



Impact of Dunes Sagebrush Lizard on Oil and Gas Activities in New Mexico: Bureau of Land Management Lease Offerings and Nominations in 2010-2011

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Introduction

Opponents of protecting the dunes sagebrush lizard (*Sceloporus arenicolus*) under the Endangered Species Act claim that federal listing of the reptile will severely restrict or eliminate oil and gas leasing on public lands.¹ Rep. Steve Pearce of New Mexico's second congressional district stated, "Most of the oil and gas jobs in southeast New Mexico are at risk," if the animal is listed as endangered. Mr. Pearce presented no information supporting his claim, and the U.S. Fish and Wildlife Service, which manages endangered species, has stated that it is "absolutely not true" that lizard protection will inhibit oil and gas development.²

Oil and gas drilling is a significant economic activity in the Permian Basin of southeast New Mexico and west Texas, and the region is one of the largest domestic producers of fossil fuel in the United States.³ However, the range of dunes sagebrush lizard covers approximately 749,000 acres, or less than 2 percent of the 39.6 million-acre Permian Basin.⁴

¹ Information about the conservation status of dune sagebrush lizard is available at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=C03J>

² R. Romo, "Lizard listing at center of debate," *Albuquerque Journal*, 28 April 2011; also see A. Reese, "FWS predicts little disruption from possible sagebrush lizard listing," *E&E Land Letter*, 3 November 2011.

³ Univ. Texas Permian Basin Ctr. for Energy & Econ. Diversification, *Graphs and Data on Permian Basin Oil Production and Reserves*, URL: <http://ceed.utpb.edu/energy-resources/petroleum-library/permian-basin-statistics/graphs-and-data-on-permian-basin-oil-production-and-reserves/> (accessed Oct. 26, 2011).

⁴ L.A. Fitzgerald, et al., 2011, *The Range and Distribution of Sceloporus arenicolus in Texas: Results of surveys conducted 8-15 June 2011*, Inst. Renewable Natural Resources, Texas A&M Univ., 38 pp., URL: http://herpetology.tamu.edu/Fitzgerald/Publications/TX-lizard-surveys_2011-report.pdf; L.R. Laurencio and L.A. Fitzgerald, 2010, *Atlas of Distribution and Habitat of the Dunes Sagebrush Lizard (Sceloporus arenicolus) in New Mexico*, Dept. Wildlife and Fisheries Sci., Texas A&M Univ., URL: http://herpetology.tamu.edu/Fitzgerald/Publications/Dunes%20sagebrush%20lizard%20atlas_NM.zip

This analysis quantifies effects of dunes sagebrush lizard protection on oil and gas activity by examining lease sales offered in 2010-2011 by the Bureau of Land Management (BLM) Pecos District, which manages most lands in the animal's range in New Mexico.⁵ As shown below, only about 5 percent (2,920 acres) of 52,874 acres offered for lease from January 2010 to April 2011 are lizard habitat. Moreover, about 15 percent (3,484 acres) of 22,383 acres where the BLM proposed leases in the second half of 2011 are lizard habitat. The BLM deferred leasing of only 560 acres, or less than 1 percent of lands proposed for oil and gas development in the study period, to conserve occupied lizard habitat. In addition, leases offered by the BLM exceed those purchased by oil and gas operators, indicating a market surplus.

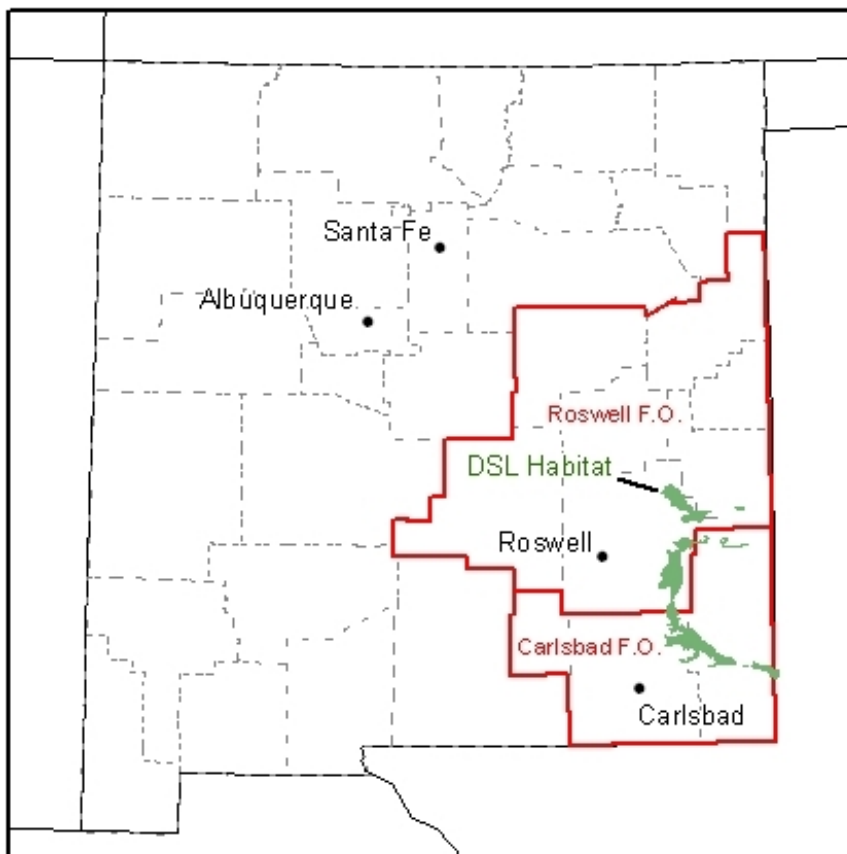


Figure 1. Dunes sagebrush lizard habitat (green) and public lands (red) managed by the BLM Pecos District of southeast New Mexico.

⁵ Oil and gas leasing data informing this report is available at: http://www.blm.gov/nm/st/en/prog/energy/oil_and_gas/lease_sale_notices.html.

Method

The BLM Pecos District is divided into field offices located in Carlsbad and Roswell, New Mexico (Figure 1). We examined oil and gas lease sale notices from January 2010 to April 2011 (Appendix A), and sale nominations for July and October 2011 (Appendix B). Parcels were counted as “habitat” where the BLM proposed lease stipulations related to dunes sagebrush lizard.⁶ In addition, we inspected quarterly lease sale result summaries to identify parcels that the BLM offered but did not sell to oil and gas operators (Appendix C).

Results

I. Offered leases

A. January 2010

In January 2010, the BLM offered 10 parcels for lease on 2,227.19 acres, of which 160 acres (7 percent) may be habitat for dunes sagebrush lizard (Table 1). All habitat is located on Parcel 201001-016 in Lea County, and subject to lease stipulations LN-2 and S-23. LN-2 notifies operators that “all or portions of the lease may contain suitable or occupied habitat” of dune sagebrush lizard, and requires them to survey for lizard presence before drilling. S-23 states, “Surface disturbance will not be allowed in documented occupied habitat areas, or within up to 200 meters of suitable habitat associated with occupied habitat areas identified through field

Table 1. Oil and gas leases offered January 2010.

Field Office	County	Parcel	Acres	DSL (ac/%)
Carlsbad	Eddy	201001-010	120.00	LN-2; S-23
		201001-014	80.00	
	Lea	201001-016	160.00	
		201001-017	320.00	
		201001-018	40.00	
		201001-019	80.00	
	CFO Total		800.00	
Roswell	Chaves	201001-011	640.00	
		201001-012	399.74	
		201001-013	400.00	
	Guadalupe	201001-009	37.45	
		RFO Total		1477.19
Offered		10 parcels	2277.19	160 (7.0)

LN-2: All or portions of the parcel may contain suitable or occupied habitat.

S-23: Surface use restricted within up to 200 meters of occupied sites.

⁶ Bureau of Land Management, 2008, *Special Status Species Record of Decision and Approved Resource Management Plan Amendment*, Pecos District: Roswell, NM, 110 pp.

review” (Appendix A). The stipulations create a financial disincentive for the operator to locate the animal because they may increase the complexity of drilling operations on the leased parcel.

B. April 2010

In April 2010, the BLM offered 15 parcels for lease on 6,559.67 acres, of which 2,480 acres (37.8 percent) may be lizard habitat (Table 2). The Carlsbad Field Office put forward three parcels in Lea County that total 600 acres of lizard habitat where oil and gas drilling is subject to lease stipulations discussed above. In addition, one 1,880-acre parcel in Chaves County, 201004-007, contains suitable habitat and almost 84 percent of the 2,241.46 acres offered for lease by the Roswell Field Office. On that parcel, the BLM will apply stipulations LN-2, discussed above, and S-34, which requires a “plan of development” before drilling in lizard habitat (Appendix A).

Table 2. Oil and gas leases offered April 2010.

Field Office	County	Parcel	Acres	DSL (ac/%)
Carlsbad	Eddy	201004-002	559.85	
		201004-004	160.00	
		201004-009	558.28	
		201004-010	320.08	
		201004-013	40.00	
	Lea	201004-018	640.00	
		201004-019	440.00	LN-2; S-23
		201004-020	80.00	LN-2; S-23
		201004-021	1120.00	
		201004-023	320.00	
		201004-024	80.00	LN-2; S-23
		CFO Total		4318.21
Roswell	Chaves	201004-007	1880.00	LN-2; S-34
		201004-022	160.00	
	Curry	201004-005	121.16	
		201004-006	80.30	
	RFO Total		2241.46	1880 (83.9)
Offered		15 parcels	6559.67	2480 (37.8)

LN-2: All or portions of the parcel may contain suitable or occupied habitat.

S-23: Surface use restricted within up to 200 meters of occupied sites.

S-34: Plan of development required prior to drilling in suitable habitat.

C. July 2010

The July 2010 oil and gas lease sale was by far the largest of the study period. The BLM offered 118 parcels for lease on 31,656.6 acres, of which only 160 acres (0.06 percent) contain

suitable habitat for dune sagebrush lizard (Table 3). On Parcel 201007-039 in Lea County, lease stipulations LN-2 and S-23 apply (Appendix A). The Roswell Field Office offered 103 parcels in Quay and Roosevelt counties totaling 25,699.76 acres, none of which have any lizard habitat.

Table 3. Oil and gas leases offered July 2010.

Field Office	County	Parcel	Acres	DSL (ac/%)
Carlsbad	Eddy	201007-002	1280.26	
		201007-003	799.86	
		201007-004	320.00	
		201007-005	160.00	
		201007-029	401.14	
	Lea	201007-038	240.00	
		201007-039	160.00	LN-2; S-23
		201007-079	80.00	
		201007-080	80.00	
		201007-081	80.00	
		201007-082	120.00	
		201007-083	320.00	
		201007-090	999.61	
		201007-091	595.97	
		201007-117	320.00	
		CFO Total	5956.84	160 (2.9)
Roswell	Chaves	201007-007	160.00	
		201007-008	320.00	
		202007-037	320.00	
	Curry	201007-084	953.44	
		201007-085	80.00	
		201007-092	592.00	
	Quay	201007-009	41.04	
		201007-010	40.00	
		201007-011	40.00	
		201007-012	40.00	
		201007-013	440.00	
		201007-014	40.00	
		201007-027	240.00	
		201007-028	120.00	
		201007-040	40.00	
		201007-041	40.00	
		201007-042	40.00	
		201007-043	520.00	
		201007-044	400.00	
		201007-045	40.00	
		201007-046	600.00	
		201007-047	40.00	
		201007-048	120.00	

201007-049	280.00
201007-050	40.29
201007-051	40.00
201007-052	40.00
201007-053	40.00
201007-054	40.00
201007-055	40.00
201007-056	40.00
201007-057	760.00
201007-058	600.00
201007-059	678.40
201007-060	280.00
201007-061	40.00
201007-062	720.00
201007-063	517.16
201007-064	679.92
201007-065	40.00
201007-066	40.00
201007-067	1360.10
201007-068	40.00
201007-069	40.00
201007-070	40.00
201007-071	840.00
201007-072	593.00
201007-073	77.08
201007-074	240.00
201007-075	115.69
201007-076	40.00
201007-077	120.00
201007-078	280.00
201007-086	40.00
201007-087	80.00
201007-088	40.00
201007-089	40.00
201007-093	40.00
201007-094	159.57
201007-095	39.04
201007-096	160.00
201007-097	40.00
201007-098	80.00
201007-099	240.00
201007-100	320.00
201007-101	400.00
201007-102	400.00
201007-103	79.92

	201007-104	320.00	
	201007-105	80.00	
	201007-106	160.00	
	201007-107	160.00	
	201007-108	800.00	
	201007-109	80.00	
	201007-110	156.23	
	201007-111	80.00	
	201007-112	320.00	
	201007-113	80.00	
	201007-114	80.00	
	201007-115	80.00	
	201007-116	160.00	
	201007-118	1580.74	
	201007-119	674.54	
	201007-131	680.00	
	201007-132	200.00	
Roosevelt	201007-006	160.00	
	201007-015	320.00	
	201007-016	160.00	
	201007-017	1330.02	
	201007-018	77.27	
	201007-019	40.00	
	201007-020	640.00	
	201007-021	160.00	
	201007-022	40.00	
	201007-023	78.05	
	201007-024	80.00	
	201007-025	80.00	
	201007-026	240.00	
	201007-032	76.26	
	201007-033	80.00	
	201007-034	80.00	
	201007-035	80.00	
	201007-036	160.00	
	RFO Total	25699.76	0
Offered	118 parcels	31656.60	160 (<0.1)

LN-2: All or portions of the parcel may contain suitable or occupied habitat.

S-23: Surface use restricted within up to 200 meters of occupied sites.

D. October 2010

In October 2010, the BLM offered 29 parcels for lease on 7,119.92 acres (Appendix A). None of these public lands are lizard habitat (Table 4). The Carlsbad Field Office supplied

2,441.72 acres in Eddy and Lea counties, and the Roswell Field Office invited bids on 4,678.2 acres in Chaves and Quay counties.

Table 4. Oil and gas leases offered October 2010.

Field Office	County	Parcel	Acres	DSL (ac/%)		
Carlsbad	Eddy	201010-002	40.00			
		201010-006	80.00			
		201010-007	320.00			
		201010-008	720.00			
	201010-030	321.72				
	201010-031	640.00				
	201010-032	160.00				
	CFO Total		2441.72	0		
	Roswell	Chaves	201010-003	40.00		
Quay		201010-009	40.00			
		201010-010	40.00			
		201010-011	600.00			
		201010-012	40.00			
		201010-013	120.00			
		201010-014	40.00			
		201010-015	40.00			
		201010-016	40.00			
		201010-017	80.00			
		201010-018	240.00			
		201010-019	198.20			
		201010-020	40.00			
		201010-021	80.00			
		201010-022	40.00			
		201010-023	40.00			
		201010-024	80.00			
		201010-025	80.00			
		201010-027	520.00			
		201010-028	2120.00			
		201010-029	160.00			
		RFO Total		4678.20	0	
		Offered		29 parcels	7119.92	0

E. January 2011

In January 2011, the BLM offered 10 parcels for lease on 3,383.82 acres, of which 120 acres (3.5 percent) may be lizard habitat (Table 5). All habitat is located on parcel 201101-002 in Lea County, where stipulation S-23 restricts surface use in “occupied” habitat (Appendix A). Remarkably, the lease does not require surveys to locate animals and determine occupancy.

Table 5. Oil and gas leases offered January 2011.

Field Office	County	Parcel	Acres	DSL (ac/%)
Carlsbad	Eddy	201101-001	581.56	
	Lea	201101-002	120.00	S-23
		201101-003	677.94	
		CFO Total	1379.50	
Roswell	Quay	201101-008	152.34	
		201101-009	1004.52	
		201101-010	40.00	
	Roosevelt	201101-004	160.00	
		201101-005	160.16	
		201101-006	157.30	
		201101-007	320.00	
		RFO Total	1994.32	0
Offered	10 parcels	3383.82	120 (3.5)	

S-23: Surface use restricted within up to 200 meters of occupied sites.

F. April 2011

In April 2011, the BLM offered 12 parcels for lease on 1,876.35 acres (Appendix A). None of these public lands are lizard habitat (Table 6). Seven parcels in Lea County comprise 1,000 acres. The remaining five parcels in Quay and Roosevelt counties total 876.35 acres.

Table 6. Oil and gas leases offered April 2011.

Field Office	County	Parcel	Acres	DSL (ac/%)
Carlsbad	Lea	201104-004	160.00	
		201104-005	160.00	
		201104-006	40.00	
		201104-007	80.00	
		201104-008	160.00	
		201104-009	80.00	
		201104-010	320.00	
		CFO Total	1000.00	0

Roswell	Quay	201104-011	320.23	
		201104-012	160.00	
	Roosevelt	201104-001	80.00	
		201104-002	160.00	
		201104-003	156.12	
			RFO Total	876.35
Offered	12 parcels	1876.35	0	

G. Summary

In 2010 and the first half of 2011, the BLM Pecos District offered 194 parcels for oil and gas lease on 52,873.55 acres in seven New Mexico counties. At most, 2,920 acres (5.5 percent) are suitable habitat for dunes sagebrush lizard (Table 7).

Table 7. Oil and gas leases offered in January 2010 to April 2011.

Quarter	# Parcels	Acres	DSL (%)	DSL defer
2010 Jan	10	2277.19	160 (7.0)	0
2010 Apr	15	6559.67	2480 (37.8)	0
2010 Jul	118	31656.60	160 (<0.1)	0
2010 Oct	29	7119.92	0	0
2011 Jan	10	3383.82	120 (3.5)	0
2011 Apr	12	1876.35	0	0
Total	194	52873.55	2920 (5.5)	0

Oil and gas operators that purchased leases described above include businesses and individuals located as far away as Denver, Colorado, and Corpus Christi, Texas (Appendix C). Sale results for quarterly oil and gas auctions conducted by the BLM New Mexico State Office during the study period show that the agency did not receive bids to lease 25 parcels (7.9 percent) covering about 15,253 acres (14.3 percent) that it offered at auction in New Mexico, Kansas, Oklahoma and Texas (Table 8). The BLM offered 317 parcels totaling approximately 106,605 acres in the market area, and received bids on 292 parcels covering about 91,352 acres.

II. Nominated leases

A. July 2011

The BLM proposes to lease 36 parcels totaling 11,221.25 acres in the July 2011 sale (Appendix B). Only 640 acres (5.7 percent) have suitable habitat for dune sagebrush lizard (Table 9). The BLM indicated that it will defer leasing of 480 acres (4.3 percent) until the Fish and Wildlife Service finalizes a decision on listing the species as endangered. It may lease the remaining 160 acres of suitable habitat with drilling stipulations as described above.

Table 8. Unsold oil and gas leases offered from January 2010 to April 2011.

Quarter	# Parcels	Acres	# Bid	Acres	# Unsold (%)	Acres (%)
2010 Jan	43	18317.03	35	8122.55	8	10194.48
2010 Apr	39	17117.88	30	14755.81	9	2362.07
2010 Jul	141	44060.99	139	42661.19	2	1399.80
2010 Oct	45	12638.12	43	11598.12	2	1040.00
2011 Jan	34	12425.21	31	12208.12	3	217.09
2011 Apr	15	2046.05	14	2006.05	1	40.00
Total	317	106605.28	292	91351.84	25 (7.9)	15253.44 (14.3)

Data do not include parcels with presale offers.

B. October 2011

The BLM proposes to lease 24 parcels on 11,161.26 acres in the October 2011 sale (Appendix B). Suitable habitat for dune sagebrush lizard may exist on up to 2,844 acres (26.4 percent), all of which is managed by the Carlsbad Field Office (Table 9). The BLM indicated that it will defer leasing of 80 acres (0.1 percent) until the Fish and Wildlife Service finalizes a decision on listing the species as endangered. It may lease the remaining 2,764 acres of suitable habitat with drilling stipulations. In other words, more than 97 percent of dune sagebrush lizard habitat proposed for the October 2011 sale may be leased to oil and gas operators.

C. Summary

In the second half of 2011, the BLM proposes to lease 22,382.51 acres on 60 parcels (Appendix B). Suitable habitat for dune sagebrush lizard may exist on up to 3,484 acres (15.6 percent) (Table 9). The BLM will defer 560 acres (2.5 percent) until the Fish and Wildlife Service finalizes a decision on listing the species as endangered. It may lease the remaining 2,924 acres of suitable habitat with stipulations to be determined. Nearly 84 percent of the suitable habitat proposed for lease would be open to drilling.

Table 9. Nominations for oil and gas lease sales July and October 2011.

Quarter	Field Office	# Parcels	Acreage	DSL defer (%)	DSL allow (%)	DSL total (%)
2011 Jul	Carlsbad	32	8101.25	0	160 (2.0)	160 (2.0)
	Roswell	4	3120.00	480 (15.4)	0	480 (15.4)
	Nominated	36	11221.25	480 (4.3)	160 (1.4)	640 (5.7)
2011 Oct	Carlsbad	23	10761.26	80.05 (0.1)	2764 (25.7)	2844 (26.4)
	Roswell	1	400.00	0	0	0
	Nominated	24	11161.26	80.05 (0.1)	2764 (24.8)	2844 (25.5)
Total		60	22382.51	560.05 (2.5)	2924 (13.1)	3484 (15.6)

The combined total acreage offered or nominated for oil and gas lease during the study period is 75,256 acres, of which 6,404 acres (8.5 percent) may be habitat for the dunes sagebrush lizard (Tables 7, 9). The BLM will defer 560 acres from leasing to protect lizard habitat until the U.S. Fish and Wildlife Service finalizes a listing decision, which is 8.7 percent of all habitat considered, and less than 1 percent of all lands proposed for oil and gas drilling in the study period. Oil and gas extraction will be allowed on up to 5,844 acres of lizard habitat, which is more than 91 percent of habitat considered, and 7.8 percent of lands proposed for drilling.

Discussion

Habitat of dunes sagebrush lizard exists on a small fraction of New Mexico public lands proposed by the BLM for oil and gas leasing during the study period (Figure 2). Our results overstate the extent of lizard habitat and its effect oil and gas activity because we assume that habitat exists on the entirety of each parcel where the BLM proposed lease stipulations related to the animal. Its specialized habitat does not exist on every acre. Further analysis should examine results of pre-disturbance surveys, where required, to determine the actual extent of habitat and lizard populations on leased parcels.

Our findings invalidate claims of the oil and gas industry that the BLM does not currently lease oil and gas in dunes sagebrush lizard habitat.⁷ The agency routinely offers new oil and gas leases in lizard habitat. In 2008, the agency closed 37,023 acres of the Pecos District to new oil and gas drilling in an Area of Critical Environmental Concern (ACEC). The actual extent of lizard habitat within the ACEC is unknown. Even if all of the ACEC were suitable lizard habitat, which is not likely, it would comprise less than 5 percent of all known habitat.⁸ Regardless, new leases in lizard habitat reported here comprise a small percentage of total offerings during the study period. The BLM deferred leasing on less than 1 percent (560 acres) of all lands proposed for oil and gas development to protect lizard habitat.

The BLM failed to lease more than 14 percent of public lands offered to oil and gas operators during the study period. This finding undermines the contention of Rep. Pearce that protection of dunes sagebrush lizard as an endangered species is “deeply rooted in an agenda against the oil and gas industry,” and that “it is absurd to make claims that the listing will have

⁷ Steve Henke, president of the New Mexico Oil and Gas Association, asserted that the BLM has placed off-limits to oil and gas drilling thousands of acres of public land in New Mexico for the dunes sagebrush lizard and lesser prairie chicken, and said, “Of course the BLM is not leasing in habitat areas.” Quoted in Rene Romo, “Pearce’s claims countered,” *Albuquerque Journal*, May 6, 2011.

⁸ L.A. Fitzgerald, et al., 2011, *The Range and Distribution of Sceloporus arenicolus in Texas: Results of surveys conducted 8-15 June 2011*, Inst. Renewable Natural Resources, Texas A&M Univ., 38 pp., URL: http://herpetology.tamu.edu/Fitzgerald/Publications/TX-lizard-surveys_2011-report.pdf; L.R. Laurencio and L.A. Fitzgerald, 2010, *Atlas of Distribution and Habitat of the Dunes Sagebrush Lizard (Sceloporus arenicolus) in New Mexico*, Dept. Wildlife and Fisheries Sci., Texas A&M Univ., URL: http://herpetology.tamu.edu/Fitzgerald/Publications/Dunes%20sagebrush%20lizard%20atlas_NM.zip

no economic impact.”⁹ Mr. Pearce cites a 2005 review stating, “Land management decisions that restrict or preclude full mineral development of certain state and federal lands thus affect the flow of revenues into local and state economies,”¹⁰ and extrapolates from it that lizard protection will cause economic harm. However, BLM leasing activity in the study period exceeds “full development” because the agency offered more to the oil and gas industry than it demanded (Table 8). By law, the BLM must accept any noncompetitive offer on lease parcels that did not sell at competitive auction for up to two years after the initial sale date.¹¹ All parcels unsold during the study period are outside of lizard habitat. Further analysis should identify parcels acquired by oil and gas purchasers without competition.

Conclusion

Dunes sagebrush lizard habitat is insignificant compared to the scope of oil and gas leasing on public lands in New Mexico. BLM offered leases exceeding industry demand in the study period. Protection of the lizard as an endangered species will have no effect on the surplus of unsold leases.

Appendices

Appendix A – Parcels offered for oil and gas lease in January 2010 to April 2011.

Appendix B – Parcels nominated for oil and gas lease in July and October 2011.

Appendix C – Lease sale result summaries for January 2010 to April 2011.

⁹ Quoted in Romo, May 6, 2011.

¹⁰ B. Hanson, et al., 2005, *Collaborative Conservation Strategies for the Lesser Prairie-Chicken and Sand Dune Lizard in New Mexico: Findings and Recommendations of the New Mexico LPC/SDL Working Group*, 172 pp., quoted in Romo, May 6, 2011.

¹¹ 43 C.F.R. § 3110.

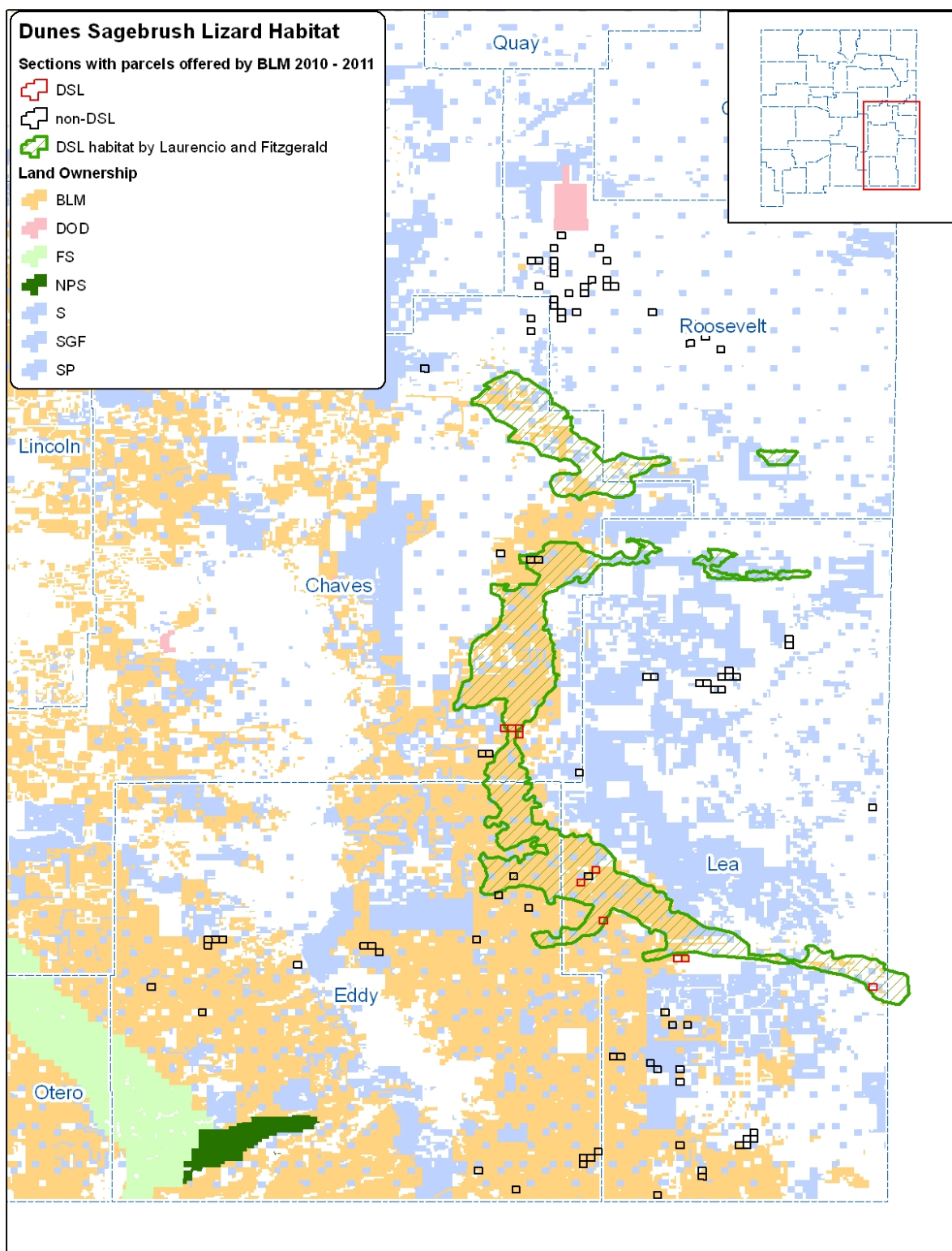


Figure 2. Dunes sagebrush lizard habitat and parcels offered by the BLM Pecos District for oil and gas leasing during the study period.