSL populations, fecundity, and survivorship are unknown, the Plan will encourage appropriate Conservation Activities, such as control of H_2S emissions and improved training on oil spill response, to reduce these impacts when possible.

  Other man-made impacts that will be reduced as a result of the Plan include the reduction in avian predator perches, which can provide observation points for predator avian species in DSL Habitat and may make it easier for predators to search for DSL. A reduction in the number of available perches is expected to reduce avian predators which could result in reduced extirpation events.

- Increased knowledge of the DSL and DSL Habitat: Because of the particular scientific uncertainty concerning the DSL and DSL Habitat in Texas, peer review quality research is expected to provide significant benefits for the conservation of the DSL. Potential research projects considered by the Steering Committee are outlined under Section 8.4 and are focused on the evaluation of the effects from Covered Activities and the effectiveness of the proposed Conservation Program. DSL biology, including the need for population viability analyses, is a priority for research. With increased knowledge about the potential threats and effectiveness of the Conservation Program, it is anticipated that the Plan will result in enhanced conservation of DSL and DSL Habitat. The ability for the Plan to adapt the Conservation Program, as its effectiveness is determined, is also a key benefit of the Adaptive Management provisions under Section 8.3.

13.2 Maximized Mitigation through Expansive Delineation of DSL Habitat

The second overarching way the Plan will benefit the DSL is through an expansive view of what incidental take will require mitigation. DSL Habitat occurs as part of a naturally fragmented landscape, consisting of shinnery oak flats interspersed with sand dunes. The DSL is a habitat specialist that utilizes the dunes. However, shinnery oak flats provide structural support for the entire dune system. Recognizing the importance of this relationship between the dunes and the shinnery oak flats, this Plan considers the entire shinnery oak dunal complex as DSL Habitat, and affords protection accordingly. The comprehensive view of DSL Habitat under the Plan allows for protection and management of the shinnery oak dunal complex at an ecosystem scale.

Protection and management of this complex is further enhanced by the use of the buffer strategy in this Plan. Available science was evaluated by the Science Committee which recommended that a 200-meter buffer from DSL Habitat be established for mitigation. This plan affords the first 30 meters of buffer associated with DSL Habitat with the same degree of mitigation as the DSL Habitat. The buffer then continues outward for an additional 170 meters, requiring a graduated scale of mitigation. This ensures mitigation is commensurate with impacts to the maximum extent practicable. Recognizing that significant scientific certainty exists regarding buffer distances, buffer distances can be adjusted based on ongoing research and effectiveness monitoring through the Section 8.3 Adaptive Management process.

This ecosystem approach to management and protection for the DSL allows for more flexibility in the decision process associated with Mitigation Activities, as well as those Recovery Activities intended to provide a net benefit to the DSL. Any action requiring mitigation can be viewed at that ecosystem scale, and assessed accordingly. Further, management actions intended to provide a net benefit to the recovery of the DSL can be prioritized and implemented where those actions will have the best benefit to the DSL and its habitat.

This ecosystem approach will also be used in the enrollment of Participants. As the Permit Holder considers activities offered for habitat protection and management, prioritization will be given to property owners and Participants that allow management to occur at a broader scale (*e.g.*, on larger contiguous blocks of DSL Habitat). Placing large blocks of the shinnery oak dunal complex under the same level of management and protection should enhance the positive effects of those actions, leading to a greater net benefit to the DSL and its habitat. Conversely, activities that result in significant fragmentation will require higher mitigation.

13.3 Establishment of Incentives to Preserve Existing Habitat and Encourage Recovery of DSL Habitat

The establishment of the Recovery Strategy under Section 8.8 and the Recovery Awards offered under Section 12 of the Plan is anticipated to have an overall beneficial effect to the DSL by increasing DSL Habitat and DSL populations, adding to the current body of knowledge regarding the distribution of the DSL across its range, and by substantially improving the quality of Suitable Habitat and DSL Habitat available to the species across non-Federal lands.

The potential benefits of the proposed Recovery Strategy can be generally discussed and evaluated in three basic elements:

(A) preservation of Suitable Habitat and DSL Habitat for the DSL through the use of long-term agreements to generate Recovery Awards (Section 13.3.1);

(B) enhancement of Suitable Habitat and DSL Habitat through management activities on habitat identified in these agreements that may receive Recovery Awards (Section 13.3.2); and

(C) research and monitoring throughout the duration of the permit (Section 13.3.2).

The potential effects of these elements are discussed below.

13.3.1 Preservation of DSL Habitat and/or Suitable Habitat

The inclusion of habitat protection under long term agreements (30-year terms will initially be encouraged) in the Plan is likely to have an overall beneficial effect on DSL, at least for the term of the agreement. Parcels part of larger contiguous blocks of DSL Habitat, to be determined through research, will be prioritized for inclusion in the Plan. Clearly, the new

discovery of Suitable Habitat determined to be occupied by DSL would also add to the known population and distribution of the species, and therefore, increase its environmental baseline. The FWS has acknowledged that temporary conservation efforts can contribute to a species' recovery goals, directly or indirectly, although such a contribution may be of varying duration and not permanent in nature. In the context of Safe Harbor Agreements, the contribution was directed toward the "net conservation benefit" standard required for such agreements. In the context of the Recovery Credit System developed for federal agencies under ESA Section 7, the contribution was directed toward a "net benefit toward recovery" standard. In both cases, the Service has acknowledged a net benefit to the species through the use of non-permanent protection.

While the term agreements do not have provisions for the requirement of enhancing habitat or increasing populations beyond the time period enrolled in an agreement, some enhancement/restoration benefits may occur through the general protection of habitat and conditions within the accompanying management plan. At a minimum, the temporary protection of habitat through the term of the agreement provides a benefit to the species in cases where the quality and/or quantity of habitat may be threatened by other land use actions.

13.3.2 Enhancement of DSL Habitat and/or Suitable Habitat

This Plan will be implemented prior to any potential listing of the DSL, therefore FWS has not yet published a Recovery Plan for the DSL. Due to the lack of a Recovery Plan and the associated recovery goals and objectives, all initial habitat management will be geared toward addressing the potential threats as identified in the proposed listing. Most of these threats are identified under two broad categories- habitat loss and habitat fragmentation. As discussed in Section 13.1 and Exhibit E, these potential threats will be avoided and minimized through implementation of the Conservation Program. Recovery Activities will achieve a net benefit to recovery through the Recovery Award system. Since there are acknowledged limitations in the current understanding of the level of impacts related to these threats, this Plan is faced with those same limitations. Therefore all implemented actions will be credited and banked through a three-step process.

(1) 10% of the total Recovery Award value will be attributed toward a recovery reserve and will not be made available for mitigation.

(2) 50% of the remaining balance of the Recovery Award value will be held back until such time as research indicates the management action has provided a clear net benefit to the recovery of the DSL or its habitat. This is in recognition of the lack of a Recovery Plan and associated goals and objectives, and the current lack of science regarding the level of impact from any particular threat.

(3) The remaining 50% of the Recovery Award value will be made available for mitigation upon completion of the Recovery Activities as prescribed in the management plan, and after these activities have been determined to be effective. This is in recognition that the initial purpose of those actions is to reduce or remove the potential threat, and the current level of science does not clearly define to what extent any particular threat impacts the DSL or its habitat.

Steps 1 and 2 above will fall within the Recovery Strategy of the Plan while step 3 will fall within the Mitigation Strategy of the Plan.

Should the DSL be listed, and a Service-approved Recovery Plan is published, the management actions, particularly those under the Recovery Strategy, will be adapted to follow that Recovery Plan.

13.3.3 Research and Monitoring

This plan will include an active research and monitoring component. The Adaptive Management process outlined under Section 8.3 of the plan addresses the use of research and effectiveness monitoring for improving the management of the Plan. Research and monitoring will have a net benefit to the species by increasing the available knowledge of the DSL and its habitat, and increasing knowledge of the impacts of activities, both those requiring mitigation and those beneficial to the DSL and/or its habitat. All research will be closely coordinated with those activities prior to implementation, leading to a clearer understanding of the associated impacts.

13.4 Summary of Expected Benefits

The Plan is anticipated to have an overall beneficial effect to the DSL by minimizing DSL Habitat loss and fragmentation, increasing the extent of DSL Habitat available to the species across private lands, and by adding to the current body of knowledge on the DSL.

If the DSL is listed and the HCP is effectively implemented, the Plan should:

- exchange Mitigation Credits and Recovery Awards on an unequal scale (favoring the DSL);
- provide for a viable DSL population throughout its range in Texas;
- encourage participation and conservation benefits by providing a reasonable, balanced and adaptive approach to protecting survival of the DSL;
- encourage property owner sign-on for Conservation Activities because of the financial benefits of participation in the Plan; and
- demonstrate an elevation in the status of the DSL within its range in Texas.

Based on the calculation of the incidental take, and considering the Conservation Program that will be implemented under this Plan, it is expected that over 90% of all DSL Habitat will be maintained and improved over the duration of the permit. This is determined by assuming that approximately 10% of DSL Habitat (across all habitat qualities) will be taken. As described in Section 9.1, the total take anticipated assumes that a maximum, worst-case total of 21,257 acres of incidental take in DSL Habitat will occur. This includes 10,352 acres of higher quality habitat (Dark Green and Light Green habitat in Figure 1-2) and 10,904 acres of lower quality habitat (Orange and Red habitat in Figure 1-2). But based on the CRA System's ratios and encouragement of Recovery Activities, this Plan would require 36,811 overall acres of improved habitat to compensate for the expected take. Because the Plan assumes that all DSL Habitat has the potential for DSL, and requires mitigation even in DSL Habitat with low likelihood of DSL occurrence, the Plan provides for maximum mitigation and is expected to provide a significant net overall benefit to the DSL.

14.0 OTHER CONSIDERATIONS SPECIFIC TO HCP PLANS

14.1 Alternatives to the Taking

Section 10(a)(2)(A) of the ESA provides that in order to obtain an incidental take permit, the applicant must submit a conservation plan that discusses the alternative actions to taking that were considered and the reasons the alternatives were not chosen.

An alternative that limits growth or reduces new oil and gas, agriculture, ranching, and alternative energy development in the Permian Basin could reduce impacts to the DSL. But this alternative is not practically feasible because the Permian Basin produces over 1 million barrels of oil each day. This is 20% of the lower 48 states' total production of oil in the United States. In Texas, the Permian Basin accounts for 68% of Texas' total production and 80% of Texas' reserves. Royalties to property owners from the six counties included in the Permit Area totaled more than $18 million over 2010-2011. Limiting new development in this area would be inconsistent with Texas' and the Nation's energy policy goals and would fail to meet the purpose and need of the Permit Holder to achieve reasonable amounts of economic development and growth.

Take of DSLs as a result of new development could be avoided entirely if Covered Activities did not encroach on or near DSL Habitat. But entities often cannot control where the location of oil and gas and alternative energy development will achieve the most benefit. Moreover, Covered Activities already occurring on wide expanses of private land means that some take of DSL will be inevitable.

Ultimately, the Plan was the chosen alternative because it: balances the conservation of the DSL with necessary economic development in the Permian Basin; encourages proactive conservation of DSL Habitat before any listing of the DSL; develops a streamlined ESA compliance mechanism; develops an appropriate mitigation program describing how the impacts caused by takes authorized by the Permit will be both minimized and mitigated to the maximum extent practicable; and encourages proactive Recovery Activities that benefit the ultimate conservation of the species. It also fulfills ESA and FWS goals to use innovative policy tools to

conserve species and to voluntarily adopt recovery goals as part of the CCAA and HCP processes.

The Plan is designed to accept a limited amount of take of DSL Habitat in exchange for protection, enhancement, and restoration of DSL Habitat outside developed areas. Implementation of this Plan is expected to provide a substantial net benefit to, and contribute to the recovery of, the DSL and DSL Habitat in the Permit Area. Potential conservation benefits that would not be achieved without the Plan include the reduction of existing causes of fragmentation and the restoration of contiguous blocks of DSL Habitat. Ultimately, the Conservation Program outlined under Section 8 and other benefits gained from the Plan are expected to benefit the DSL more than other alternatives considered.

14.2 Other Measures That May Be Required

Section 10(a)(2)(B) of the ESA authorizes FWS to obtain "such other assurances as [they] may require that the plan will be implemented." This provision allows the FWS flexibility to require "additional measures" as necessary to accommodate the wide variety of circumstances often encountered in HCPs. An "Implementing Agreement" is one possible additional measure that can be considered for the implementation for HCPs. However, with the Obligations of the Parties provided in Sections 8.6 and 8.7 regarding the CCAA and HCP respectively, and with the relative detailed requirements outlined in the CI and CP, it is not anticipated that an Implementing Agreement will be a required additional measure. FWS and Permit Holder will agree to discuss additional terms and conditions not otherwise specified in this Plan if necessary.

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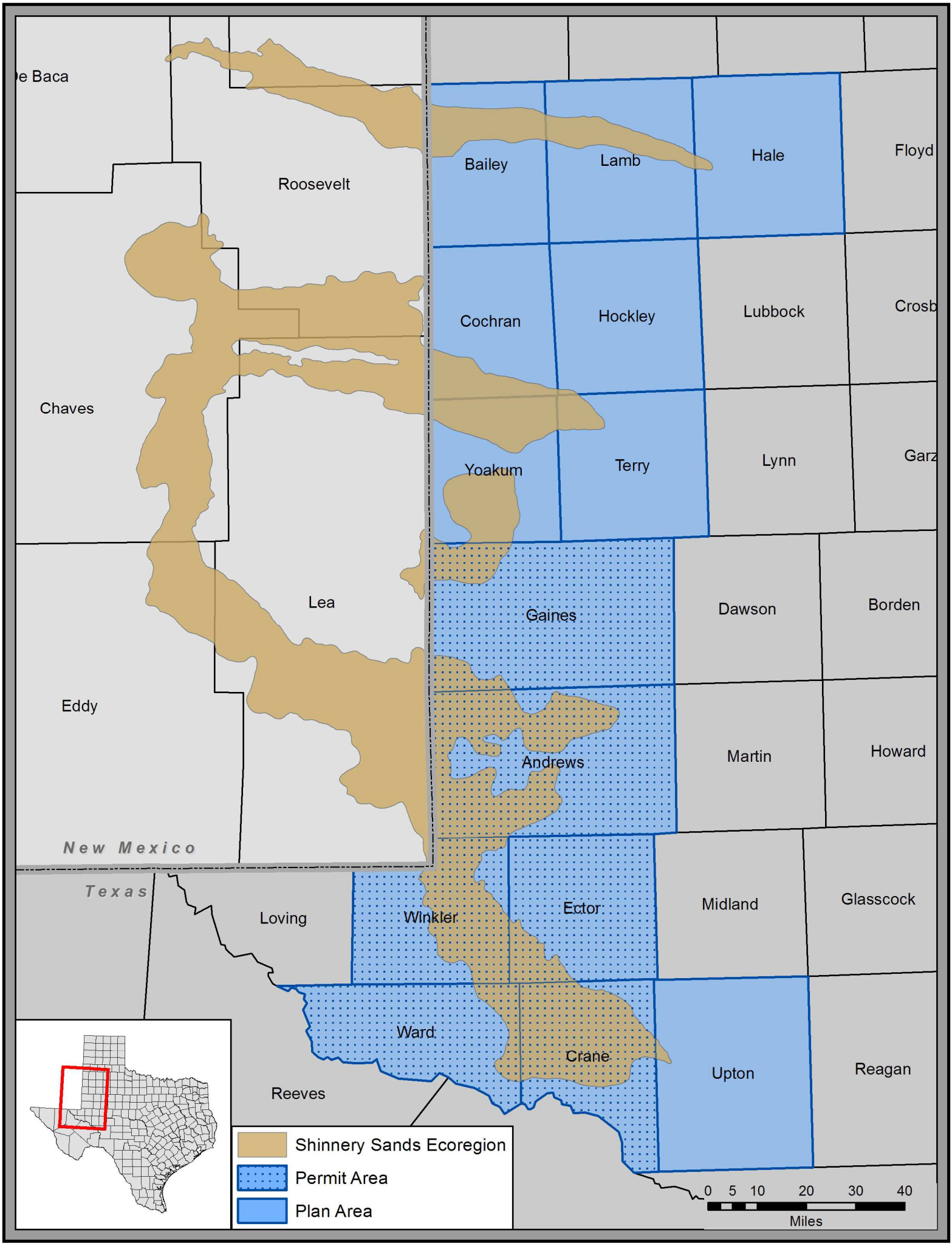
16.0 ATTACHED FIGURES AND APPENDICES

FIGURE 1-1	**PLAN AREA AND PERMIT AREA**
FIGURE 1-2	**PERMIT AREA AND DSL LIKELIHOOD OF OCCURRENCE**
APPENDIX A	**CERTIFICATE OF INCLUSION TEMPLATE**
APPENDIX B	**CERTIFICATE OF PARTICIPATION TEMPLATE**
APPENDIX C	**ADDITIONAL SPECIES CONSIDERED**
APPENDIX D	**FEE SCHEDULE**
APPENDIX E	**THREATS AND BENEFITS TABLE**
APPENDIX F	**GLOSSARY**

Figure 1-1
Plan Area


e Baca
Roosevelt
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Bailey
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Floyd
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Lubbock
Crosb
Yoakum
Terry
Lynn
Garz
Gaines
Dawson
Borden
Andrews
Martin
Howard
Winkler
Ector
Midland
Glasscock
Ward
Crane
Upton
Reagan
Shinnery Sands Ecoregion
Permit Area
Plan Area
0 5 10 20 30 40
Miles

Figure 1-2
Permit Area/Likelihood of Occurrence

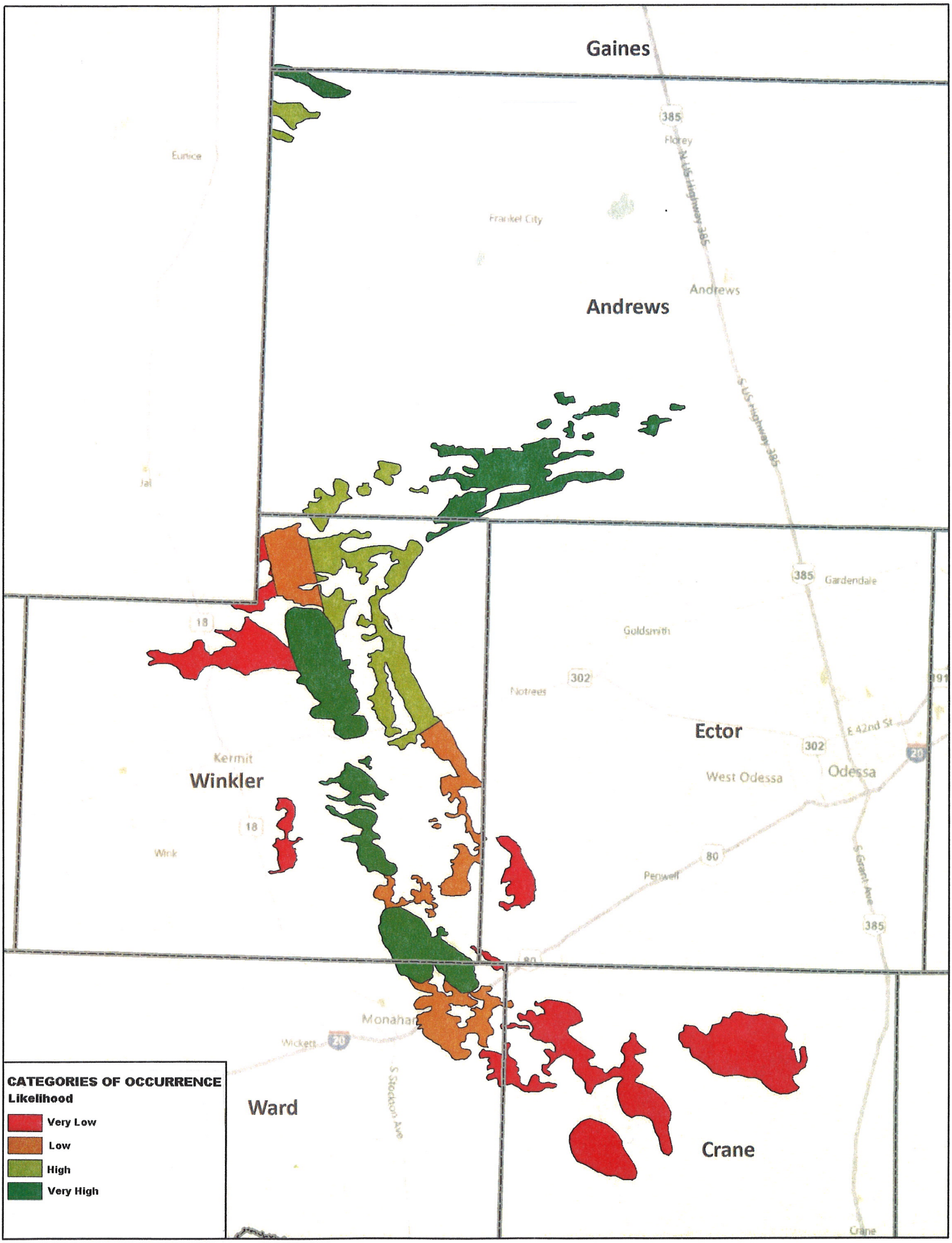
Gaines
Andrews
Winkler
Ector
Ward
Crane
Eunice
Jal
Frankel City
Andrews
Florey
Gardendale
Goldsmith
Notrees
Kermit
Wink
West Odessa
Odessa
Penwell
Monahans
Wickett
E 42nd St
S Grant Ave
S Stockton Ave
S US Highway 385
N US Highway 385
385
302
18
20
80
CATEGORIES OF OCCURRENCE
Likelihood
Very Low
Low
High
Very High

FIGURE 1-2 METHODOLOGY

Figure 1-2 was created by Dr. Toby Hibbitts of Texas A&M in May of 2011 and was used as the baseline of habitat suitable for DSL. The map was created using aerial photography to identify the shinnery dunes habitat. All historical museum records, all survey records from Laurencio et al. (2007), and recent survey information by Texas A&M was overlaid onto the potential habitat map. Habitat descriptions were also available for all of the surveys from Laurencio et al. (2007) and from the Summer 2011 Texas A&M effort. Areas that are Dark Green (Very High Likelihood of Occurrence) had positive results from multiple surveys or were areas that are known to have recently contained DSL (based on museum records within the last 20 years). Survey sites in the Dark Green areas also had habitat descriptions that were generally "Shinnery dunes with large open blowouts." Dune "complexes" (expanses of the same geologic dune formation) could also be identified from aerial photography and, unless survey data was available to indicate otherwise, entire dune "complexes" were considered the same likelihood of occurrence. Areas that are Light Green (High Likelihood of Occurrence) had some historical records or had few positive surveys. Survey site habitat descriptions in these areas were generally similar to those of Dark Green areas but the areas of good habitat were generally smaller. Orange areas (Low Likelihood of Occurrence) were areas where no records of DSL were known; however, these areas are in all cases in contact with areas of Dark Green or Light Green. Survey site habitat descriptions varied from "shinnery dunes with blowouts" to "some shinnery dunes with sparse blowouts and lots of mesquite in flats and blowouts." Areas that are Red (Very Low Likelihood of Occurrence) were areas where no DSL have been found in surveys and the habitat patches were usually separated from areas that were considered Dark Green or Light Green by patches of unsuitable habitat. Those Red areas that are connected to a Green area are obviously a different dune "complex" and the habitat within those areas was considered to not be ideal for DSL (e.g. the sites contained shinnery dunes but there were either few blowouts or the blowouts were grown in with grasses or mesquite). Otherwise the habitat within Red areas was similar to that observed in Orange areas. The main factors used when making decisions about likelihood of occurrence were survey results and specimen records. Habitat characteristics were used in areas where few surveys were conducted and in areas where different dune complexes came into contact. All areas (Dark Green to Red) of likelihood of occurrence can and do have what appears to be areas of good quality Suitable Habitat but other factors such as connectivity and survey results exclude those areas from having higher likelihoods of occurrence.

Based on this methodology, DSL Habitat in Figure 1-2 (*i.e*. the Permit Area) is classified by Texas A&M in four approximated gradients of likelihood of DSL occupancy, with the highest being Very High Likelihood of Occurrence (Dark Green), followed by High Likelihood of Occurrence (Light Green), Low Likelihood of Occurrence (Orange) and Very Low Likelihood of Occurrence (Red).

APPENDIX A

CERTIFICATE OF INCLUSION

Number_____

CERTIFICATE OF INCLUSION

under the

Candidate Conservation Agreement with Assurances Component

of the

Texas Conservation Plan

for the

Dunes Sagebrush Lizard
(Sceloporus arenicolus)

CI Number _____

This certifies that Participant described herein is included within the scope of Permit No. _____ issued in accordance with the above Candidate Conservation Agreement with Assurances (CCAA) portion of the Texas Conservation Plan for the Dunes Sagebrush Lizard (DSL) (the Plan). The Plan was developed under the authority of Section 10(a) of the Endangered Species Act of 1973, as amended (ESA), 16 U.S.C. 1531-1544. Permit No. _____ was issued to the Texas Comptroller of Public Accounts (Permit Holder) on _____.

Participant is a "Property Owner," as defined by 50 CFR §17.3, who has a fee simple, leasehold, or property interest (including owners of water or other natural resources), or any other entity that may have a property interest, sufficient to carry out the proposed management activities, subject to applicable State law, on non-Federal land. This and other key terms are defined in the Plan and listed in the Glossary to the Plan (Appendix F).

The goal of Permit Holder and Participant in developing this Certificate of Inclusion (CI) is to reduce and/or eliminate threats to the DSL and contribute to the conservation of DSL Habitat. By agreeing to conduct the Conservation Measures outlined herein, Participant is provided with regulatory certainty (assurances) concerning land use restrictions that might otherwise apply should the DSL become listed as a threatened or endangered species under the ESA.

Participant voluntarily executes this CI with Permit Holder and commits to implement this CI in accordance with the terms and conditions contained herein. By signing below, Participant acknowledges that it has read and understands the Plan, and in particular those components applicable to the CCAA and this CI. Participant further acknowledges that the CCAA may not be sufficient to prevent the listing of the DSL as endangered or threatened.

I. ENROLLMENT

Consistent with the definition of Property Owner under 50 CFR § 17.3, Participant has provided to Permit Holder a description of its property interest enabling it to enroll in this CI (Exhibit A). Participant is responsible for ensuring that the provisions of this CI are implemented by its employees and contractors. For the purposes of this CI, Permit Holder shall include any contractor acting on Permit Holder's behalf unless otherwise specified.

II. COVERED ACTIVITIES

This CI covers the [agricultural/ranching] [oil and gas development] [other] activities described below. Coverage is also provided for activities associated with implementation of the Conservation Measures as described by the CI. The assurances and incidental take authority provided under the CI and corresponding "enhancement of survival" permit under the ESA do not extend to incidental take resulting from activities not specified in this CI, unless such activities are agreed to by the Parties pursuant to the terms herein.

[INSERT COVERED ACTIVITIES FOR PARTICULAR PARTICIPANT/CI HERE]

_____

_____

_____

_____

_____

[Covered Activities should be consistent with those described in Section 6 of the Plan]

III. CONSERVATION MEASURES

Participant commits to undertake the following Conservation Measures in accordance with this CI:

[INSERT CONSERVATION MEASURES FOR PARTICULAR PARTICIPANT/CI HERE]

_____

_____

_____

_____

_____

[Conservation Measures should be selected from those described in Section 8 of the Plan]

IV. ASSURANCES

In exchange for a commitment to undertake the Conservation Measures in this CI, U.S. Fish and Wildlife Service (FWS) provides the Permit Holder and Participant the regulatory assurances found at 50 CFR §17.22(d)(5) and 17.32(d)(5). Assurances mean that, should the DSL become listed as threatened or endangered under the ESA in the future, additional conservation measures and land, water, or resource use restrictions beyond those described in this CI will not be imposed with respect to Covered Activities by Participant. These assurances are authorized by the "enhancement of survival" permit issued under Section 10(a)(1)(A) of the ESA if the DSL is listed. Once issued, if necessary, the permit will authorize the incidental take of DSLs by Participant under the permit issued to Permit Holder as long as such incidental take is consistent with this CI.

Further, in the event of unforeseen circumstances, FWS will not require the commitment of additional land, water, or other natural resources beyond the level otherwise agreed to for the species in this CI. FWS may request additional conservation, but since it is voluntary on the part of Permit Holder and Participant, consent of Permit Holder and Participant must be in writing.

V. FEES AND ASSESSMENTS

Participant and Permit Holder have calculated the applicable Participation Fee for this CI using the methodology in the Fee Schedule provided as Appendix D to the Plan. Participant agrees to pay an annual Participation Fee of $_____. Participant will remit the Application Fee to Permit Holder upon execution of this CI and will pay this fee annually on the anniversary of the execution date. Permit Holder will administer the funds in a Habitat Protection Fund account according to the Plan and state laws and rules.

Participant acknowledges that Section 11.3 of the Plan authorizes Permit Holder to periodically impose a Participation Assessment on Participant and other participants as necessary to fund program administration by the Permit Holder. Participant shall pay a Participation Assessment within ninety (90) days of receipt of a written invoice for same from Permit Holder.

VI. SUSPENSION FOR NONPAYMENT

Participant agrees that Permit Holder may suspend the CI if and for so long as any fee or assessment on Participant is past due.

VII. TRANSFERS AND ADDITIONS

Participant may transfer this CI to another participant or successor in interest. All transfers must be acknowledged by Permit Holder. Notification of intent to transfer will be transmitted to Permit Holder for approval thirty (30) days prior to transfer.

Participant may request to amend this CI to add additional Covered Activities at any time before the DSL is listed. Permit Holder shall assess an additional annual Participation Fee, and Participation Assessments as necessary, for any additions to the scope of the Covered Activities using Appendix D to the Plan. This CI must be amended and executed by the Participant and Permit Holder to include such additional Covered Activities.

VIII. TERM

The CI will be in effect from the date all parties sign below until the Plan expires, unless otherwise terminated in accordance with the terms herein or other applicable law.

IX. TERMINATION AND DISPUTE RESOLUTION

Participant may terminate this CI by giving thirty (30) days written notice to Permit Holder as to any or all of the Covered Activities covered by the CI. Participant may cease implementation of the Conservation Measures under the CI, even if the expected benefits have not been realized. Upon termination, Participant is required to surrender the benefits it receives under the enhancement of survival permit at termination, thus relinquishing his or her incidental take authority (if the DSL has become listed) and the assurances granted under the enhancement of survival permit. Termination does not negate or diminish the benefits or assurances provided to Participant under this CI for Covered Activities prior to the date of termination. Upon

termination, any Application Fee or Participant Assessment paid by Participant will be used by Permit Holder to support the DSL and will not be refunded.

Permit Holder may suspend or terminate the CI if Participant has materially breached the terms and conditions of the CI, after reasonable notice and opportunity to cure, as described in this Section IX.

Permit Holder's contractor shall provide written notice to Participant within thirty (30) days of identifying any potential non-compliance with a term or condition of the CI. Participant shall have sixty (60) days to correct the potential non-compliance or demonstrate due diligence to correct the potential non-compliance. To correct or demonstrate due diligence to correct the potential non-compliance, Participant must, within sixty (60) days of receiving the written notice of the potential non-compliance, provide a response to Permit Holder's contractor that:

- Indicates that the Participant has taken corrective action to remedy the non-compliance and describes how the non-compliance has been resolved; or

- Describes the corrective action that the Participant will take and the time period in which the Participant will complete the corrective action; or

- Denies that the non-compliance has occurred and shows how the Participant is prepared to discuss the resolution of the notice.

Permit Holder's contractor shall reply in writing to Participant's response within thirty (30) days and either a) accept Participant's response, in which event any corrective action committed to by Participant shall become a term or condition of this CI; or b) not accept Participant's response and issue a notice of material breach and recommend corrective actions, which shall be resolved as follows:

- Within thirty (30) days following the issuance of a notice of material breach and recommended corrective action, Permit Holder's contractor and Participant each shall prepare a statement of position for review by the Steering Committee. The Steering Committee shall review such statements and other information available to the Steering Committee and issue a recommendation to the Permit Holder on the occurrence of the material breach and corrective action within ninety (90) days of receipt of such statements.

- Permit Holder shall review the recommendation of the Steering Committee and issue its finding on the occurrence of the material breach and required corrective action within thirty (30) days. Participant shall comply with Permit Holder's finding. If Participant fails to comply with Permit Holder's finding, Permit Holder may suspend or terminate the CI as to Participant.

Nothing herein restricts FWS from suspending or revoking the CI, in whole or in part, for cause in accordance with 50 CFR §13.28(a) or the laws and regulations in force at the time of this agreement.

X. NO WAIVER

The Parties agree and acknowledge that the existence of the Plan, its contents and/or any statements or representations made in connection with the preparation of the Plan shall not prejudice any claim that the State of Texas, the Permit Holder, any Participant, or any agency, association or other entity consulting in or otherwise involved in the preparation of the Plan may have that the DSL does not qualify as a threatened or endangered species as those terms are defined under the ESA and/or that the DSL should not be determined to be a threatened or endangered species pursuant to Section 4 of the ESA, 16 U.S.C. 1533, and all rights and defenses related to any such claims are hereby expressly reserved. Participant is also not responsible for work being accomplished by Permit Holder using fees paid to Permit Holder.

XI. RELEASE

If at any time any administrative or legal challenge prevents the implementation of this CI, Participant shall be excused from its performance under this CI and shall release the United States, Department of the Interior, FWS, and Permit Holder from any legal claims related to, and, against all other Parties to, this CI and CCAA.

XII. AMENDMENT

This CI may be amended with the written consent of the Parties hereto. The Parties will use their best efforts to respond to proposed amendments within sixty (60) days of receipt of such notice. This CI will only be amended upon agreement of the Parties.

XIII. MULTIPLE ORIGINALS

This CI may be executed in any number of multiple originals. A complete original of this CI shall be maintained in the records of the Parties hereto.

XIV. REPORTING REQUIREMENTS

By March 31 of each year during the term of this CI, Participant will provide Permit Holder with an Annual Participant Report for the prior calendar year that identifies: (a) the Covered Activities and the Conservation Measures that have occurred under this CI; (b) to the knowledge of Participant, any material non-compliance with the terms of the CI; and (c) following listing of the DSL, any incidental take by Participant that occurred under the CI. The Annual Participant Report will aid Permit Holder in meeting their annual reporting requirements under the Plan. Information submitted by Permit Holder to FWS as part of the Permit Holder's annual reporting under Section 8.3 of the Plan, or submitted under any other provision of the Plan, will provide sufficient detail to enable FWS to enforce the CI and monitor compliance with CI provisions, but Participant and other identifying information will be removed and kept confidential as specified in Section XV.

XV. CONFIDENTIALITY

Under Texas law, information collected by the Permit Holder from a Participant and relating to the specific location, species identification, or quantity of any animal or plant life cannot be disclosed to FWS or any other person, including a state or federal agency the information; and, further, it is not subject to the Texas Public Information Act. See Act of June 29, 2011, 82nd Leg., 1st C.S., S.B. 1, §67.01 (to be codified at Tex. Gov't Code § 403.454). The Permit Holder may only disclose to the person who provided it information that relates to the specific location or quantity of the species for which the Plan is being prepared, unless the person consents in writing to full or specified partial disclosure of such information. *Id*.

Notwithstanding this statutory confidentiality provision, the Permit Holder must provide sufficient information as required by Section 8.3 or other provisions of the Plan to enable FWS to enforce the Permit and monitor compliance, but Participant and other identifying information will be removed. Information establishing a violation of any law is not subject to the confidentiality provision.

XVI. ACCESS FOR COMPLIANCE MONITORING AND RESEARCH

Subject to appropriate rights, Participant agrees to provide Permit Holder with reasonable access to inspect Participant's Covered Activities and Conservation Measures for the purpose of monitoring Participant's compliance with the terms of this CI and for academic research activities established in conjunction with the Plan. All information described in Section XV of this CI and gathered as part of compliance monitoring and research activities will be treated as confidential in accordance with Section XV of this CI.

Permit Holder will coordinate with Participant to avoid unnecessary inconvenience and disruption to Participant and any surface owner (if different from Participant). Permit Holder will provide reasonable advance notice to Participant of any intent to exercise the access rights granted in this Section XVI of the date(s) when access is desired, the activities or measures that are the subject of the inspection, and the duration of the scheduled visit. Access may also require the notification and consent of surface owner (if different from Participant).

Permit Holder will access the property at its own risk. Participant (or surface owner if different from Participant) makes no representation as to the safety or lack of hazards on the property. Permit Holder acknowledges that certain activities on rural property have unknown hazards and risks and can result in injury or property damage to the persons involved in these activities. During all phases of work, Permit Holder commits to the use of appropriate risk management practices, including identification of potential known hazards with Participant or surface owner before accessing property. Permit Holder and Participant explicitly agree to apply the provisions of Chapter 75 of the Texas Civil Practice and Remedies Code to Property Owners who grant permissive access to their property to Permit Holder.

XVII. NOTICE

Any notice permitted or required by this CI shall be transmitted within any time limits described in this CI to the persons set forth below or shall be deemed given five (5) days after deposit in

the United States mail, certified and postage prepaid, return receipt requested, and addressed as follows or at such other address as any Party may from time to time specify to the other Parties in writing:

Number_____

Number_____

PARTICIPANT:

Contact: _____

Address: _____

_____

_____

Telephone: _____

Fax: _____

E-Mail: _____

PERMIT HOLDER:

Contact: _____

Address: _____

_____

_____

Telephone: _____

Fax: _____

E-Mail: _____

XVIII. SIGNATURES

IN WITNESS WHEREOF THE PARTIES HERETO have executed this Certificate of Inclusion to be in effect on the date of the last signature below.

_____	_____
Participant Authorized Officer	Date
_____	_____
Permit Holder Authorized Officer	Date

Number_____

EXHIBIT A

PROPERTY INTEREST OF PARTICIPANT

[For agricultural/ranching interests, provide description of surface interests]

[For oil and gas development, provide appropriate indicia of property interest where Covered Activities will occur including identification of wells in Permit area counties and proposed wells in permit area]

[For general construction activities, describe property interests]

APPENDIX B

CERTIFICATE OF PARTICIPATION

Number_____

CERTIFICATE OF PARTICIPATION

under the

Habitat Conservation Plan Component

of the

Texas Conservation Plan

for the

Dunes Sagebrush Lizard
(Sceloporus arenicolus)

CP Number _____

This certifies that Participant described herein is included within the scope of Permit No. _____ issued in accordance with the above Habitat Conservation Plan (HCP) portion of the Texas Conservation Plan for the Dunes Sagebrush Lizard (DSL) (the Plan). The Plan was developed under the authority of Section 10(a) of the Endangered Species Act of 1973, as amended (ESA), 16 U.S.C. §§ 1531-1544. Permit No. _____ was issued to Texas Comptroller of Public Accounts (Permit Holder) on _____.

Participant is a "Property Owner," as defined by 50 CFR § 17.3, who has a fee simple, leasehold, or property interest (including owners of water or other natural resources), or any other entity that may have a property interest, sufficient to carry out the proposed management activities, subject to applicable State law, on non-Federal land. This and other key terms are defined in the Plan and listed in the Glossary to the Plan (Appendix F).

The goal of Permit Holder and Participant in developing this Certificate of Participation (CP) is to reduce and/or eliminate threats to the DSL and contribute to the conservation of DSL Habitat.

Participant voluntarily executes this CP with Permit Holder and commits to implement this CP in accordance with the terms and conditions contained herein. By signing below, the Participant acknowledges that they have read and understand the Plan, and in particular those components applicable to the HCP and this CP.

I. ENROLLMENT

Consistent with the definition of Property Owner under 50 CFR § 17.3, Participant has provided to Permit Holder a description of its property interest enabling it to enroll in this CP (Exhibit A). Participant is responsible for ensuring that the provisions of this CP are implemented by its employees and contractors. For the purposes of this CP, Permit Holder shall include any contractor acting on Permit Holder's behalf unless otherwise specified.

II. COVERED ACTIVITIES

This CP covers the [ranching] [oil and gas development] [agricultural] [general construction] activities described below. Coverage also is provided for implementation of Mitigation Activities and Recovery Activities as described by the CP (i.e., any incidental take that occurs as part of those activities). The incidental take authority provided under the CP and corresponding incidental take permit under the ESA does not extend to incidental take resulting from activities not specified in this CP, unless such activities are agreed to by the parties pursuant to the terms herein.

[INSERT COVERED ACTIVITIES FOR PARTICULAR PARTICIPANT/CP HERE]

_____

_____

_____

_____

_____

[Covered Activities should be consistent with those described in Section 6 of the Plan]

III. MINIMIZATION MEASURES

Participant commits to undertake the following Minimization Measures in accordance with this CP:

[INSERT MINIMIZATION MEASURES FOR PARTICULAR PARTICIPANT/CP HERE]

_____

_____

_____

_____

_____

[Minimization Measures should be selected from those Minimization Measures described in Section 8 of the Plan]

IV. INCIDENTAL TAKE AUTHORIZATION

In exchange for entering into this CP, and on the condition that Participant fulfills all other obligations hereunder, Participant is authorized under the incidental take permit issued by U.S. Fish and Wildlife Service (FWS) to Permit Holder under Section 10(a)(1)(B) of the ESA. The permit authorizes the incidental take of DSLs by Participant as long as such "take" is incidental to otherwise lawful activities and consistent with this CP.

Further, in the event of unforeseen circumstances, FWS will not require the commitment of additional land, water, or other natural resources beyond the level otherwise agreed to for the species in this CP. FWS may request additional conservation, but since it is voluntary on the part of Permit Holder and Participant, consent of the Permit Holder and Participant must be in writing.

V. FEES, ASSESSMENTS AND MITIGATION

Participant and Permit Holder have calculated the applicable Participation Fee for this CP using the methodology in the Fee Schedule provided as Appendix D to the Plan. Participant agrees to pay an annual Participation Fee of $_____. Participant will remit the Participation Fee to Permit Holder upon execution of this CP and on the anniversary date of execution. Permit Holder will administer the funds in a Habitat Protection Fund account according to the Plan and state laws and rules.

Participant acknowledges that Section 11.3 of the Plan authorizes the Permit Holder to periodically impose a Participation Assessment on Participant and other participants as necessary to fund program administration by the Permit Holder. Participant shall pay a Participation Assessment within ninety (90) days of receipt of a written invoice for same from Permit Holder.

Participant acknowledges that Section 12 of the Plan creates the CRA System through which Mitigation Credits and Recovery Awards will be used to offset the incidental take authorized under this CP. Participant confirms that it has acquired or will acquire Mitigation Credit Acre Units or Recovery Award Acre Units in an amount sufficient to offset any incidental take

authorized under the CP prior to the occurrence of such incidental take. The applicable mitigation and recovery ratios are set forth in the Plan.

VI. SUSPENSION FOR NONPAYMENT

Participant agrees that Permit Holder may suspend the CP if and for so long as any fee or assessment on Participant is past due.

VII. TRANSFERS AND ADDITIONS

Participant may transfer this CP to another participant or successor in interest. All transfers must be acknowledged by Permit Holder. Notification of intent to transfer will be transmitted to Permit Holder for approval thirty (30) days prior to transfer.

Participant may request to amend this CP to add additional Covered Activities at any time, provided that appropriate Mitigation Credit Acre Units or Recovery Award Acre Units are acquired prior to offset any additional incidental take authorized under the CP. This CP must be amended and executed by Participant and Permit Holder to include such additional Covered Activities.

VIII. TERM

The CP will be in effect from the date all parties sign below until the Plan expires, unless otherwise terminated in accordance with the terms herein or other applicable law.

IX. TERMINATION AND DISPUTE RESOLUTION

Participant may terminate this CP by giving thirty (30) days written notice to Permit Holder as to any or all of the Covered Activities covered by the CP. Upon termination, Participant is required to surrender the benefits it receives under the incidental take permit at termination, thus relinquishing his or her incidental take authority. Termination does not negate or diminish benefits or incidental take authorization provided to Participant for Covered Activities conducted prior to the date of termination. Upon termination, any Participation Fee or Participation Assessment paid by Participant will be used by Permit Holder to support the DSL and will not be refunded.

Permit Holder may suspend or terminate the CP if Participant has materially breached the terms and conditions of the CP, after reasonable notice and opportunity to cure, as described in this Section IX.

Permit Holder's contractor shall provide written notice to Participant within thirty (30) days of identifying any potential non-compliance with a term or condition of the CP. Participant shall have sixty (60) days to correct the potential non-compliance or demonstrate due diligence to correct the potential non-compliance. To correct or demonstrate due diligence to correct the potential non-compliance, Participant must, within sixty (60) days of receiving the written notice of the potential non-compliance, provide a response to Permit Holder's contractor that:

- Indicates that the Participant has taken corrective action to remedy the non-compliance and describes how the non-compliance has been resolved; or

- Describes the corrective action that the Participant will take and the time period in which the Participant will complete the corrective action; or

- Denies that the non-compliance has occurred and shows how the Participant is prepared to discuss the resolution of the notice.

Permit Holder's contractor shall reply in writing to Participant's response within thirty (30) days and either a) accept Participant's response, in which event any corrective action committed to by Participant shall become a term or condition of this CP or b) not accept Participant's response, and issue a notice of material breach and recommend corrective actions, which shall be resolved as follows:

- Within thirty (30) days following the issuance of a notice of material breach and recommended corrective action, Permit Holder's contractor and Participant each shall prepare a statement of position for review by the Steering Committee. The Steering Committee shall review such statements and other information available to the Steering Committee and issue a recommendation to Permit Holder on the occurrence of the material breach and corrective action within ninety (90) days of receipt of such statements.

- Permit Holder shall review the recommendation of the Steering Committee and issue its finding on the occurrence of the material breach and required corrective action within thirty (30) days. Participant shall comply with Permit Holder's finding. If Participant fails to comply with Permit Holder's finding, Permit Holder may suspend or terminate the CP as to Participant.

Nothing herein restricts FWS from suspending or revoking the CP, in whole or in part, for cause in accordance with 50 CFR §13.28(a) or the laws and regulations in force at the time of this agreement.

X. <u>NO WAIVER</u>

The Parties agree and acknowledge that the existence of the Plan, its contents and/or any statements or representations made in connection with the preparation of the Plan shall not prejudice any claim that the State of Texas, the Permit Holder, any Participant, or any agency, association or other entity consulting in or otherwise involved in the preparation of the Plan may have that the DSL does not qualify as a threatened or endangered species as those terms are defined under the ESA and/or that the DSL should not be determined to be a threatened or endangered species pursuant to Section 4 of the ESA, 16 U.S.C. 1533, and all rights and defenses related to any such claims are hereby expressly reserved. Participant is also not responsible for work being accomplished by Permit Holder using fees paid to Permit Holder.

XI. RELEASE

If at any time any administrative or legal challenge prevents the implementation of this CP, Participant shall be excused from its performance under this CP and shall release the United States, Department of the Interior, FWS, and Permit Holder from any legal claims related to, and, against all other Parties to, this CP and CCAA.

XII. AMENDMENT

This CP may be amended with the written consent of the Parties hereto. The Parties will use their best efforts to respond to proposed amendments within sixty (60) days of receipt of such notice. This CP will only be amended upon agreement of the Parties.

XIII. MULTIPLE ORIGINALS

This CP may be executed in any number of multiple originals. A complete original of this CP shall be maintained in the records of the Parties hereto.

XIV. REPORTING REQUIREMENTS

By March 31 of each year during the term of this CP, Participant will provide Permit Holder with an Annual Participant Report for the prior calendar year that identifies: (a) the Covered Activities that have occurred under this CP; (b) to the knowledge of Participant, any material non-compliance with the terms of the CP; and (c) any incidental take by Participant that occurred under the CP and the amount of Mitigation Credit Acre Units and Recovery Award Acre Units acquired by Participant to offset such incidental take. The Annual Participant Report will aid Permit Holder in meeting their annual reporting requirements under the Plan. Information submitted by Permit Holder to FWS as part of the Permit Holder's annual reporting under Section 8.2 of the Plan, or submitted under any other provision of the Plan, will provide sufficient detail to enable FWS to enforce the CP and monitor compliance with CP provisions, but Participant and other identifying information will be removed and kept confidential as specified in Section XV.

XV. CONFIDENTIALITY

Under Texas law, information collected by the Permit Holder from a Participant and relating to the specific location, species identification, or quantity of any animal or plant life cannot be disclosed to FWS or any other person, including a state or federal agency the information; and, further, it is not subject to the Texas Public Information Act. See Act of June 29, 2011, 82nd Leg., 1st C.S., S.B. 1, §67.01 (to be codified at Tex. Gov't Code § 403.454). The Permit Holder may only disclose to the person who provided it information that relates to the specific location or quantity of the species for which the Plan is being prepared, unless the person consents in writing to full or specified partial disclosure of such information. *Id*.

Notwithstanding this statutory confidentiality provision, the Permit Holder must provide sufficient information as required by Section 8.2 or other provisions of the Plan to enable FWS

to enforce the Permit and monitor compliance, but Participant and other identifying information will be removed. Information establishing a violation of any law is not subject to the confidentiality provision.

XVI. ACCESS FOR COMPLIANCE MONITORING AND RESEARCH

Subject to appropriate rights, Participant agrees to provide Permit Holder with reasonable access to inspect Participant's Covered Activities for the purpose of monitoring Participant's compliance with the terms of this CP and for academic research activities established in conjunction with the Plan. All information described in Section XIV of this CP and gathered as part of compliance monitoring and research activities will be treated as confidential in accordance with Section XV of this CP.

Permit Holder will coordinate with Participant to avoid unnecessary inconvenience and disruption to Participant and any surface owner (if different from Participant). Permit Holder will provide reasonable advance notice to Participant of any intent to exercise the access rights granted in this Section XVI of the date(s) when access is desired, the activities or measures that are the subject of the inspection, and the duration of the scheduled visit. Access may also require the notification and consent of surface owner (if different from Participant).

Permit Holder's access to property is at its own risk. Participant (or surface owner if different from Participant) makes no representation as to the safety or lack of hazards on the property. Permit Holder acknowledges that certain activities on rural property have unknown hazards and risks and can result in injury or property damage to the persons involved in these activities. During all phases of work, Permit Holder commits to the use of appropriate risk management practices, including identification of potential known hazards with Participant or surface owner before accessing property. Permit Holder and Participant explicitly agree to apply the provisions of Chapter 75 of the Texas Civil Practice and Remedies Code to Property Owners who grant permissive access to their property to Permit Holder.

XVII. NOTICE

Any notice permitted or required by this CP shall be transmitted within any time limits described in this CP to the persons set forth below or shall be deemed given five (5) days after deposit in the United States mail, certified and postage prepaid, return receipt requested, and addressed as follows or at such other address as any Party may from time to time specify to the other Parties in writing:

PARTICIPANT:

Contact: _____

Address: _____

_____

_____

Number_____

Telephone: _____

Fax: _____

E-Mail: _____

PERMIT HOLDER:

Contact: _____

Address: _____

_____

_____

Telephone: _____

Fax: _____

E-Mail: _____

XVIII. SIGNATURES

IN WITNESS WHEREOF THE PARTIES HERETO have executed this Certificate of Participation to be in effect on the date of the last signature below.

_____	_____
Participant Authorized Officer	Date
_____	_____
Permit Holder Authorized Officer	Date

Number_____

EXHIBIT A

PROPERTY INTEREST OF PARTICIPANT

[For agricultural/ranching interests, provide description of surface interests]

[For oil and gas development, provide appropriate indicia of property interest where Covered Activities will occur, including identification of wells in Permit Area counties and proposed wells in Permit Area.]

[For general construction activities, describe property interests]

APPENDIX C

ADDITIONAL SPECIES

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

Majority of information included in the table is from county-level searches on TPWD's T&E species webpage:
"TX Counties" is specific to the 14-county plan area (Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum)

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
BIRDS	American Peregrine Falcon	*Falco peregrinus anatum*	DL	T	Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	subspecies of peregrine falcon; year-round resident and local breeder in west TX, nests in tall cliff eyries; also, migrant across state, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands; feeds almost exclusively on medium-sized birds, while insects and reptiles make up small proportion of the diet; often hunts from lower perches during fall, winter, and migration (e.g., trees, utility poles, fence posts, banks, mounds)	possible loss of perch sites depending on DSL restoration activities, but unlikely to impact the species as a whole	TPWD; White, Clayton M., Nancy J. Clum, Tom J. Cade and W. Grainger Hunt. 2002. Peregrine Falcon (Falco peregrinus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/660
	Arctic Peregrine Falcon	*Falco peregrinus tundrius*	DL		Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	subspecies of peregrine falcon; migrant throughout TX from northern breeding grounds, winters along coast and farther south; occupies wide range of habitats during migration with concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands; feeds almost exclusively on medium-sized birds; insects and reptiles make up small proportion of diet; often hunts from lower perches during fall, winter, and migration (e.g., trees, utility poles, fence posts, banks, mounds)	possible loss of perch sites depending on DSL restoration activities, but unlikely to impact the species as a whole	TPWD; White, Clayton M., Nancy J. Clum, Tom J. Cade and W. Grainger Hunt. 2002. Peregrine Falcon (Falco peregrinus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/660
	Baird's Sparrow	*Ammodramus bairdii*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	shortgrass prairie with scattered low bushes and matted vegetation; winters in Mexico and just across Rio Grande into Texas from Brewster through Hudspeth counties; mostly migratory in western half of State, rarely observed during migration but has been found in grasslands, weedy fields, hay fields, and bare ground on margins of water bodies	likely no negative impact to species from DSL plan	TPWD; Green, M. T., P. E. Lowther, S. L. Jones, S. K. Davis and B. C. Dale. 2002. Baird's Sparrow (Ammodramus bairdii), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/638
	Bald Eagle	*Haliaeetus leucocephalus*	DL	T	Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds; most stopover sites used during migration have traditional roost sites, often clumps of mature deciduous trees in riparian areas	likely no negative impact to species from DSL plan	TPWD; Buehler, David A. 2000. Bald Eagle (Haliaeetus leucocephalus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/506

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
	Ferruginous Hawk	*Buteo regalis*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	open country, primarily prairies, plains, and badlands; nests in tall trees along streams or on steep slopes, cliff ledges, river-cut banks, hillsides, power line towers; year-round resident in northwestern high plains; wintering elsewhere throughout western 2/3 of Texas, primarily grassland and shrubsteppe habitats, especially where prairie dogs are abundant; in winter, hunts from perches and from ground; mammals comprise majority of diet, <1% composed of amphibians and reptiles	possible loss of perch sites depending on DSL restoration activities, but unlikely to impact the species as a whole	TPWD; Bechard, Marc J. and Josef K. Schmutz. 1995. Ferruginous Hawk (Buteo regalis), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/172
	Interior Least Tern	*Sternula antillarum athalassos*	LE	E	Crane, Ward	subspecies is listed only when inland; nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); primarily a fish-eater, feeding in shallow waters of rivers, streams, and lakes; primarily follows major rivers and marine coasts during migration	likely no negative impact to species from DSL plan	TPWD; Thompson, Bruce C., Jerome A. Jackson, Joannna Burger, Laura A. Hill, Eileen M. Kirsch and Jonathan L. Atwood. 1997. Least Tern (Sternula antillarum), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/290
	Lesser Prairie-Chicken	*Tympanuchus pallidicinctus*	C		Andrews, Bailey, Cochran, Gaines, Hockley, Lamb, Terry, Yoakum	arid grasslands, generally interspersed with shrubs such as sand sagebrush, sand plum, skunkbush sumac, and shinnery oak shrubs, but dominated by sand dropseed, sideoats grama, sand bluestem, and little bluestem grasses; nests in a scrape lined with grasses; breeding display grounds are characterized by sparse vegetation and typically located on knolls or ridges	possible loss of lek habitat depending on DSL restoration activities; currently there is no overlap between known DSL range and known LPC range	TPWD; Hagen, Christian A. and Kenneth M. Giesen. 2005. Lesser Prairie-Chicken (Tympanuchus pallidicinctus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/364
	Mountain Plover	*Charadrius montanus*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	breeding: nests on high plains or shortgrass prairie, on ground in shallow depression (e.g., prairie dog towns); wintering: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous; during migration, frequents landscapes on the southern plains similar to those used during breeding and wintering	likely no negative impact to species from DSL plan	TPWD; Knopf, Fritz L. and M. B. Wunder. 2006. Mountain Plover (Charadrius montanus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/211

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
	Prairie Falcon	*Falco mexicanus*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	Shrub-steppe desert, grasslands, mixed shrub and grasslands, and alpine tundra; inhabits dry environments where cliffs or bluffs (for nesting) punctuate open plains and shrub-steppe deserts; feeds primarily on ground squirrels and horned larks, also lizards, other species of passerines, and small rodents	possible loss of perch sites depending on DSL restoration activities, but unlikely to impact the species as a whole	TPWD; Steenhof, Karen. 1998. Prairie Falcon (Falco mexicanus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/346
	Snowy Plover	*Charadrius alexandrinus*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Ward, Winkler, Yoakum	ground nesting bird found primarily on unvegetated to sparsely vegetated coastal beaches and shores of inland alkaline lakes; formerly an uncommon breeder in the Panhandle; potential migrant; winters along coast; feeds on terrestrial, freshwater, brackish, and marine invertebrates	likely no negative impact to species from DSL plan	TPWD; Page, Gary W., Lynne E. Stenzel, G. W. Page, J. S. Warriner, J. C. Warriner and P. W. Paton. 2009. Snowy Plover (Charadrius alexandrinus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/154
	Sprague's Pipit	*Anthus spragueii*	C		Andrews, Crane, Ector, Gaines, Upton, Ward, Winkler	only in Texas during migration and winter, mid September to early April; strongly tied to native upland prairie, prefers well-drained areas in open grassland; grasslands with even low densities of shrubs are avoided; may also use fallow fields (alfalfa, soybean, wheat) during migration and winter; feeds primarily on arthropods, some seeds	likely no negative impact to species from DSL plan	TPWD; Robbins, Mark B. and Brenda C. Dale. 1999. Sprague's Pipit (Anthus spragueii), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/439
	Western Burrowing Owl	*Athene cunicularia hypugaea*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	subspecies of burrowing owl; occurs in open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows; opportunistic feeders, primarily arthropods, small mammals, and birds, with amphibians and reptiles also reported	likely no negative impact to species from DSL plan	TPWD; Haug, E. A., B. A. Millsap and M. S. Martell. 1993. Burrowing Owl (Athene cunicularia), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/061
	Western Snowy Plover	*Charadrius alexandrinus nivosus*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Ward, Winkler, Yoakum	subspecies of snowy plover; ground nesting bird found primarily on unvegetated to sparsely vegetated coastal beaches and shores of inland alkaline lakes; uncommon breeder in the Panhandle; potential migrant; winters along coast; feeds on terrestrial, freshwater, brackish, and marine invertebrates	likely no negative impact to species from DSL plan	TPWD; Page, Gary W., Lynne E. Stenzel, G. W. Page, J. S. Warriner, J. C. Warriner and P. W. Paton. 2009. Snowy Plover (Charadrius alexandrinus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/154

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
	Whooping Crane	*Grus americana*	LE	E	Andrews, Bailey, Cochran, Gaines, Hale, Hockley, Lamb, Terry, Yoakum	potential migrant via plains throughout most of TX to coast; primary migration habitat includes cropland and wetland areas; winters in coastal marshes of Aransas, Calhoun, and Refugio counties	likely no negative impact to species from DSL plan	TPWD; Lewis, James C. 1995. Whooping Crane (Grus americana), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/153
MAMMALS	Big free-tailed bat	*Nyctinomops macrotis*			Crane, Hale, Hockley, Lamb, Terry, Ward	habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore	likely no negative impact to species from DSL plan	TPWD
	Black bear	*Ursus americanus*	T/SA;NL	T	Bailey, Crane, Upton, Ward	bottomland hardwoods and large tracts of inaccessible forested areas; due to field characteristics similar to Louisiana Black Bear (LT, T), treat all east Texas black bears as federal and state listed Threatened	likely no negative impact to species from DSL plan	TPWD
	Black-footed ferret	*Mustela nigripes*	LE		Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	extirpated; inhabited prairie dog towns in the general area	likely no negative impact to species from DSL plan	TPWD
	Black-tailed prairie dog	*Cynomys ludovicianus*			Andrews, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups	likely no negative impact to species from DSL plan	TPWD

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
	Gray wolf	*Canis lupus*	LE	E	Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	extirpated; formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands	likely no negative impact to species from DSL plan	TPWD
	Jones' pocket gopher	*Geomys knoxjonesi*			Andrews, Cochran, Crane, Ector, Gaines, Hockley, Terry, Ward, Winkler, Yoakum	southwestern plains of Texas; deep sandy soils of aeolian origin; small isolated population vulnerable to land use changes	likely no negative impact to species from DSL plan	TPWD
	Pale Townsend's big-eared bat	*Corynorhinus townsendii pallescens*			Andrews, Bailey, Cochran, Crane, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Ward, Winkler, Yoakum	roosts in caves, abandoned mine tunnels, and occasionally old buildings; hibernates in groups during winter; in summer months, males and females separate into solitary roosts and maternity colonies, respectively; single offspring born May-June; opportunistic insectivore	likely no negative impact to species from DSL plan	TPWD
	Pecos River muskrat	*Ondatra zibethicus ripensis*			Crane	creeks, rivers, lakes, drainage ditches, and canals; prefer shallow, fresh water with clumps of marshy vegetation, such as cattails, bulrushes, and sedges; live in dome-shaped lodges constructed of vegetation; diet is mainly vegetation; breed year round	likely no negative impact to species from DSL plan	TPWD
	Plains spotted skunk	*Spilogale putorius interrupta*			Bailey, Cochran, Hale, Hockley, Lamb, Terry, Yoakum	catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie	likely no negative impact to species from DSL plan	TPWD
	Swift fox	*Vulpes velox*			Andrews, Bailey, Cochran, Ector, Gaines, Hale, Hockley, Lamb, Terry, Yoakum	restricted to current and historic shortgrass prairie; western and northern portions of Panhandle	likely no negative impact to species from DSL plan	TPWD

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
REPTILES	Spot-tailed earless lizard	*Holbrookia lacerata*			Ector, Upton, Ward, Winkler	central and southern Texas and adjacent Mexico; moderately open prairie-brushland; fairly flat areas free of vegetation or other obstructions, including disturbed areas; eats small invertebrates; eggs laid underground	likely no negative impact to species from DSL plan	TPWD; Dixon 2000
	Texas horned lizard	*Phrynosoma cornutum*		T	Andrews, Bailey, Cochran, Ector, Gaines, Hale, Hockley, Lamb, Terry, Upton, Winkler, Yoakum	open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September	likely no negative impact to species from DSL plan	TPWD
FISH	Pecos pupfish	*Cyprinodon pecosensis*		T	Crane, Ward	originally Pecos River basin, presently restricted to upper basin only; shallow margins of clear, vegetated spring waters high in calcium carbonate, as well as in sinkhole habitats	Plan does not encompass aquatic systems	TPWD
MOLLUSK	False spike mussel	*Quadrula mitchelli*		T	Crane	possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at the site; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins	Plan does not encompass aquatic systems	TPWD
INSECT	Bleached skimmer	*Libellula composita*			Ward	dragonfly; alkaline spring-fed streams and marshes, adults can oviposit directly into hot water in hot springs, larvae live in cooler spring runs, adults forage in brushlands; invertivore, diurnal, larvae overwinter, flight season mid June to late August	Plan does not encompass aquatic systems	TPWD
	(scarab beetle)	*Anomala suavis*			Crane, Ector, Ward, Winkler	rare, endemic insect species, currently known only from the Monahans dunes of TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source for the species	likely positive impact from DSL plan	M. Warriner (TPWD)
	(darkling beetle)	*Epitragosoma arenaria*			Crane, Ector, Ward, Winkler	rare, endemic insect species, known to occur in both the Mescalero and Monahans systems in NM and TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source	likely positive impact from DSL plan	M. Warriner (TPWD)

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
	(stag beetle)	*Nicagus occultus*			Crane, Ector, Ward, Winkler	rare, endemic insect species, currently known only from the Monahans dunes of TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source for the species	likely positive impact from DSL plan	M. Warriner (TPWD)
	(scarab beetle)	*Polyphylla monahansensis*			Crane, Ector, Ward, Winkler	rare, endemic insect species, known to occur in both the Mescalero and Monahans systems in NM and TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source	likely positive impact from DSL plan	M. Warriner (TPWD)
	(scarab beetle)	*Polyphylla pottsorum*			Crane, Ector, Ward, Winkler	rare, endemic insect species, known to occur in both the Mescalero and Monahans systems in NM and TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source	likely positive impact from DSL plan	M. Warriner (TPWD)
	(longhorned beetle)	*Prionus arenarius*			Crane, Ector, Ward, Winkler	rare, endemic insect species, known to occur in both the Mescalero and Monahans systems in NM and TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source	likely positive impact from DSL plan	M. Warriner (TPWD)
	(longhorned beetle)	*Prionus spinipennis*			Crane, Ector, Ward, Winkler	rare, endemic insect species, currently known only from the Monahans dunes of TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source for the species	likely positive impact from DSL plan	M. Warriner (TPWD)
	(Jerusalem cricket)	*Stenopelmatus monahansensis*			Crane, Ector, Ward, Winkler	rare, endemic insect species, currently known only from the Monahans dunes of TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source for the species	likely positive impact from DSL plan	M. Warriner (TPWD)
	(weevil)	*Trigonoscutoides texanus*			Crane, Ector, Ward, Winkler	rare, endemic insect species, currently known only from the Monahans dunes of TX; herbivorous; spend majority of life-cycle underground; sand shinnery oak, along with dune-stabilizing grasses, likely constitutes an important food source for the species	likely positive impact from DSL plan	M. Warriner (TPWD)

APPENDIX C
ADDITIONAL SPECIES CONSIDERED

	Species name		Status[1]					
	Commom	**Scientific**	**Federal**	**State**	**TX Counties[2]**	**Species Information**	**Effect of DSL Plan on the Species**	**Sources of Information**
PLANTS	Dune umbrella-sedge	*Cyperus onerosus*			Andrews, Winkler	moist to wet sand in swales and other depressions among active or partially stabilized sand dunes; flowering/fruiting late summer-fall	likely positive impact from DSL plan	TPWD
	Grayleaf rock-daisy	*Perityle cinerea*			Upton	Texas endemic; crevices in dry limestone caprock of mesas; flowering spring-fall	likely no negative impact to species from DSL plan	TPWD
	Mexican mud-plantain	*Heteranthera mexicana*			Hockley	wet clayey soils of resacas and ephemeral wetlands in South Texas and along margins of playas in the Panhandle; flowering June-December, only after sufficient rainfall	likely no negative impact to species from DSL plan	TPWD
	Neglected sunflower	*Helianthus neglectus*			Ector, Winkler	deep sands on rolling hills and dunes of Pleistocene sand sheets, often associated with Havard's shin oak dwarf woodlands or mesquite-sand sage woodlands; flowering July-September	likely positive impact from DSL plan	TPWD

[1] Status:

LE, LT	-Federally Listed Endangered/Threatened
PE, PT	-Federally Proposed Endangered/Threatened
SAE, SAT	-Federally Listed Endangered/Threatened by
C	-Federal Candidate for Listing; formerly
DL, PDL	-Federally Delisted/Proposed for Delisting
NL	-Not Federally Listed
E, T	-State Listed Endangered/Threatened
NT	-Not tracked or no longer tracked by the
“blank”	-Rare, but with no regulatory listing status

[2] Texas Counties: Qualifying statement regarding county-level occurrence list from TPWD website -
"These lists are not all inclusive for all rare species distributions. The lists were compiled, developed, and are updated based on field guides, staff expertise, scientific publications, and the TPWD Texas Natural Diversity Database (TXNDD) (formerly the Biological and Conservation Data System) occurrence data. Historic ranges for some state extirpated species, full historic distributions for some extant species, accidentals and irregularly appearing species, and portions of migratory routes for particular species are not necessarily included. Species that appear on county lists do not all share the same probability of occurrence within a county. Some species are migrants or wintering residents only. Additionally, a few species may be historic or considered extirpated within a county."

APPENDIX D

FEE SCHEDULE

Appendix D - Fee Schedule

Initial Participation Fees*	Projected Units (#) or # of Participants‡	Initial Annual Per Unit Cost ($)	Projected Fee Revenues ($)	
			Per Year	Four Years
Private Land Owner (Surface Only)				
Units of 1-100 acres	200	$10	$2,000	$8,000
Units of 101-10,000 acres	100	$50	$5,000	$20,000
Units of > 10,000 acres	5	$100	$500	$2,000
Oil and Gas Companies				
Units of Existing Wells (as of January 1)	3433	$200	$686,600	$2,746,400
Miscellaneous Entities				
Miscellaneous Entities is included to allow various entities who may engage in Covered Activities to voluntarily enroll under the Plan. Appropriate Units and Fees for these entities will be established by Permit Holder on a case-by-case basis.	16	$1,000	$16,000	$64,000
*Participation Fees may be adjusted with level of participation and other funding sources ‡Number of Units and Potential Participants by category are projected based on estimated need for incidental take coverage.				
Fees Total			**$710,100**	**$2,840,400**

APPENDIX E

TABLE SHOWING HOW CONSERVATION ACTIVITIES CAN PROVIDE BENEFIT OR REDUCE AND/OR ELIMINATE THREATS TO THE DUNES SAGEBRUSH LIZARD

APPENDIX E
Table Showing How Conservation Activities Can Provide Benefit or Reduce and/or Eliminate Threats to the Dunes Sagebrush Lizard

Threat[i]	Overall Threat Level	Conservation Measures Identified to Reduce Threats	Benefit[ii]
Habitat Loss, Fragmentation, Degradation	NA	Establish expansive area of habitat to include dunes, flats and dispersal corridors with buffer tiers for mitigation up to 200 meters, recovery up to 600 meters and afford the 30 meter buffer the same measure as habitat.	Mitigates and recovers a liberal area of habitat, flats and dispersal corridors based on current available science to ensure impacts are mitigated commensurate with the mitigation strategy.
	High	Oil and Gas (O&G) surface location removal and reclamation.	Reduces fragmentation; enhances habitat, and restores larger contiguous blocks of mosaic habitat.
	High	Road removal and restoration.	Reduces fragmentation; enhances habitat, and restores larger contiguous blocks of mosaic habitat.
	High	Reclamation of plugged and abandoned well locations.	Reduces fragmentation; enhances habitat, and restores larger contiguous blocks of mosaic habitat.
	High	Research on establishing restoration of habitat.	Contributes to understanding of recovery of habitat and the species and informs adaptive management decisions.
	NA	Removal of artificial surface materials on sites or road beds such as caliche, concrete or asphalt.	Reduces fragmentation; enhances habitat, and restores larger contiguous blocks of mosaic habitat.
	NA	Route and construct new infrastructure such as roads, pipelines, flowlines and power lines within existing disturbance or corridors.	Minimizes fragmentation impact and degradation of habitat and decreases probability for DSL exposure to human activities.
	NA	Site well locations and facilities outside of occupied and suitable shinnery oak dune complexes; or if avoidance is not an option, utilize best practices such as infrastructure routing and centralized facilities to minimize disturbance.	Reduces development footprint, minimizing loss of habitat and fragmentation in the habitat. Decreases probability for DSL exposure to human activities, behavioral modification and mortality.

Threat	Overall Threat Level	Conservation Measures Identified to Reduce Threats	Benefit
Habitat Loss, Fragmentation, Degradation	NA	Schedule temporary surface disturbance activities such as installation of lines during periods of DSL seasonal inactivity.	Reduces probability for DSL exposure to human activities, behavioral modification and mortality.
	NA	Develop Management Plans for Mitigation and Recovery.	Informs Adaptive Management decisions with site specific information.
	NA	Conduct research and monitoring to assess the impacts of recovery efforts.	Informs Adaptive Management decisions with site specific information.
	Low	Manage application of tebuthiuron and prohibit within 30.48 meters (100 feet) of dune complexes.	Removes threat of shinnery oak impact and habitat degradation from application of tebuthiuron.
	High	Removal of mesquite and other invasive vegetation to manage encroachment of invasive non native vegetation in dune complexes. Implement approved Mesquite and Invasive Species Management Program.	Reduces and prevents habitat degradation by removing an invasive species which promotes optimal habitat conditions and restores shinnery oak dune complex habitat. Enhances habitat, and restores larger contiguous blocks of mosaic habitat. Removes perches for predatory avian species.
	NA	Prohibit vehicle travel off road. Where available, enforce on road access of facilities associated with normal industrial activities.	Reduces degradation of habitat. Decreases potential for exposure to human activity and the probability of DSL behavior modification or mortality.
	NA	Brush Management Programs to limit adverse impacts in dune/blow out complexes, surrounding buffer areas and dispersal corridors. Suppressed rates of approved herbicides will be applied to shinnery oak populations on adjacent flats outside of dune habitat with a minimum of 100 foot (30.48 meter) buffer.	Eliminates degradation of habitat from bleed over of herbicide treatment. Promotes optimal habitat conditions and restores shinnery oak dune complex habitat.
	NA	Minimize OHV use in occupied and suitable dunes	Minimizes or avoids impacts that may cause degradation of habitat and destabilization of dunes. Decreases potential for exposure to human activity and the probability for DSL behavioral modification or mortality.

Threat	Overall Threat Level	Conservation Measures Identified to Reduce Threats	Benefit
Habitat Loss, Fragmentation, Degradation	NA	Limit impact from seismic exploration in dune complexes by avoiding shinnery oak dune complexes, utilizing walk in geophone, or conducting during appropriate seasonal activity.	Minimizes impact that can cause degradation or loss of habitat. Decreases potential for exposure to human activity and the probability for DSL behavioral modification or mortality.
	NA	Grazing will be managed in accordance with NRCS Prescribed Grazing Standards and include proper stocking rates.	Develops improved herbaceous plant community outside the habitat to reduce livestock infringement and their use of shinnery oak vegetation.
	NA	Place or construct livestock water facilities and windmills outside and away from known occupied and potential DSL habitat; or, if avoidance is not an option, activity should be restricted to the DSL inactive period of October to March. Utilize existing rights-of-way or avoid shinnery dune habitat when possible.	Reduces or minimizes impacts that cause degradation of habitat and reduces use of shinnery oak by domestic livestock in DSL Habitat. Decreases probability for DSL behavioral modification or mortality.
	NA	Develop and implement a livestock drought management plan.	Manages the livestock pressure on the system. Improper livestock management can cause degradation and use of shinnery oak habitat by domestic livestock.
	NA	Minimize footprint through interim reclamation on existing sites.	Enhances habitat, and restores larger contiguous blocks of mosaic habitat. Reduces or minimizes impacts that can cause fragmentation and degradation of DSL habitat.
	NA	Utilize directional drilling to avoid dune complex habitat where feasible.	Enhances habitat, and restores larger contiguous blocks of mosaic habitat. Reduces or minimizes impacts that can cause fragmentation and degradation of DSL habitat.
	NA	Control vehicle speed limits.	Reduces habitat degradation by minimizing erosion, dust, and potential for DSL mortality associated with traffic.
	Low	When feasible, employ best practices such as scada or remote well monitoring, pipeline transfer of sales product, closed loop drilling systems, etc.	Minimizes traffic to sites which reduces impacts that can cause degradation of habitat and decreases potential for exposure to human activity and the probability for DSL behavioral modification or mortality.

Threat	Overall Threat Level	Conservation Measures Identified to Reduce Threats	Benefit
Exposure to Toxic Chemicals and Hydrogen Sulfide Emissions	Medium	Each O&G operator will develop an Inspection and Maintenance Plan for pipeline, flowline and facility operations.	Reduces exposure to toxic chemicals and decreases probability for DSL mortality.
	Medium	Purge abandoned or idle pipelines and flowlines.	Eliminates threat of exposure to chemical leaks and prevents DSL mortality.
	Medium	Prohibit off site weed control.	Eliminates exposure to treatment chemicals and decreases probability for DSL mortality.
Predation	High	Incentivize use of an approved Feral Hog Control Program.	Reduces disturbance to habitat and removes threat to DSL mortality.
	Medium	Remove unnecessary, abandoned or unserviceable overhead infrastructure.	Reduces perching habitat for predatory birds.
	Medium	Remove unnecessary or unserviceable fences.	Reduces perching habitat for predatory birds.
	Low	Construct new fences away from occupied and potential DSL habitat or if avoidance is not an option, confine construction and maintenance of new fences to period of DSL inactivity, October to March.	Reduces perching habitat for predatory birds. Decreases potential for exposure to human activity and the probability for DSL behavioral modification or mortality.
General Threats	Low	Conduct outreach, education, and training programs as appropriate.	Greater degree of success for conservation of the DSL by increasing participation in Plan.
	NA	Develop Management Plans for Mitigation and Recovery.	Informs Adaptive Management decisions with site specific information.
	NA	Conduct research and monitoring to assess the impacts of Covered Activities.	Informs Adaptive Management decisions with site specific information.

[i] Threats are based on the limited science and assumptions set forth in the proposed listing. Research under the Plan is intended to assess the likely impacts, if any, of the threats identified in the proposed listing. Adaptive Management under the Plan will be used to adjust Conservation Measures based on the further assessed impact of the identified threats.

[ii] Benefit is presumed commensurate with the elimination of the threats identified in the proposed listing based on limited science and assumptions set forth in proposed listing. Research under the Plan is intended to assess the expected benefits of the Conservation Measures identified in the Plan. Adaptive Management under the Plan will be used to adjust Conservation Measures based on the further assessed expected benefits of those measures.

APPENDIX F

GLOSSARY

Appendix F

Texas Conservation Plan for the DSL

GLOSSARY

Acre Unit – A one (1) acre area that is verified as meeting the criteria for areas that are likely to be inhabited by DSL under Section 12.3.2 of the Plan. An Acre Unit under the Plan is either a Mitigation Credit Acre Unit or Recovery Award Acre Unit.

Adaptive Management – A formal, structured approach to dealing with uncertainty in natural resources management, using the experience of management and the results of research as an ongoing feedback loop for continuous improvement.

Administration Account – An account created by the Permit Holder in the Habitat Protection Fund for administration of the Plan.

Applicant – Texas Comptroller of Public Accounts.

Baseline – The existing status of DSL and delineation of existing DSL Habitat to be determined through population and habitat surveys conducted under the Plan. An initial baseline will determine the current status of the DSL and DSL Habitat and subsequent baselines will be used to assist in evaluations of the effectiveness of the Plan.

Candidate Conservation Agreement with Assurances (CCAA) – The portion of the Plan applicable to Covered Activities of Participants enrolled prior to any listing of the DSL. Conservation Measures implemented under the CCAA focus on avoidance and minimization but may also include Recovery Activities.

Certificate of Inclusion (CI) – An agreement between Permit Holder and Participant to enroll Covered Activities of Participant prior to listing of the DSL, if any, into the CCAA portion of Plan.

Certificate of Participation (CP) – An agreement between Permit Holder and Participant to enroll Covered Activities of Participant occurring after listing of the DSL, if any, into the HCP portion of Plan.

Changed circumstances – Circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and FWS and that can be planned for.

Conservation Activities – All measures that aim to avoid or minimize take of, conserve and enhance the survival of, mitigate for the take of, or recover the DSL and DSL Habitat, as described in Section 8 of the Plan.

Conservation Measures – Those measures that aim to conserve and enhance the survival of the DSL and DSL Habitat, as described in Section 8 of the Plan.

Conservation Recovery Award (CRA) System – A system where Mitigation Activities and Recovery Activities are performed under the Plan in the Plan Area for the generation of Mitigation Credits and Recovery Awards as described in Section 12 of the Plan. The CRA system is similar to a conservation bank in that Participants must acquire sufficient banked Mitigation Credits and Recovery Awards to offset any incidental take of DSL authorized under the incidental take permit issued to Permit Holder. The CRA System requires the use of a Qualified Third Party Contractor retained by the Permit Holder to determine the amount of Mitigation Credits and Recovery Awards generated.

Covered Activities – Those activities addressed in the Plan which if conducted in DSL Habitat may result in incidental take for which the Permit Holder is seeking coverage under the enhancement of survival and incidental take permits pursuant to Section 10 of the ESA.

CRA System Agreement – An agreement between Permit Holder and a Property Owner that provides for the performance of Mitigation Activities and Recovery Activities in the Plan Area and the generation of Mitigation Credits and Recovery Awards.

DSL Habitat – Those portions of Andrews, Cochran, Crane, Ector, Gaines, Ward, Winkler, and Yoakum Counties which have shinnery oak dune complexes likely to be occupied by or particularly suitable for DSL as demarcated on Figure 1-2 in the Plan. Shinnery oak dune complexes likely to be occupied by DSL have deep, wind-hollowed depressions called blowouts bordered by shinnery oak. Shinnery oak dune complexes that have the potential for occupation by DSL include dunes with shinnery oak, but have other characteristics reducing the likelihood of occupation, such as shallower dunes or the presence of mesquite. For the purposes of this Plan, DSL Habitat includes all shinnery oak dune complexes in the identified counties that are likely to be occupied by DSL or have the potential for occupation by DSL. Further, all area within a 30m buffer of DSL Habitat is conservatively considered DSL Habitat in the Plan.

Enhancement of Survival Permit – Permit issued to Permit Holder under CCAA portion of Plan pursuant to Section 10 of the ESA. The Permit is automatically issued once the DSL is listed, if ever, and provides incidental take authority for Covered Activities of Participants enrolled under the CCAA through a CI.

ESA – Endangered Species Act of 1973, as amended through the effective date of the Plan.

Habitat Conservation Plan (HCP) – The portion of the Plan applicable to Covered Activities of Participants that result in incidental take after the DSL is listed, if at all.

Habitation Conservation Fund – The fund established by the Permit Holder that will include an Administration Account, a Mitigation Account and a Recovery Account. *See* Act of June 29, 2011, 82nd Leg., 1st C.S., S.B. 1, §67.01 (to be codified at Tex. Gov't Code § 403.454).

Harass – An intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. *See* 50 CFR § 17.3. Harass is one component of the legal definition of "take" under the ESA.

Harm – An act that kills or injures wildlife. Such an act may include significant habitat modification or degradation which results in injury of or death to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. *See* 50 CFR § 17.3. Harm is one component of the legal definition of "take" under ESA.

Incidental Take Permit – Permit issued to Permit Holder under HCP portion of Plan pursuant to Section 10 of the ESA. The Permit is automatically issued once the DSL is listed, if ever, and provides incidental take authority for Covered Activities of Participants enrolled under the HCP through a CP.

Management Plans – Contracts with property owners designed to benefit the DSL and that are used to generate Mitigation Credits or Recovery Awards. A Participant CI or CP can include Management Plan components as appropriate.

Minimization Measures – Those measures that aim to avoid and minimize take of DSL and DSL Habitat, as described in Section 8 of the Plan. Minimization measures are a subset of Conservation Measures.

Mitigation Account – An account created by the Permit Holder in the Habitat Protection Fund dedicated for the performance of Mitigation Activities.

Mitigation Activities – Those measures that mitigate for incidental take to the DSL and DSL Habitat, as described in Section 8.7.1 of the Plan.

Mitigation Credit – The amount of Mitigation Credit Acre Units needed to offset an incidental take of Participant authorized under the Plan. Mitigation Credits must be acquired by Participants in advance of an occurrence of any incidental take. The price of Mitigation Credits will be based on market supply and demand and conditions, may increase or decrease in value depending on the market and costs associated with their generation, and will be determined by auctions held by Permit Holder.

OHV – Off Highway Vehicles.

Oil and Gas Location – A cleared or constructed surface specifically utilized for oil or gas activities. It may include a Well Site, compressor stations, tank battery or other infrastructure.

Participant – A person with a fee simple, leasehold, or other property interest (including owners of water or other natural resources), or any other entity that may have a property interest, sufficient to carry out the proposed management activities, subject to applicable State law, on non-Federal land, that enrolls into the Plan under a CI (under the CCAA) or CP (under the HCP).

Participation Assessment – A special assessment by the Permit Holder on Participants under Section 11.3 in the event an independent audit identifies that additional revenue is required by Permit Holder for program administration.

Participation Fees – An annual fee assessed by the Permit Holder on Participants under Section 11.2.1 of the Plan for program administration and participation in the Plan.

Permit – The permit issued by FWS to Permit Holder under Section 10 of the ESA. For the purposes of this Plan, the Permit includes both an enhancement of survival permit covering Participants enrolled under the CCAA portion of the Plan (through a CI) and an incidental take permit covering Participants enrolled in the HCP (through a CP). The enhancement of survival and incidental take permits associated with the Plan will be issued and become effective on the effective date of a final rule, if any, that lists the dunes sagebrush lizard as endangered or threatened.

Permit Area – The Permit Area will include only those portions of DSL Habitat where DSLs have recently or historically been found in Andrews, Crane, Gaines, Ward, and Winkler Counties. Ector County, where DSLs have never been found, may have DSL Habitat and will also be included in the Permit Area because of its proximity to other counties with DSL Habitat and recent and historic occurrence of DSLs. Figure 1-2 illustrates the portions of these counties which contain DSL Habitat where DSLs have recently and historically been found and is the area where Covered Activities occurring after listing of the DSL, if ever, may require incidental take authorization.

Permit Holder – Texas Comptroller of Public Accounts. For the purposes of the Plan, "Permit Holder" also refers to the Comptroller's designated contractor responsible for implementing the Plan.

Plan Area – The Plan Area includes those portions of the following Texas counties which have Suitable Habitat for the DSL: Andrews, Cochran, Crane, Ector, Gaines, Ward, Winkler, and Yoakum. An additional six counties, including Bailey, Hale, Hockley, Lamb, Upton, and Terry contain shinnery sands ecoregion, which is not currently considered DSL Habitat, but is included in the Plan Area for further research and Recovery Activities. See Figure 1-1.

Potential Participant – A Property Owner that is eligible for participation in the CCAA or HCP and seeks to enter into a CI or CP under the Plan.

Pre-disturbance condition – The original or other substantially beneficial condition, considering past and possible future uses of the area and the surrounding topography.

Qualified Third Party Contractor – For the purposes of the Plan, Qualified Third Party Contractor refers to the individuals, organizations, universities, or other entities with which the Permit Holder contracts to fulfill its responsibilities and obligations under the Plan.

Reclamation – The process of restoring an area to its original or other substantially beneficial condition, considering past and possible future uses of the area and the surrounding topography.

Recovery Account – An account created by the Permit Holder in the Habitat Protection Fund dedicated for the performance of Recovery Activities.

Recovery Activities – Those measures that aim to provide a net benefit to recovery to the DSL and DSL Habitat, as described in Section 8.8 of the Plan.

Recovery Award – An award created under the CRA System for Recovery Activities resulting in a net benefit to recovery of the DSL.

Recovery Award Agreement – An agreement between Permit Holder and a Property Owner that provides for the performance of Recovery Activities for the generation of Recovery Awards. A Recovery Award Agreement requires a Property Owner to agree to maintain areas restored through Recovery Activities in substantially the same restored condition for the term of the Agreement. A Participant may also enter into a Recovery Award Agreement for the generation of Recovery Awards through a CI or CP.

Recovery Award Use Limitations – Limitations on use of Recovery Awards. First, only one half of the Recovery Award will be available for use when the Recovery Activity is completed. The remaining half of the Recovery Award, less ten (10) percent, will be available for use once research and monitoring demonstrate the extent of the biological effectiveness of the Recovery Activities. Ten (10) percent of all Recovery Awards will be retained by the Permit Holder and never be available for use under the Plan to support a net benefit to recovery of the DSL. Last, the Permit Holder will require Participants requiring mitigation to use available Mitigation Credits before allowing use of Recovery Awards for mitigation.

Recovery or net benefit to recovery – Enhancement of a species' current status by addressing the threats identified at the time of listing or in a current status review. Net benefit to recovery represents the cumulative benefits of the recovery actions for a species identified in the Plan that contribute to the goal of downlisting or delisting the species. A net benefit to recovery will generally be found when an action directly or indirectly provides a material increase in a species' population and/or a material enhancement, restoration, or protection of that species' habitat.

Recovery Plan – Formal plan developed by FWS under ESA Section 4(f) to coordinate actions necessary for the recovery of a species that is listed as endangered or threatened under the ESA.

Restoration – The process of restoring an area to its original or other substantially beneficial condition, considering past and possible future uses of the area and the surrounding topography.

Suitable Habitat – Habitat of sufficient similarity to DSL Habitat at known localities that biologists consider it plausible that DSL could occur there. DSL may not occur in all areas of suitable habitat due to chance and the dynamic nature of extinction and colonization of suitable habitat through time.

Take – To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. 16 U.S.C. § 1532 [19].

Well Site - The site where a well is located, including the well and related facilities. This is the same as a well pad or Oil and Gas Location.