Submitted via Federal eRulemaking Portal

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Public Comments Processing
Attention: FWS-R2-ES-2022-0162
U.S. Fish and Wildlife Service
MS: PRB/3W
5275 Leesburg Pike
Falls Church, VA 22041-3803

Mr. Shawn Sartorius
Field Supervisor
U.S. Fish and Wildlife Service
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, NM 87113

RE: Docket No. FWS-R2-ES-2022-0162 - Comments on the U.S. Fish and Wildlife Service's Proposed Rule to List the Dunes Sagebrush Lizard as Endangered

Dear Mr. Sartorius:

The Fish and Wildlife Service's (FWS) proposed rule to list the Dunes Sagebrush Lizard (DSL) as Endangered is problematic in that the decision to list is not based on sound science or evidence, and is therefore neither supported nor warranted. Inaccurate habitat mapping, contradictions within the science, and old energy forecasts are just a few of the many reasons why this proposed rule to list the DSL as endangered is precarious. Western Energy Alliance (the Alliance) has provided below its analysis of the proposed rule and its recommendations to FWS on how best to amend it.

The Alliance also urges FWS to conduct an additional in-person peer review session with experts on the species, including the habitat mapping team and experts from Texas A&M University, to review and resolve many of the notable analytic disconnects, data gaps, and errors identified during the initial peer-review that were not addressed adequately in the Species Status Assessment (SSA) and proposed rule.

Request for In-Person Public and Stakeholder Meetings: The Alliance urges FWS to schedule in-person, public meetings in Midland, Texas and Carlsbad, New Mexico to review in detail and discuss the proposed listing with the local communities, and agricultural and energy stakeholders that may be impacted by a listing.

Request for Second Public Comment Period with Proposed Critical Habitat: The Alliance requests that FWS complete a preliminary critical habitat designation and accompanying economic analysis, and provide this for public review and comment before any final decision is made on the proposed listing. Given that the species is considered a "habitat specialist" with a very limited range of movement, it is

particularly important to be able to evaluate the proposed listing in conjunction with a proposed critical habitat designation.

Request for Economic Analysis: Given the importance of the Permian Basin to energy development, including both conventional and renewable energy sources, it is imperative that FWS perform an economic analysis on the impacts of the proposed listing to inform the public and its own decision making. This economic analysis must also examine potential impacts to the ranching and agricultural communities within the region. In addition to an economic analysis, FWS also needs to comply with the National Environmental Policy Act (NEPA) for the critical habitat proposal process.

Overview of Comments: A listing of endangered is not supported nor is it warranted. It is apparent that FWS hastily drafted the proposed rule to meet a court ordered deadline. This haste has resulted in significant gaps in FWSs analyses, and a notable non-use of best available science. The proposed rule is filled with many data and analytic contradictions and lacks credible supporting scientific information, rendering it entirely unusable for meaningful review and analysis, and is also wholly legally deficient under the Endangered Species Act (ESA) and Administrative Procedure Act (APA).

In particular, the proposed rule makes arbitrary conclusions based on use of inaccurate habitat mapping, and significantly outdated forecasts on energy development based upon antiquated technologies no longer employed in west Texas and eastern New Mexico. These flaws are compounded by additional foundational errors.

For example, in the proposed rule, FWSforecasts high density development in high quality habitat areas in a region (called the Central Basin Platform) that has never experienced such development, and never will. Significantly, the largest populations of DSL are found in this region. Similarly FWS acknowledges that Bureau of Land Management (BLM) has withdrawn over 850,000 habitat acres from oil, natural gas, solar, and wind development, and that the populations in these areas are robust, with a forecasted average of over one million DSL, yet FWS provides no basis or support for its prediction that these populations will nonetheless become extinct at some point in the future. As FWS notes in the proposed rule, the fact of a threat does not mean the species should be listed as endangered.[1]

It is apparent that FWS adopted many of the positions and theories advanced by the Center for Biological Diversity (CBD) in its Petition to List without conducting any independent biological or technical analyses to verify the underlying literature or otherwise confirm the viability of these theories. In addition, the CBD Petition to List relies extensively on “grey literature” that is not based in science but rather merely premised upon subjective opinion without any scientific or technical support.

FWS adopted many of these speculative claims and unsupported assertions from the Petition to List wholesale in the SSA and proposed rule. It is apparent that FWS has not independently reviewed and verified the reliability of the sources in order to reach a sound decision.

[1] 88 Fed. Reg. 42665.

As it currently stands, the SSA and proposed rule do not rely on the best available scientific evidence or data. FWS cannot support an "endangered" listing for the DSL and must therefore find that listing the DSL is not warranted.

Interests of the Alliance

Add in Western Energy Alliance blurbThe Alliance is the leader and champion for independent oil and natural gas companies in the West. Working with a vibrant membership base for over 50 years, the Alliance stands as a credible leader, advocate, and champion of industry. Our expert staff, active committees, and committed board members form a collaborative and welcoming community of professionals dedicated to abundant, affordable energy and a high quality of life for all. The majority of independent producers are small businesses, with an average of fourteen employees.

Members of the Alliance explore for and develop oil and natural gas resources on public and private lands that contain DSL and/or its habitat. Because of the proximity of operations in areas designated as DSL habitat, members have made great efforts through private partnerships and local conservation measures to protect the DSL and its habitat and to minimize any possible adverse impacts. Thus, the Alliance has a vested interest in the conservation of the DSL and this current listing proposal.

Further, the Alliance has a long and collaborative history of close coordination with federal and state regulatory agencies including FWS and BLM, New Mexico Oil Conservation Division (NMOCD), the New Mexico Environmental Department (NMED), the New Mexico State Land Office (NMSLO), Texas Railroad Commission (RRC), Texas General Lands Office (GLO), and Texas Parks and Wildlife (TPWD) on special status species and species conservation.

Many members were instrumental in the creation of on-the-ground conservation programs for the DSL, including the Texas Conservation Plan and the Lessor Prairie Chicken and Dunes Sagebrush Lizard Candidate Conservation Agreement (CCA) and Candidate Conservation Agreement with Assurances (CCAA) in New Mexico (New Mexico CCA/CCAA).

DSL habitat is located in a region of southeastern New Mexico and west Texas, the Permian Basin, known for its oil and natural gas development. —The Permian accounts for more than 40% of domestic oil production and 17% of domestic natural gas and is a strong base for solar and wind farms. The region is mostly private lands, supporting long-term ranching and agricultural communities who have partnered with industries for DSL conservation.

An endangered listing will have a significant impact on the Alliance members' business planning and operations by increasing operational costs, delaying project timeframes, and limiting or precluding operations in certain areas.

Executive Summary

- The Alliance objects to FWS's listing of the DSL as endangered in southeastern New Mexico and west Texas. The SSA and proposed rule do not support a decision to list the species as endangered or threatened.

- The proposed rule is not based on best available science or sound policy.
- The species population data presented in the SSA do not support a listing. Nor do FWS's flawed development and threat forecasts support the finding that these robust populations, particularly in areas of no development, are under threat of extinction.
- The proposed rule ignores FWS's statutory obligation to designate proposed critical habitat and perform a concurrent economic analysis on that proposed designation.
- The SSA and proposed rule are premised on a flawed habitat mapping process and unsupported assumptions and generalizations that are not based on best available science. These errors are compounded by entirely incorrect and vastly outdated development assumptions and forecasts, particularly for habitat areas that have not and will not see future oil and gas development.
- The SSA and proposed rule ignore the PECE Policy and do not give credence to ongoing private, state, and federal conservation programs, including habitat protection actions by BLM in New Mexico.

Given the numerous technical, data, and analytic flaws in the SSA, errors and gaps in the administrative record for the proposed rule, and fatally flawed analytic assumptions and subsequent arbitrary and capricious findings, FWS must revise the SSA and start over. FWS needs to withdraw the proposed rule and comply with its statutory obligations under ESA to utilize best available science, and viable analytic methods that rely upon verified data. The DSL is not warranted for listing as either threatened or endangered under ESA.

Endangered Species Act – Governing Legal Framework

ESA is designed to protect species from extinction. However, it was never intended to be an exclusive regulatory mechanism to conserve species.

ESA Listing Process

ESA imposes a high standard for listing a species as threatened or endangered. The definition of "species" includes "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature."[2] "Endangered" is defined as a species in danger of extinction throughout all or a significant portion of its range.[3]

"Threatened" is defined as a species likely to become endangered within the foreseeable future.[4]

The term "foreseeable future extends only so far into the future as the Services can reasonably determine that both the future threats and the species' responses to those threats are likely." [5] FWS

[2] 16 U.S.C. § 1532(16).
[3] 16 U.S.C. § 1532(6).
[4] *Id.* at § 1532(20).
[5] 50 C.F.R. § 424.11(d).

must use the best available data and take into account the species' life-history characteristics, threat-projection timeframes, and environmental vulnerability.

FWS must consider five factors when evaluating a species' status under ESA:

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 regulatory mechanisms
5. other natural or manmade factors that affect the continued existence of the species.[6]

For this evaluation, ESA mandates FWS use "the best scientific and commercial data available."

Key factors on whether a species should be listed under ESA (or not) include whether the species is important, iconic, or deserving of conservation. FWS cannot list a species based on a finding that the species are being harmed, may be harmed in the future, that their abundance and range have declined, or that there are limits to the species' future population growth. A decision to list is based on whether the species will become extinct.

FWS is required to take into account conservation efforts and practices.[7] Thus, WS must consider conservation efforts before deciding to list a species.

Critical Habitat

ESA creates a statutory obligation for FWS to designate critical habitat concurrent with listing a species as threatened or endangered.[8] Specifically, ESA states that FWS "***shall***, concurrently with making a determination . . .that a species is an endangered species or a threatened species, designate any habitat of such species which is then considered to be critical habitat." 16 U.S.C. 1533(a)(3)(A)(i) (emphasis added).

ESA statute defines "critical habitat" as:

> (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act [15 USCS § 1533], on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
>
> (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act [15 USCS § 1533], upon a

[6] 16 U.S.C. § 1533(a)(1).
[7] 16 U.S.C. § 1533(b)(1)(A).
[8] 16 U.S.C. § 1533(b)(6)(C).

> determination by the Secretary that such areas are essential for the conservation of the species.[9]

For the purposes of designating critical habitat only, "geographical area occupied by the species" is defined as:

> An area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.*, range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (*e.g.*, migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).[10]

While ESA creates a statutory obligation for FWS to designate critical habitat, the statute does not convey unlimited discretion to FWS to do so. 16 U.S.C. § 1533(b)(2). FWS is required to consider the economic impact of a critical habitat designation, and where the negative impacts of a designation outweigh the benefits, then those areas are to be excluded from the designation. *Id.*

In 2018, the U.S. Supreme Court held that critical habitat must be actual habitat for the listed species, finding that "'critical habitat' is the subset of 'habitat' that is 'critical' to the conservation of an endangered species."[11]

Pursuant to Section 4(b)(2) of ESA, FWS is required to designate critical habitat "on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat." 16 U.S.C. § 1533(b)(2). ESA requires FWS to perform an economic analysis of the effects of the proposed critical habitat designation before making a final designation, and this analysis must be accompanied by a document prepared under NEPA.

Economic factors are an important aspect of a critical habitat designation. ESA provides for the exclusion of areas from designation as critical habitat if the economic benefits of exclusion outweigh the benefits of inclusion.[12] Both Congress and the U.S. Supreme Court have recognized the importance of evaluating economic factors when designating critical habitat.[13]

Listing Decisions Must Meaningfully Consider Conservation Efforts

ESA requires FWS to consider conservation measures undertaken by other entities in determining whether listing of a species is warranted. Specifically, ESA states that listing decisions be made "solely on the basis of the best scientific and commercial data…*and after taking into account those efforts, if any,*

[9] 16 U.S.C. § 1532(5).
[10] 50 C.F.R. § 424.02.
[11] *Weyerhaeuser Co. v. U.S. Fish and Wildlife Service, et al.*, 139 S. Ct. 361, 368, 372 (2018).
[12] H.R. REP. NO. 95-1625, at 16 (1978), *reprinted in* 1978 U.S.C.C.A.N. 9453, 9466.
[13] H.R. REP. NO. 95-1625, at 17 (1978), *reprinted in* 1978 U.S.C.C.A.N. 9453, 9467; *Bennet v. Spear*, 520 U.S. 154, 176-77 (1997).

being made by any state or foreign nation or political subdivision of a state or foreign nation to protect such species…"[14]

FWS has interpreted this provision to require FWS "to consider the conservation efforts of not only State and foreign governments but also of Federal agencies, Tribal governments, businesses, organizations, or individuals that positively affect the species' status."[15] The implementing regulations for ESA similarly provide that the Secretary "shall take into account…those efforts, if any, being made by any State or foreign nation or any political subdivision of a State or foreign nation to protect such species…"[16]

FWS's consideration of conservation efforts in making listing decisions is guided by the Joint Policy for the Evaluation of Conservation Efforts When Making Listing Decisions (PECE).[17] While PECE limits FWS's consideration of conservation efforts to those that are reasonably certain to be implemented and beneficial to the species, *nothing* in the policy suggests that FWS may limit its consideration to only those conservation efforts that are certain to eliminate *all* threats.[18]

To the contrary, for purposes of evaluating the potential efficacy of conservation efforts, PECE requires only that FWS identify threats and conservation objectives, and evaluate whether the efforts "identify the appropriate steps to *reduce* threats to the species . . ."[19] Indeed, in making a listing decision, FWS must consider any conservation effort that FWS concludes "improves the status of the species . . ."[20]

Background - DSL Listing History

The DSL has a lengthy history of being listed as and withdrawn from candidate species lists. On December 30, 1982, FWS first published the DSL as a Category 2 candidate species, indicating that a proposed listing was possibly appropriate, but insufficient data on biological vulnerability and threats precluded such a listing.[21] On September 18, 1985, FWS demoted and reclassified the DSL as a Category 3 candidate species, realizing the DSL were more abundant and widespread than previously thought and were not subject to identifiable threats. [22]

The DSL was not listed as a candidate species again until November 15, 1994, when FWS changed its conservation status and once again included the DSL on its Category 2 candidate species list. [23] However, on February 28, 1996, FWS announced changes to the way the agency would identify candidates under ESA and notified the public of its intent to discontinue maintaining a list of Category 2 species, dropping all species, including the DSL, from the list. [24]

[14] 16 U.S.C. § 1533(b)(1)(A) (emphasis added).
[15] 68 Fed. Reg. 15,101, 15,113 (Mar. 28, 2003).
[16] 50 C.F.R. § 424.11(f) (emphasis added).
[17] 68 Fed. Reg. 15,100.
[18] *See* 68 Fed. Reg. 15,100.
[19] 68 Fed. Reg. at 15,101.
[20] 68 Fed. Reg. at 15,101.
[21] 47 Fed. Reg. 58454 (Dec. 30, 1982).
[22] 50 Fed. Reg. 37958 (Sept. 18, 1985).
[23] 59 Fed. Reg. 58982 (Nov. 15, 1994).
[24] 61 Fed. Reg. 7596 (Feb. 28, 1996).

Not until 2001 did the DSL return to the candidate list with a listing priority number (LPN) of 2.[25] By assigning the LPN of 2, FWS considered the magnitude and immediacy of the threat to the species as high. Shortly thereafter, on June 6, 2002, CBD petitioned FWS to list the DSL. FWS did not timely publish specific findings on the petition, and CBD filed suit in 2004 in *Center for Biological Diversity v. Norton*, Civ. No. 03-1111-AA (D. Or. 2004). Finding that FWS failed to satisfy the petition process and to explain why the DSL was precluded from listing, a federal court ordered FWS to publish updated findings. On December 27, 2004, and pursuant to the court order, FWS published a 12-month finding listing the DSL as warranted but precluded by higher priorities.[26]

In 2010, FWS again proposed listing the DSL as endangered,[27] but following two public comment periods,[28] and substantial disagreement over the sufficiency and accuracy of the data, FWS was precluded from making a final determination and the agency reopened the comment period in 2011 and early 2012.[29] When making the decision not to list the DSL, FWS relied heavily on the 2012 Texas Conservation Plan (TCP) for the Dunes Sagebrush Lizard as evidence that the species is adequately protected.[30]

Notwithstanding the success of the TCP, CBD and Defenders of Wildlife again petitioned FWS to list the DSL as endangered or threatened and to designate critical habitat for the species on June 1, 2018. FWS published a 90-day finding that, based on the information provided in the petition, listing the species may be warranted.[31] CBD again filed a lawsuit asserting that FWS failed to issue a timely 12-month finding. To settle the case, FWS agreed to do so by June 29, 2023.

The determinations made in this Proposed Rule also serve as the 12-month finding for the 2018 petition.

COMMENTS

I. FWS Must Give Credence to Existing Population Data That Does Not Support an Endangered or Threatened Listing

A. DSL Population Data and Occurrence Estimates Do Not Indicate that Extinction is Likely or Foreseeable

Comment No. 1: FWS does not present objective data to support its opinion that population levels are declining, let alone that these populations will eventually decline to extinction. In fact, the data presented in FWS's SSA details a robust DSL population in New Mexico, where 75% of the species range is located. FWS must actually consider and evaluate population data when evaluating a species' risk of

[25] 66 Fed. Reg. 54808 (Oct. 30, 2001).
[26] 69 Fed. Reg. 77167 (Dec. 27, 2004).
[27] 75 Fed. Reg. 77801 (Dec. 14, 2010).
[28] 75 Fed. Reg. 77801 (Dec. 14, 2010) and 76 Fed. Reg. 19304 (Apr. 7, 2011).
[29] 76 Fed. Reg. 75858 (Dec. 5, 2011) and 77 Fed. Reg. 11061 (Feb. 24, 2012).
[30] 77 Fed. Reg. 36871 (June 19, 2012).
[31] 85 Fed. Reg. 43203 (July 16, 2020).

extinction. Population size is important because it provides information about a species' abundance and health.

As documented by FWS's SSA, based upon a 2021 DSL population study using trapping data, for New Mexico alone the study "estimated a population size of 1,015,945 individual DSL with the 95 percent confidence interval ranging from 225,766 to 4,363,797 individuals." SSA Section 2.6.3, at 38 (citing Leavitt and Acre, 2021, Population Viability Analysis for Dunes Sagebrush Lizard in New Mexico); *see also* SSA Table 2-1, at 40. Indeed, the SSA relies upon the population viability analysis from the 2021 Leavitt study that estimated one million DSL for the New Mexico metapopulation.[32]

Moreover, the SSA presents data on population estimates from 2019 to 2022 for six sites in New Mexico, and four of the six sites show a substantial increase in population trend, one site shows a modest population trend increase, and only one site shows a population decrease. *See* SSA, Figure 2-10, at 37. The SSA and Proposed Listing fail to explain or give credence to these population increases for these sites.

While specific populations estimates are not available for Texas, the SSA does not provide any objective data to demonstrate that the populations are declining, let alone declining to the point of extinction. In fact, the SSA concluded that each of the DSL's purported three recognized genetic lineages will continue to persist as far into the foreseeable future as FWS can predict.[33] There is no basis in the record for FWS's opinion, and this unsupported opinion cannot be relied upon for a decision to list the species.

Similarly, FWS's 2023 SSA Report concludes that DSL habitat is sufficient to continue to support viable DSL populations through 2050, and none of the 11 distinct population unit analyzed by FWS were forecasted to become extinct.[34] For example, despite high density populations of DSL in the Southern Mescalero 1 and Mescalero 2 areas with estimated populations of 317,513 and 32,765 respectively, FWS inexplicably concludes that the DSL is "functionally" extinct in these areas.[35] These population densities are higher than the densities in the Northern Mescalero two and four analysis units, which FWS categorizes both as having "high" resiliency conditions.[36] FWS provides no citations or data to link their habitat condition categories to populations, and population trend forecasts.

The only apparent basis for FWS's opinion that population levels will decline is based on forecasts for future oil and gas development. Yet, as explained in Section III below, FWS's presumptions and shallow analysis on future oil and natural gas development are vastly overestimated, based upon long outdated development practices rather than current industry practices in Texas and New Mexico, and ignore peer-review comments that pointed out this significant flaw in FWS's analysis.

[32] SSA at 38; Leavitt 2021 at 21.
[33] SSA at 125-29.
[34] SSA at 128.
[35] SSA at 40 and 100.
[36] SSA at 9.

Comments and Requested Actions:

1. FWS must withdraw the SSA and its proposed rule until population data is updated and also best available scientific and commercial information is utilized to provide realistic forecasts on population baseline and trends.

2. The SSA and proposed rule must be revised to include a realistic assessment of population levels and probability of occurrence, including a more detailed analysis based upon the most recent study by Texas A&M University from Walkup, et al. in 2022.

3. The SSA and proposed rule must give credence and weight to the fact that New Mexico population data is robust and demonstrates increasing population trends for a majority of the sites surveyed.

4. With regard to population forecasts, the SSA and proposed rule must be revised to reflect current and realistic development practices for the oil and gas industry, as detailed further in Section III A & B below.

5. FWS must perform a correlative analysis between habitat and the population data in New Mexico, as well as BLM's withdrawal of over 850,000 acres of habitat from oil, natural gas, solar, and wind development and explain why these existing robust population numbers will likely remain stable in the long term given these extensive habitat protections.

B. The SSA and Proposed Rule Do Not Utilize Best Available Science from the 2021 Texas A&M Study on Habitat Suitability, Probability of Occurrence Mapping, and Species Distribution Based on Presence Data

In 2020, Texas A&M University, in partnership with Louisiana State University, started developing a sophisticated, fine-scale habitat suitability map for the DSagebrushLfor Texas. Project participants included the top biologists, technical experts, and academics for the DSL, including Danielle Walkup, Wade Ryberg, Toby Hibbits, Kevin Skow, Garrett Powers, Lee Fitzgerald, Bret Collier, and Roel Lopez.

This extensive modeling and mapping project utilized the best available scientific data and best available modeling methodology to develop a model that predicts with a high degree of confidence the probability of occurrence of the DSL in habitat based upon DSL occurrence data in conjunction with specific topographic and land cover features necessary for the species. This modeling and mapping project utilized DSL occurrence data and precise topographic and land cover data derived from surveys using Airborne Light Detection and Ranging (LiDAR). *See Walkup, et al.,* "Using LiDAR to Enhance Distribution Models for the Dunes Sagebrush Lizard (*Sceloporus Arencilolus*) in Texas, USA," published in Herpetological Conservation and Biology, 17(d): 349-361 (published August 31, 2021) (hereinafter referred to as the 2021 Texas A&M Study).

The Texas A&M Study developed a high-tech, state-of-the-art habitat map from a statistical model based on transparent, reproducible, rigorous methods that are considered best practices in the field and

thus preferred for use in conservation planning and listing determinations. The project utilized presence data from multiple DSL surveys in Texas, including Laurencio, et al. 2007; Fitzgerald et al. 2011; Hibbitts, et al. 2013; Young, et al. 2018; and Walkup et al. 2018, as well as other species studies and specimen collection efforts between 1998 and 2020 by Texas A&M University for its Biodiversity Research and Teaching Collections.

One of the most significant findings from the Texas A&M Study was that rugosity (i.e., "bumpiness") is a key topographic feature within dune blowouts within shinnery oak dominated dune formations shown to be a primary characteristic of occupied habitat. *See* Texas A&M Study at 350, 353, and 355. Indeed, rugosity was found to be present in all of the top habitat suitability models predicting DSL presence and it is an important landscape feature that determines individual lizard presence, movements, habitat selection, and population dynamics.

Significantly, the SSA and proposed rule rely upon outdated methods to construct maps that do not utilize DSL data. Additionally, despite noting repeatedly elsewhere in the SSA the importance of topographical features such as blowouts for distinguishing areas of high importance to DSL from other similar areas, the SSA map does not utilize LiDAR data to identify rugosity characteristics for purposes of identifying high quality habitat and predicting probability of occurrence for the DSL in these areas.

Comment No. 2: For Texas, the SSA and proposed rule rely upon outdated probability of occurrence and estimated occupancy data from 2018, based upon the 2012 Hibbitts map. SSA, Section 2.6.3 at 41. Similarly, for New Mexico, FWS relies upon outdated mapping information from 2018, based upon the Hardy map. *Id.* at 42. Indeed, in the SSA FWS admits that these models "did not incorporate presence/absence data to calibrate the models" and are based only on subjective inferences based on habitat inferences. *Id.*

Although the SSA identifies the recent 2021 Texas A&M Study and probability of occurrence model which were based on DSL presence data and state-of-the art digital LiDAR data, FWS gives short shrift to this sophisticated, peer-reviewed, published study, and makes no effort to update any of its analyses on occurrence, habitat, or population forecasts, with this best available science and data. *Id.*

Comment No. 3: FWS's habitat mapping and population data are outdated and not based upon best available science, particularly since the SSA and proposed rule do not utilize the 2021 Texas A&M Study on probability occurrence and habitat.

Comment No. 4: In addition to ignoring the 2021 Texas A&M habitat model, FWS unilaterally and substantially revised the existing habitat modeling and mapping from the 2018 Hardy Map and 2016 Johnson Map.[37] FWS's "refinement" of this mapping contains numerous errors, departs from standard habitat modeling and mapping procedures, and is entirely inconsistent with the prior habitat models and maps used by FWS.

FWS's errors include arbitrarily altering habitat classifications without any valid scientific data or supporting evidence, such as excluding from the core "Shinnery Oak Duneland" habitat classification any areas with five percent or more honey mesquite cover. FWS also erred by ignoring its own data showing

[37] SSA at 88, and 182.

high population levels of DSL in areas FWS graded and categorized in low condition. FWS failed to conduct correlative analysis between population levels and habitat conditions.[38] As a result, the SSA is contradicted in the record by the very studies FWS ostensibly relies upon for the SSA and the Proposed Listing.

Finally, FWS erred by double-counting Non-Habitat, first in its Non-Habitat calculation, and again in its "Degraded Habitat" calculation.[39]

Requested Actions:

1. FWS must conduct population surveys in Texas and New Mexico based upon the 2021 Texas A&M Study, and probability occurrence modeling and habitat mapping to update its population data, and probability of occurrence and occupancy estimates.

2. FWS needs to use this Texas A&M report and information to update its analyses in the SSA and reevaluate its proposed rule.

3. FWS needs to conduct a correlative analysis between habitat conditions and population levels.

4. FWS needs to correct habitation and designation calculation errors, such as the double-counting of non-habitat.

The Proposed Rule Relies on Outdated and Inaccurate Habitat Modeling

Comment No. 5: The SSA and proposed rule rely upon antiquated habitat mapping approaches that are not best available science, and result in vastly inaccurate and overbroad habitat identification, including non-habitat areas as suitable habitat, and promoting marginal habitat as suitable or better habitat. The flaws in the SSA and proposed rules are then compounded exponentially when FWS applies significantly inflated development scenarios across these non-habitat and marginal habitat regions.

New Mexico Model: The New Mexico mapping materials relied upon FWS (summarized in the SSA at Appendix B) are not best available science and were promulgated based on subjective interpretation of land cover, and without any actual species data.

The New Mexico map appears to describe and categorize only the landscape based on imagery and landscape analysis. Based on available information, this model did not use any actual DSL detection and non-detection data. Literature regarding the species cover conditions were used combined with the opinion of the modelers to identify remotely sensed environmental layers that, in combination, were thought to represent areas likely to provide suitable habitat.

While the use of remotely sensed data layers provides a standardized and objective approach compared to a hand digitized drawing of areas expected to be suitable DSL habitat, the map fails to integrate

[38] Compare Leavitt 2021 population densities at 20, with FWS's SSA habitat condition grades, SSA at 105-106.
[39] See SSA at pages 4, 86 and 95.

actual species data or to conduct a statistical analysis to generate a result as opposed to constructing a map.

Some of the methods described included professional judgement and heads-up digitization to define boundaries and classifications. Modelers formed 15 categorizations of landcover: Suitable, Treated/Fragmented, Potentially Restorable, Occupied, Connectivity, etc. It is not apparent how areas were assigned to these categories. Based on category types such as "potentially restorable," it is apparent that many of these categories were ultimately subjectively defined and assigned. The connection between these categories and the quality of DSL habitat is not apparent.

Given these significant gaps, and given that existing best available technology, such as LiDAR surveys are available to precisely identify topography and landcover, FWS should not be utilizing the outdated New Mexico model for its analyses in the SSA and the Proposed Listing.

Texas Model: The SSA relies upon the 2018 habitat mapping conducted by Hardy, et al. from Texas State University. This mapping effort is no longer considered best available science, and the methodology utilized does not provide accurate habitat identification or mapping. The Texas/Hardy model is based upon a post-hoc analysis of the New Mexico model, which did use DSL detection data.

While the use of DSL detection data was a step in the right direction, the work was not carried forward to create a new model and new map based upon this data. Instead, the Texas/Hardy map simply used the DSL detection data to evaluate the New Mexico map's predictions on suitable DSL habitat. The Texas/Hardy map did not use the DSL detection data to generate the map. Instead, the Texas/Hardy model only used land cover data to predict habitat suitability, without any correlating analyses based on DSL presence or detection data.

In contrast to the Texas/Hardy methodology, the subsequent modeling by Texas A&M University in 2021 utilized DSL detection data, sophisticated LiDAR surveys, and robust statistical methods considered state-of-the-art in the field to provide a true statistical model of DSL habitat, which represents a more accurate and defensible habitat model for the DSL. Yet, FWS does not utilize the Texas A&M model and data in the SSA or the proposed rule. Instead, FWS devoted only one paragraph to acknowledge the existence of the Texas A&M model. FWS makes no effort to explain why this model was not utilized or why it considered the antiquated New Mexico and Texas modeling efforts to still be best available science given their significant short-comings and data gaps. The Texas/Hardy methodology is not best available science, and it did not rely upon best available data or methodologies at the time it was implemented.

FWS Modeling: FWS substantially revised the habitat models it relied upon, creating inconsistencies between the inventory of current DSL habitat with the habitat models. Notably, FWS altered the habitat classifications to exclude from the core habitat any shinnery oak duneland areas with modest density of honey mesquite cover, a habitat which DSLs are known to habitat. This demonstrates FWS' willingness to deviate from habitat models without explanation and despite best available science and evidence showing that DSL occupy and use those areas.

A. FWS Does Not Use Best Available Science for Habitat Mapping

Comment No. 6: The habitat mapping conducted by FWS for the SSA and proposed rule did not use best available science, and the process utilized to develop that map does not utilize valid methods or data. Indeed, FWS prepared this map without any input from experts, and without any participation or involvement of the public, academia, or stakeholders.

FWS's internal habitat map is overbroad, and contradicted by more recent modeling and mapping, and related habitat analyses, conducted by Texas A&M University. This more recent expert study utilized state-of-the-art LiDAR analyses and data to develop a more accurate map that details probability of occurrence for the DSL.

Requested Action: The SSA and proposed rule should be revised to utilize the Texas A&M Study, modeling, and mapping to identify actual habitat and probability of occurrence, and based on key topographic features (i.e., rugosity in dune blowouts within shinnery oak dominated dune formations) identified by the Texas A&M study as a primary habitat characteristic necessary for the species.

B. Methodology for Identifying Suitable Habitat Results in Flawed Over-Mapping that is Not Supported by Existing Science

FWS's internal, non-public habitat mapping for the SSA and proposed rule is similar to the 2011 map prepared by Hibbits, which utilized a methodology that is no longer deemed scientifically acceptable. FWS's mapping effort also builds upon prior mapping conducted by Hardy in 2018, which was never peer reviewed, and contained numerous technical flaws and data gaps (as discussed in Section [B] above). The 2018 Hardy map was constructed using **no** actual DSL data. Compounding this serious flaw, DSL data was not used to quantitatively evaluate the map after it was constructed.

Building upon these two outdated mapping efforts, FWS's internal mapping for the SSA and proposed rule is based solely on subjective opinion of generalized, qualitative habitat characteristics, and not deducted by analysis of objective data for habitat or DSL presence.

It is a fundamental and basic principle that the fewer variables used, the less refined and accurate the map. FWS's mapping methodology results in a habitat map that encompasses a far larger spatial extent than could plausibly be argued to be habitat. Viewed in its best light, FWS's internal mapping exercise provides highly speculative results, and represents possible suitable habitat, based upon a very limited set of variables.

For example, unlike the recent Texas A&M habitat map and study, which identified rugosity as a key habitat characteristic that distinguishes important areas for the DSL from other areas without suitable topography, FWS's map does not even account for topographical data such as rugosity that is a critical landscape feature for DSL.

At bottom, a *habitat suitability map*, particularly a non-peer reviewed, coarsely characterized map with few data inputs and variables, is not *habitat*, and a suitability map should not be utilized as interchangeable for habitat when analyzing a proposed listing under ESA.

Comment No. 7: FWS's internal modeling and mapping efforts for the SSA and proposed rule are based on outdated methodologies and data and have not been disclosed to the public for review, or otherwise subject to appropriate scientific peer-review.

Comment No. 8: FWS needs to perform a valid modeling and mapping project based upon the 2021 Texas A&M Study to inform revision of the SSA and proposed rule.

Requested Actions: FWS must disclose its modeling and mapping data for public review and comment and afford time for revision of the SSA and proposed rule before rendering any final listing decision.

C. The SSA and Proposed Rule Present Conflicting Information on Habitat that Underscores that More Study, Analysis, and Verification is Needed so the SSA can be Updated and then a New Determination on Listing Rendered

FWS determined a key requirement for long-term viability of the DSL is large, intact, shinnery oak duneland ecosystems and recognized that DSL may not occur in all suitable habitat due to natural extinction-colonization dynamics. As part of FWS analysis of long-term resiliency through interconnected neighborhoods, FWS concluded that the consideration of currently unoccupied but potentially suitable habitat is required under the proposed rule.

Comment No. 9: The SSA contains contradictory and inconsistent interpretation of the effect of surface impacts on whether those areas can or will be used by the DSL. For example, the SSA describes areas with moderate or greater oil and natural gas development or sand mining footprints as being irretrievably rendered unsuitable for DSL.

Yet, in contrast, the SSA also provides a "current conditions" map wherein areas with moderate to significant surface impacts are still included in what is being considered potentially suitable habitat. Through this mapping exercise, FWS says development precludes occupancy yet includes those same lands as habitat.

Comment No. 10: By using habitat as a proxy for impacts on the species, and essentially double counting impacts by attributing impacts to non-occupied, non-habitat as impacts to habitat, FWS is vastly inflating its threat and impacts analysis to derive a worst-case scenario that will never actually occur in an effort to justify a listing of the species. This approach is the hallmark of arbitrary and capricious agency action in violation of the (APA).

The Proposed Rule Relies Upon Outdated Assumptions Based on Antiquated Technology, to Inflate and Overstate Potential Threats from Oil and Natural Gas Development

Comment No. 11: The SSA and proposed rule are both premised on fundamentally flawed projections on future oil and natural gas development. These flaws are compounded when FWS imposes oil and natural gas high density projections across the entire range of the DSL, including in habitat areas where oil and natural gas development is non-existent or extremely low such that it will never reach the surface densities projected.

Moreover, even for areas of existing high oil and natural gas development, current industry practices in no way mirror the antiquated development assumptions used by FWS. As a result of these two significant errors, FWS arbitrarily concludes that oil and natural gas development will result in a dramatic decline in the species population and habitat.

FWS asserts the primary risk factor affecting DSL is the "habitat destruction, modification, and fragmentation associated with oil and natural gas production and frac sand mining." 88 Fed. Reg. at 42,666-68. This assertion is premised primarily upon an outdated study from the mid-1990s and subsequent report from 1998 by D. Sias and H. Snell titled "The Sane Dune Lizard *Sceloporus arenicolus* and Oil and Gas Development in Southeastern, New Mexico." (herein referred to as the 1996 Sias and Snell Report). *See* SSA at 59, 89; Proposed Rule, 88 Fed. Reg at 42,667.

In reality, with current technologies, operators are able to drill longer-reach lateral wells, extending in many cases up to 3 miles, and reducing associated surface footprints exponentially.

Comment No. 12: FWS's projections on development over-estimate potential development impacts by approximately 260% because it relies upon outdated studies that studied development practices no longer utilized in southeastern New Mexico and west Texas. FWS does not utilize best available commercial data on the wide-scale use of horizontal drilling of multiple wells in single well pads, and the centralization of facilities across these oil and natural gas basins. This fundamental error is compounded exponentially when FWS interposes and confuses well pad density (e.g., multiple wells on a single well pad) with well density (using development forecasts based on one well per well pad). Moreover, although FWS relied upon well data from the RRC and EMNRD,[40] these data bases include a significant number of wells that have been plugged, abandoned, and reclaimed. As a result, FWS's geospatial analysis vastly overestimates well densities and surface disturbance, and therefore its classifications of Disturbed and Degraded areas are significantly over-estimated.

Comment No. 13: In projecting future oil and natural gas development impacts on DSL habitat, the SSA developed well pad densities using drilling data from EMNRD and RRC, which may have included wells that have already been plugged and/or abandoned. Reliance on an overinflated estimation of wells creates an inaccurate baseline condition for projecting future impacts and results in speculative projections.

Comment No. 14: FWS must remove its analyses premised upon the antiquated and flawed 1996 Sias and Snell Report. This report is not best available commercial data, and its use results in a vast over-estimate of potential surface disturbance and impacts from oil and natural gas development.

The 1996 Sias and Snell Report is based on limited data and analyzed oil and natural gas development footprints based upon outdated drilling technologies and practices that have not been utilized in the Permian Basin in over 10+ years. The study underlying this report is based upon field studies and transect analyses within the heart of legacy vertical oil and natural gas development with high surface density. Significantly, however, the Sias and Snell Report did not correlate or calculate acreage associated with the topography of the area or changes in land cover. For example, the Sias and Snell Report did not conduct an analysis of topographic features within drilling and production facilities such

[40] SSA at 94.

as whether their transect areas included sand dune rugosity associated with a higher likelihood of occurrence of DSL.

Despite this absence of topographic and land cover analyses, and the fact that the studies were conducted in legacy, high density surface development areas, the Sias and Snell Report concluded that a surface well density of 13 wells per square mile was associated with a dramatic decline in DSL presence. FWS has carried forward this flawed conclusion and uses it as a fundamental cornerstone in the SSA and proposed rule for its assertion that this antiquated development practice is continuing and that this will result in a dramatic decline in DSL populations.

The Sias and Snell Report assumes a surface disturbance footprint per well that is based on vertical drilling practices that are rarely, if ever, used to develop oil and natural gas resources in southeastern New Mexico and west Texas. There have been significant advances in technology since the 1990s that have fundamentally changed industry development practices, which result in substantially less surface disturbance and surface density of facilities and roads. These advances include horizontal drilling, locating numerous wells on a single well pad for horizontal development, re-using existing infrastructure (roads, pipelines, well pads), recycling water, and centralizing production facilities.

In the SSA and for the proposed rule, FWS extrapolated this antiquated surface development density and applied it in forecasting development across the entire region, including the three producing basins of southeastern New Mexico and west Texas. This results in a vast over-inflation of forecasted impacts across the landscape and within habitat, and this fatal error is compounded further when FWS bases its entire forecast of extinction upon these arbitrary impact forecasts.

Comment No. 15: FWS improperly utilized and interpolated data from the 2020 Pierre, *et al.* model and study to over-inflate its development forecasts. As a general matter, the 2020 Pierre study was aimed a projecting oil and natural gas development impacts (increase in number of well pads) across the landscape in a broad sense, but it did not target habitat specific impacts, and the assumptions and justifications contained within that study are not based on ecologically relevant variables for the species.

FWSe utilized the layers from the 2020 Pierre study (low, medium, and high scenarios) as a starting point, but did not reasonably apply these predictive layers as built. FWS performed subsequent processing of these data layers to create a surface well density. FWS improperly interpolated and averaged values at a one square mile level, and assumed equidistant spacing across this entire square mile, despite the fact that development no longer takes place in this matter (*i.e.*, high density well pads with single vertical wells).

Moreover, the development scenarios from 2020 Pierre document that almost all of the areas forecasted for high density development are located outside of the habitat model used by FWS for the SSA. Pierre even modeled potential oil and natural gas development by geologic formation and geographic area. Pierre, *et al.* 2020 at 349, 354-356. FWS, however, made no attempt to do so. Indeed, FWS ignored this data and inexplicably still forecasted extensive high-density development across the entire DSL range.

FWS's approach more than doubles forecasted surface disturbance. These errors are compounded further by FWS's errors in trying to scale the Pierre data into something entirely different. For example,

the 2020 Pierre, *et al.* data and analyses were based upon one square kilometer resolution, while FWS then reprocessed this data and imposed based upon a one square mile resolution.

Moreover, FWS categorized the continuous surface value (well pad density) based on reliance and inferences from the antiquated and fundamentally flawed 1998 Sias and Snell report. FWS then compounded even these fatal errors by interchangeable conflating wells and well pads by applying the threshold values reported by Sias and Snell as density of wells as a set of layers meant to represent number and density of well pads. The ramifications of these fundamental errors upon FWS's analyses and forecasts are significant.

For example, under FWS's approach, a one square mile cell with 10 well pads would designate a surface density of 10 wells across the entire square mile. This development scenario is not realistic and has not been utilized in decades. This approach does not use existing development practices where well pads contain multiple horizontal wells per pad and are centralized/clustered with production facilities (often in a linear manner) that significantly reduces overall surface disturbance, often by as much as 85% or more.

FWS acknowledges these significant problems and errors in the SSA, yet their attempted justification is unclear and confusing at best and does not resolve in any manner these significant flaws that inherently impact the SSA analyses and proposed rule. *See* SSA at 11. FWS makes no effort to provide a reasonable basis or explanation as to why they rescaled the layers from one square kilometer to one square mile and then categorized based on the 1998 Sias and Snell's well density threshold.

Comment No. 16: FWS forecasts high density development across the entirety of the Central Basin, which has historically had very little oil and gas development, and given the limited resources in this region, likely will not experience much development, let alone the high-density development projected by FWS in the SSA and Proposed Rule.

Significantly, the Central Basin Platform encompasses the best habitat for the DSL, including approximately 850,000 acres of federal lands that BLM has withdrawn from oil, natural gas, wind, and solar development.

FWS's development and impacts analysis are fundamentally flawed, and the conclusion that their projected level of development justifies an endangered listing is not based in fact or otherwise legally supported in the administrative record, as required under the APA.

Comment No. 17: FWS impermissibly ignored significant peer review comments on its flawed development assumptions, including FWS's forecast for high levels of development in the Central Basin.

The SSA peer review comments of Dr. Brent Elliot (University of Texas, Burau of Economic Geology) identified and called into question FWS's significant errors in overestimating impacts:

> well density projects should probably be separated by region, especially Delaware Basin, Midland Basin, and Central Basin Platform. Activity in each of these areas, especially the central basin platform is significantly different from the others. Including the basins will

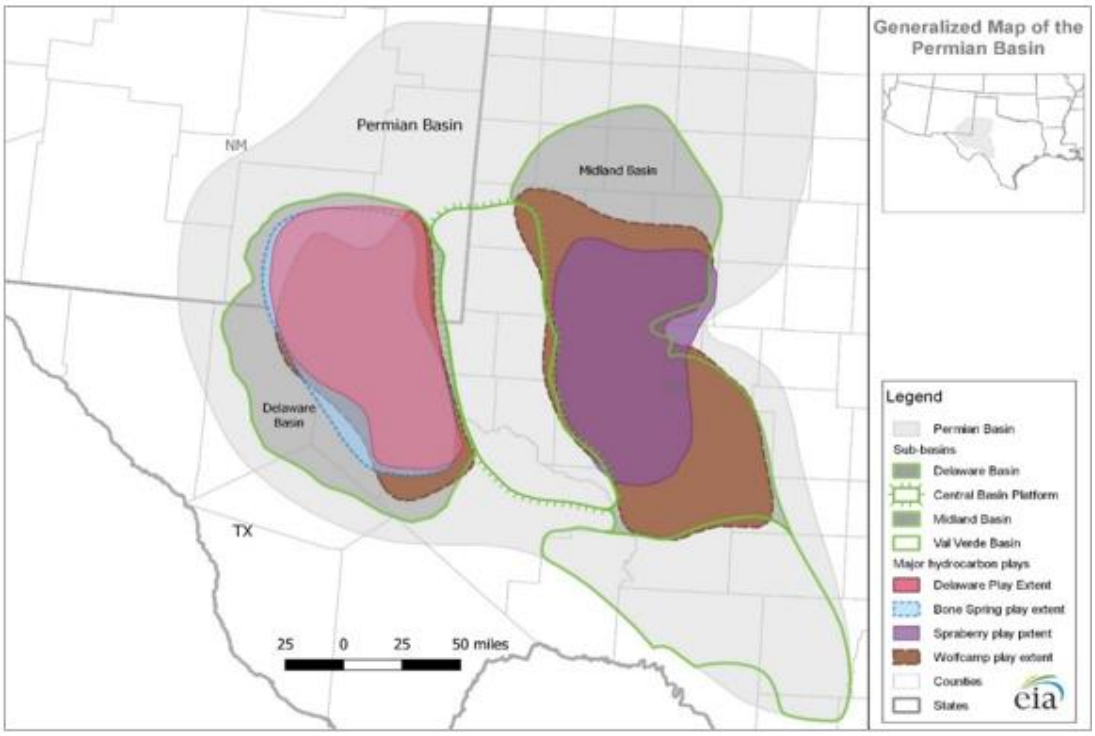
> overestimate the impact of well density on the predominantly low-density central basin area and a majority of DSL habitat extents. . .. . .
>
> the DSL areas on the map are mostly north of the Delaware Basin or in the central basin platform, where roads and well pads are significantly less[;] as these aren't in the typical basin resource areas, does this change the supposition that oil and gas infrastructure is having as much of a perceived impact? . . . .
>
> figure 4-3 reinforces that lack of well density over much of the DSL habitat, does that change the perceived notion of oil and gas infrastructure impact?

SSA Peer Review Summary of Brent Elliot at 3.

The peer review comments of Dr. Gary Kocurek (Professor, University of Texas, Department of Geological Sciences) also identified this significant error in the SSA, stating that "most of DSL range is over the Central Basin Platform and onto the Permian shelf, and not in the Delaware or Midland basins (Figure 4-2 where well density is much greater (Figure 4-3)." SSA Peer Review Summary at 8.

For context, this U.S. Energy Information Administration (EIA) map depicts the location of the Central Basin Platform in relation to the Delaware and Midland basins:

Map of the Permian Basin in Texas and New Mexico



Source: EIA Report, "Drilling and completion improvements support Permian Basin hydrocarbon production," (October 19, 2021) (map created by EIA, *U.S. Low Permeability Oil and Natural Gas Play Maps, Permian Basin*, based on data from Enverus).

Comment No. 18: The SSA and proposed rule rely upon outdated and unrealistic development assumptions, and also overbroad development forecasts for the Central Basin that contain no basis in historical data nor development scenarios based on actual industry data.

Comment No. 19: The SSA and proposed rule incorrectly assume extensive future development in the Central Basin where significant DSL habitat and populations are located, even though limited develop has occurred in this region given the limited oil and natural gas resource potential. This fundamental error is compounded exponentially when FWS fails to account for the 850,000 acres of DSL habitat that BLM has withdrawn from future leasing and development (including oil, natural gas, solar and wind), including significant habitat acreage within the Central Basin Platform in New Mexico.

Requested Action: The SSA and proposed rule should both be revised to provide realistic development scenarios forecasted for each separate basin in the region, including the Central, Delaware, and Permian Basins, and these revisions should reflect the peer-review comments that most of the DSL habitat is located in an area with low oil and natural gas development.

A. Current Oil and Natural Gas Technological Advancements and Development Practices Significantly Reduce Impacts

The SSA inflates the impacts of oil and natural gas activities by failing to account for technological advances which significantly reduce impacts to the DSL and its habitat. Instead, FWS relies on outdated drilling and development assumptions that are more than two decades out of date which do not represent modern drilling and development practices to overstate its estimates of future impacts. This fundamental flaw is fatal to the legal viability of the proposed rule.

Comment No. 20: The SSA and proposed rule fail to account for several technological advancements that significantly reduce impacts of oil and natural gas activities on the DSL and its habitat. These advancements include three dimensional (3D) seismic surveys, horizontal and directional drilling, multi-well pads, centralized facilities, shorter drilling and well completion timeframes, closed-loop drilling fluid systems, and enclosed liquid gathering systems.

The proposed rule is fundamentally and fatally flawed, and resulting conclusions based upon these flaws render the proposed rule legally deficient, and not in compliance with ESA, its implementing regulations, and related policies.

The development of 3D seismic surveys reduced surface impacts by enabling mineral surveys without numerous exploratory wells, associated roads, and heavy equipment. Thus, 3D seismic surveys reduce habitat fragmentation and noise.

B. The SSA and Proposed Rule Erroneously Ignore Horizontal Drilling Practices and Associated Surface Disturbance Reductions

Comment No. 21: The SSA erroneously assumes the same level of impacts from vertical and horizontal wells. The SSA does not acknowledge that horizontal wells now dominate U.S. production of tight oil and shale gas.[41]

Horizontal and directional drilling allows for long-reach lateral wellbores with less surface impacts. Horizontal drilling in New Mexico has evolved to 2.5-mile laterals in some areas, *i.e.*, the horizontal portion of the well, with some wells extending to 3 miles. These long-reach laterals result in a significant decrease in surface disturbance and habitat fragmentation. These wells reduce surface well density because a single horizontal well can replace 8 to 16 vertical wells.[42] In addition, up to 32 directional wells may be clustered together on a single well pad.[43] Similarly, horizontal wells do not require as many roads or maintenance. [44]

The graphic below illustrates the efficiency of horizontal wells:[45]

Centralized facilities in the Permian Basin also decrease surface disturbance upwards of 85% percent compared to practices utilized during 2012 – 2016 timeframe.

In addition, shorter drilling and completion timeframes result in significantly reduce periods of surface disturbing activities. In 2013, uninterrupted completion timeframes dropped from six months to as few as 2-3 days.[46] Further, closed-loop drilling systems and enclosed liquid gathering systems have replaced open reserve pits and evaporation ponds, eliminating the risk of trapping birds.[47]

FWS's reliance on outdated assumptions regarding future impacts overstates the risk to the DSL and its habitat from oil and natural gas activities.

Requested Action: FWS must revise the SSA to account for the many technological advancements, described above, that reduce impacts to the DSL and its habitat.

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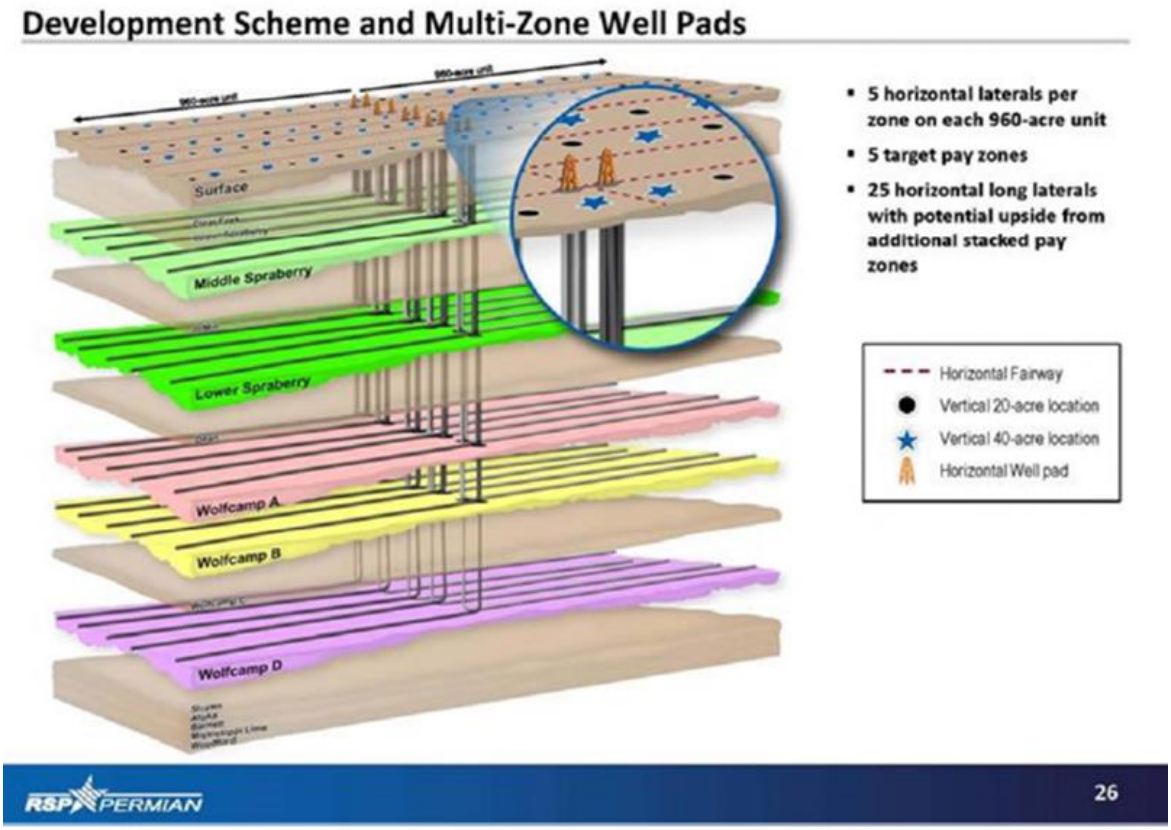
[41] "Today in Energy, Horizontally Drilled Wells Dominate U.S. Tight Formation Production," Jack Perrin, *Today in Energy*, June 6, 2019 (last visited August 5, 2021)
[42] *Gaining Ground: Industry Innovation Reduces Impacts on Sage-Grouse and Big Game*, Western Energy Alliance, 2016.
[43] *Ibid.*
[44] *Id.* p. 5.
[45] "Permian/Delaware Basin Wolfcamp Development," Palo Petroleum, Inc. (last visited August 5, 2021.
[46] API-IPAA-Alliance and PAW Comments Submitted to USFS re Land Management Plan Amendments for Sage-Grouse Conservation, Exhibit C: Modern Oil and Gas Technology and Operations 2, API et al, 2019 , citing AECOM, Base Case 2015 Emission Inventory Report for the Pinedale Anticline Record of Decision Milestone #3 Visibility Goal, 2013.
[47] *Management of Exploration, Development and Production Wastes: Factors Informing a Decision on the Need for Regulatory Action*, EPA, 2019, pp. 4-6.

Requested Action: The SSA and proposed rule must be revised to include updated estimated impacts from modern oil and gas development practices.



C. The SSA and Proposed Rules Erroneously Presume Oil and Natural Gas Impacts are Permanent and Ignore Industry Practices and Requirements to Plug, Abandon, and Reclaim Wells

Comment No. 22: The SSA and proposed rule erroneously assume that well impacts are permanent and cumulative, and fail to account for the temporary nature of oil and natural gas surface disturbance. Most of the activity at a well occurs during well drilling and completion. For the majority of a well's life span, during the production phase, there is minimal human activity. Moreover, after the productive life of a well (approximately 15 to 30 years), state and federal oil and natural gas regulations require companies to plug and abandon wells, and reclaim well pads and associated surface disturbance.

Requested Action: FWS must revise the SSA to account for the temporary production status of wells and must account for state and Federal plugging and abandoning requirements.

ESA Requires FWS to Meaningfully Consider and Give Weight to DSL Conservation Efforts and BLM's Habitat Protection

ESA requires FWS to consider conservation efforts and regulatory mechanisms in place to protect species from extinction, including conservation measures implemented by states, Federal agencies, Tribal governments, businesses, organizations, or individuals that positively affect the species' status. [48]

In drafting ESA, Congress recognized that listing was not the only tool for species conservation. Rather, a variety of conservation tools would be necessary, in addition to listing under ESA. ESA describes these tools, "encouraging the States and other interested parties, through federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants."[49]

The plain language of ESA demonstrates that the listing process was not intended to be the first or only conservation tool.

The SSA and Proposed Rule Fail to Provide Meaningful Analysis of Conservation Actions for the Species

FWS's proposed rule failed to provide an adequate analysis of conservation actions that have positively affected the DSLs. Given that previous FWS decisions to list species as threatened have been vacated by district courts for failing to conduct a proper PECE analysis, the Alliance believes that FWS should withdraw its proposed listing on this matter alone. FWS must avoid repeating this error if it seeks to achieve a legally defensible final rule or determination.

FWS must give Significant Weight to BLM's withdrawal of almost 800,000 acres of DSL habitat from development.

In New Mexico, approximately 76% of the DSL's range is located on federal or state lands.[50] The SSA and proposed rule both detail BLM's Special Species Status Species Resource Management Plan Amendment for the DSL. *See* SSA, Section 4.6 at page 80; Proposed Rule, 88 Fed. Reg. at 42,672.[51] This management plan provides for "specific conservation requirements, lease stipulations, and the removal of 43,934 ha (106,091 acres) of DSL habitat from future oil and gas leasing."[52] Significantly, since approval in 2008, BLM closed 300,000 acres to future oil and natural gas leasing and development and closed 850,000 acres to wind and solar development. *Id.*

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[48] 16 U.S.C. § 1533(b)(1)(A) requiring that a listing decision be made "solely on the basis of the best scientific and commercial data…*and after taking into account those efforts, if any, being made by any state or foreign nation or political subdivision of a state or foreign nation to protect such species…*" (emphasis added); 68 Fed. Reg. 15,100, 15,113, March 28, 2003.

[49] 16 U.S.C. § 1531(a)(5).

[50] "Dunes Sagebrush Lizard Habitat Map and Models, New Mexico, Natural Heritage," Johnson, et al., New Mexico Publ. No 15-38, University of New Mexico. 2016.

[51] *See* SSA, Section 4.6 at page 80; Proposed Rule, 88 Fed. Reg. at 42,672.

[52] SSA, Section 4.6.

In terms of conservation measures, under this plan, BLM "BLM has implemented control efforts for mesquite on 335,740 ha (832,104 acres) and has plans to do so on an additional 12, 141 ha (30,000 acres) annually." SSA, Section 46 at 80.

Comment No. 23: FWS must update and revise the SSA and proposed rule to give full weight and consideration to all DSL conservation measures, including BLM's withdrawal of over 850,000 acres of DSL habitat from oil and natural gas, solar, and wind development.

Comment No. 24: FWS needs to analyze the DSL populations within these areas and present this data in a revised SSA, and then use this information to inform revision of the proposed rule.

The SSA and Proposed Rule Fails to Give Meaningful Weight to the Conservation Benefits and Success of the Texas Conservation Plan

In 2011, a broad group of stakeholders developed the TCP to provide a conservation benefit to the DSL in west Texas, which was considered by FWS a candidate for listing under ESA at the time.

On February 17, 2012, FWS approved the TCP and issued an Enhancement of Survival Permit for the DSL (Permit) to the Texas Comptroller of Public Accounts (CPA) to provide for conservation of the DSL. The TCP commemorates an agreement between FWS and CPA to ensure continued economic growth in the Texas Permian Basin while simultaneously protecting the DSL and its habitat.

Under the terms of the 2012 Permit and TCP, parties operating within the area of the TCP could voluntarily enroll to participate by signing Certificates of Inclusion (CI) under the Candidate Conservation Agreement with Assurances (CCAA) to avoid or offset potential impacts to the DSL habitat. The TCP established, among other things, a Recovery Award System whereby mitigation and recovery activities on private land are credited and banked as Mitigation Credits or Recovery Awards for use by TCP participants.

As a result of the voluntary conservation commitments memorialized in the TCP, FWS determined that the DSL need not be listed as a threatened or endangered species, as the voluntary conservation measures provided protection such that listing was not warranted.

TCP's performance data, included in the publicly available annual and monthly reports for the TCP, demonstrates that the Plan is effectively conserving DSL habitat. The TCP annual reports further document that throughout the existence of the TCP, after adjusting for double counting/overlapping property interests, enrollment in the TCP has met or exceeded the threshold established in FWS' 2010 proposal to list the DSL, i.e., participation throughout the majority of DSL habitat.

As detailed in TCP's annual reports from 2012 through 2017, and monthly reports for 2018, the TCP's performance data demonstrated that TCP Participants disturbed only 423 acres of DSL habitat or 1.99% of the total take authorized by the 2012 TCP Permit.

In October 2020, FWS signed and fully transferred the Section 10 Permit for the TCP from the Texas Comptroller to the American Conservation Foundation (ACF). As a condition of permit transfer, FWS imposed temporary limitations on new enrollment and the amount of take allowed under the permit.

Upon transfer of the TCP Permit, ACF worked with FWS to perform a consistency review for the original participants and their Certificates of Inclusion for their continued participation in the TCP and coverage under the Section 10 permit. For the CIs of companies intending to maintain enrollment under the revised Permit, FWS found eight to be consistent with the TCP and allowed them to continue within the plan. These original participants paid for all required fees dating back to 2018 when the Texas Comptroller suspended the TCP.

Moreover, ACF documented that these participants continued to comply with the TCP, including avoidance of DSL habitat and implementation of conservation measures during the interim time frame between when the Texas Comptroller relinquished the permit, and FWS transferred the permit to ACF.

Significantly, from 2018 to present, the upstream companies enrolled in the TCP maintained a 100% compliance rate and avoided habitat when drilling and developing their leased oil and gas resources on enrolled lands.

During 2021, the TCP maintained a gross acreage enrollment of 70,396.96 acres, with 38,593 acres designated as DSL habitat. These enrolled acres still account for a significant percentage of habitat and suitable habitat in Texas. ACF expects enrollment to increase significantly once FWS reopens enrollment to new participants.

When the Texas Comptroller surrendered the TCP Permit in 2018, the cumulative authorized incidental take was reported to be only 423.46 acres of the allowed 21,257 acres, or 1.99% of the total take authorized by the 2012 TCP Permit.

When FWS transferred the permit, it capped available take at 1,749.54 acres, pending its consistency review of the CIs and performance under the TCP.

In 2021, the enrolled TCP participants did not disturb any acreage of the allowed 1,749.54 acreage under the 2020 TCP Permit. ACF attributes part of its conservation success to advances in technology, with more prevalent use of horizontal drilling to develop well sites outside of DSL habitat without any surface disturbances.

In sum, since the approval of the TCP in 2012, over the past 10+ years, only 423 acres of habitat have been disturbed, and mitigation measures were implemented for this 423 acres of disturbance as required under the TCP. This low take number reflects the success of proactive conservation efforts of the TCP Participants on private lands in protecting DSL habitat. Participants are focusing on avoidance of habitat by utilizing horizonal drilling and other siting techniques.

While the SSA and proposed rule attempt to fault the TCP for not implementing more mitigation projects, FWS ignores the fact that mitigation is required only if surface disturbance cannot be avoided. Because upstream TCP participants are practicing 100% avoidance, they are not required to implement mitigation measures for surface disturbance.

Comment No. 25: In the SSA and proposed rule, FWS characterizes the TCP as a failure without any meaningful analysis or proper review under the PECE Policy. FWS must revise the SSA to include a

meaningful analysis of the conservation benefits provided by the TCP, and use this information to inform its listing decision-making.

The SSA and Proposed Rule Fail to Give Meaningful Weight to the Conservation Benefits and Success of the CEHM Conservation Plan

The Center of Excellence for Hazardous Materials Management (CEHMM) administers a Candidate Conservation Agreement (CCA) for federal land and minerals and a Candidate Conservation Agreement with Assurances (CCAA) for nonfederal lands and minerals, referred to collectively as the CCA/A. These agreements allow FWS, BLM, and CEHMM to work in cooperation and consultation with private landowners and industry to support conservation measures to maintain and improve habitat for the DSL and the Lesser Prairie Chicken (LPC).[53]

The purpose of a CCA/A is to develop and implement conservation actions that reduce known threats to the species in New Mexico, support efforts to maintain populations in occupied and suitable habitats, and encourage protection of suitable habitats by offering incentives to enrollees for implementing specific conservation measures.[54]

Under the CCA, federal lessees, operators, and grazing permittees (collectively referred to as Participating Cooperators) can join by voluntarily signing a Certificate of Participation (CP) which outlines conservation commitments for both species. Similarly, the CCAA incentivizes voluntary conservation on non-federal lands. By signing a Certificate of Inclusion (CI) under the CCAA, the lessee, owner, or permittee commits to implement specific conservation measures for the species. Under the CCA/A, if either species is listed, the Participating Cooperators and private landowners receive assurances that additional conservation measures and restrictions would not be placed on their otherwise legal activities.[55]

Upon the execution of a CP and/or CI, oil and natural gas operators provide twofold benefit to the DSL and/or LPC. Enrollees agree to contribute funds that will be used for conservation projects, research, and activities to restore, protect, and create suitable habitat for the DSL and/orLPC. Additionally, enrollees of the CCA/A have agreed to implement a series of conservation measures, including no surface occupancy within 30 meters of suitable or occupied DSL habitat. This ensures that oil and natural gas development does not encroach upon the dunes. [56]

[53] "Candidate Conservation Agreements for the Lesser Prairie-Chicken and the Dunes Sagebrush Lizard in New Mexico, 2023," The Center of Excellence for Hazardous Materials Management, Quarterly Report, January 1, 2023 – March 31, 2023, at 1 (located at 2023 "Quarter 1," last visited August 2, 2023).
[54] *Id.*
[55] *Id.* at 1-2.
[56] *Id.* at 12.

The following table displays current program enrollment totals by enrollment type: [57]

Enrollment Type	CCA Enrollments (Federal)	CCAA Enrollments (Non-Federal)
Ranching	40	103
Industry (Parcel-by-Parcel)	13	11
Industry (All-Activities)	47	50
Industry (Linear Development)	30	31

In CEHMM's 2022 Annual Report, CEHMM provided that 46 oil and natural gas operators are enrolled in the CCA/A, totaling 2,230,066 mineral acres across the DSL and LPC habitat.[58] Furthermore, CEHMM, in conjunction with FWS, calculated the Net Conservation Gain (NCG) achieved through the CCA/As by comparing the amount of habitat reclaimed or restored to the amount of habitat lost due to development.

Throughout the Core Management Area and the Primary Population Area, CEHMM reported a net gain of over 5,200 acres of LPC habitat through the conservation activities.[59] Although the 2022 Annual Report did not provide analogous data for the DSL, the data nevertheless demonstrates the success of the CCA/As' conservation efforts.

Finally, in monitoring suitable habitat, CEHMM reported that all of the ranches monitored in 2022 were found to provide suitable habitat for both the DSL and LPC.[60] The CEHMM CCA/A performance data demonstrates that participant conservation measures are effectively conserving DSL habitat.

The SSA and Proposed Rule Fail to Analyze and Correlate Population Data with Habitat Data in New Mexico

Significantly, the mapping of DSL habitat that falls within the BLM's DSL Resource Management Plan Amendment includes the North Mescalero 3 and North Mescalero 5 DSL habitat areas which contain large populations of DSL, as acknowledged in the SSA. *See* SSA, Section 2.6.3 at 38-40. Yet, FWS does not make any effort to conduct correlative analysis on these habitation protection measures, and the DSL populations estimated to existing within these areas. Nor does FWS even attempt to justify its threat analysis from development that covers these areas, despite BLM's withdrawal of lands from development for habitat protection.

Similarly, FWS acknowledges in the SSA that the CCA/CCAA conservation program developed and administered by the Center for Excellence (CEHMM) has resulted in enrollment of 539,046 acres of duneland habitat, and another 637,577 acres of surrounding supportive matrix habitat. SSA, Section

[57] *Id.* at 4.
[58] "Candidate Conservation Agreements for the Lesser Prairie-Chicken and the Dunes Sagebrush Lizard in New Mexico," 2022 Annual Report (Last visited August 2, 2023) The Center of Excellence for Hazardous Materials Management, 5
[59] *Id.* at 30.
[60] *Id.* at 36.

4.6.2 at 81. FWS also explains that "[t]he total acres of habitat enrolled by industry, ranches, NMDGF, and NMSLO currently covers around 85 percent of the range of the DSL within New Mexico." *Id.*

This habitat protection and conservation is significant, and when placed into the context of the robust DSL populations in New Mexico presented in the SSA, it is even more so. Yet, FWS entirely fails to explain or otherwise justify why it forecasts extinction of the species given that 85% of the habitat is protected or conserved, and thereby will provide for continued stable DSL populations.

Comment No. 26: FWS needs to analyze the DSL populations within these habitat areas and present this data in a revised SSA, and then use this information to inform revision of the Proposed Rule. Given the protection provided by the BLM's withdrawal of 1,500,000 acres of federal lands from future development (oil and gas, solar, and wind) in these DSL habitat areas, FWS should explain how this stability of habitat status will translate to providing protection and stability to these robust DSL populations.

ESA Requires FWS to Analyze the Cumulative Benefits of Conservation Programs and BLM Habitat Protection Actions

Comment No. 27: FWS's failure to give full weight and consideration to the successful DSL conservation measures from the TCP, CEHMM CCA/CCAA, Texas CCAA, and BLM management actions violates the PECE policy and plain language of ESA. A decision to list will be challenged, and likely vacated, based on the 2015 federal court decision involving similar issues and flaws in FWS's treatment of conservation as related to its original listing decision for the LPC.

Requested Action: FWS must revise the SSA and proposed rule to give full weight and consideration, including cumulative benefits, to the broad range of successful DSL conservation efforts detailed in these comments, including BLM's withdrawal of approximately 800,000 acres of habitat from development in New Mexico.

A Proposed Critical Habitat Designation and Economic Analysis Must be Prepared Before Any Listing Decision is Rendered

A critical habitat analysis is particularly important to inform FWS's listing decision for the dunes sagebrush lizard because the species is a "habitat specialist" and high-quality habitat is readily discernable from the methodology and LiDAR surveys utilized recently by Texas A&M University to provide best available science and data on probability of occurrence of DSL based on precise topographic and land cover features.

Importantly, ESA mandates that critical habitat designation is based on "the best scientific data available" and also the "economic impact . . . of specifying any particular area as critical habitat." 16 U.S.C. § 1533(b)(2). ESA empowers FWS to "exclude any area from critical habitat if [it] determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat," unless "the failure to designate such area as critical habitat will result in the extinction of the species concerned." *Id.*

FWS Cannot Designate De Facto Critical Habitat via "Conservation Layer Mapping"

Section 4 of ESA provides FWS the only process for designating and managing habitat relevant to the preservation and recovery of a protected species. Congress did not authorize FWS to circumvent this process and create and manage *de facto* critical habitat outside of ESA and requirements of the Administrative Procedures Act.

Congress directed FWS to designate critical habitat unless there is clear evidence that such designation is not beneficial to the species. 16 U.S.C. § 1533(b)(2). If "the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat" then FWS may avoid a critical habitat designation. *Id.* ESA requires FWS to present a clear analysis weighing the risks of designation against the benefits of designation in order to not be required to concurrently designate critical habitat. *Id.* FWS has not done so for the proposed rule.

Comment No. 28: FWS recently disclosed additional habitat mapping layers that identify a "conservation layer" for habitat. This "conservation layer" is essentially de facto critical habitat. FWS cannot avoid its statutory obligations under ESA by simply changing the nomenclature of critical habitat.

An Economic Analysis is Particularly Important to Inform Agency Decision-Making and Ensure Compliance with ESA

When promulgating ESA statute, Congress intended that economic factors would carry significant weight in the critical habitat determination. In 1978 the U.S. House of Representatives amended ESA and included a provision giving FWS discretion to alter a critical habitat designation "if [the agency] determines that the economic benefits of excluding a portion of the critical habitat outweigh the benefits of designating the area as part of the critical habitat." H.R. REP. NO. 95-1625, at 16 (1978), *reprinted in* 1978 U.S.C.C.A.N. 9453, 9466.

In promulgating this provision, the House recognized that the large number of species and subspecies could "present serious conflict with many Federal activities." *Id.* Congress understood that evaluating economic factors added significant dimension to a critical habitat designation and that "[i]n some situations, no critical habitat would be specified." H.R. REP. NO. 95-1625, at 17 (1978), *reprinted in* 1978 U.S.C.C.A.N. 9453, 9467.

In *Bennett v. Spear*, the U.S. Supreme Court commented on the importance of evaluating economic factors when designating critical habitat under ESA. The court held that ESA requires FWS to consider the best scientific data available not only to ensure that species are preserved, but also

> to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise. While this no doubt serves to advance the ESA's overall goal of species preservation, we think it readily apparent that another object (if not indeed the primary one) is to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives. 520 U.S. 154, 176-77 (1997).

Comment No. 29: FWS needs to perform an economic analysis for critical habitat designation and analyze the potential impacts of a listing and critical habitat designation upon domestic oil and natural

gas production in the United States. In April 2022, for example, the Permian Basin accounted for 43.6% percent of U.S. oil production and 17% of natural gas production.[61]

Comment No. 30: FWS needs to perform an economic analysis regarding its "conservation layer" for habitat mapping and for critical habitat. This analysis must examine the impact that a listing may have on U.S. domestic energy, particularly given that the regions of southeastern New Mexico and west Texas account for approximately 40% of domestic oil production and 17% of domestic natural gas production for the United States.

Comment No. 31: For this economic analysis, FWS must comply with NEPA and provide a NEPA document for public review and comment. Given the potential significant economic impact of the proposed rule upon energy production for the United States, FWS should prepare an Environmental Impact Statement for this NEPA compliance.

The SSA and Proposed Rule Impermissibly Adopts on Unverified, Flawed Data and Pseudo-Science from the Petition to List and Ignores Best Available Science

Comment No. 32: The SSA and proposed rule rely on numerous materials that do not qualify as verified scientific data or valid peer-reviewed studies. Many of these materials, FWS simply carried forward from the Petition to List, without conducting any independent review of the source materials or verification that those materials actually support the proposition for which they are cited.

In the SSA and proposed rule, even peer-reviewed studies and literature are often cited inappropriately:

- Sources are cited at the end of claims that say nothing to support the claim.
- Sources are outdated or clearly no longer valid in light of more recent best available science, yet still relied upon to support particular types of claims.
- Sources are cited to support claims when the source does make a statement in support of the claim in the SSA or proposed rule, but only in the editorial discussion of the paper, and not the actual findings of the research.
- Sources are cited to support claims that clearly show a misunderstanding or misinterpretation of the literature or study.

For example, the proposed rule asserts: "[l]ong term resiliency of the dunes sagebrush lizard is maintained through interconnected neighborhoods experiencing localized colonization and extirpation (Ryberg *et al* 2013)." 88 Fed. Reg. at 42,666. Yet, this source cannot be found in the list of cited documents on regulations.gov, and once the source was tracked down, a quick review found that it does not provide support for that proposition. The 2013 Ryberg report is titled "Observations on the nesting ecology and early life history of the dunes sagebrush lizard" which is about observations from only three nesting DSL. It does not discuss any findings that support the statement for which it is used in the

[61] *Energy in the Eleventh District*, Federal Reserve Bank of Dallas, 2023. last visited August 28, 2023); *Advances in technology led to record new well productivity in the Permian Basin in 2021*, EIA, September 30, 2022.

proposed rule. Even if there is a 2013 Ryberg report that supports this proposition, it is not available for public review, which hinders the ability of the public to effectively evaluate and provide comment on the proposed rule.

As another example, the proposed rule states that "dunes sagebrush lizards may not occur in all areas of suitable habitat due to natural extinction-colonization dynamics [citing three studies], and the current state of occupancy may not necessarily reflect the future state at a site (Walkup et al. 2018 at p. 503)." 88 Fed. Reg. at 42,666. Based on this statement, FWS then concludes that "it is important to include the consideration of currently unoccupied but potentially suitable habitat patches within the species' range . . .." *Id.*

Significantly, however, the studies cited do not support these propositions, or FWS's claim. While FWS also cites to the Hardy mapping study to support its claim, that study was based on expert opinion and generalities drown from literature regarding "presumed" suitable habitat and was not subject to any verification or statistical evaluation of actual DSL occurrence. At best, these citations were used to support FWS's subjective opinion, and not a scientific fact. The level of "interactions" between DSL neighborhoods is purely speculative on the part of FWS and has not been actually studied.

Similarly, FWS's claim that DSL may not occur in all suitable habitat due to colonization-extinction dynamics is also severely misleading and unsupported, and completely intermingles spatial and temporal scales. First, no study of colonization-extinction dynamics is available to support anything beyond conceptual and theoretical hypotheses. Second, FWS is mixing the claim that apparent unoccupied areas may be important for some purposes and certain times *(e.g.*, dispersal) with metapopulation dynamics, which is confusing at best, and completely unsupported by any valid scientific data or study. While the 2018 Walkup study cited by FWS does mention this concept generally, it is clearly speculative opinion by the author and not an actual scientific finding from the study.

Comment No. 33: FWS needs to conduct a thorough scientific review and analysis of literature and materials cited to support their claims and assertions in the SSA and proposed rule. Confusing, overbroad, speculative and unsupported conclusions must be removed, and FWS's claims and analyses must be revised to reflect actual and accurate scientific data.

Conclusion

The SSA and proposed rule do not comply with the basic strictures of ESA on listing species as either threatened or endangered. The SSA contains significant and fundamental errors and data gaps that render the proposed rule arbitrary and capricious, and not supported by the administrative record, in violation of APA. FWS needs to withdraw the SSA and address these issues and then revisit if a listing proposal is even warranted.

The DSL population numbers documented in the SSA show a stable and growing species with important conservation efforts in place to continue that population trend. The considerable DSL populations in New Mexico are located in areas where BLM has withdrawn over 850,000 acres of public land from oil, natural gas, solar and wind development to protect the DSL's habitat. When combined with the conservation programs being administered in New Mexico and Texas, population numbers will remain stable, and will likely continue increases in New Mexico.

FWS must recognize and appropriately consider these voluntary conservation measures. ESA was created as a guard-rail when private and public conservation efforts failed. Here, conservation efforts are successfully protecting the DSL and its habitat, and an endangered listing for the DSL is not warranted.

The Alliance thanks you for your consideration of these comments. If you have any questions, please do not hesitate to contact us.

Sincerely,

Kathleen M. Sgamma
President