

3.0 Results

The results of the inventory are presented below, summarized by access category for land area and resources and grouped by study area. Table 3-1 shows the combined results for all 11 study areas, while Tables 3-2 through 3-12 show the results for individual study areas. Also depicted on the bottom of each table is a simplified summary showing accessibility of oil and gas resources. The tables show the results for Federal land access categorization by land area, total oil (used generically to include oil, NGLs, and liquids associated with gas reservoirs), and total natural gas (associated and non-associated with oil reservoirs). Oil and natural gas totals include undiscovered technically recoverable and reserves growth resources. Figures 3-1 through 3-57 show the corresponding pie charts depicting the simplified and the nine-category access hierarchy, the Federal land access categorization maps for each study area, and the corresponding maps showing undiscovered oil and natural gas resources on Federal lands.

3.1 Study Area Features

Each of the study areas is unique in terms of its Federal land and resources accessibility. Noteworthy features are presented below.

3.1.1 Northern Alaska (NPR-A and ANWR 1002 only)

- None of the Federal land in this study area is accessible under standard lease terms (Figures 3-3 and 3-4, Category 9).
- Approximately 43 percent (10.4 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease

terms (Figures 3-3 and 3-4, Categories 5 through 8). Based on resource estimates, these lands contain 41 percent (6.9 Bbbls) of the technically recoverable Federal oil and 51 percent (33.3 TCF) of the technically recoverable Federal natural gas.

- Approximately 57 percent (13.9 million acres) of the Federal land is not accessible (Figures 3-3 and 3-4, Categories 1 through 4). Based on resource estimates, these lands contain about 59 percent (10.2 Bbbls) of the technically recoverable Federal oil and 49 percent (32.2 TCF) of the technically recoverable Federal natural gas.
- Only conventional resources have been assessed for Northern Alaska. Continuous resources (See Section 2.2.1.1) will be included in a future USGS assessment. Reserves growth has not been estimated for this study area.
- Although the Federal portion of NPR-A (22.5 million acres) is about 15 times larger in surface area than the Federal portion of ANWR 1002 (1.5 million acres), it is estimated to contain only about 1.2 times as much oil (9.3 Bbbls versus 7.7 Bbbls).

3.1.2 Uinta-Piceance Basin

- Approximately 38 percent (4.9 million acres) of the Federal land is accessible under standard lease terms (Figures 3-8 and 3-9, Category 9). Based on resource estimates, these lands contain 28 percent (36 MMbbls) of the Federal oil and 24 percent (3.1 TCF) of the Federal natural gas.
- Approximately 27 percent (3.6 million acres) of the Federal land is

Table 3-1. Summary of All Phase II Study Areas—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	12,601	12.7%	7,510	35.4%	14,867	8.0%
2.	No Leasing (Administrative) (NLA)	4,161	4.2%	1,405	6.6%	6,891	3.7%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	19,680	19.8%	1,727	8.1%	25,444	13.6%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	9,025	9.1%	135	0.6%	2,923	1.6%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	88	0.1%	3	0.0%	14	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	12,252	12.4%	7,059	33.3%	37,893	20.3%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	9,271	9.3%	1,184	5.6%	31,188	16.7%
8.	Leasing, Controlled Surface Use (CSU) ^f	8,374	8.4%	1,451	6.8%	42,428	22.7%
9.	Leasing, Standard Lease Terms (SLTs)	23,751	23.9%	743	3.5%	25,210	13.5%
Total, Federal Lands including Split Estate		99,203	100%	21,216	100%	186,857	100%
Total Non-Federal		196,204		4,802		156,603	
Total Inventory Area		295,406		26,018		343,460	
Summary							
Inaccessible (Categories 1-4)		45,467	46%	10,776	51%	50,125	27%
Accessible with Restrictions (Categories 5-8)		29,985	30%	9,697	46%	111,522	60%
Accessible under Standard Lease Terms (Category 9)		23,751	24%	743	3%	25,210	13%
Total, Federal Lands Including Split Estate		99,203	100%	21,216	100%	186,857	100%

^a Undiscovered technically recoverable resources and reserves growth *Small rounding errors may be present.*

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

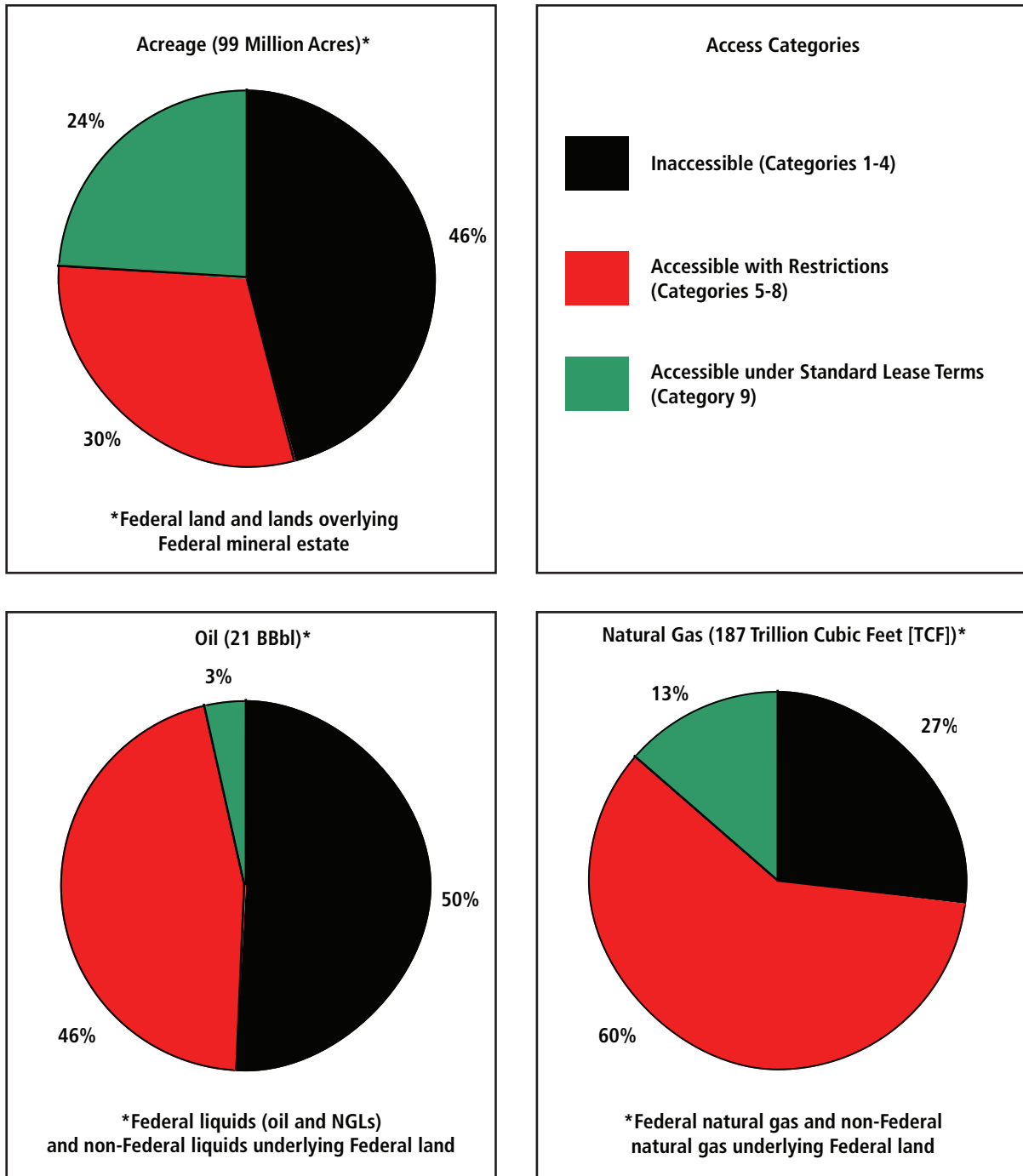


Figure 3-1. Simplified Chart of Results, Summary of All Phase II Study Areas—Federal Land and Oil and Natural Gas Resources by Accessibility

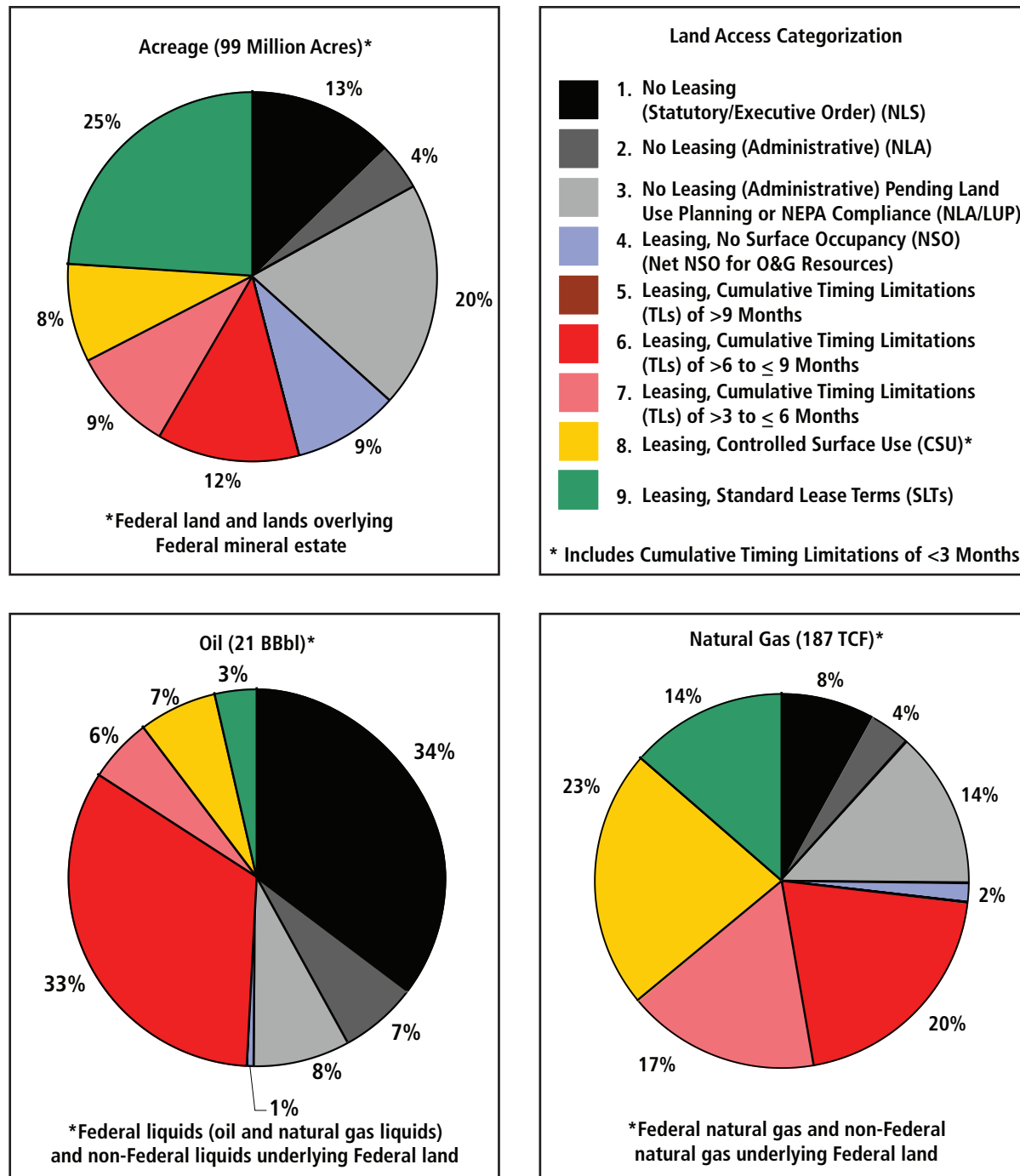


Figure 3-2. Chart of Results, Summary of All Phase II Study Areas—Federal Land and Oil and Natural Gas Resources by Access Category

Table 3-2. Northern Alaska Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	1,559	6.4%	7,217	42.3%	6,370	9.7%
2.	No Leasing (Administrative) (NLA)	1,861	7.6%	1,342	7.9%	4,857	7.4%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	9,159	37.6%	1,539	9.0%	20,797	31.8%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	1,368	5.6%	53	0.3%	133	0.2%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	-	0.0%	-	0.0%	-	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	10,182	41.7%	6,833	40.0%	33,071	50.5%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	258	1.1%	78	0.5%	269	0.4%
8.	Leasing, Controlled Surface Use (CSU) ^f	1	0.0%	0	0.0%	1	0.0%
9.	Leasing, Standard Lease Terms (SLTs)	0	0.0%	0	0.0%	0	0.0%
Total, Federal Lands including Split Estate		24,388	100.0%	17,063	100.0%	65,497	100.0%
Total Non-Federal		619		997		1,399	
Total Inventory Area		25,007		18,060		66,896	
Summary							
Inaccessible (Categories 1-4)		13,947	57%	10,152	59%	32,156	49%
Accessible with Restrictions (Categories 5-8)		10,441	43%	6,911	41%	33,341	51%
Accessible under Standard Lease Terms (Category 9)		0	0%	0	0%	0	0%
Total, Federal Lands Including Split Estate		24,388	100%	17,063	100%	65,497	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

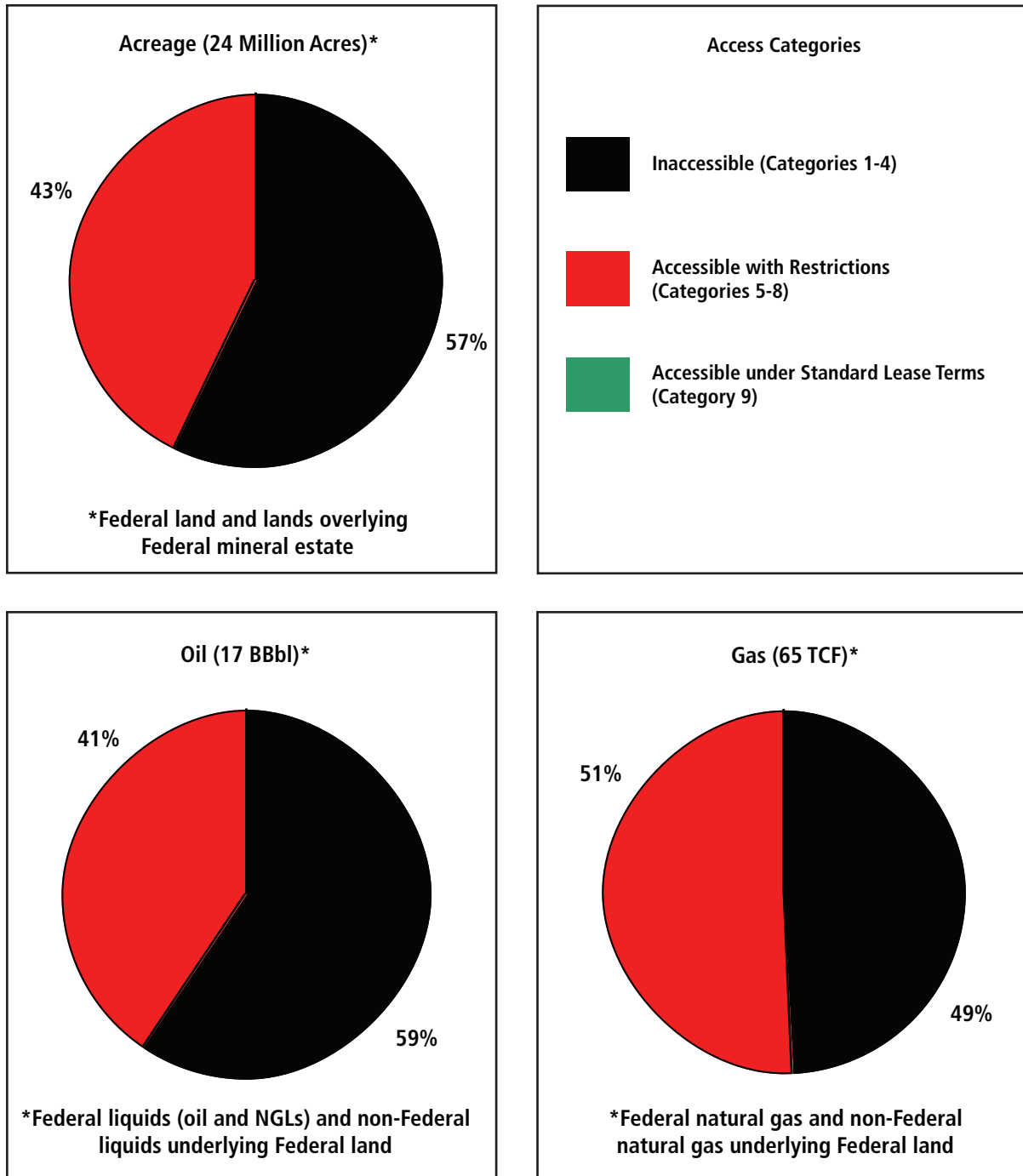


Figure 3-3. Simplified Chart of Results, Northern Alaska Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

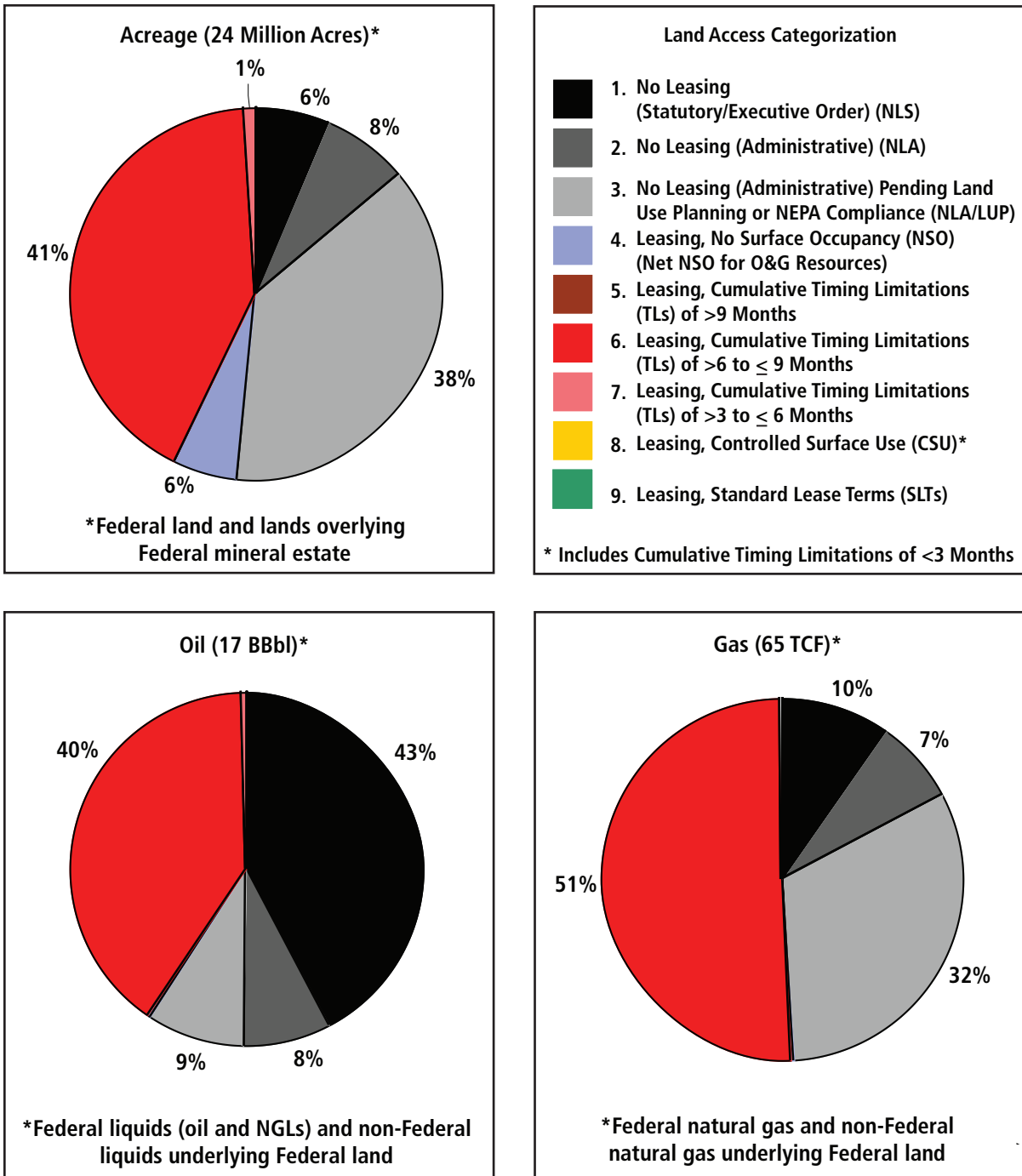


Figure 3-4. Chart of Results, Northern Alaska Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

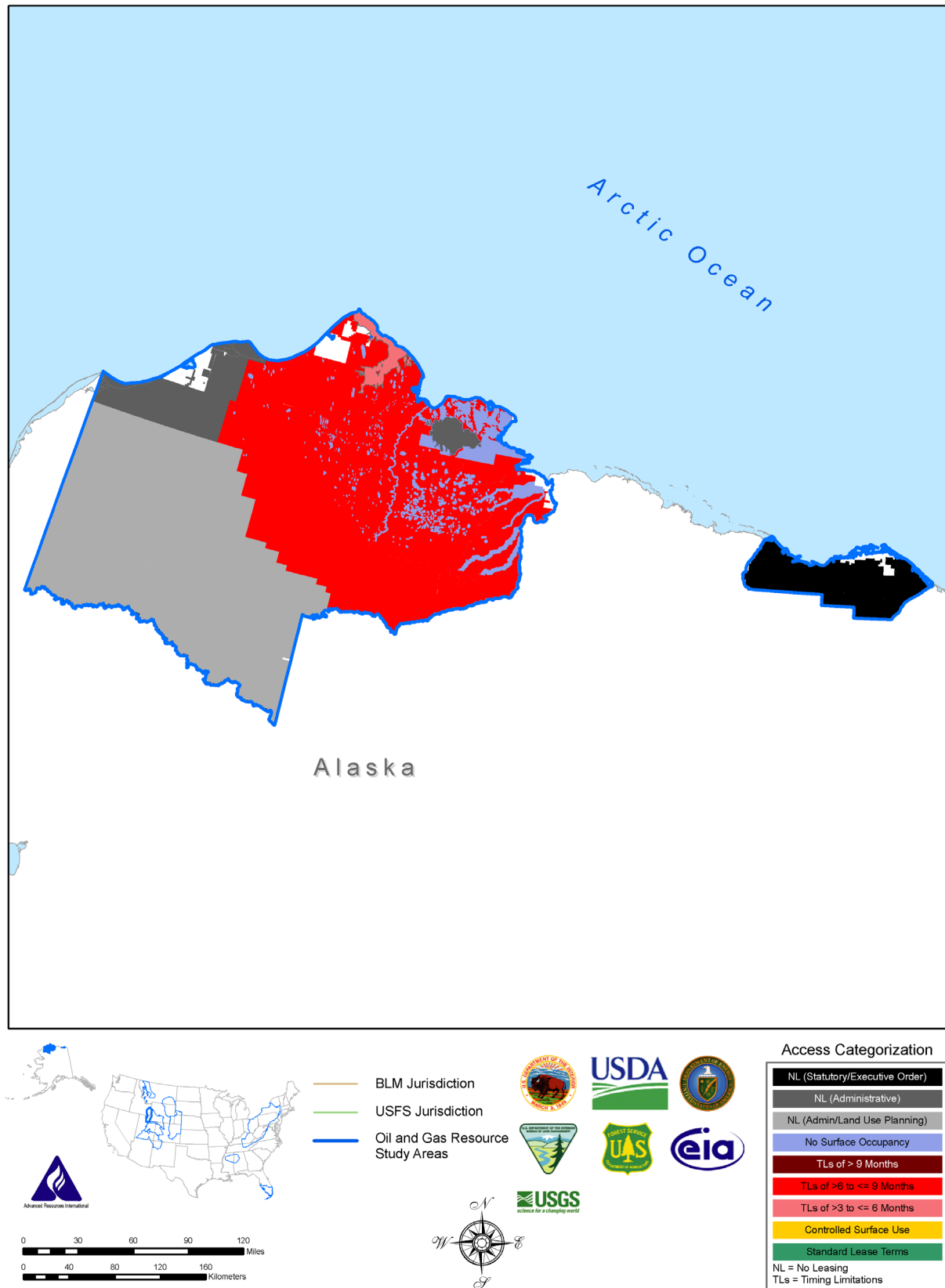


Figure 3-5. Federal Land Access Categorization Map, Northern Alaska Study Area

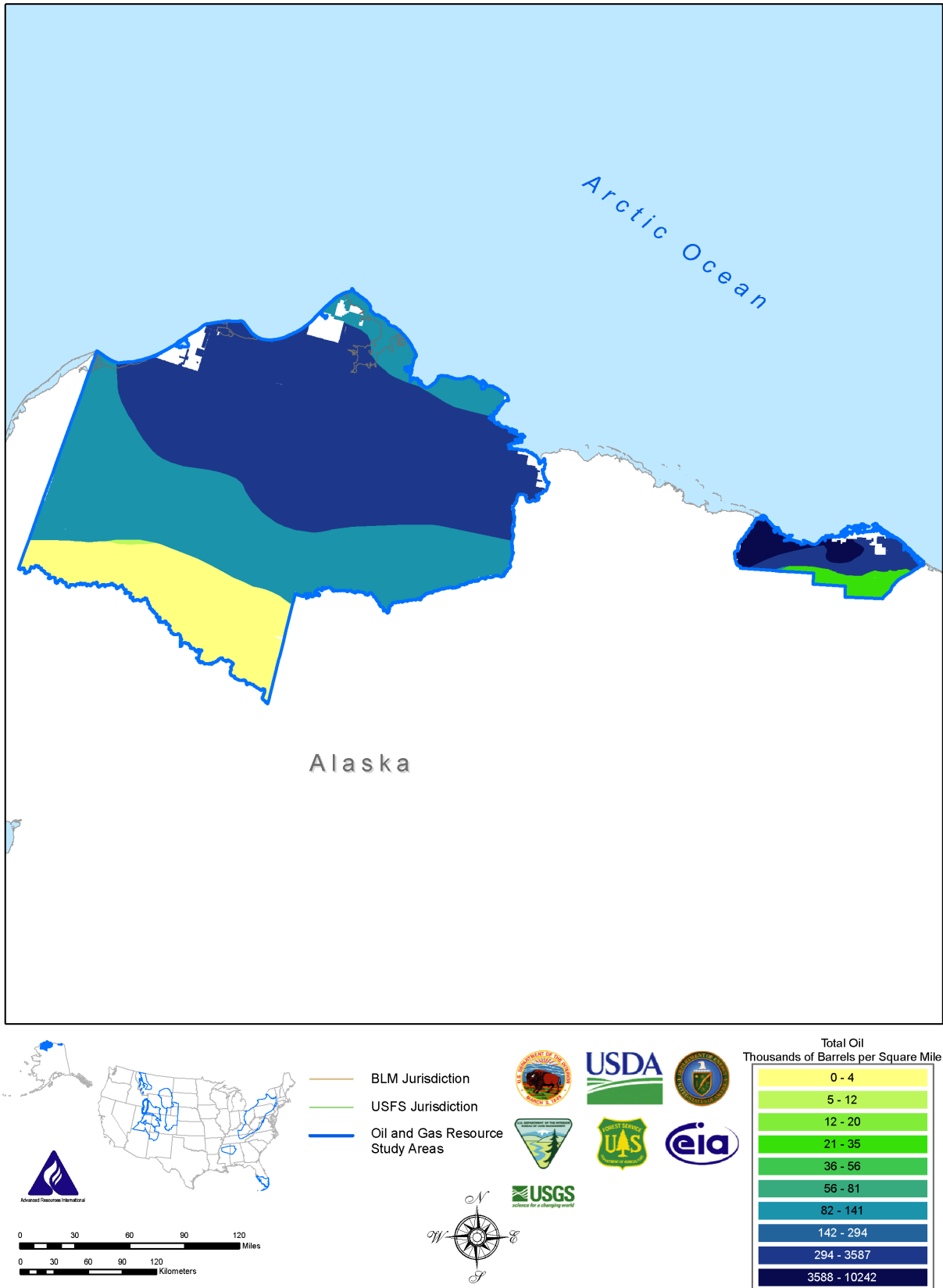


Figure 3-6. Map of Total Federal Oil, Northern Alaska Study Area

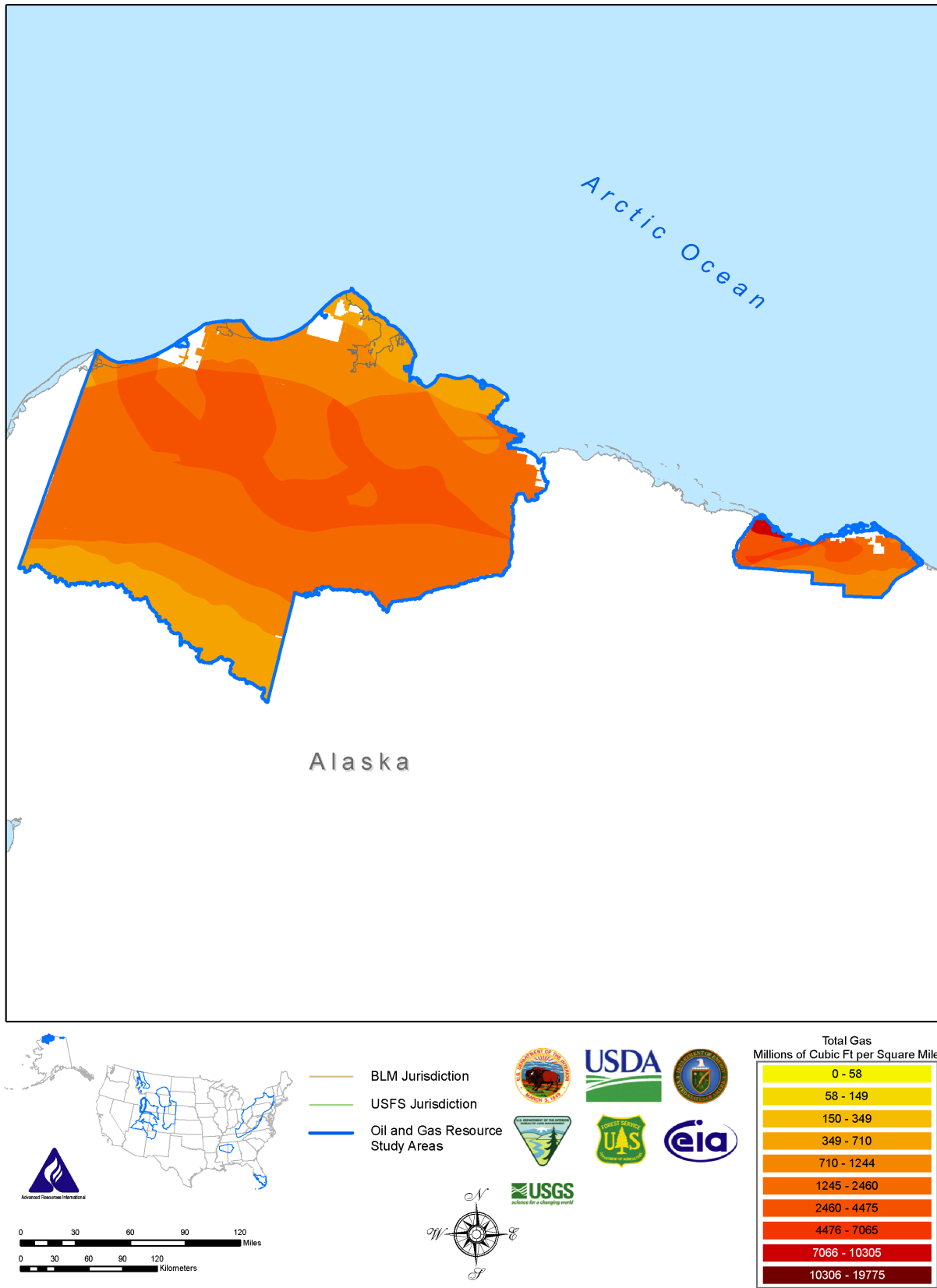


Figure 3-7. Map of Total Federal Natural Gas, Northern Alaska Study Area

accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-8 and 3-9, Categories 5 through 8). Based on resource estimates, these lands contain 56 percent (72 MMbbls) of the Federal oil and 61 percent (7.8 TCF) of the Federal natural gas in the basin.

- Approximately 35 percent (4.6 million acres) of the Federal land is not accessible (Figures 3-8 and 3-9, Categories 1 through 4). Based on resource estimates, these lands contain about 17 percent (22 MMbbls) of the Federal oil and 15 percent (1.9 TCF) of the Federal natural gas.
- Most of the undiscovered natural gas (greater than 95 percent) is expected to occur as continuous resources.

3.1.3 Paradox/San Juan Basins

- Approximately 40 percent (7.0 million acres) of the Federal land is accessible under standard lease terms (Figures 3-13 and 3-14, Category 9). Based on resource estimates, these lands contain 38 percent (156 MMbbls) of the Federal oil and 39 percent (10.5 TCF) of the Federal natural gas.
- Approximately 11 percent (1.9 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-13 and 3-14, Categories 5 through 8). Based on resource estimates, these lands contain 39 percent (159 MMbbls) of the Federal oil and 54 percent (14.7 TCF) of the Federal natural gas.
- Approximately 49 percent (8.7 million acres) of the Federal land is not accessible (Figures 3-13 and 3-14, Categories 1 through 4). Based on resource estimates, these lands contain

about 23 percent (96 MMbbls) of the Federal oil and 7 percent (2.0 TCF) of the Federal natural gas.

- Most of the undiscovered natural gas (approximately 95 percent) is expected to occur as continuous resources.

3.1.4 Montana Thrust Belt

- Approximately 3 percent (0.2 million acres) of the Federal land is accessible under standard lease terms (Figures 3-18 and 3-19, Category 9). Based on resource estimates, these lands contain 2 percent (3 MMbbls) of the Federal oil and 1 percent (0.07 TCF) of the Federal natural gas.
- Approximately 5 percent (0.3 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-18 and 3-19, Categories 5 through 8). Based on resource estimates, these lands contain 6 percent (10 MMbbls) of the Federal oil and 4 percent (0.27 TCF) of the Federal natural gas.
- Approximately 92 percent (5.2 million acres) of the Federal land is not accessible (Figures 3-18 and 3-19, Categories 1 through 4). Based on resource estimates, these lands contain about 92 percent (158 MMbbls) of the Federal oil and 95 percent (6.0 TCF) of the Federal natural gas.
- The USDA-Forest Service is the primary land management agency in the Montana Thrust Belt, with 71 percent of the Federal lands. Almost half is currently not being leased while undergoing new land use planning.

3.1.5 Powder River Basin

- Approximately 49 percent (5.8 million acres) of the Federal land is accessible

Table 3-3. Uinta-Piceance Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	1,644	12.6%	13	9.9%	685	5.4%
2.	No Leasing (Administrative) (NLA)	642	4.9%	2	1.9%	404	3.2%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	617	4.7%	1	1.1%	149	1.2%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	1,683	12.9%	5	3.9%	620	4.9%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	-	0.0%	-	0.0%	-	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	323	2.5%	4	3.1%	539	4.2%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	1,355	10.3%	17	12.8%	2,168	17.1%
8.	Leasing, Controlled Surface Use (CSU) ^f	1,908	14.6%	52	39.8%	5,067	39.9%
9.	Leasing, Standard Lease Terms (SLTs)	4,921	37.6%	36	27.8%	3,062	24.1%
Total, Federal Lands including Split Estate		13,092	100.0%	130	100.0%	12,694	100.0%
Total Non-Federal		5,856		105		10,224	
Total Inventory Area		18,948		235		22,918	
Summary							
Inaccessible (Categories 1-4)		4,586	35%	22	17%	1,858	15%
Accessible with Restrictions (Categories 5-8)		3,586	27%	72	56%	7,774	61%
Accessible under Standard Lease Terms (Category 9)		4,921	38%	36	28%	3,062	24%
Total, Federal Lands Including Split Estate		13,092	100%	130	100%	12,694	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

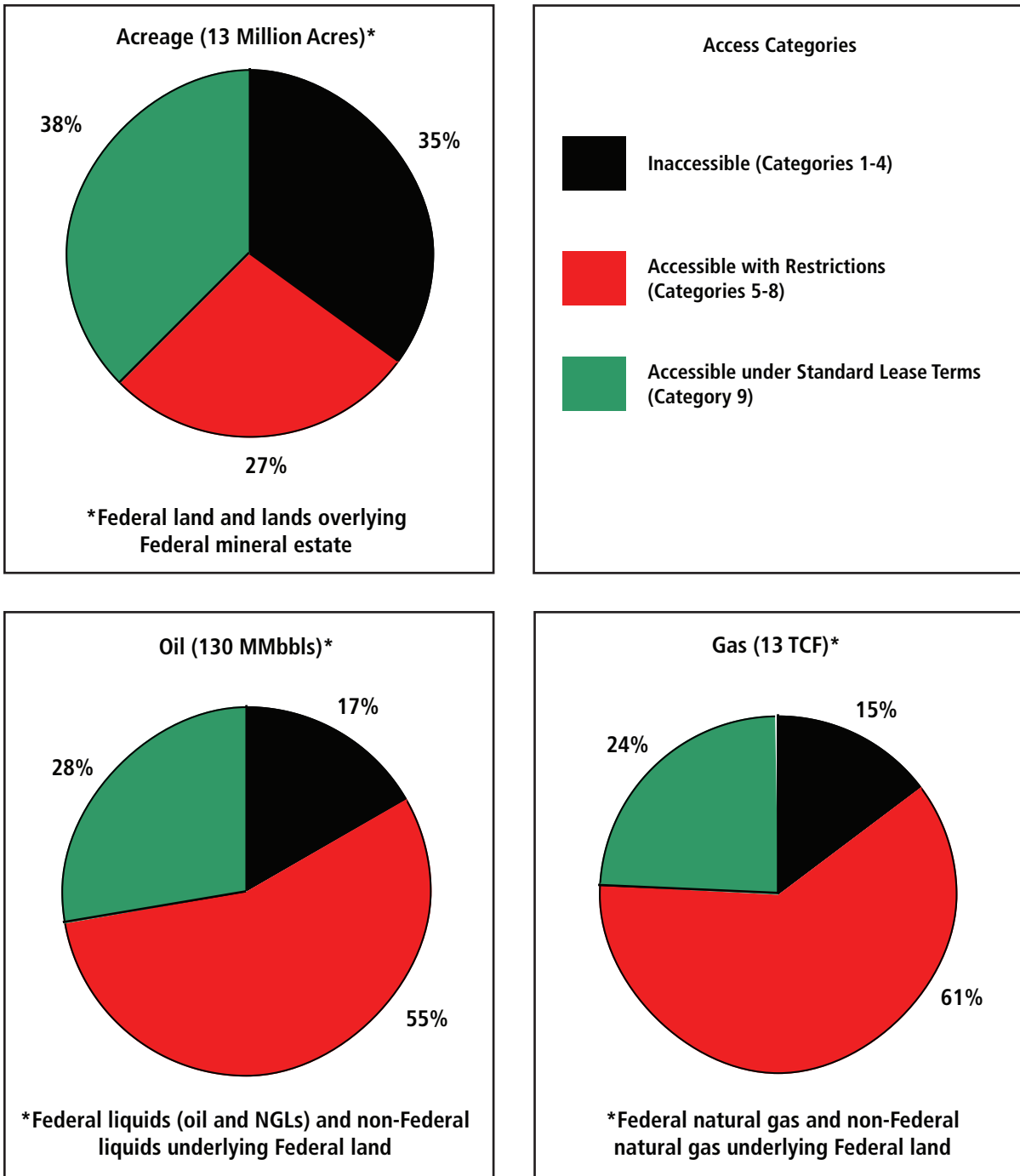


Figure 3-8. Simplified Chart of Results, Uinta-Piceance Basin Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

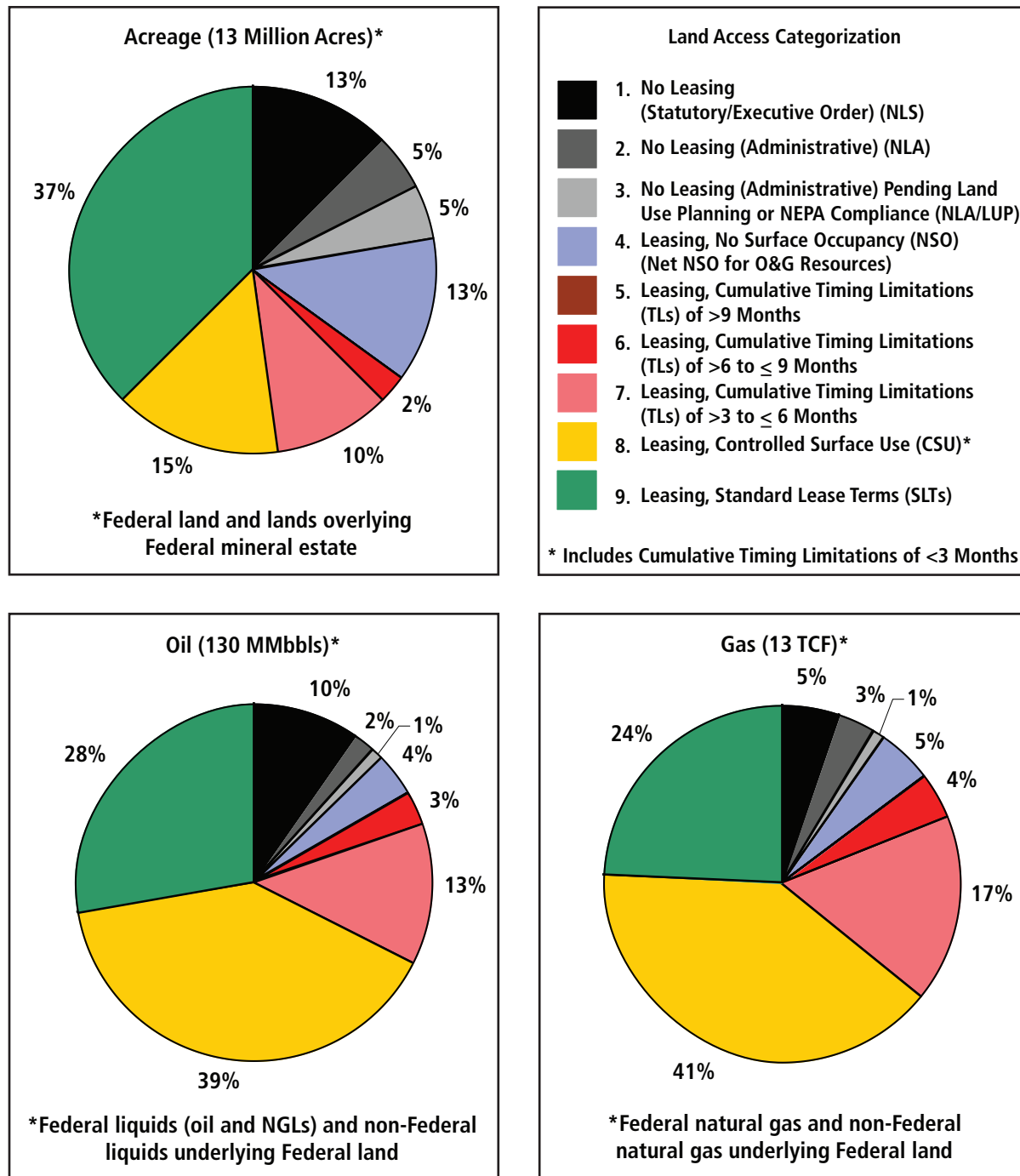


Figure 3-9. Chart of Results, Uinta-Piceance Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

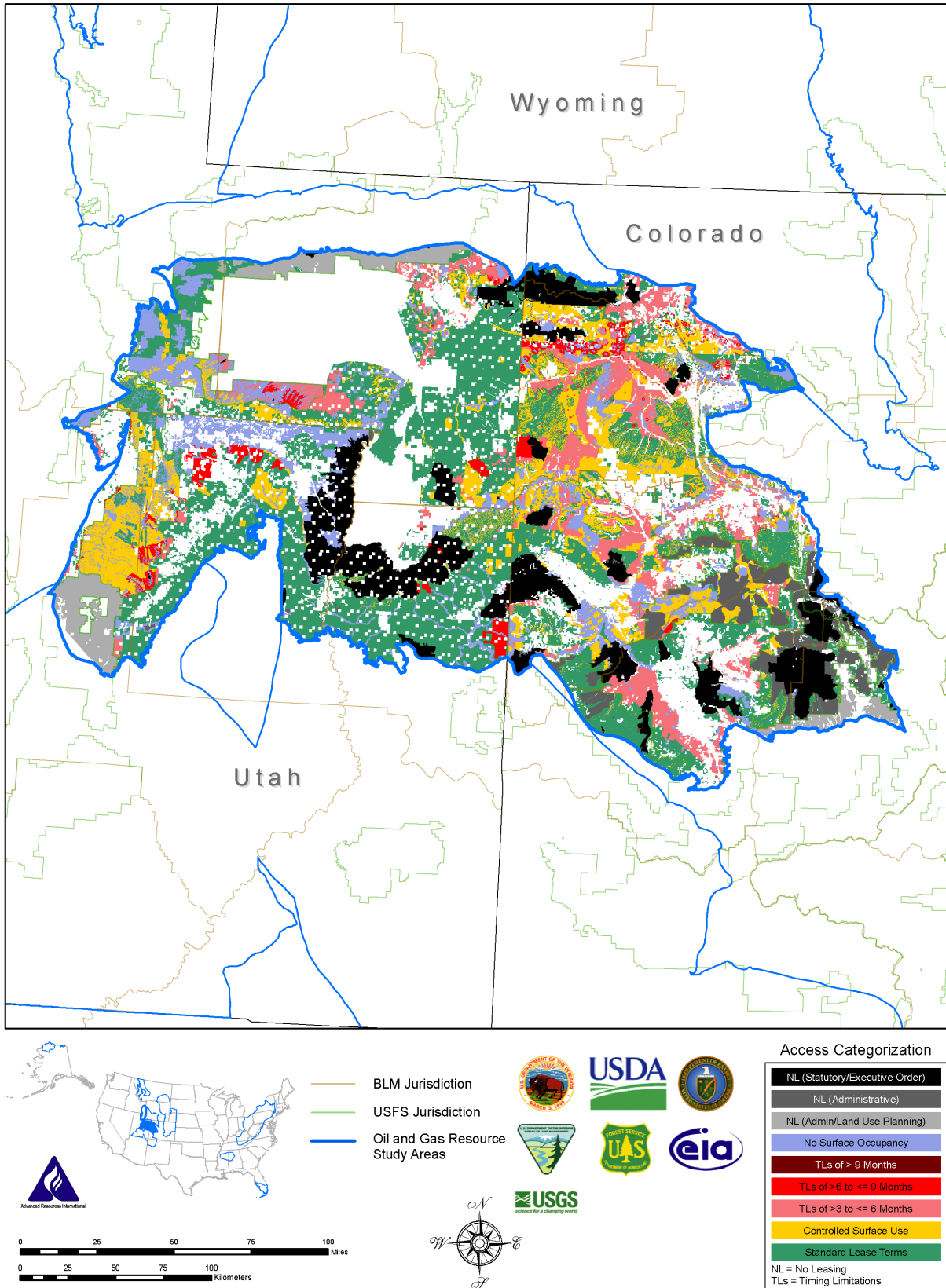


Figure 3-10. Federal Land Access Categorization Map, Uinta-Piceance Basin Study Area

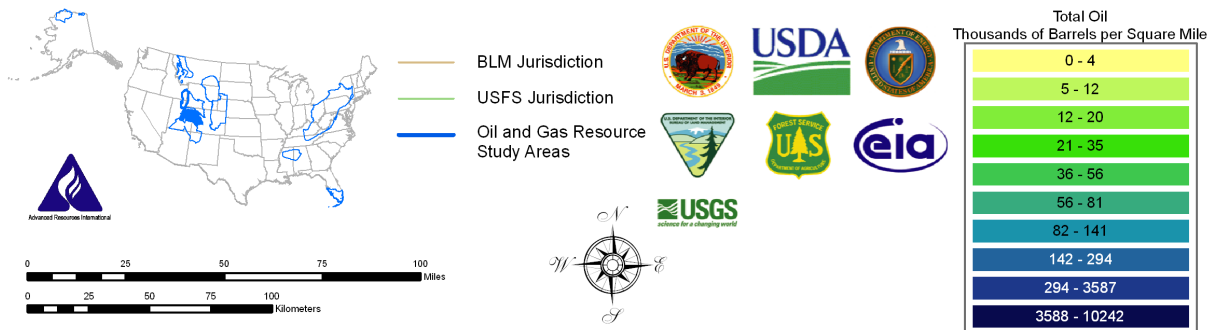
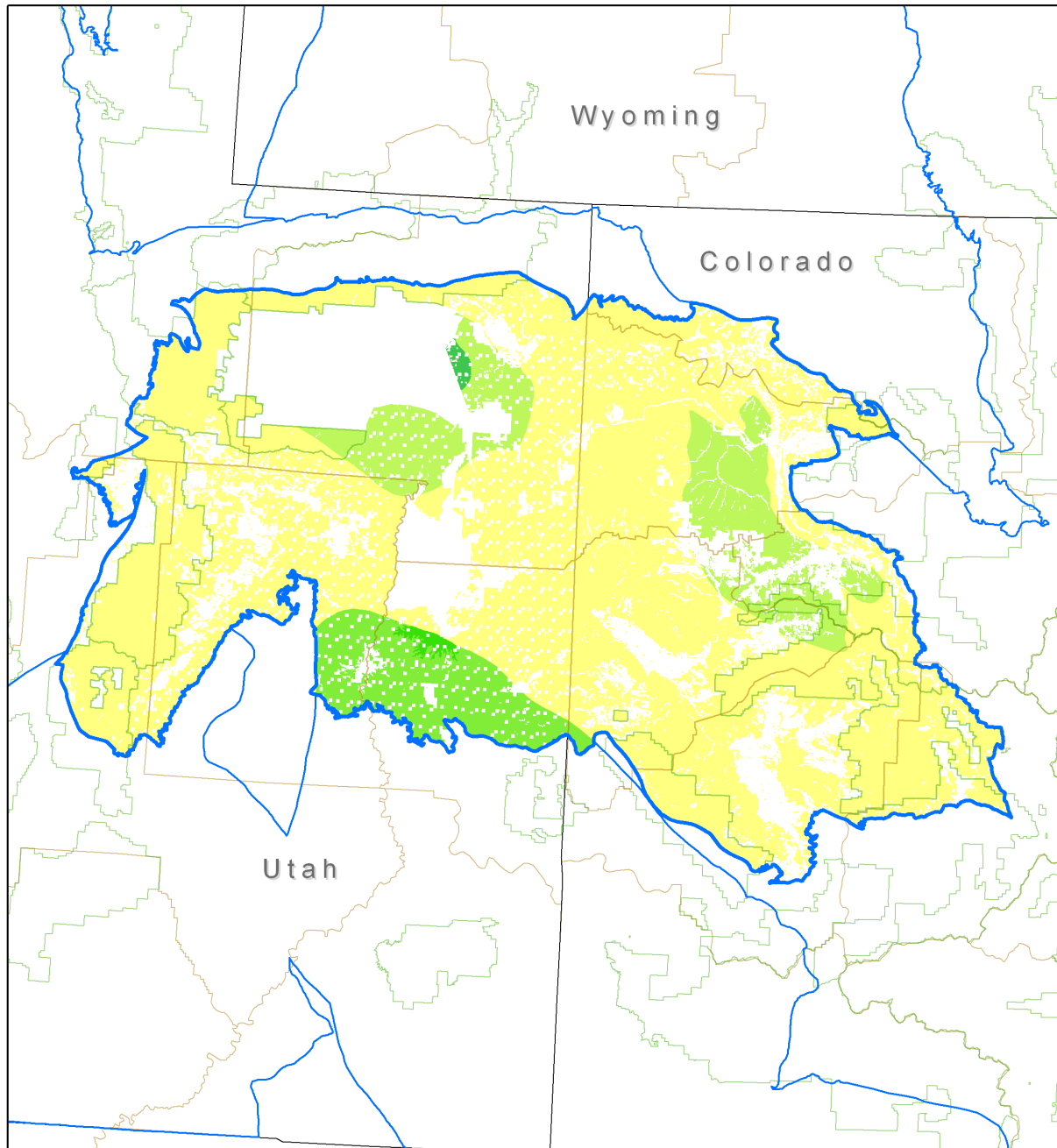


Figure 3-11. Map of Total Federal Oil, Uinta-Piceance Basin Study Area

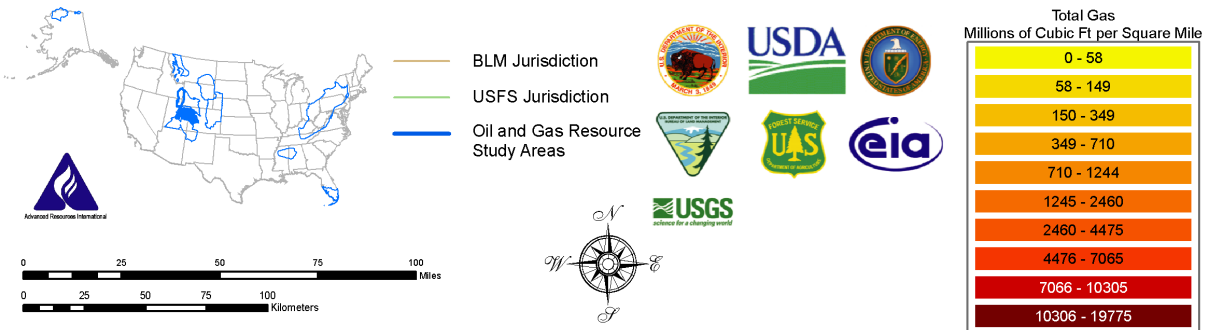
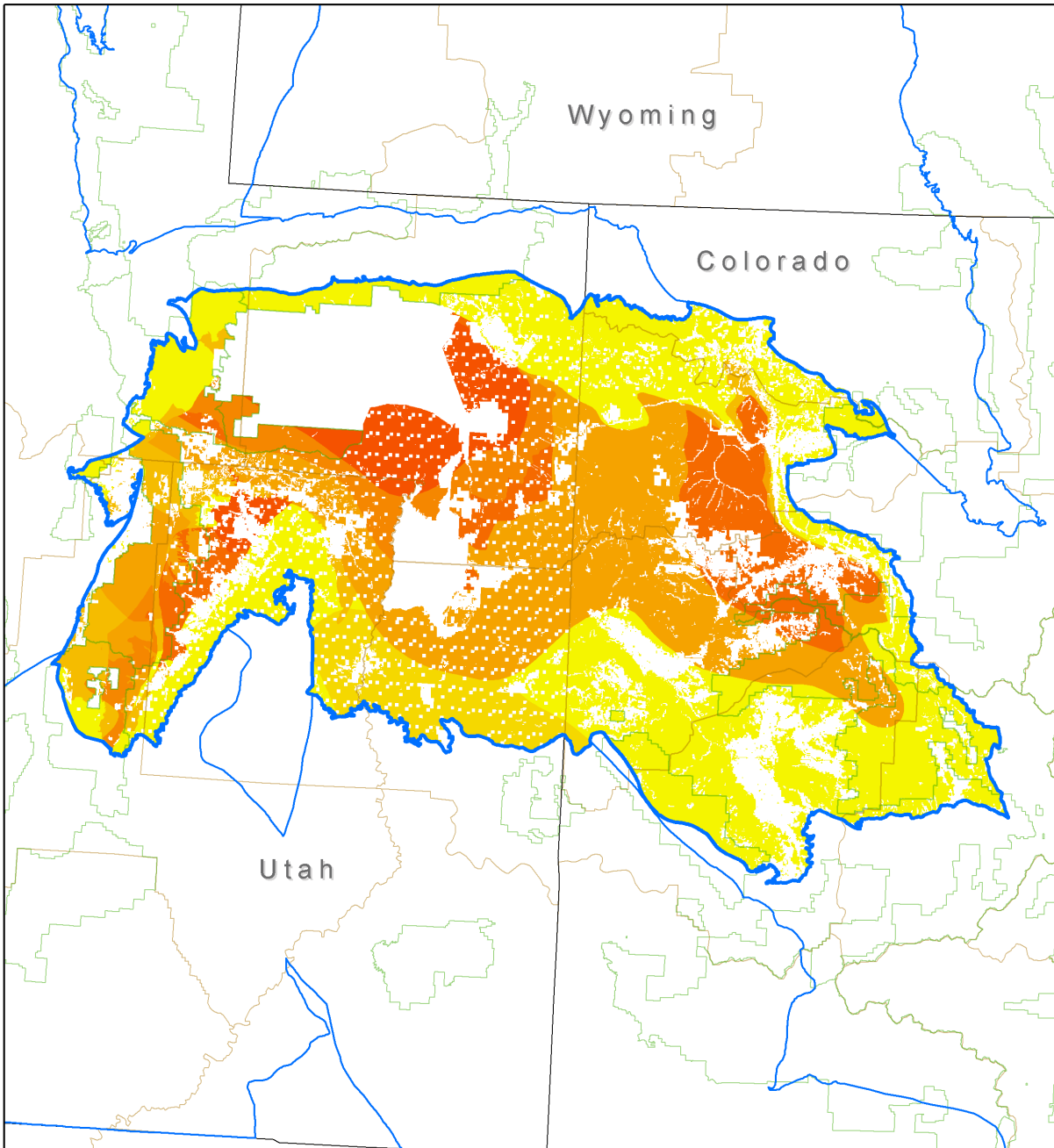


Figure 3-12. Map of Total Federal Natural Gas, Uinta-Piceance Basin Study Area

Table 3-4. Paradox/San Juan Basins Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	5,455	30.9%	71	17.2%	547	2.0%
2.	No Leasing (Administrative) (NLA)	479	2.7%	9	2.2%	528	1.9%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	2,036	11.5%	5	1.2%	29	0.1%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	759	4.3%	11	2.8%	895	3.3%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	50	0.3%	2	0.5%	3	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	98	0.6%	4	1.0%	71	0.3%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	1,033	5.8%	45	11.1%	4,659	17.1%
8.	Leasing, Controlled Surface Use (CSU) ^f	734	4.2%	107	26.1%	9,978	36.7%
9.	Leasing, Standard Lease Terms (SLTs)	7,027	39.8%	156	38.0%	10,471	38.5%
Total, Federal Lands including Split Estate		17,671	100.0%	411	100.0%	27,182	100.0%
Total Non-Federal		11,108		359		29,825	
Total Inventory Area		28,779		770		57,007	
Summary							
Inaccessible (Categories 1-4)		8,729	49%	96	23%	2,000	7%
Accessible with Restrictions (Categories 5-8)		1,916	11%	159	39%	14,711	54%
Accessible under Standard Lease Terms (Category 9)		7,027	40%	156	38%	10,471	39%
Total, Federal Lands Including Split Estate		17,671	100%	411	100%	27,182	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

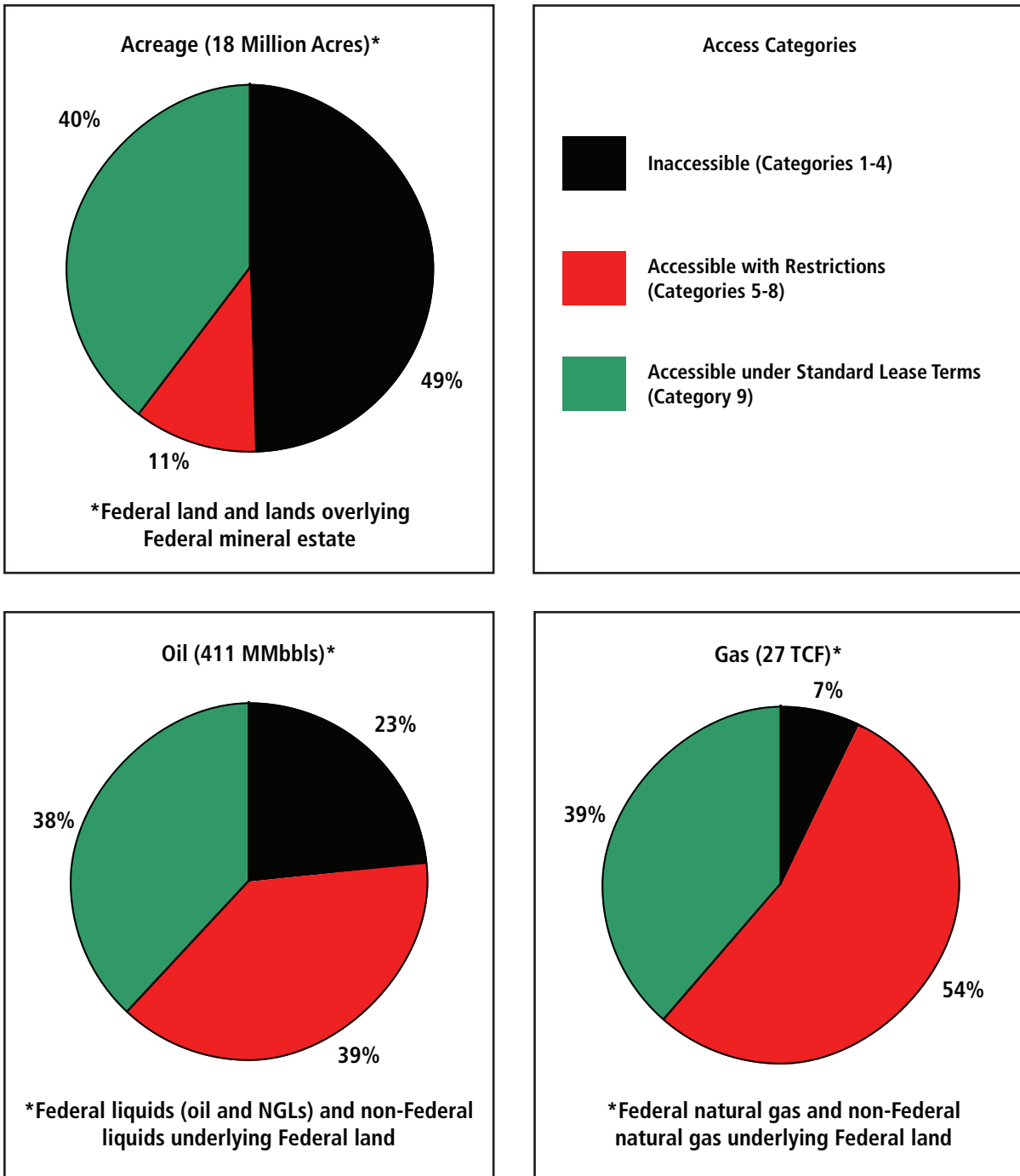


Figure 3-13. Simplified Chart of Results, Paradox/San Juan Basins Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

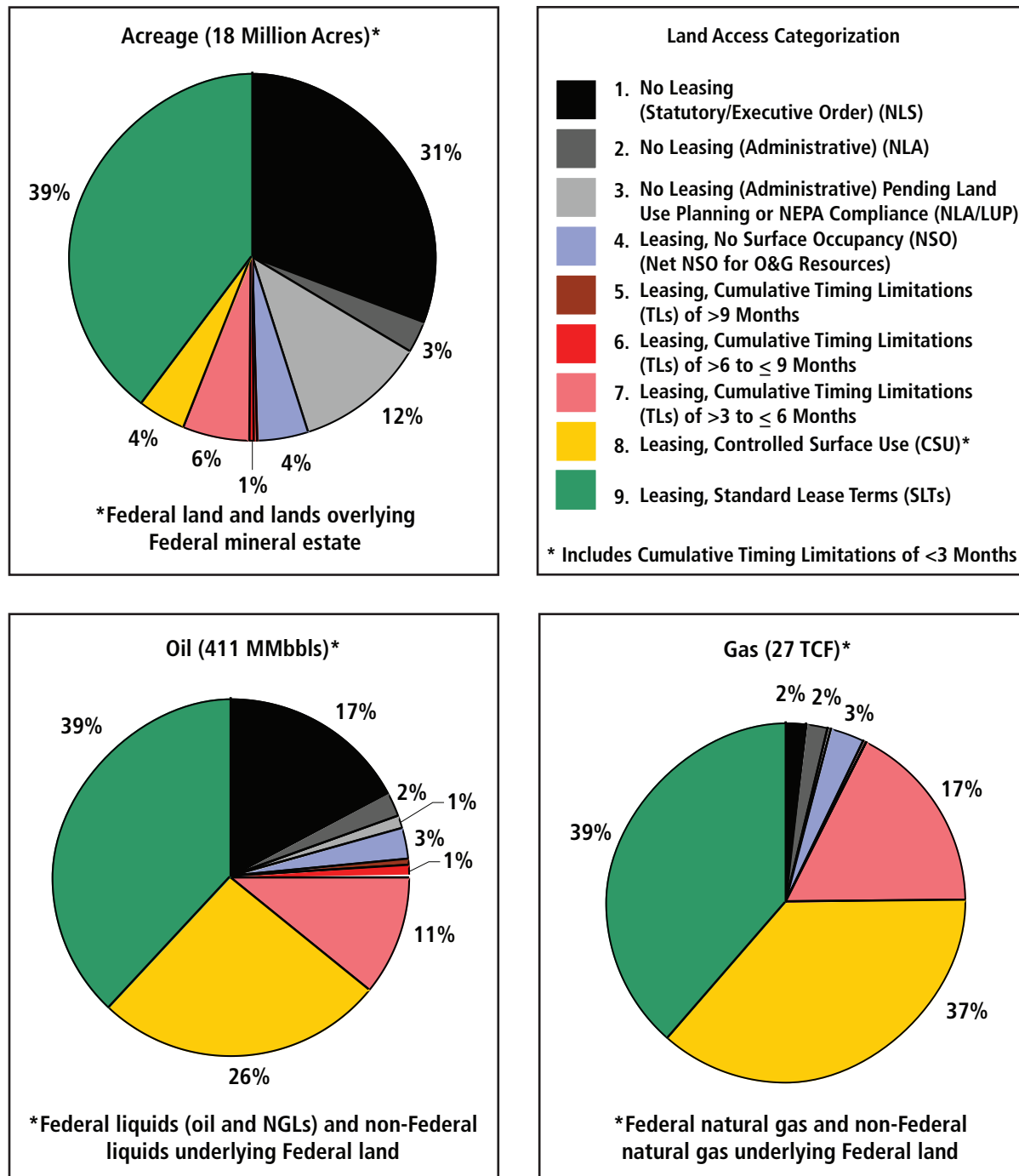


Figure 3-14. Chart of Results, Paradox/San Juan Basins Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

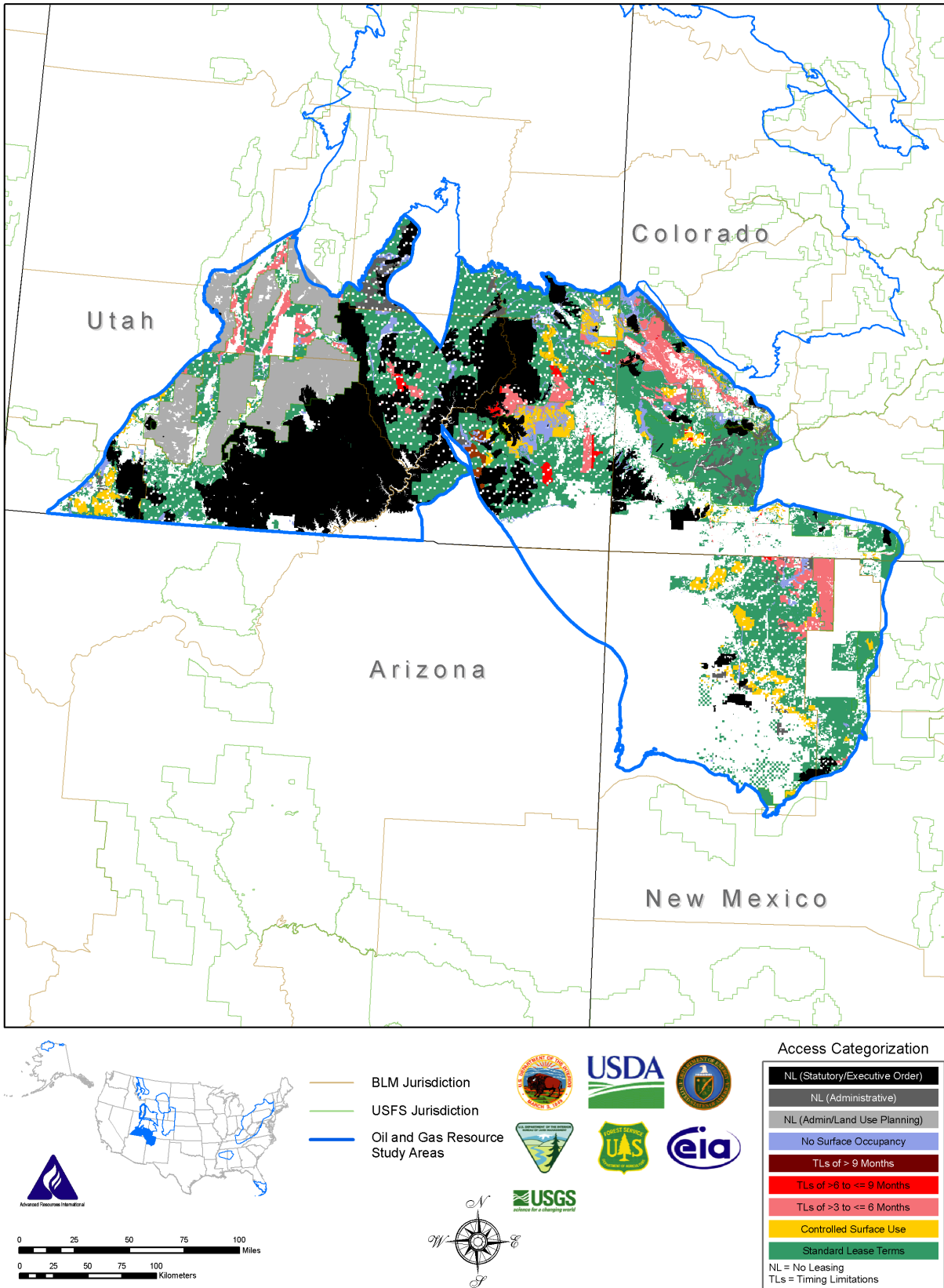


Figure 3-15. Federal Land Access Categorization Map, Paradox/San Juan Basins Study Area

Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and the Extent and Nature of Restrictions or Impediments to Their Development

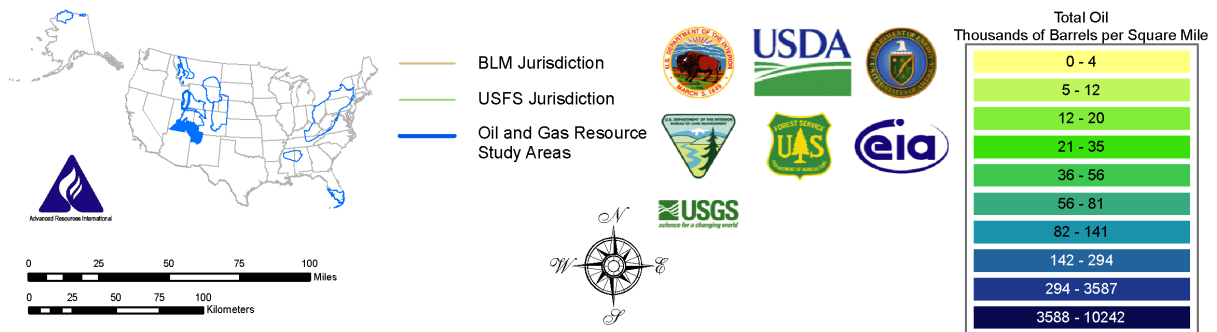
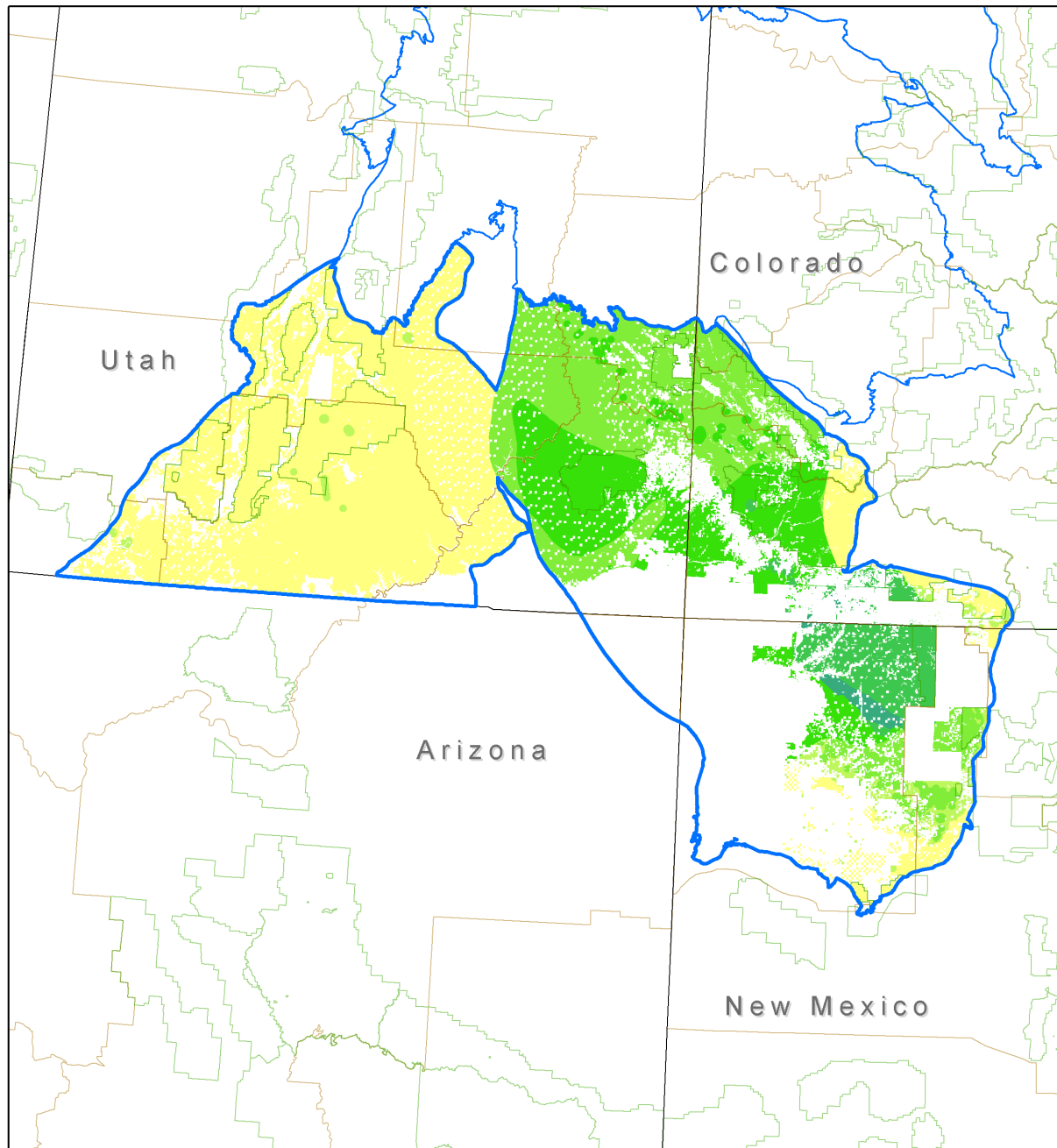


Figure 3-16. Map of Total Federal Oil, Paradox/San Juan Basins Study Area

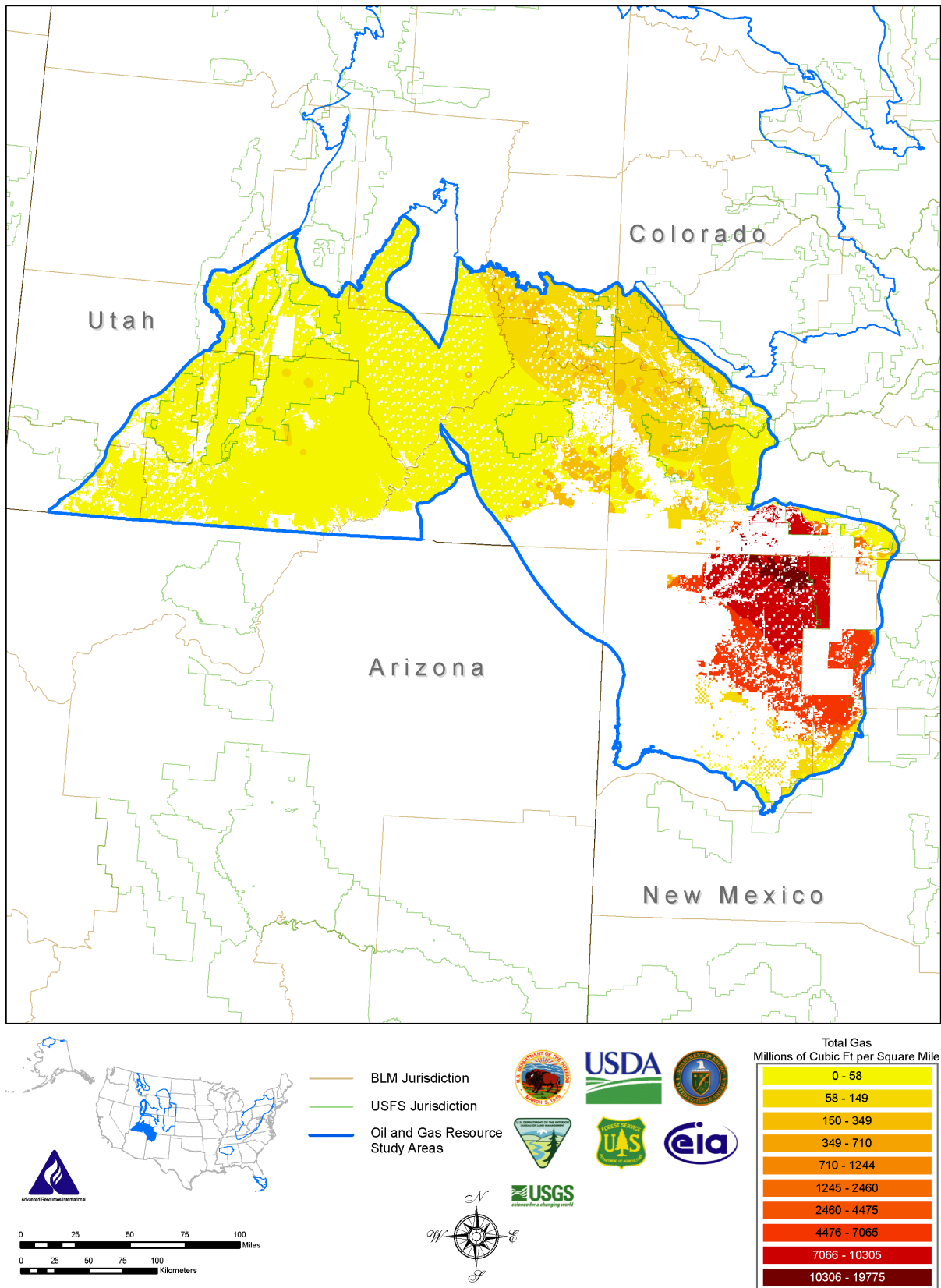


Figure 3-17. Map of Total Federal Natural Gas, Paradox/San Juan Basins Study Area

Table 3-5. Montana Thrust Belt Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	2,728	48.3%	95	55.7%	3,724	59.0%
2.	No Leasing (Administrative) (NLA)	294	5.2%	6	3.5%	149	2.4%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	1,728	30.6%	53	31.3%	1,971	31.2%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	457	8.1%	3	1.9%	129	2.1%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	3	0.1%	0	0.0%	2	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	18	0.3%	1	0.5%	32	0.5%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	41	0.7%	2	1.1%	50	0.8%
8.	Leasing, Controlled Surface Use (CSU) ^f	219	3.9%	7	4.2%	181	2.9%
9.	Leasing, Standard Lease Terms (SLTs)	164	2.9%	3	1.8%	69	1.1%
Total, Federal Lands including Split Estate		5,651	100.0%	171	100.0%	6,307	100.0%
Total Non-Federal		5,940		178		2,331	
Total Inventory Area		11,591		349		8,638	
Summary							
Inaccessible (Categories 1-4)		5,206	92%	158	92%	5,973	95%
Accessible with Restrictions (Categories 5-8)		281	5%	10	6%	265	4%
Accessible under Standard Lease Terms (Category 9)		164	3%	3	2%	69	1%
Total, Federal Lands Including Split Estate		5,651	100%	171	100%	6,307	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

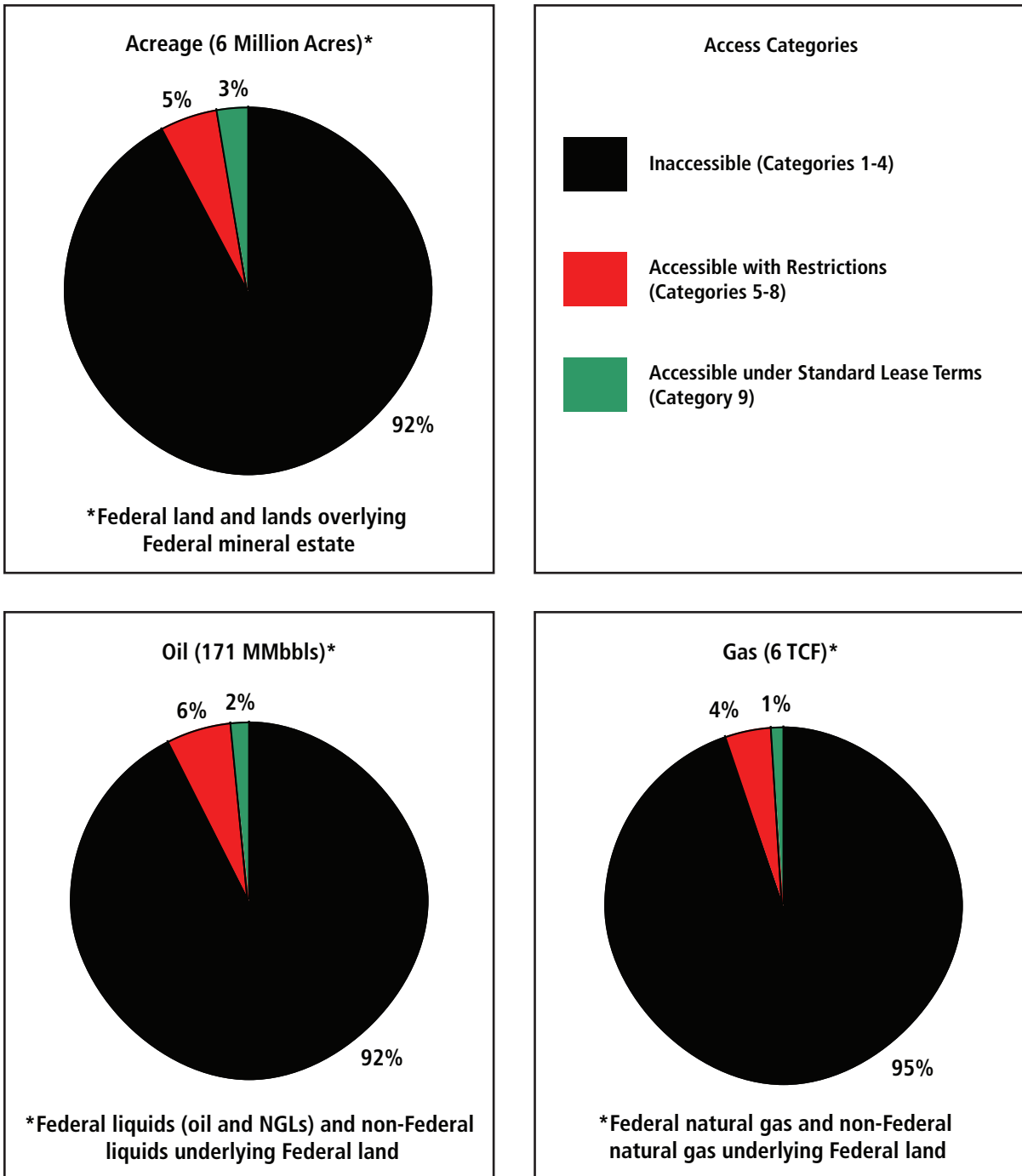


Figure 3-18. Simplified Chart of Results, Montana Thrust Belt Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

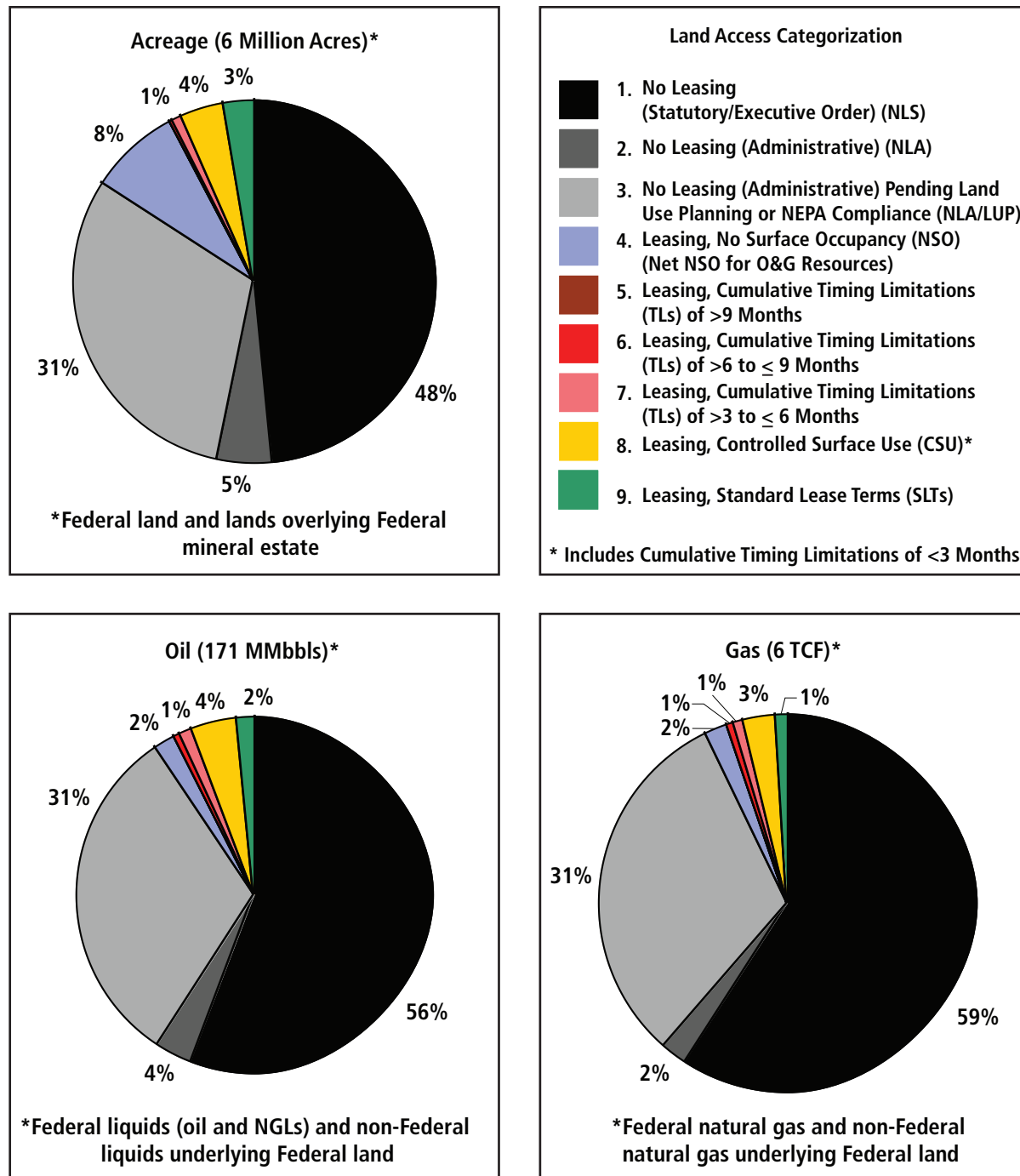


Figure 3-19. Chart of Results, Montana Thrust Belt Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

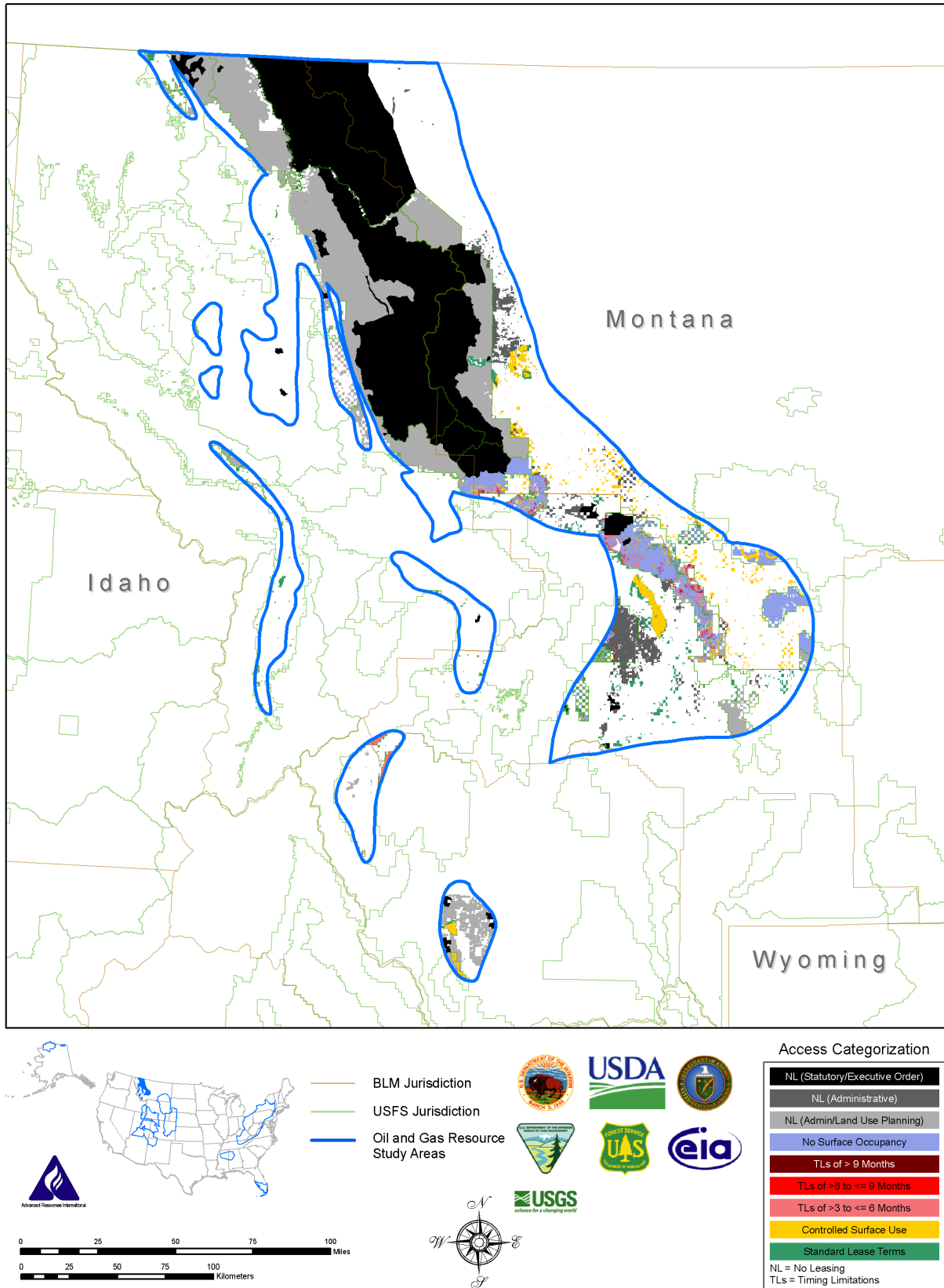


Figure 3-20. Federal Land Access Categorization Map, Montana Thrust Belt Study Area

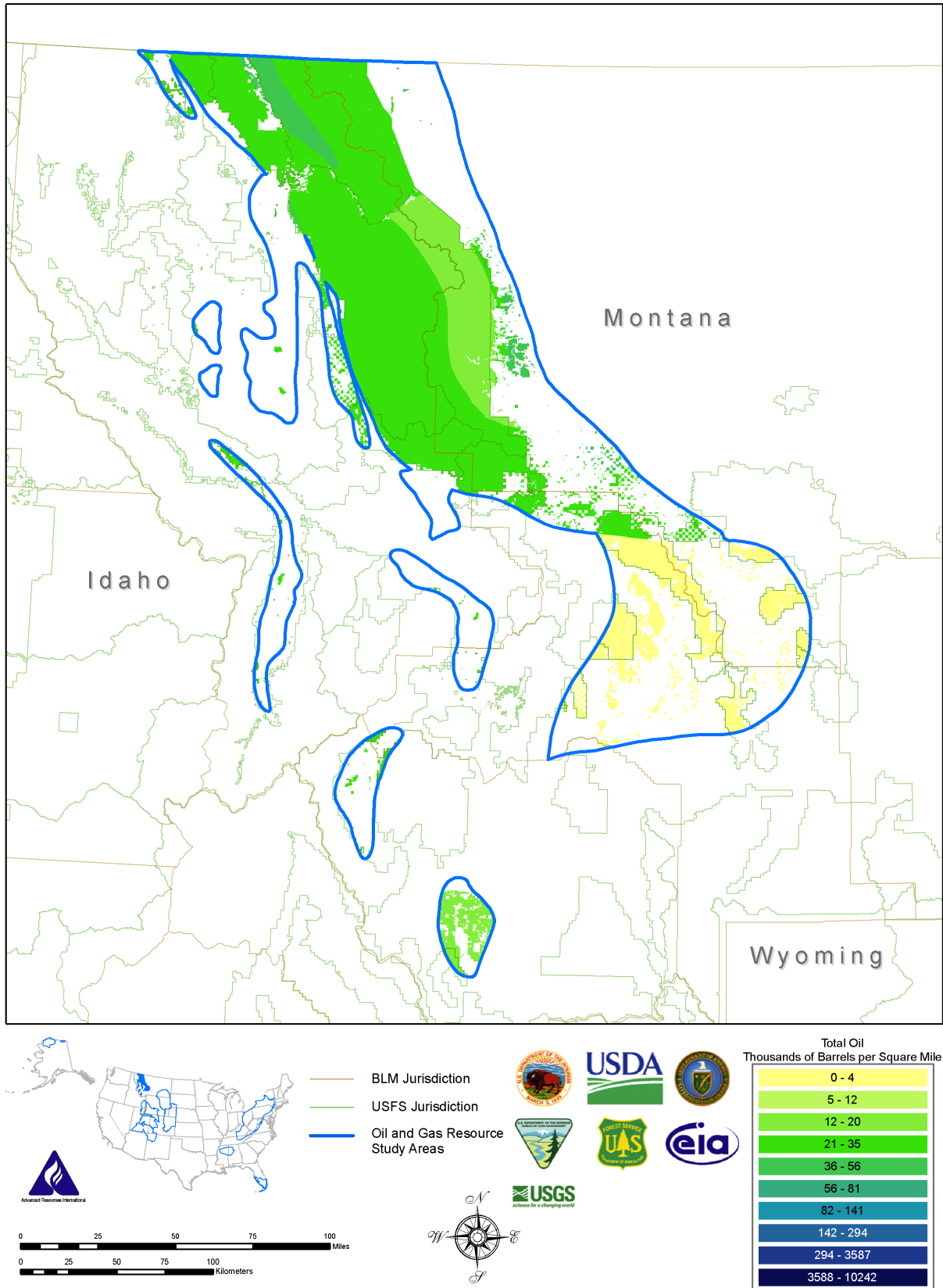


Figure 3-21. Map of Total Federal Oil, Montana Thrust Belt Study Area

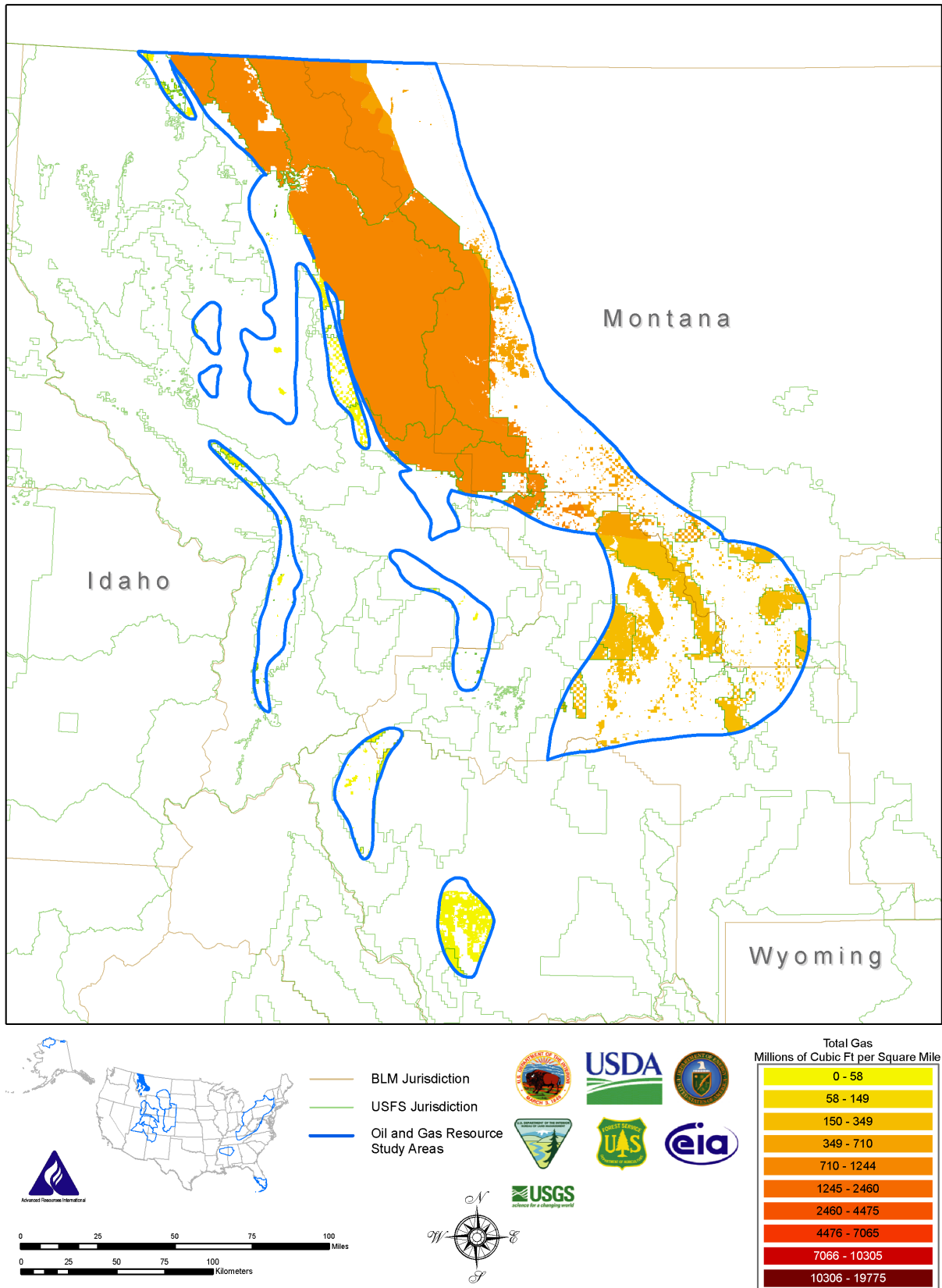


Figure 3-22. Map of Total Federal Natural Gas, Montana Thrust Belt Study Area

under standard lease terms (Figures 3-23 and 3-24, Category 9). Based on resource estimates, these lands contain 22 percent (198 MMbbls) of the Federal oil and 19 percent (1.7 TCF) of the Federal natural gas.

- Approximately 32 percent (3.9 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-23 and 3-24, Categories 5 through 8). Based on resource estimates, these lands contain 74 percent (668 MMbbls) of the Federal oil and 71 percent (6.2 TCF) of the Federal natural gas in the basin.
- Approximately 19 percent (2.3 million acres) of the Federal land is not accessible (Figures 3-23 and 3-24, Categories 1 through 4). Based on resource estimates, these lands contain about 4 percent (32 MMbbls) of the Federal oil and 10 percent (0.87 TCF) of the Federal natural gas.
- Almost all of the undiscovered natural gas is expected to be found in coalbeds (98 percent).
- Among the study areas, this area has the highest proportion of split estate lands (59 percent of the Federal oil and gas ownership is split estate).

3.1.6 Wyoming Thrust Belt

- Approximately 13 percent (0.6 million acres) of the Federal land is accessible under standard lease terms (Figures 3-28 and 3-29, Category 9). Based on resource estimates, these lands contain 16 percent (7 MMbbls) of the Federal oil and 14 percent (0.05 TCF) of the Federal natural gas.
- Approximately 17 percent (0.7 million acres) of the Federal land is accessible with restrictions on oil and gas

operations beyond standard lease terms (Figures 3-28 and 3-29, Categories 5 through 8). Based on resource estimates, these lands contain 31 percent (14 MMbbls) of the Federal oil and 46 percent (0.17 TCF) of the Federal natural gas.

- Approximately 69 percent (2.9 million acres) of the Federal land is not accessible (Figures 3-28 and 3-29, Categories 1 through 4). Based on resource estimates, these lands contain about 53 percent (24 MMbbls) of the Federal oil and 40 percent (0.15 TCF) of the Federal natural gas.

3.1.7 Greater Green River Basin (Southwestern Wyoming)

- Approximately 30 percent (3.5 million acres) of the Federal land is accessible under standard lease terms (Figures 3-33 and 3-34, Category 9). Based on resource estimates, these lands contain 14 percent (335 MMbbls) of the Federal oil and 15 percent (9.4 TCF) of the Federal natural gas.
- Approximately 50 percent (5.7 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-33 and 3-34, Categories 5 through 8). Based on resource estimates, these lands contain 77 percent (1,828 MMbbls) of the Federal oil and 76 percent (47.8 TCF) of the Federal natural gas.
- Approximately 20 percent (2.2 million acres) of the Federal land in the basin is not accessible (Figures 3-33 and 3-34, Categories 1 through 4). Based on resource estimates, these lands contain about 9 percent (213 MMbbls) of the Federal oil and 9 percent (5.6 TCF) of the Federal natural gas.

Table 3-6. Powder River Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	2,728	48.3%	95	55.7%	3,724	59.0%
2.	No Leasing (Administrative) (NLA)	294	5.2%	6	3.5%	149	2.4%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	1,728	30.6%	53	31.3%	1,971	31.2%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	457	8.1%	3	1.9%	129	2.1%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	3	0.1%	0	0.0%	2	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	18	0.3%	1	0.5%	32	0.5%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	41	0.7%	2	1.1%	50	0.8%
8.	Leasing, Controlled Surface Use (CSU) ^f	219	3.9%	7	4.2%	181	2.9%
9.	Leasing, Standard Lease Terms (SLTs)	164	2.9%	3	1.8%	69	1.1%
Total, Federal Lands including Split Estate		5,651	100.0%	171	100.0%	6,307	100.0%
Total Non-Federal		5,940		178		2,331	
Total Inventory Area		11,591		349		8,638	
Summary							
Inaccessible (Categories 1-4)		5,206	92%	158	92%	5,973	95%
Accessible with Restrictions (Categories 5-8)		281	5%	10	6%	265	4%
Accessible under Standard Lease Terms (Category 9)		164	3%	3	2%	69	1%
Total, Federal Lands Including Split Estate		5,651	100%	171	100%	6,307	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

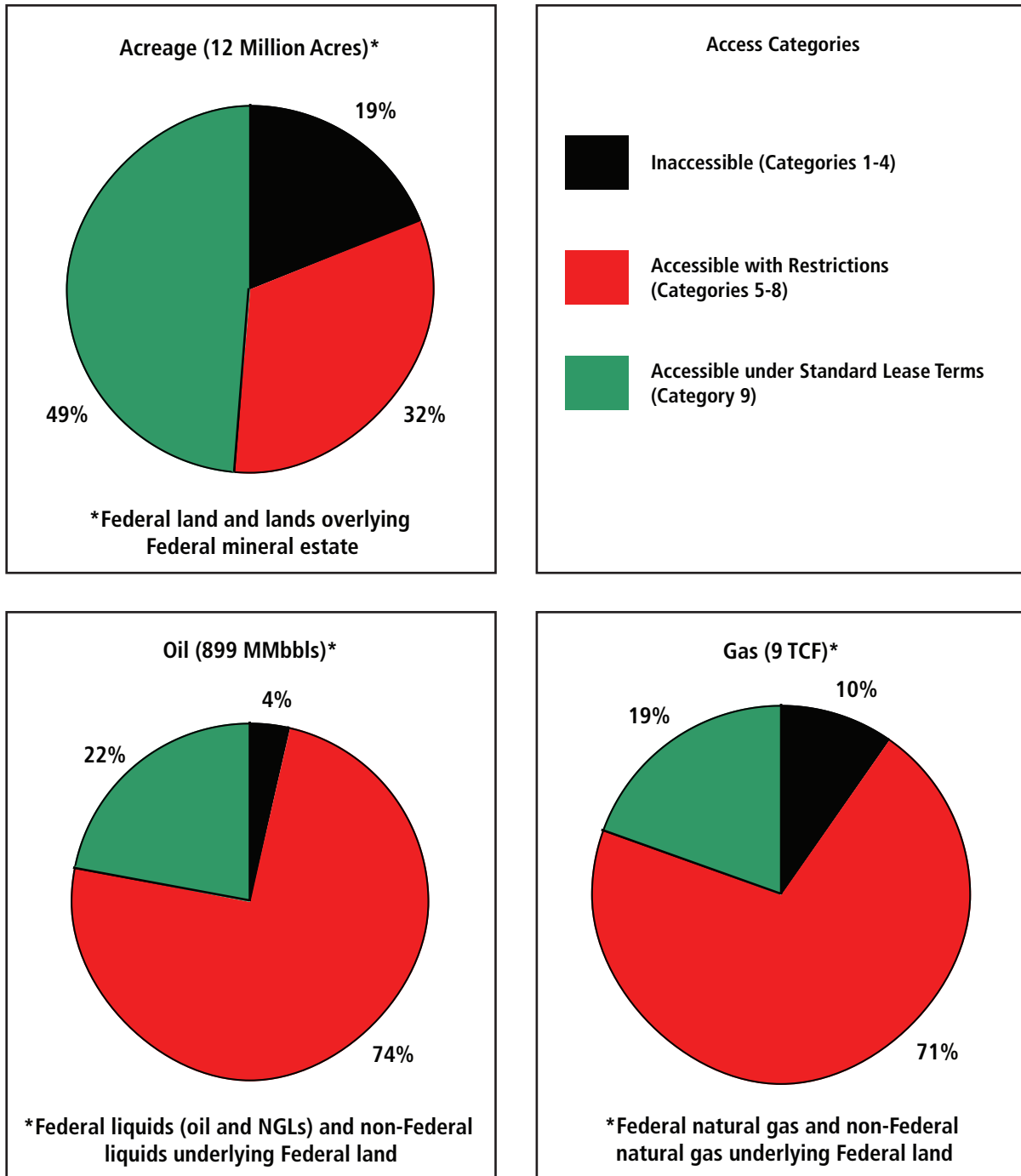


Figure 3-23. Simplified Chart of Results, Powder River Basin Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

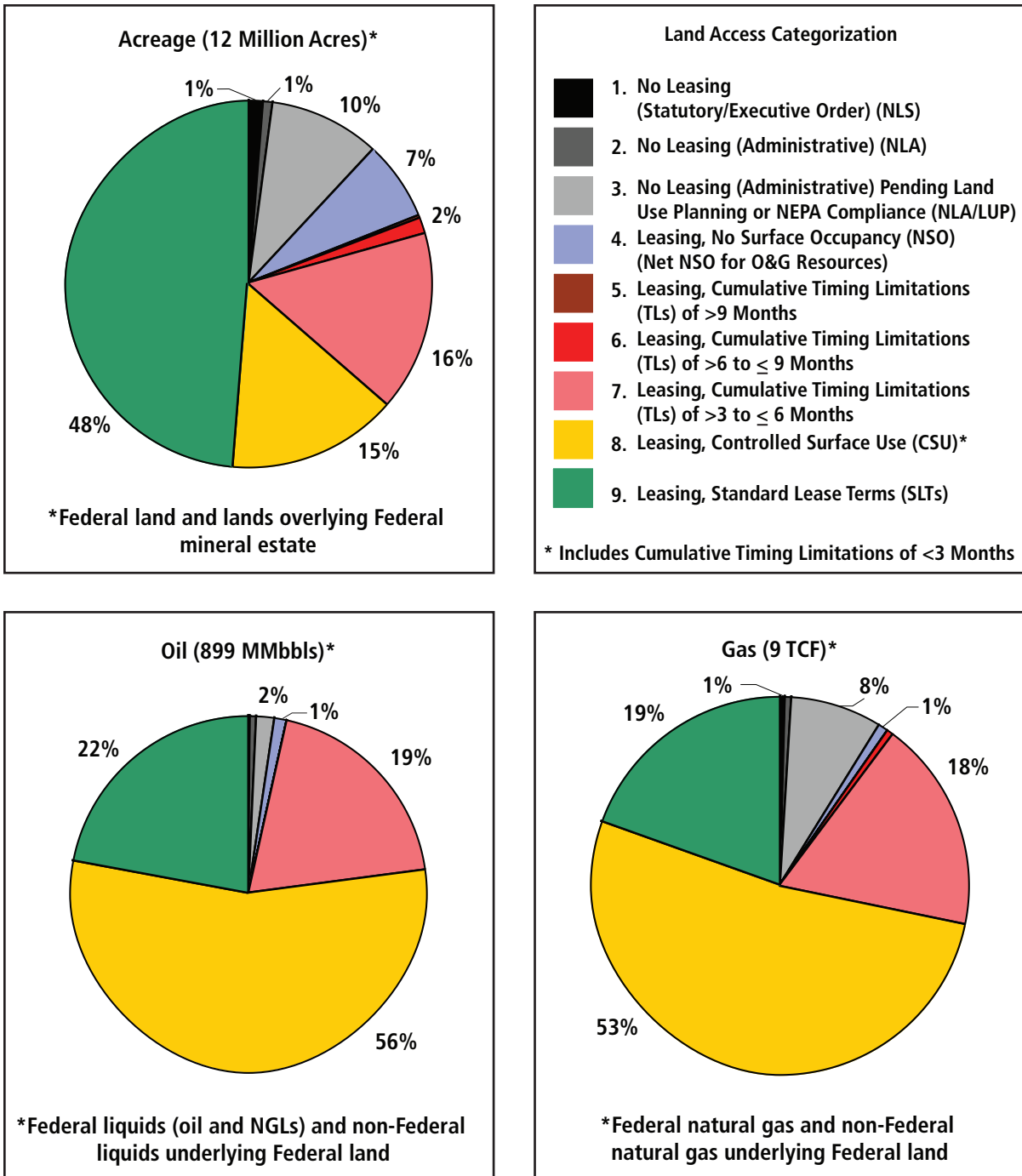


Figure 3-24. Chart of Results, Powder River Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

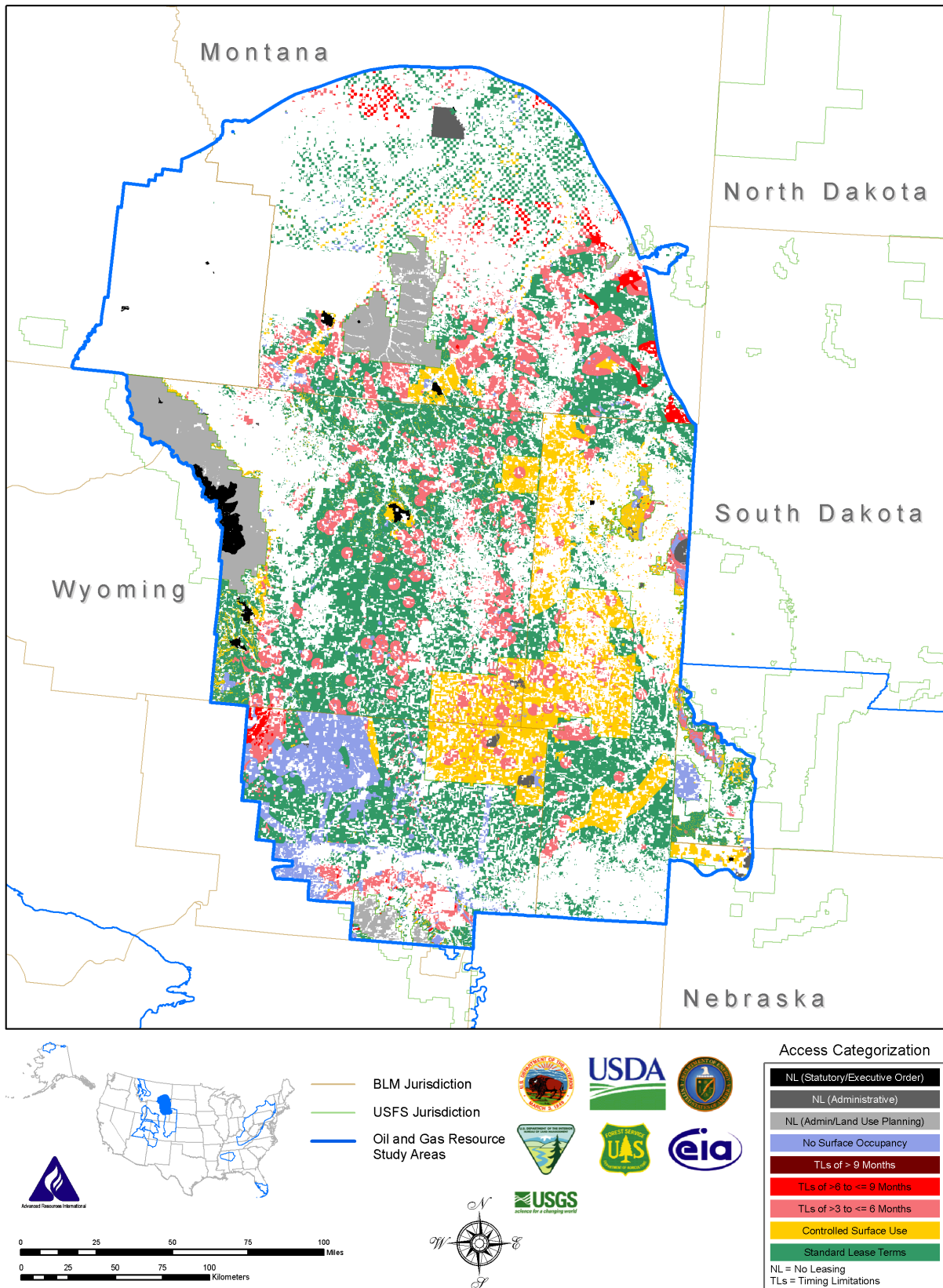


Figure 3-25. Federal Land Access Categorization Map, Powder River Basin Study Area

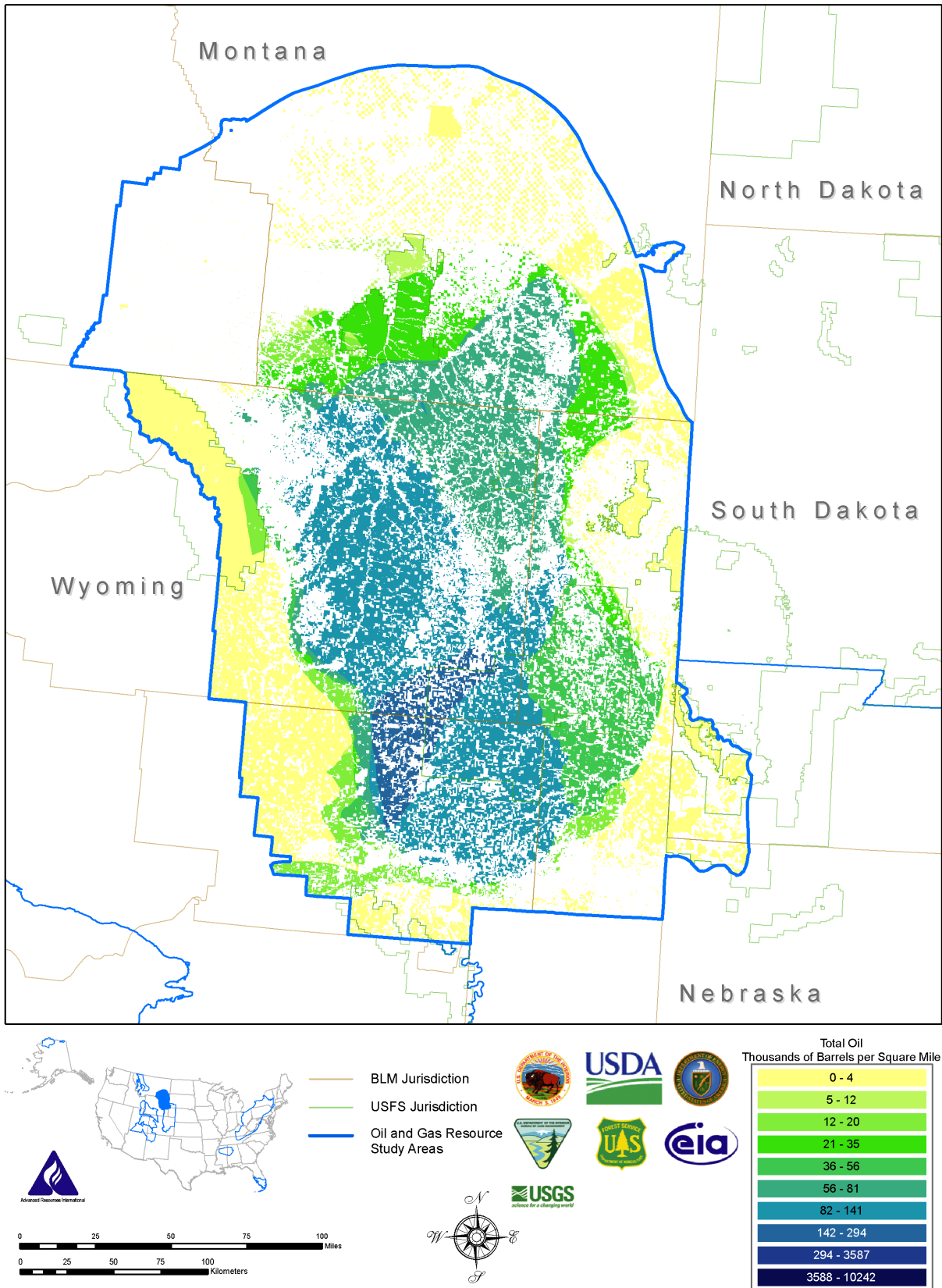


Figure 3-26. Map of Total Federal Oil, Powder River Basin Study Area

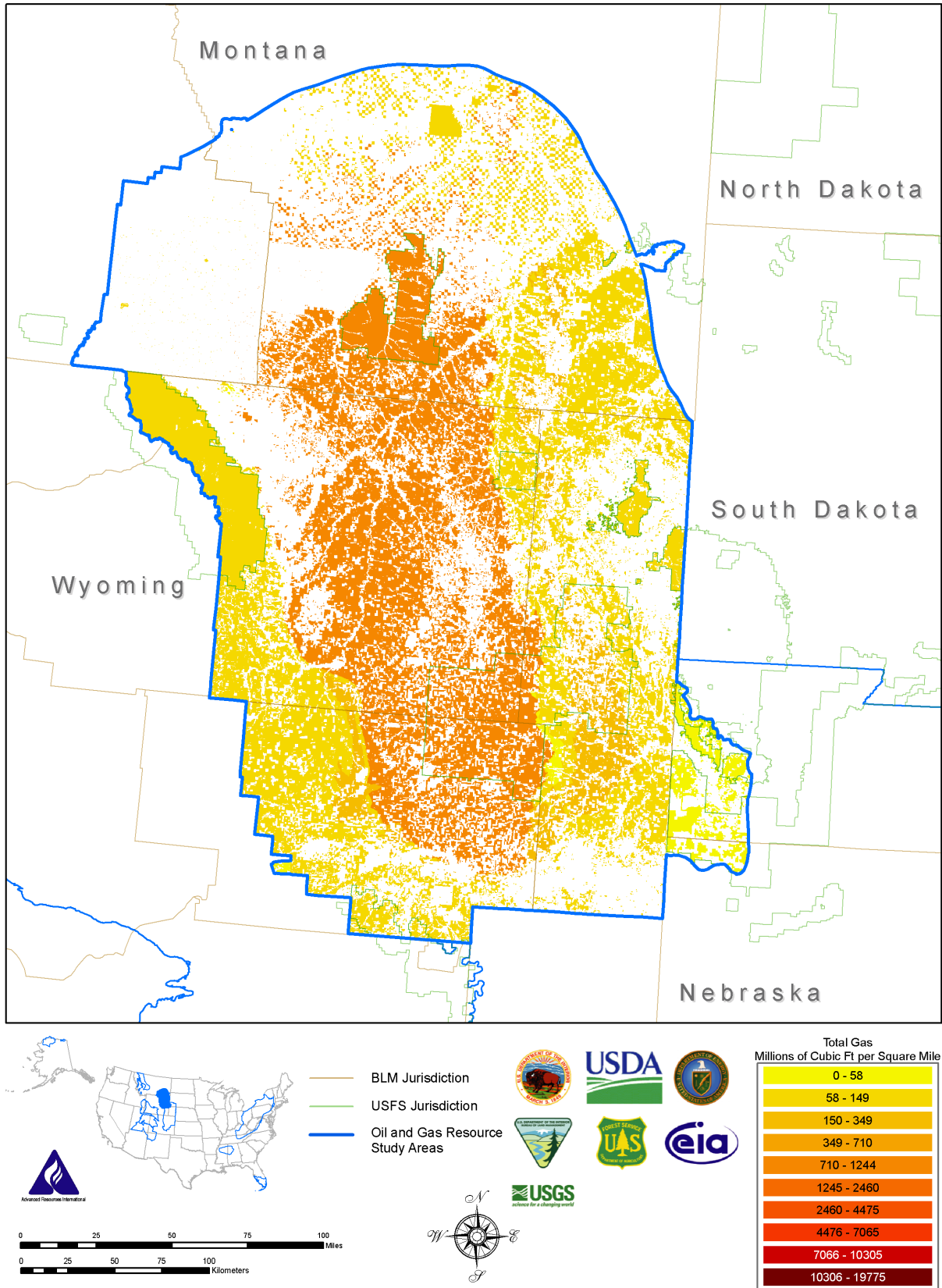


Figure 3-27. Map of Total Federal Natural Gas, Powder River Basin Study Area

Table 3-7. Wyoming Thrust Belt Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	275	6.6%	3	6.1%	17	4.5%
2.	No Leasing (Administrative) (NLA)	210	5.0%	2	4.7%	13	3.4%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	1,354	32.4%	14	30.0%	80	21.3%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	1,063	25.4%	6	12.4%	42	11.2%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	32	0.8%	1	1.8%	7	1.8%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	156	3.7%	3	5.7%	28	7.4%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	385	9.2%	7	14.3%	73	19.6%
8.	Leasing, Controlled Surface Use (CSU) ^f	150	3.6%	4	9.4%	63	16.9%
9.	Leasing, Standard Lease Terms (SLTs)	553	13.2%	7	15.7%	52	14.0%
Total, Federal Lands including Split Estate		4,179	100.0%	46	100.0%	374	100.0%
Total Non-Federal		3,840		47		482	
Total Inventory Area		8,020		92		856	
Summary							
Inaccessible (Categories 1-4)		2,904	69%	24	53%	151	40%
Accessible with Restrictions (Categories 5-8)		723	17%	14	31%	171	46%
Accessible under Standard Lease Terms (Category 9)		553	13%	7	16%	52	14%
Total, Federal Lands Including Split Estate		4,179	100%	46	100%	374	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

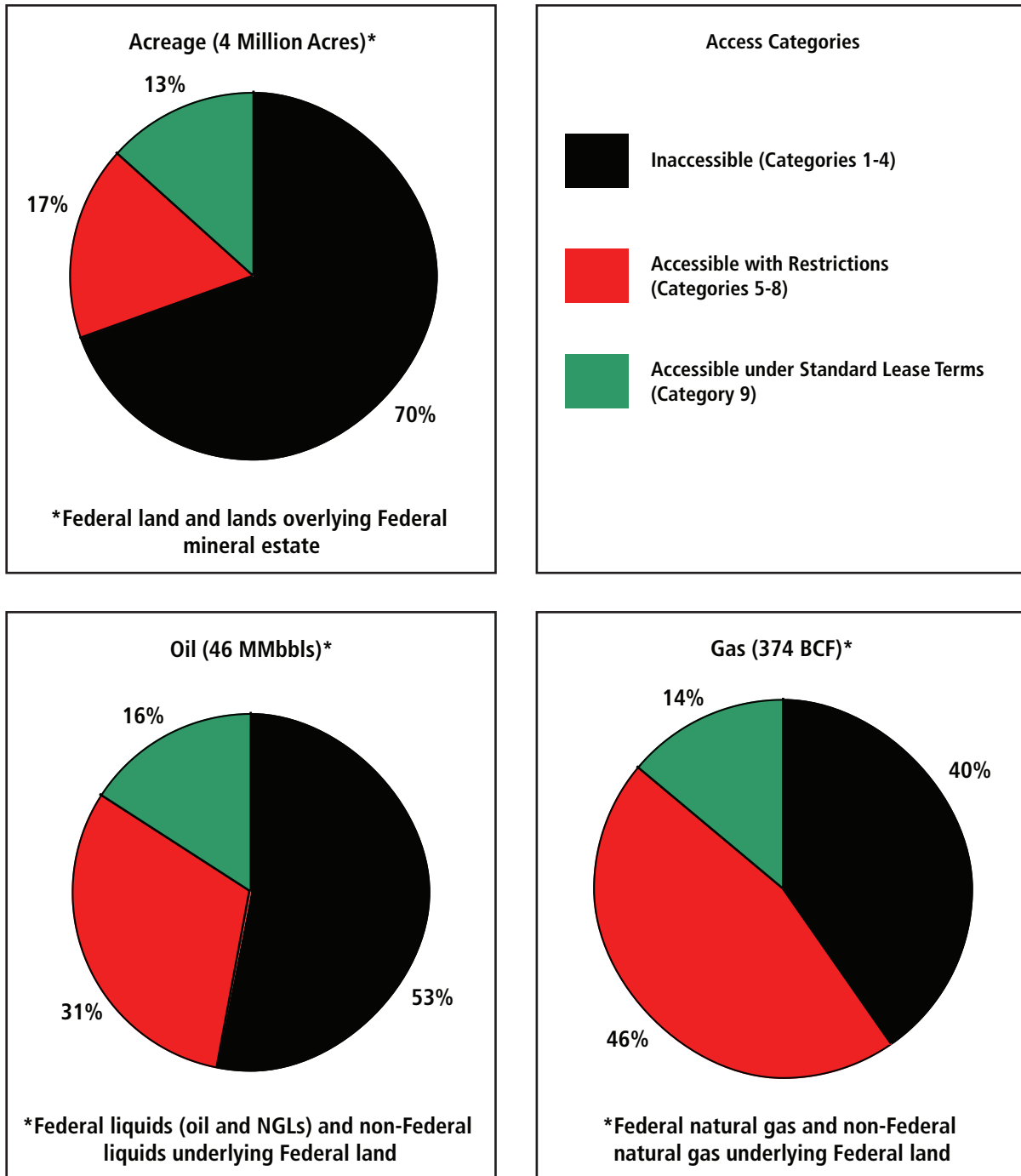


Figure 3-28. Simplified Chart of Results, Wyoming Thrust Belt Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

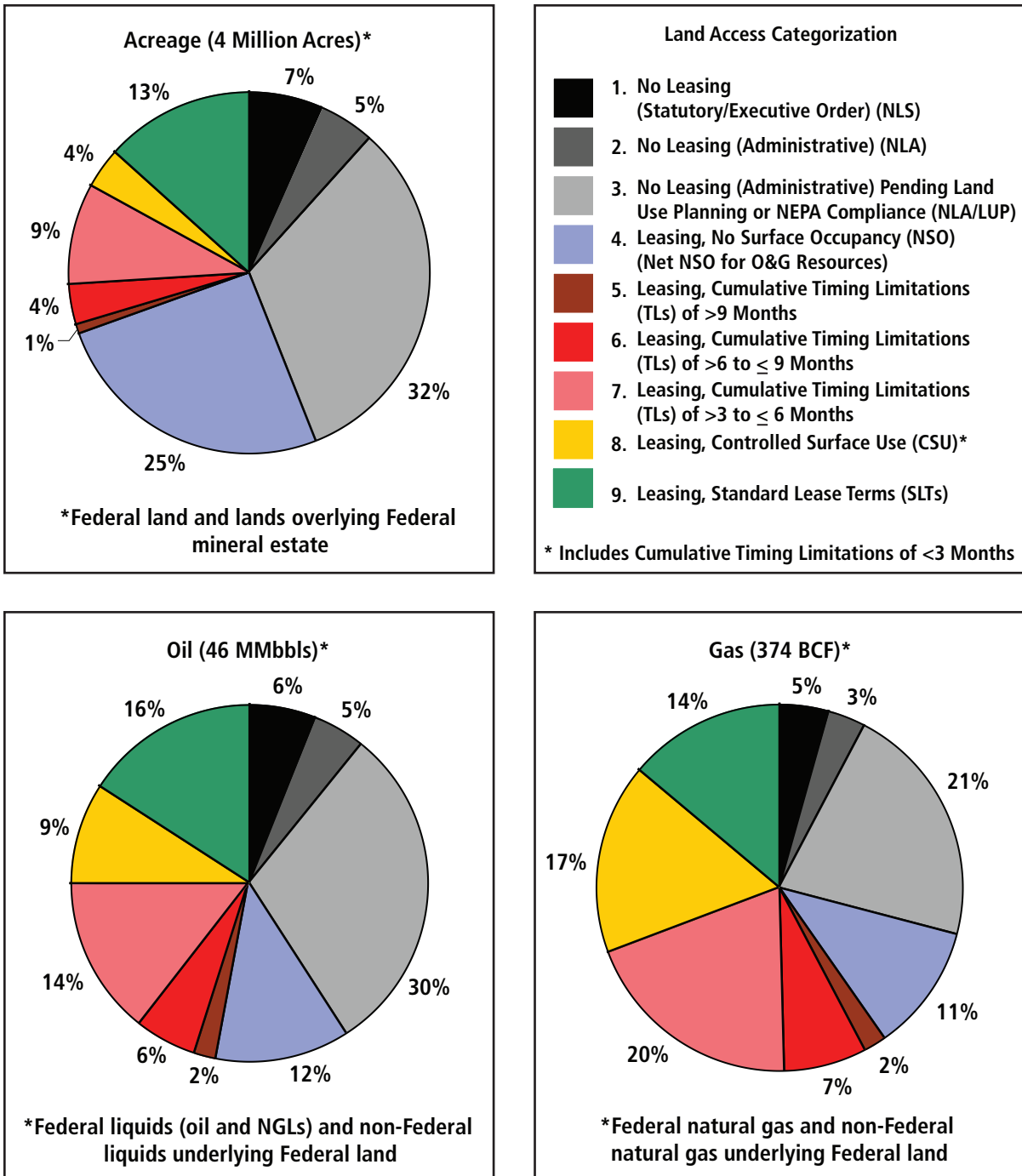


Figure 3-29. Chart of Results, Wyoming Thrust Belt Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

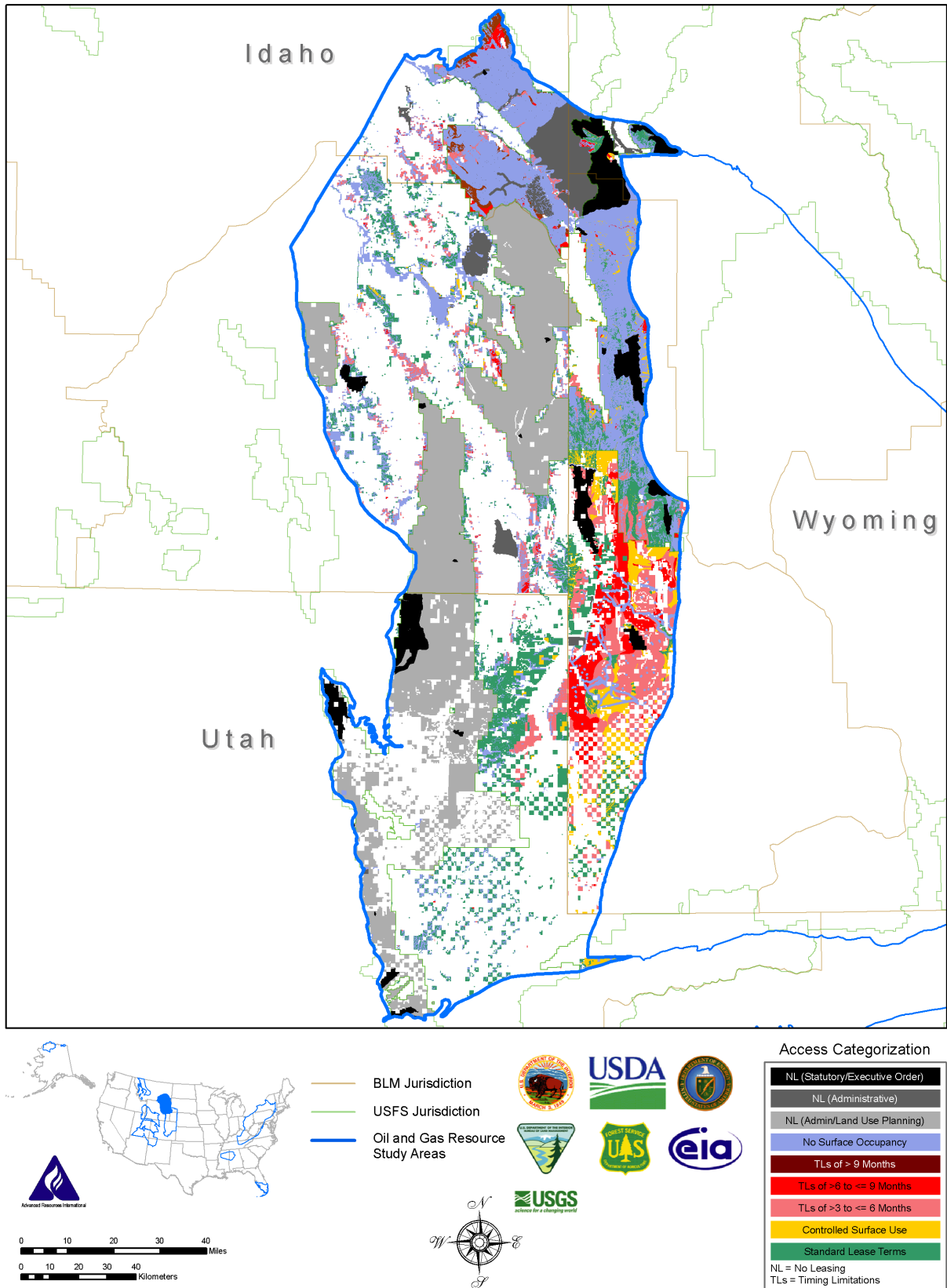


Figure 3-30. Federal Land Access Categorization Map, Wyoming Thrust Belt Study Area

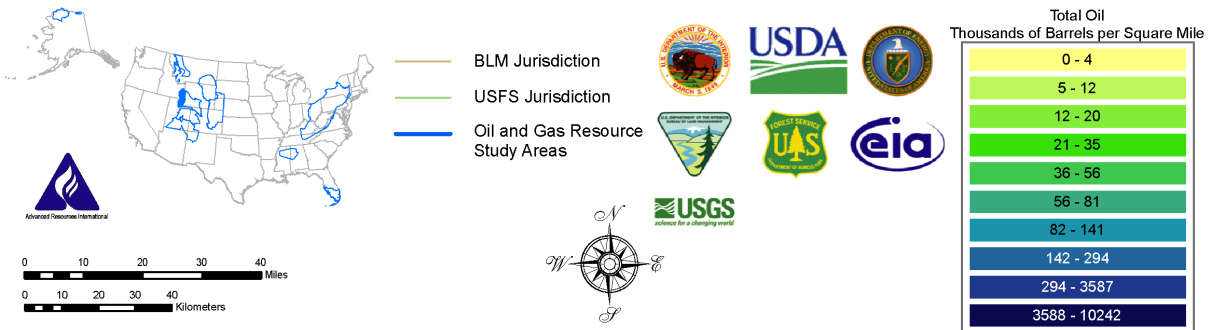
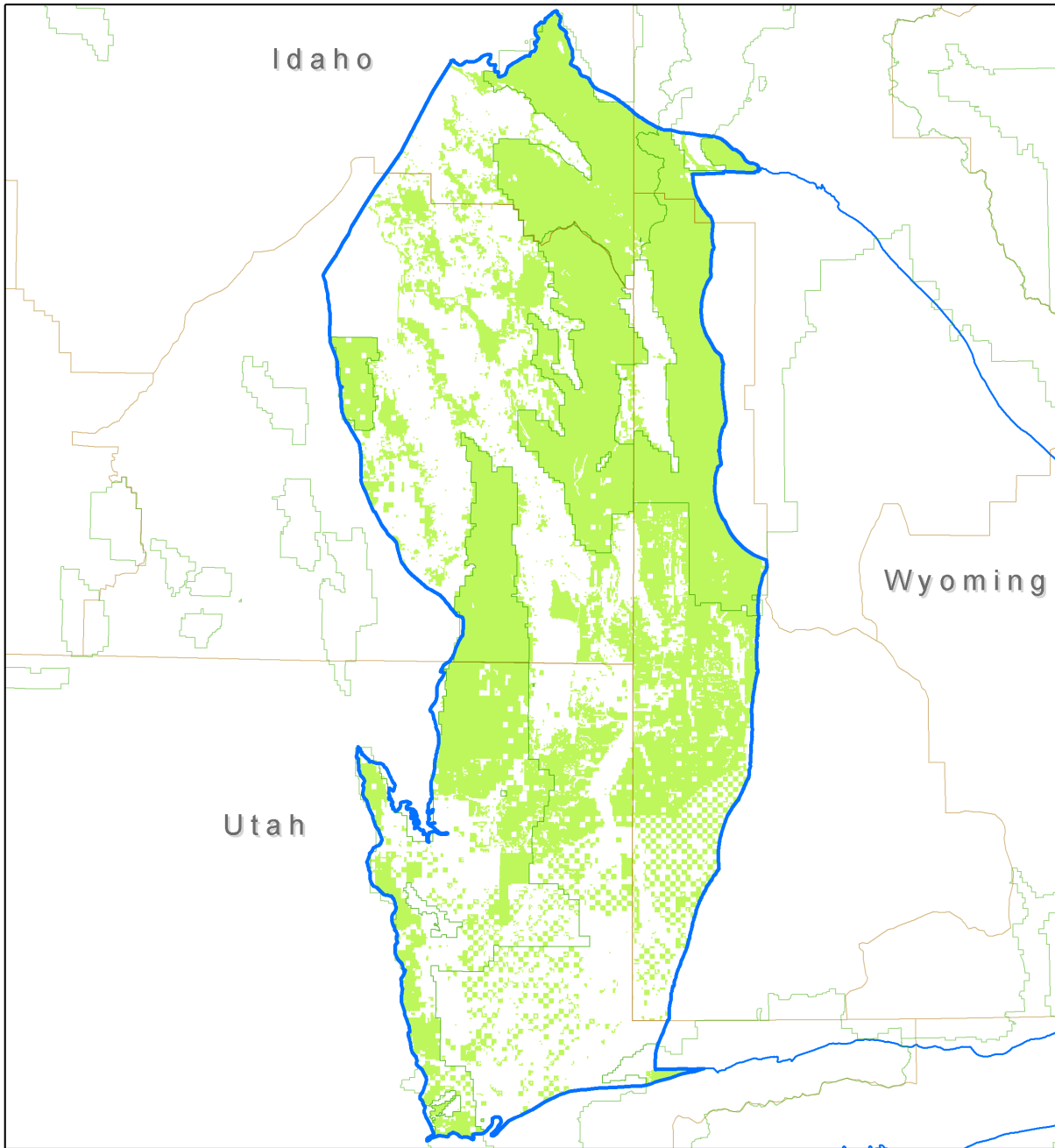


Figure 3-31. Map of Total Federal Oil, Wyoming Thrust Belt Study Area

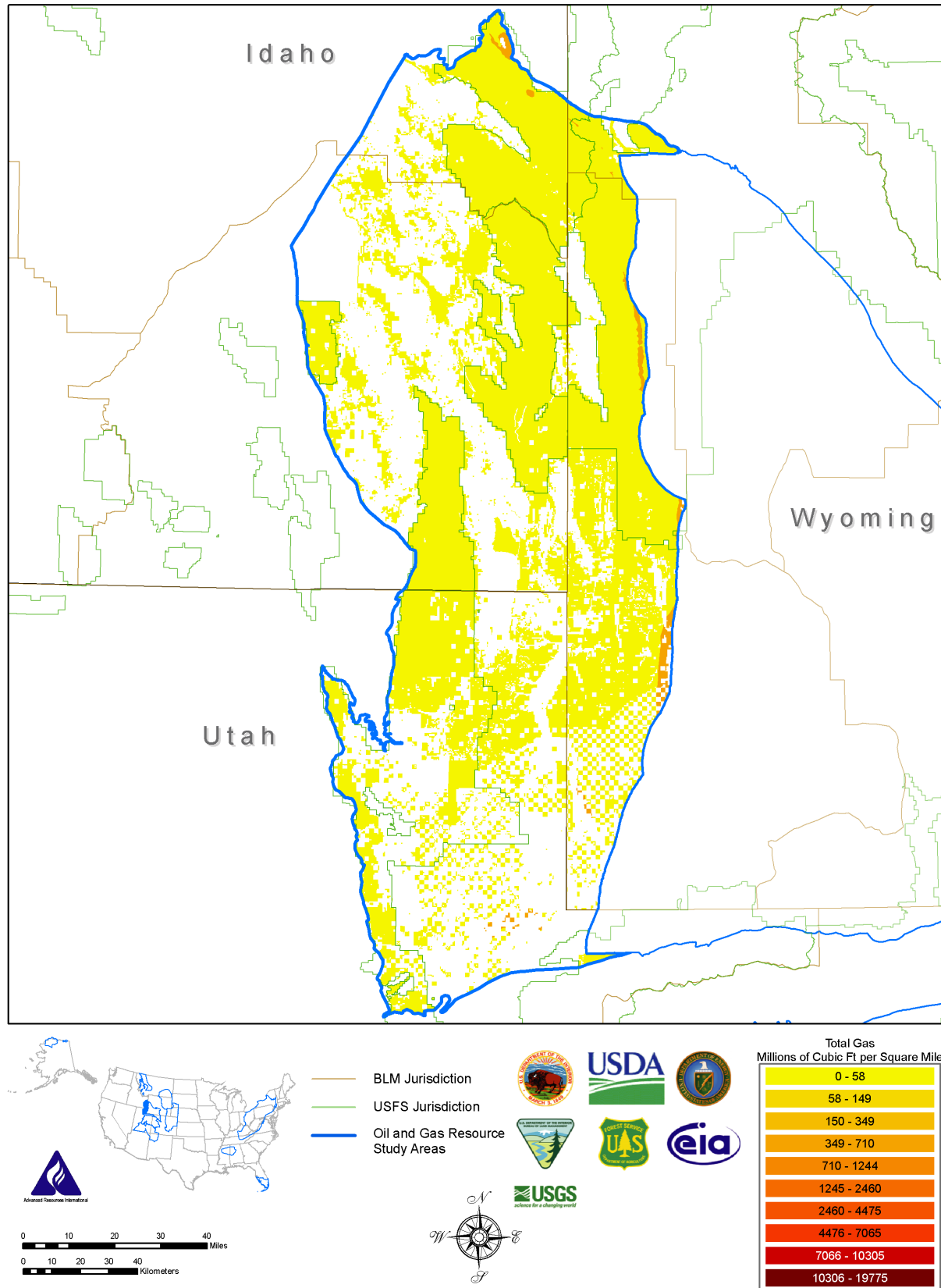


Figure 3-32. Map of Total Federal Natural Gas, Wyoming Thrust Belt Study Area

- Almost all of the undiscovered natural gas (97 percent) is expected to occur as continuous deposits.
- A relatively large portion of the Federal land (43 percent of the surface area,) along with 44 percent of the oil and 43 percent of the natural gas, are under timing limitations of 3 to 9 months.
- The land ownership pattern is highly complex due a checkerboard pattern of ownership resulting from railroad land grants.

3.1.8 Denver Basin

- Approximately 32 percent (0.9 million acres) of the Federal land is accessible under standard lease terms (Figures 3-38 and 3-39, Category 9). Based on resource estimates, these lands contain 16 percent (2 MMbbls) of the Federal oil and 11 percent (0.01 TCF) of the Federal natural gas.
- Approximately 42 percent (1.18 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-38 and 3-39, Categories 5 through 8). Based on resource estimates, these lands contain 68 percent (9 MMbbls) of the Federal oil and 58 percent (0.03 TCF) of the Federal natural gas.
- Approximately 25 percent (0.7 million acres) of the Federal land is not accessible (Figures 3-38 and 3-39, Categories 1 through 4). Based on resource estimates, these lands contain about 16 percent (2 MMbbls) of the Federal oil and 31 percent (0.02 TCF) of the Federal natural gas.

3.1.9 Florida Peninsula

- None of the Federal land in the study area is accessible under standard lease

terms (Figures 3-43 and 3-44, Category 9).

- Approximately 6 percent (0.1 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-43 and 3-44, Categories 5 through 8). Based on resource estimates, these lands contain 14 percent (11 MMbbls) of the Federal oil and 15 percent (0.05 TCF) of the Federal natural gas.
- Approximately 94 percent (1.88 million acres) of the Federal land is not accessible (Figures 3-43 and 3-44, Categories 1 through 4). Based on resource estimates, these lands contain about 86 percent (64 MMbbls) of the Federal oil and 85 percent (0.28 TCF) of the Federal natural gas.
- The Department of the Interior has agreed in principle to acquire the mineral rights under Big Cypress National Preserve, Florida Panther National Wildlife Refuge, and Ten Thousand Islands National Wildlife Refuge from Collier Resources Company, virtually ensuring no new oil and gas development in the three areas.¹

3.1.10 Black Warrior Basin

- The Federal lands in this study area contain only about 1 MMbbls of oil out of a total of 13 MMbbls for all lands.
- Approximately 3 percent (0.02 million acres) of the Federal land is accessible under standard lease terms (Figures 3-48 and 3-49, Category 9). Based on resource estimates, these lands contain 11 percent of the Federal oil (0.08

¹ *Interior Reaches Agreement to Acquire Mineral Rights in Everglades, Settles Litigation on Offshore Oil and Gas Leases in Destin Dome.* See the website: <http://www.fws.gov/southeast/news/2002/n02-002.html>

Table 3-8. Greater Green River Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	594	5.2%	108	4.5%	3,440	5.5%
2.	No Leasing (Administrative) (NLA)	139	1.2%	37	1.6%	786	1.3%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	363	3.2%	36	1.5%	621	1.0%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	1,131	9.9%	31	1.3%	782	1.2%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	0	0.0%	0	0.0%	1	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	1,046	9.2%	202	8.5%	4,058	6.5%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	3,708	32.6%	863	36.3%	22,344	35.6%
8.	Leasing, Controlled Surface Use (CSU) ^f	948	8.3%	763	32.1%	21,426	34.1%
9.	Leasing, Standard Lease Terms (SLTs)	3,455	30.3%	335	14.1%	9,373	14.9%
Total, Federal Lands including Split Estate		11,384	100.0%	2,376	100.0%	62,830	100.0%
Total Non-Federal		5,205		1,001		24,489	
Total Inventory Area		16,589		3,376		87,319	
Summary							
Inaccessible (Categories 1-4)		2,227	20%	213	9%	5,629	9%
Accessible with Restrictions (Categories 5-8)		5,702	50%	1,828	77%	47,829	76%
Accessible under Standard Lease Terms (Category 9)		3,455	30%	335	14%	9,373	15%
Total, Federal Lands Including Split Estate		11,384	100%	2,376	100%	62,830	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

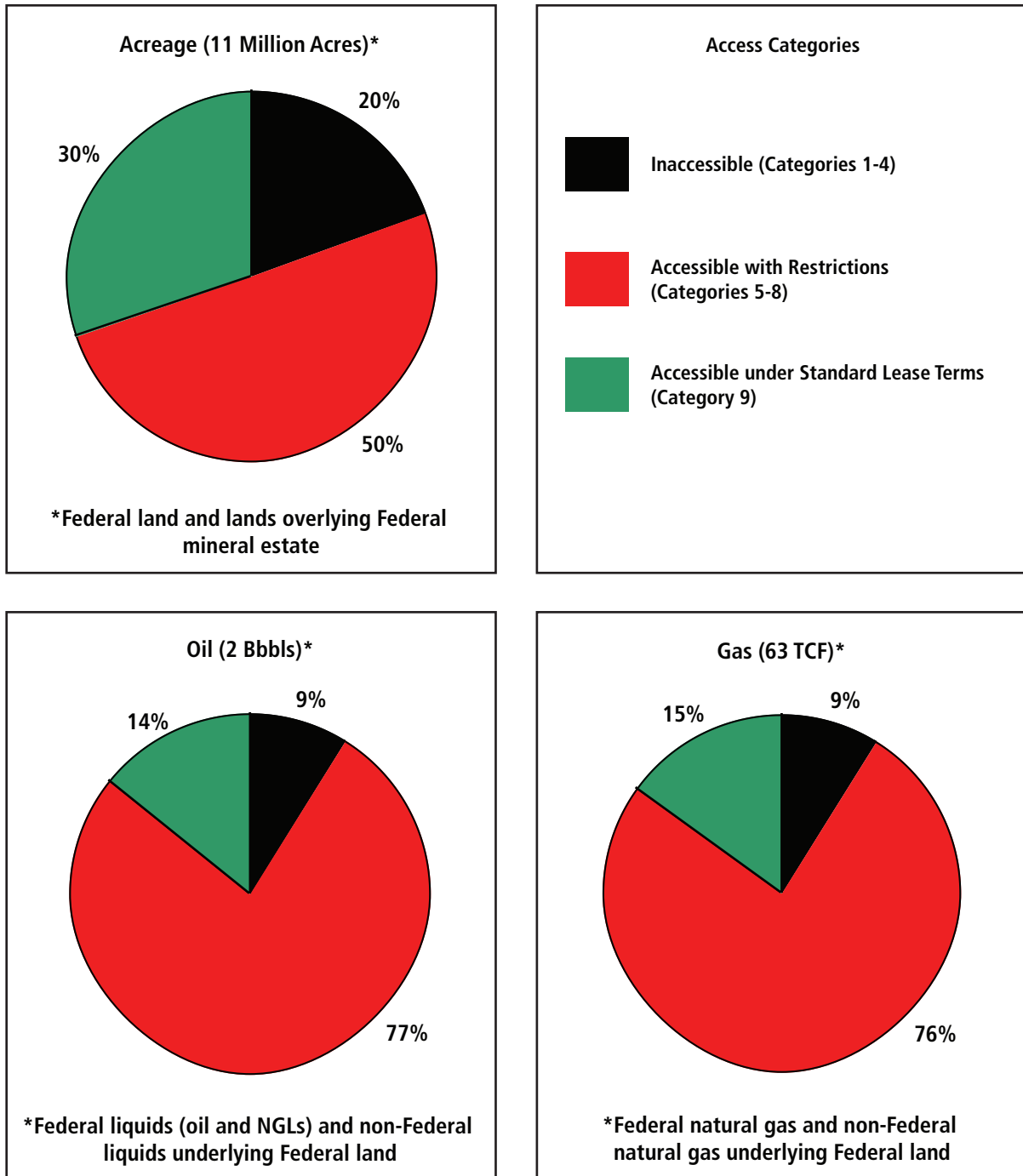


Figure 3-33. Simplified Chart of Results, Greater Green River Basin Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

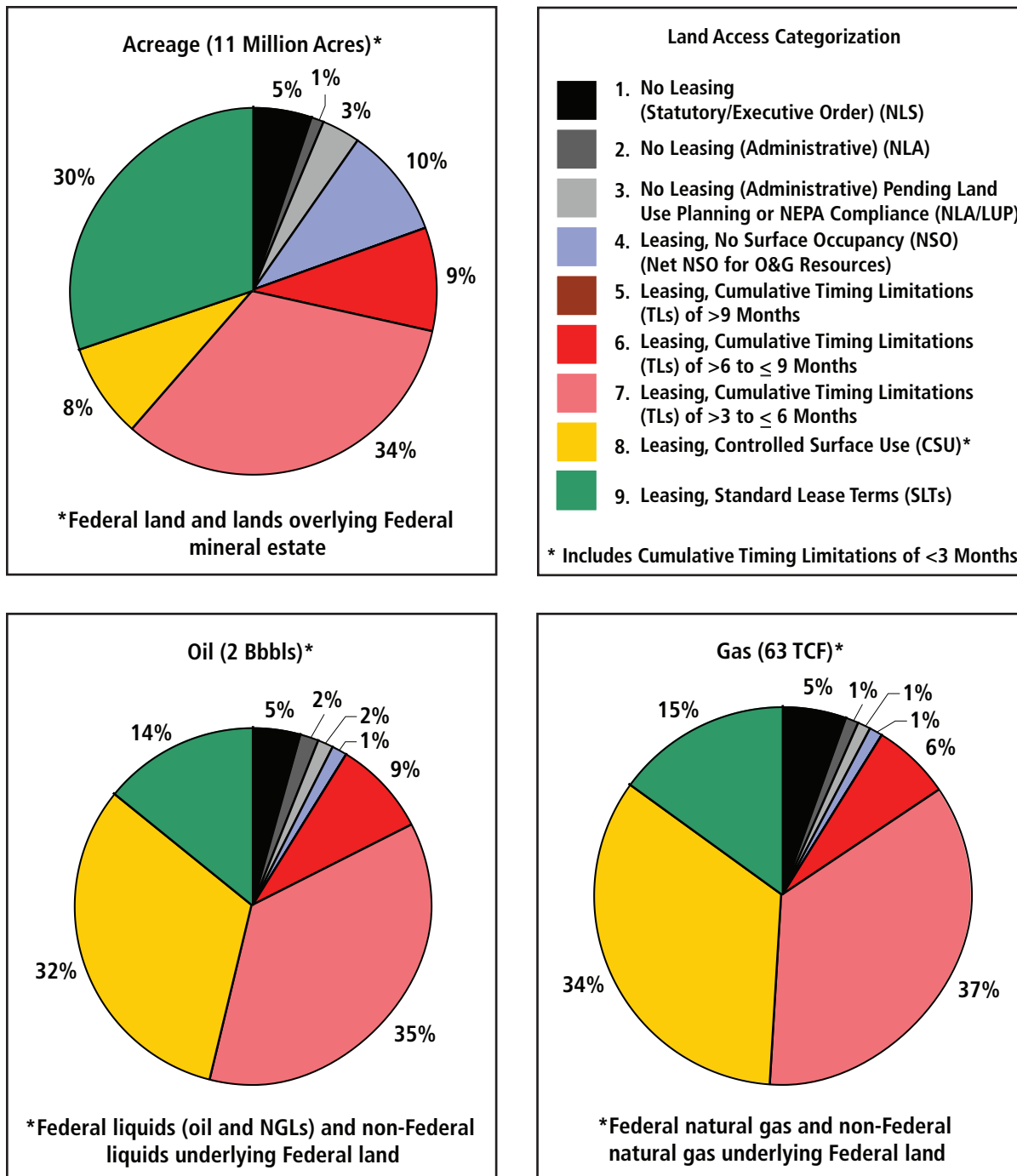


Figure 3-34. Chart of Results, Greater Green River Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

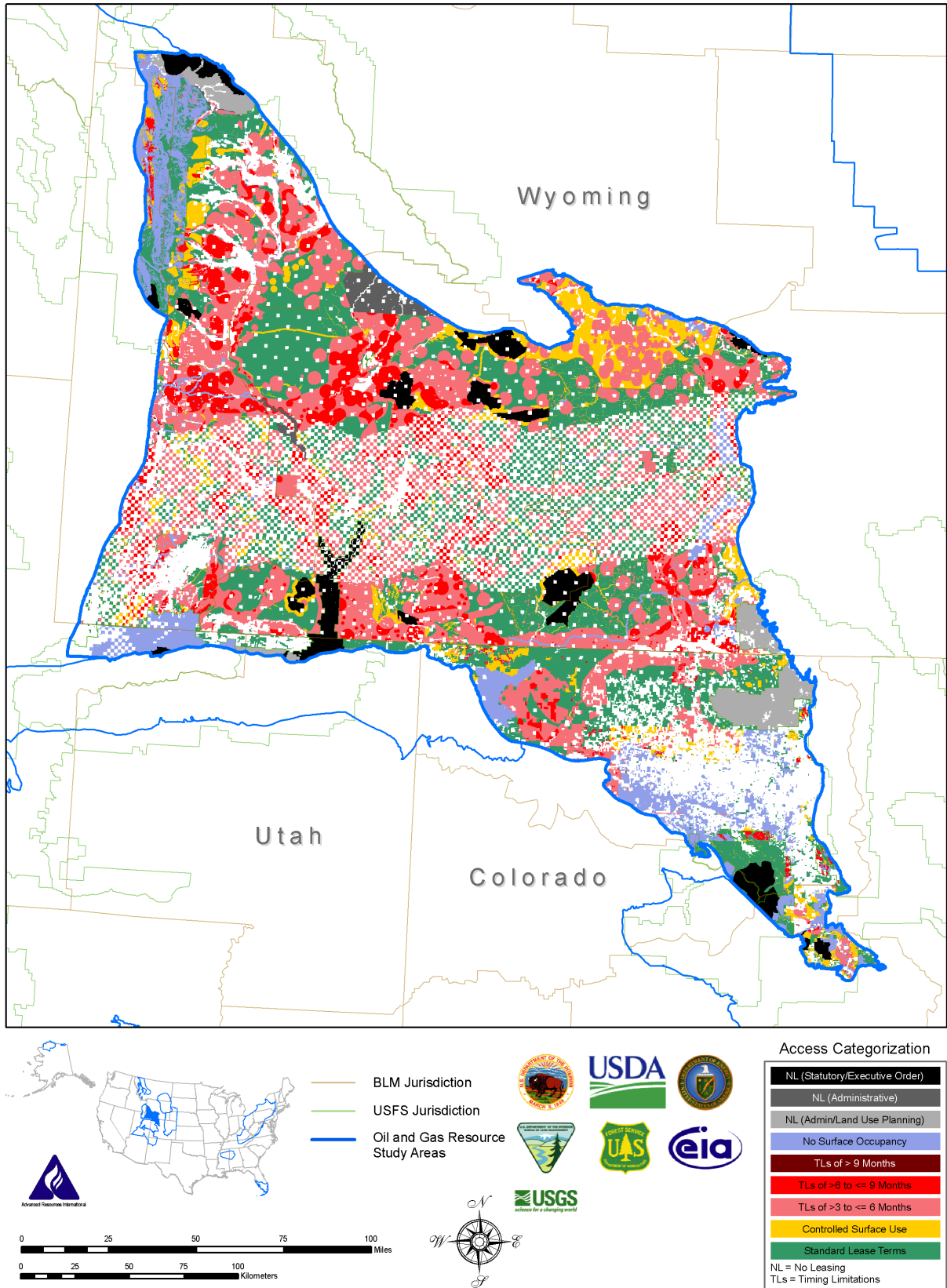


Figure 3-35. Federal Land Access Categorization Map, Greater Green River Basin Study Area

Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and the Extent and Nature of Restrictions or Impediments to Their Development

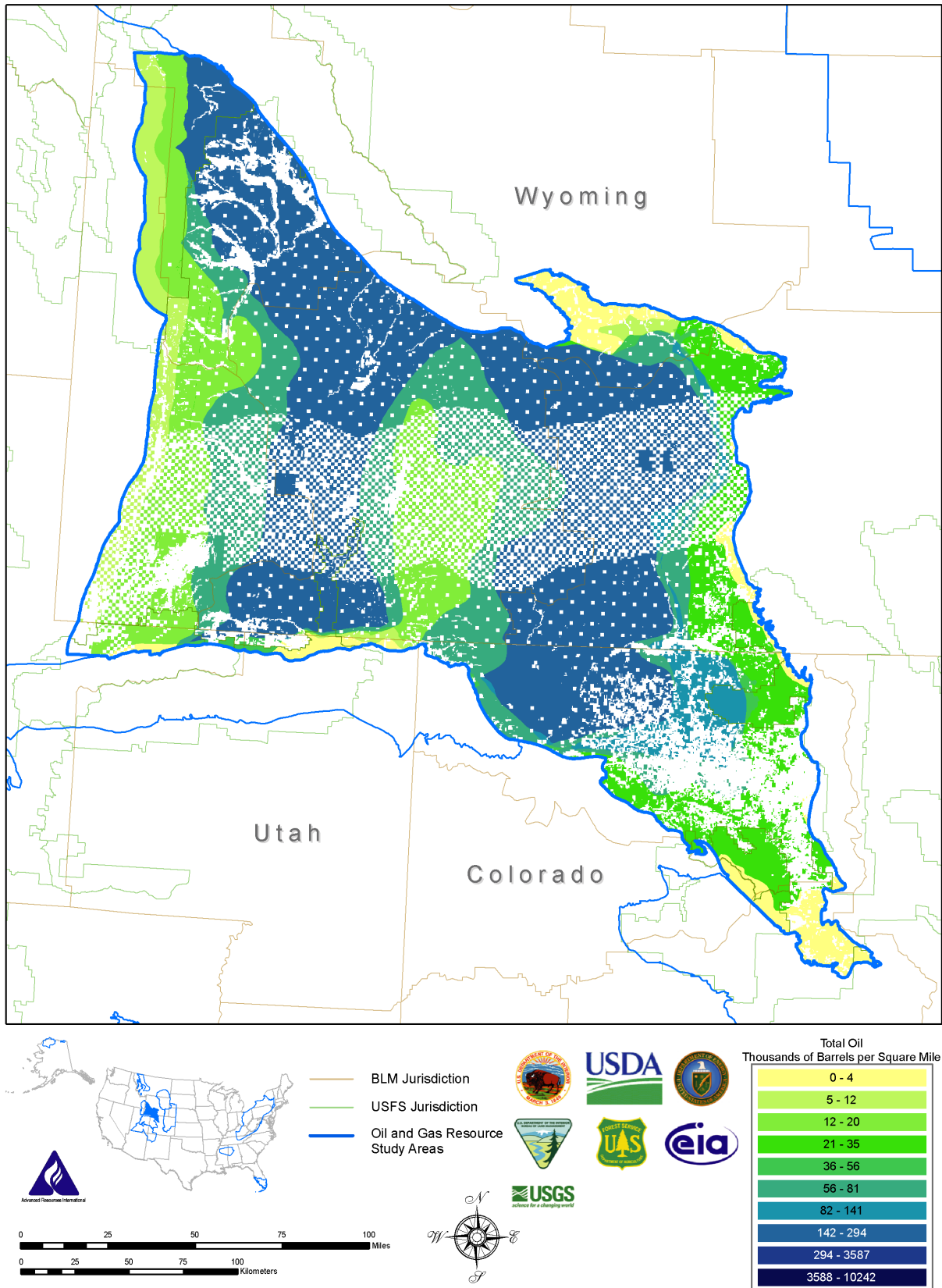


Figure 3-36. Map of Total Federal Oil, Greater Green River Basin Study Area

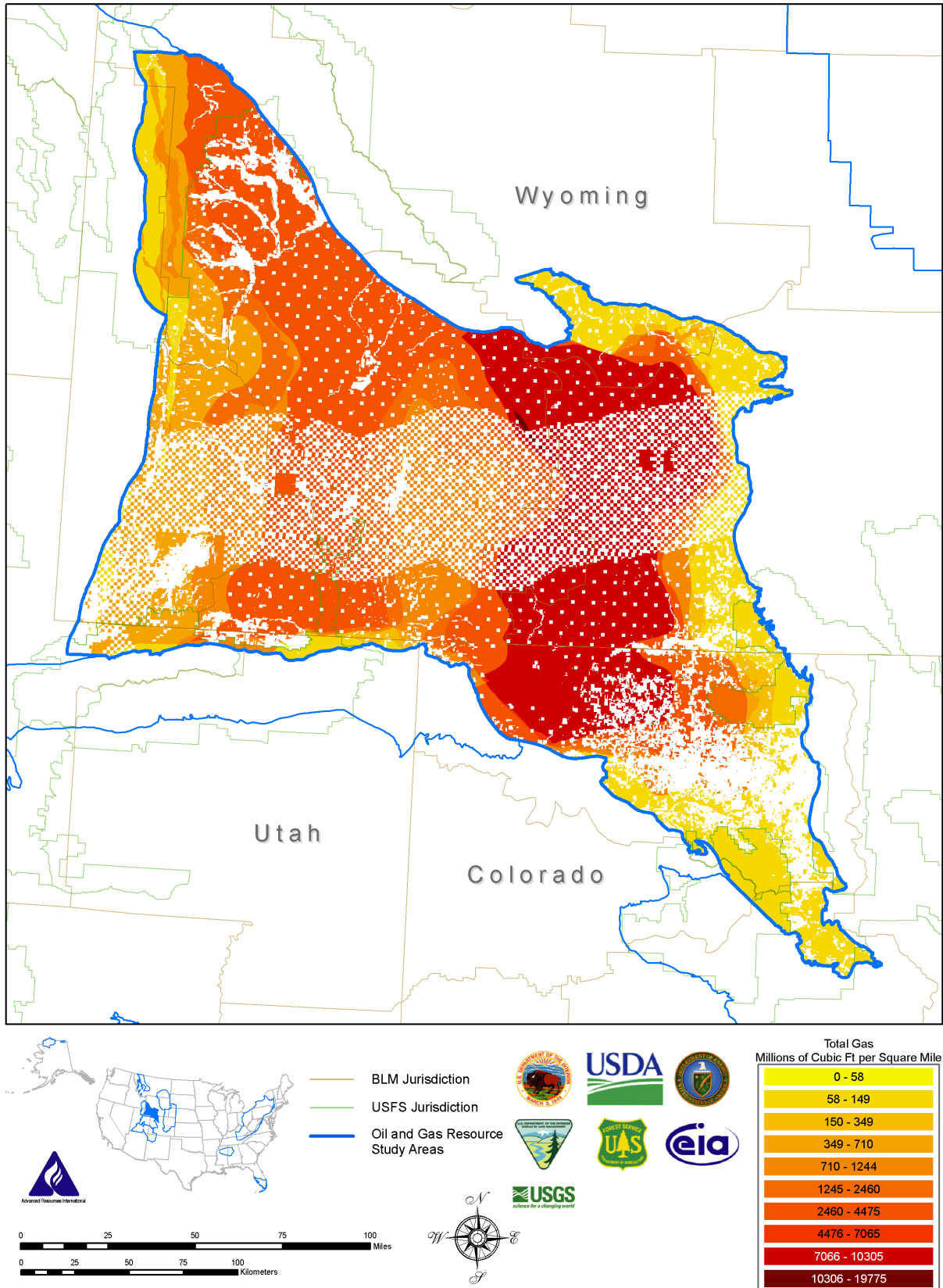


Figure 3-37. Map of Total Federal Natural Gas, Greater Green River Basin Study Area

Table 3-9. Denver Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	68	2.5%	0	0.9%	0	0.4%
2.	No Leasing (Administrative) (NLA)	299	10.8%	1	8.9%	13	23.6%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	67	2.4%	0	2.4%	1	1.1%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	273	9.8%	0	3.5%	3	6.1%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	2	0.1%	0	0.2%	0	0.5%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	33	1.2%	1	4.1%	4	6.3%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	281	10.1%	3	19.7%	8	15.0%
8.	Leasing, Controlled Surface Use (CSU) ^f	860	31.0%	6	44.3%	20	36.1%
9.	Leasing, Standard Lease Terms (SLTs)	894	32.2%	2	16.0%	6	11.1%
Total, Federal Lands including Split Estate		2,776	100.0%	13	100.0%	57	100.0%
Total Non-Federal		32,774		156		1,823	
Total Inventory Area		35,550		169		1,879	
Summary							
Inaccessible (Categories 1-4)		707	25%	2	16%	18	31%
Accessible with Restrictions (Categories 5-8)		1,175	42%	9	68%	33	58%
Accessible under Standard Lease Terms (Category 9)		894	32%	2	16%	6	11%
Total, Federal Lands Including Split Estate		2,776	100%	13	100%	57	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

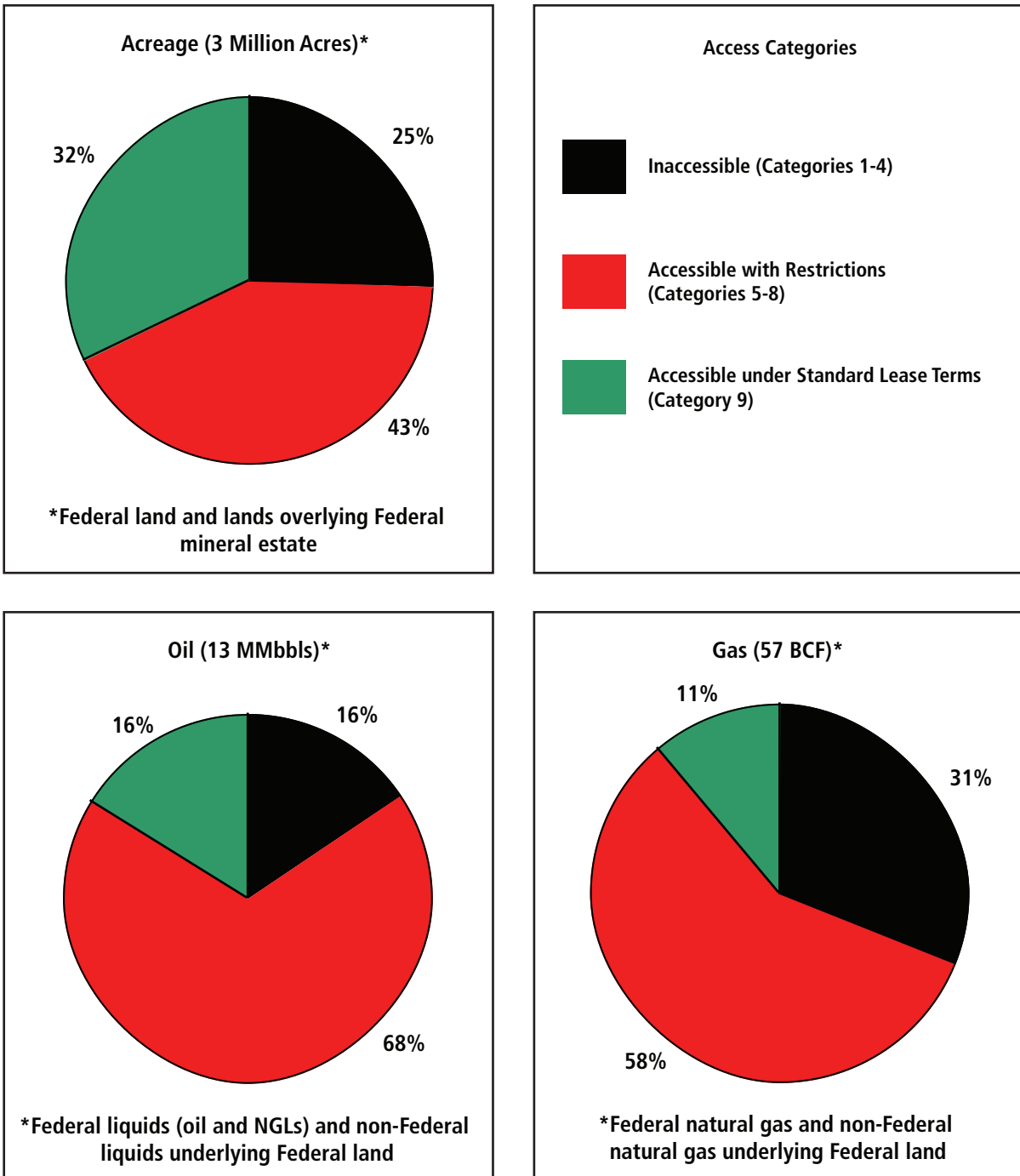


Figure 3-38. Simplified Chart of Results, Denver Basin Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

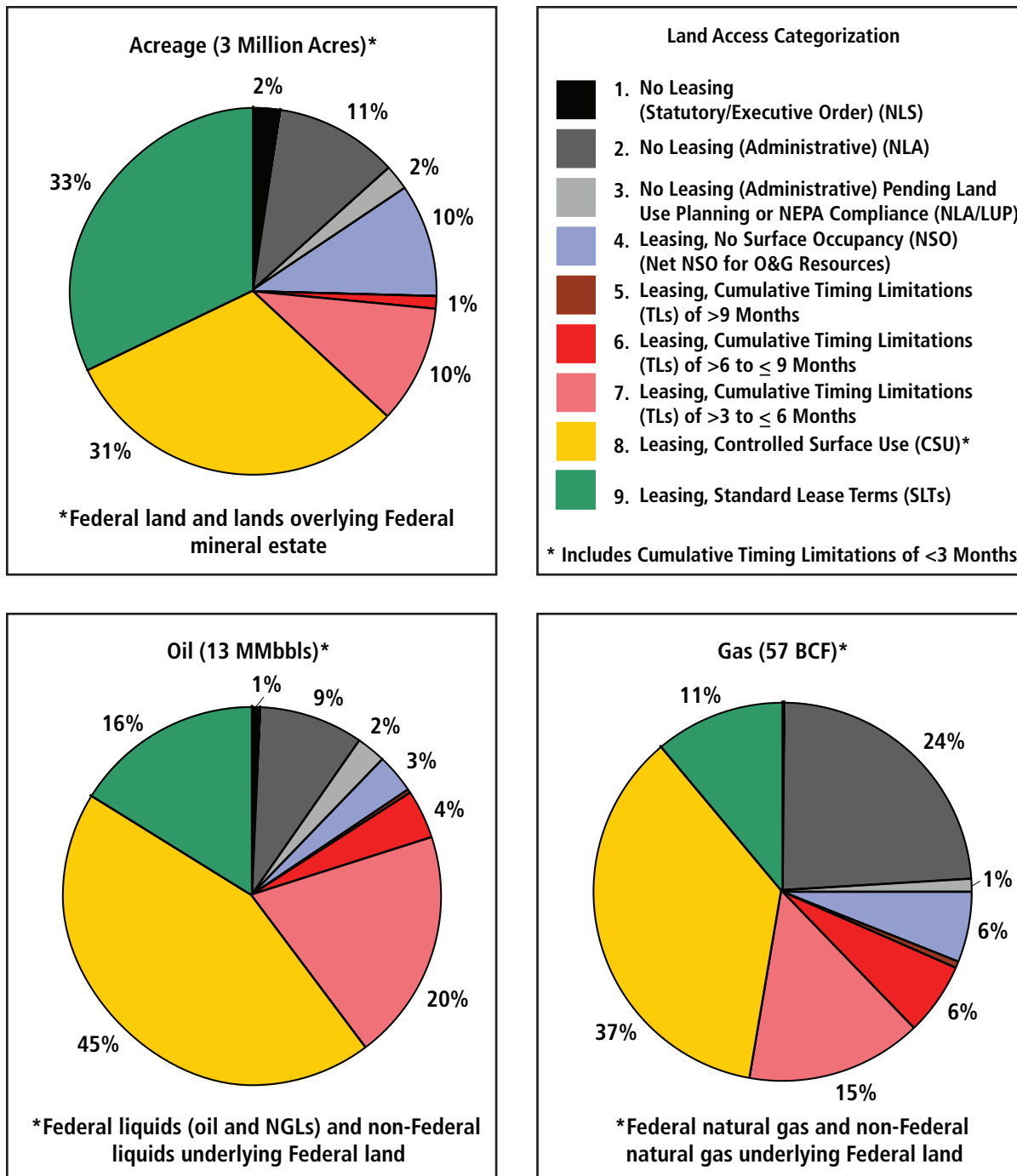


Figure 3-39. Chart of Results, Denver Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

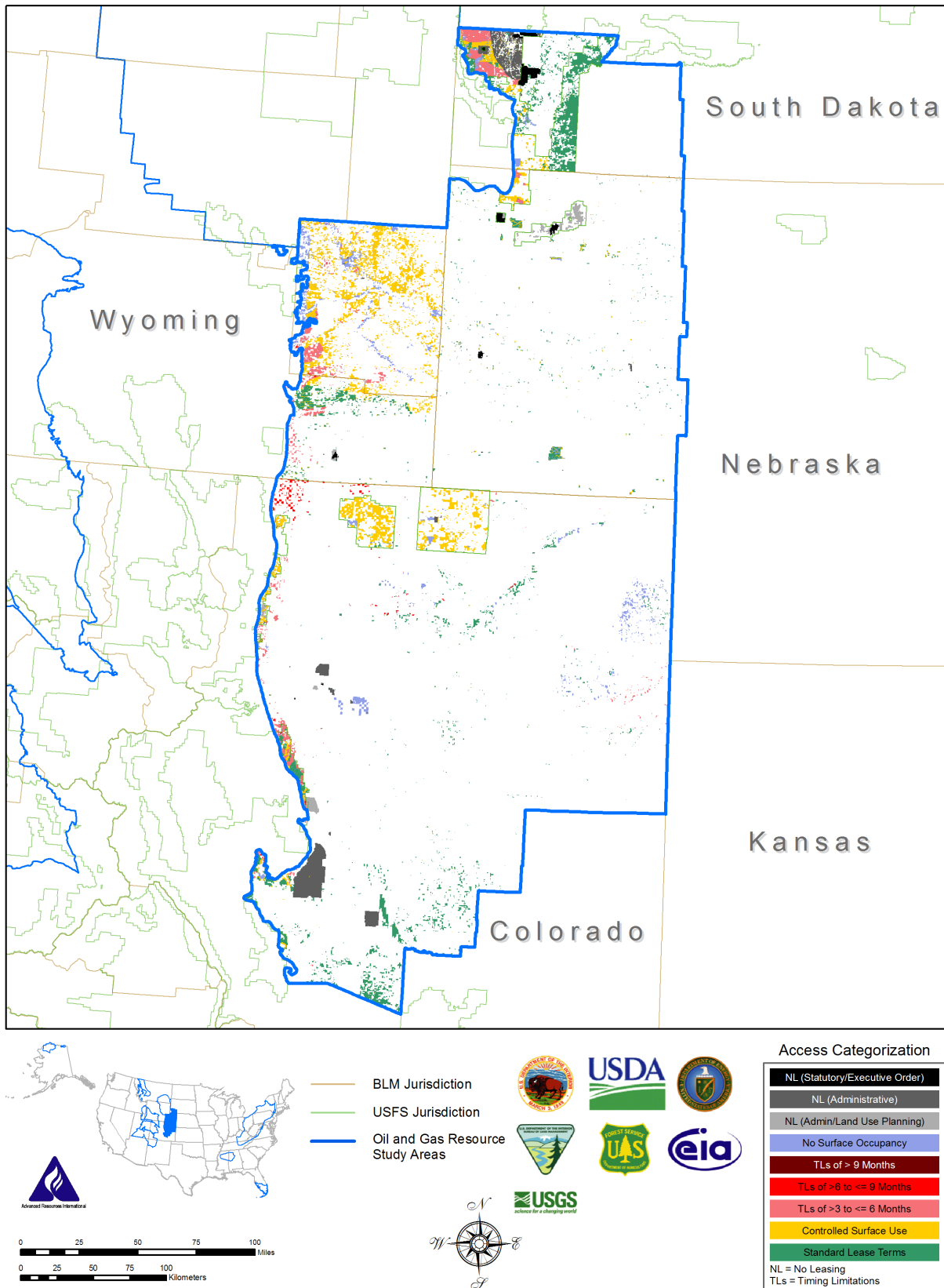


Figure 3-40. Federal Land Access Categorization Map, Denver Basin Study Area

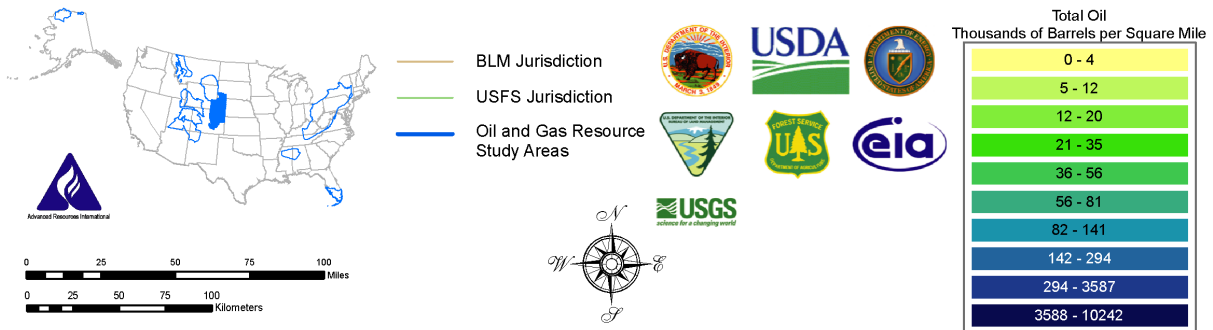
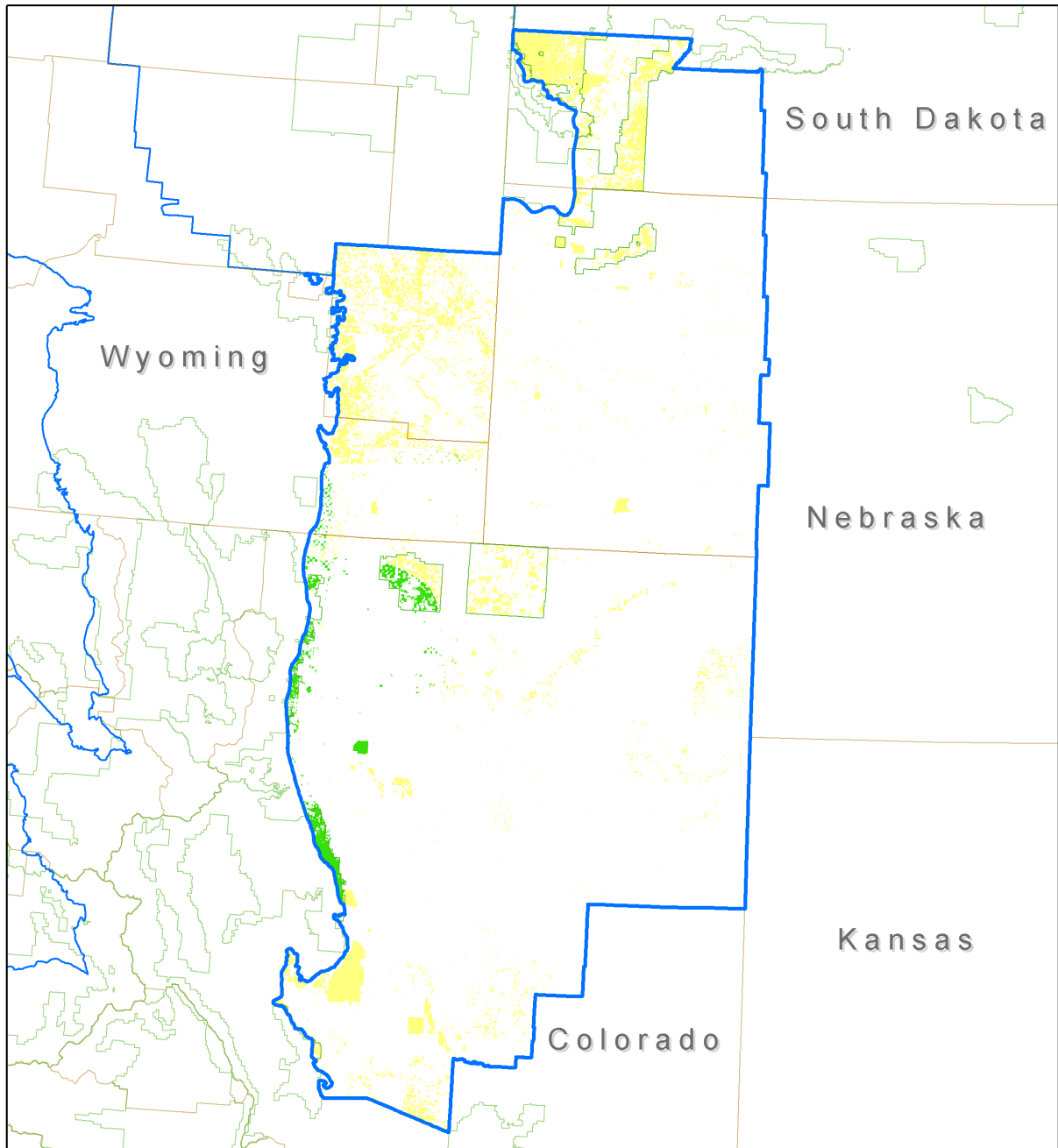


Figure 3-41. Map of Total Federal Oil, Denver Basin Study Area

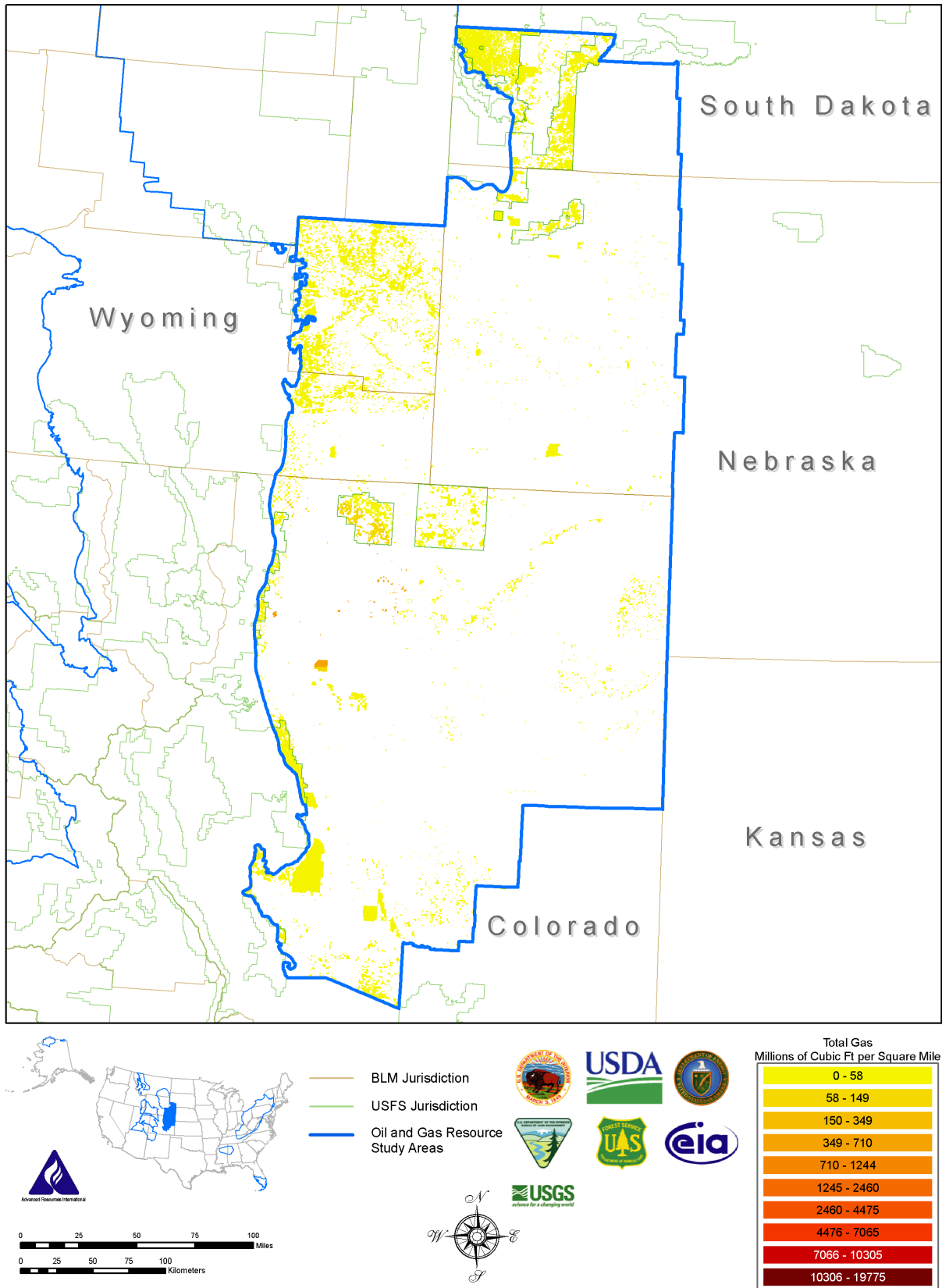


Figure 3-42. Map of Total Federal Natural Gas, Denver Basin Study Area

Table 3-10. Florida Peninsula Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	4	0.2%	0	0.1%	0	0.0%
2.	No Leasing (Administrative) (NLA)	4	0.2%	0	0.1%	0	0.1%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	1,376	69.0%	50	67.3%	217	66.8%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	497	24.9%	13	18.0%	60	18.5%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	-	0.0%	-	0.0%	-	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	112	5.6%	11	14.3%	47	14.5%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	-	0.0%	-	0.0%	-	0.0%
8.	Leasing, Controlled Surface Use (CSU) ^f	0	0.0%	0	0.0%	0	0.0%
9.	Leasing, Standard Lease Terms (SLTs)	-	0.0%	-	0.0%	-	0.0%
Total, Federal Lands including Split Estate		1,994	100.0%	74	100.0%	325	100.0%
Total Non-Federal		11,026		352		1,332	
Total Inventory Area		13,020		426		1,657	
Summary							
Inaccessible (Categories 1-4)		1,881	94%	64	86%	278	85%
Accessible with Restrictions (Categories 5-8)		113	6%	11	14%	47	15%
Accessible under Standard Lease Terms (Category 9)		-	0%	-	0%	-	0%
Total, Federal Lands Including Split Estate		1,994	100%	74	100%	325	100%

^a Undiscovered technically recoverable resources and reserves growth Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

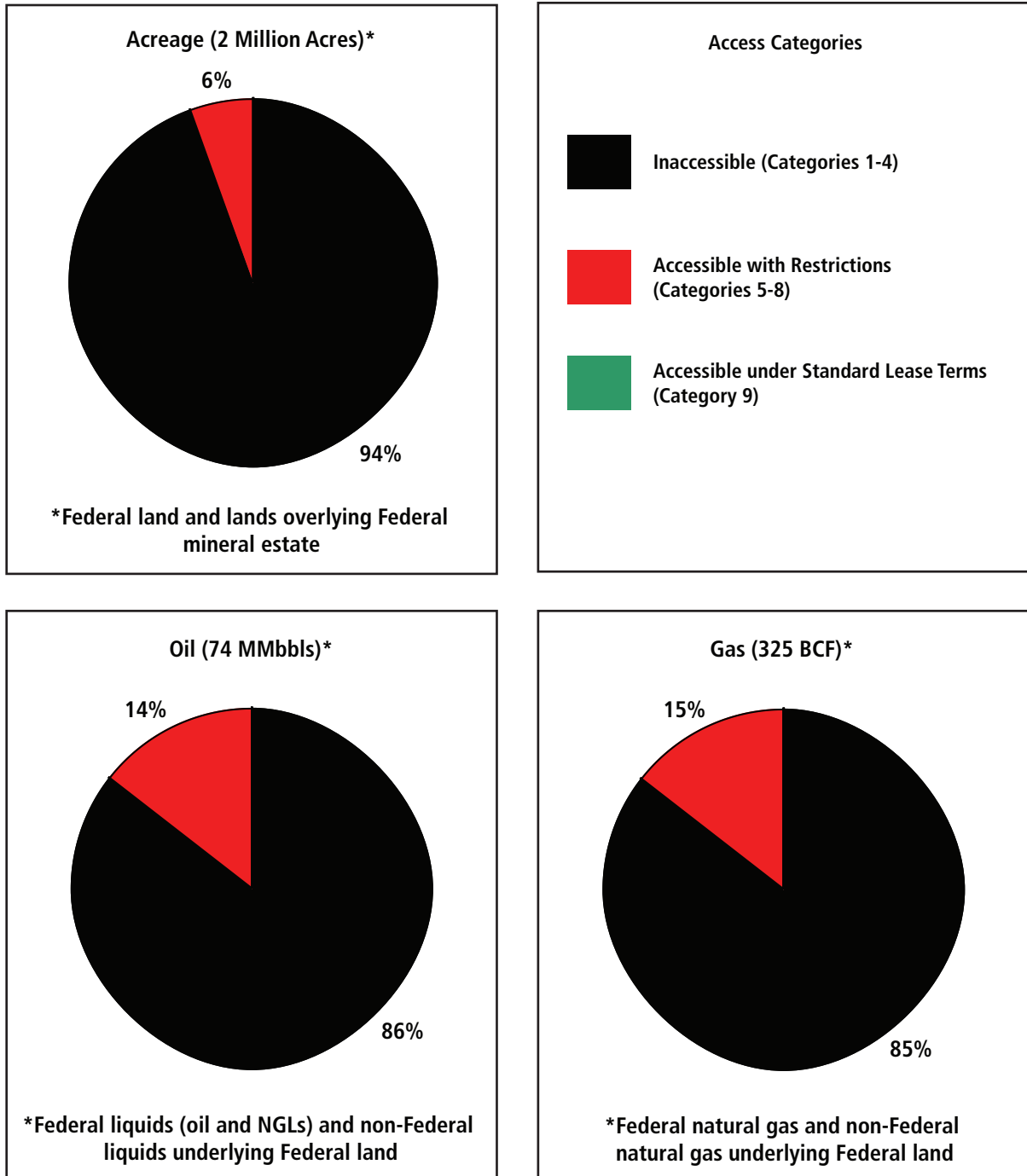


Figure 3-43. Simplified Chart of Results, Florida Peninsula Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

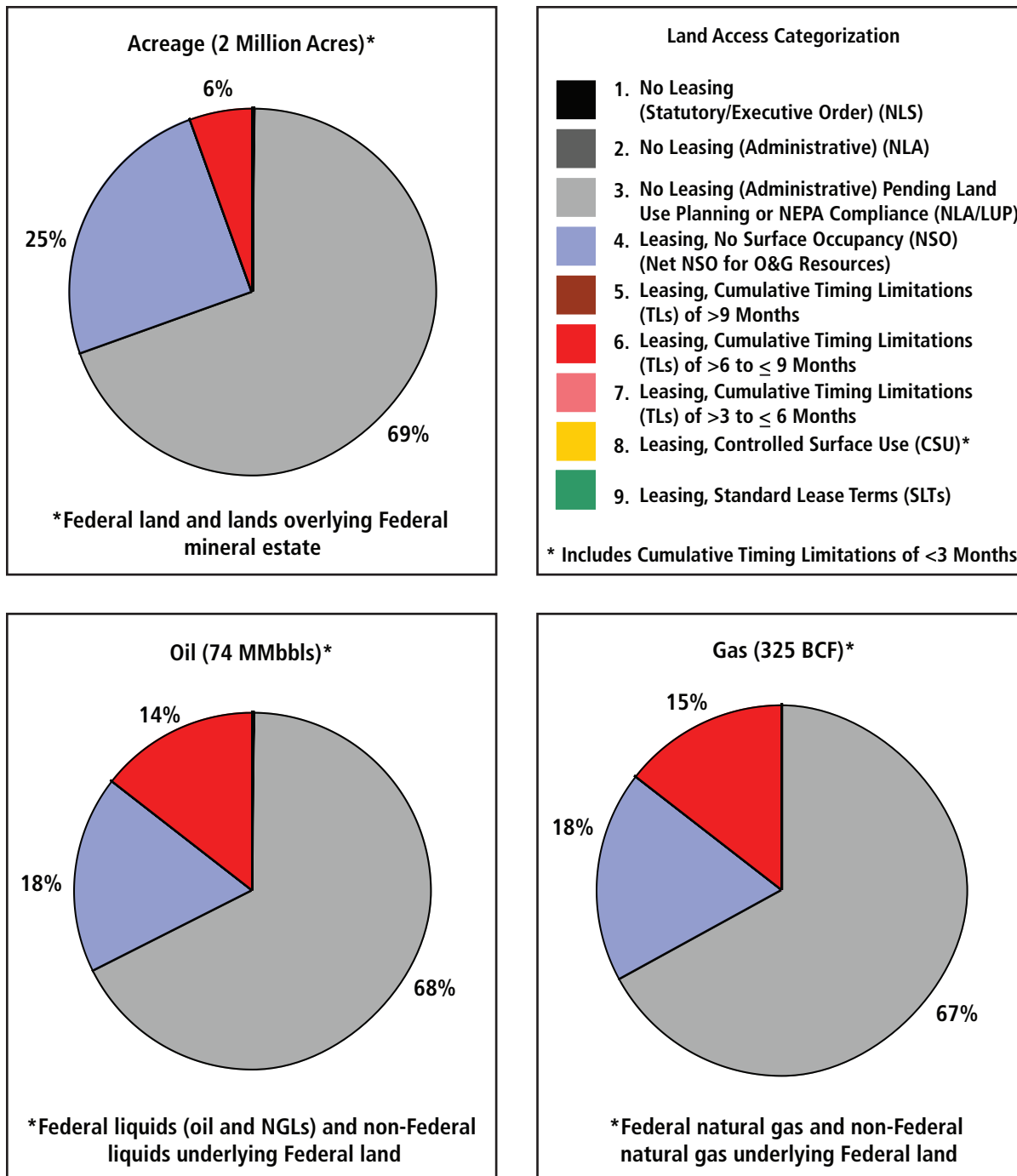


Figure 3-44. Chart of Results, Florida Peninsula Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

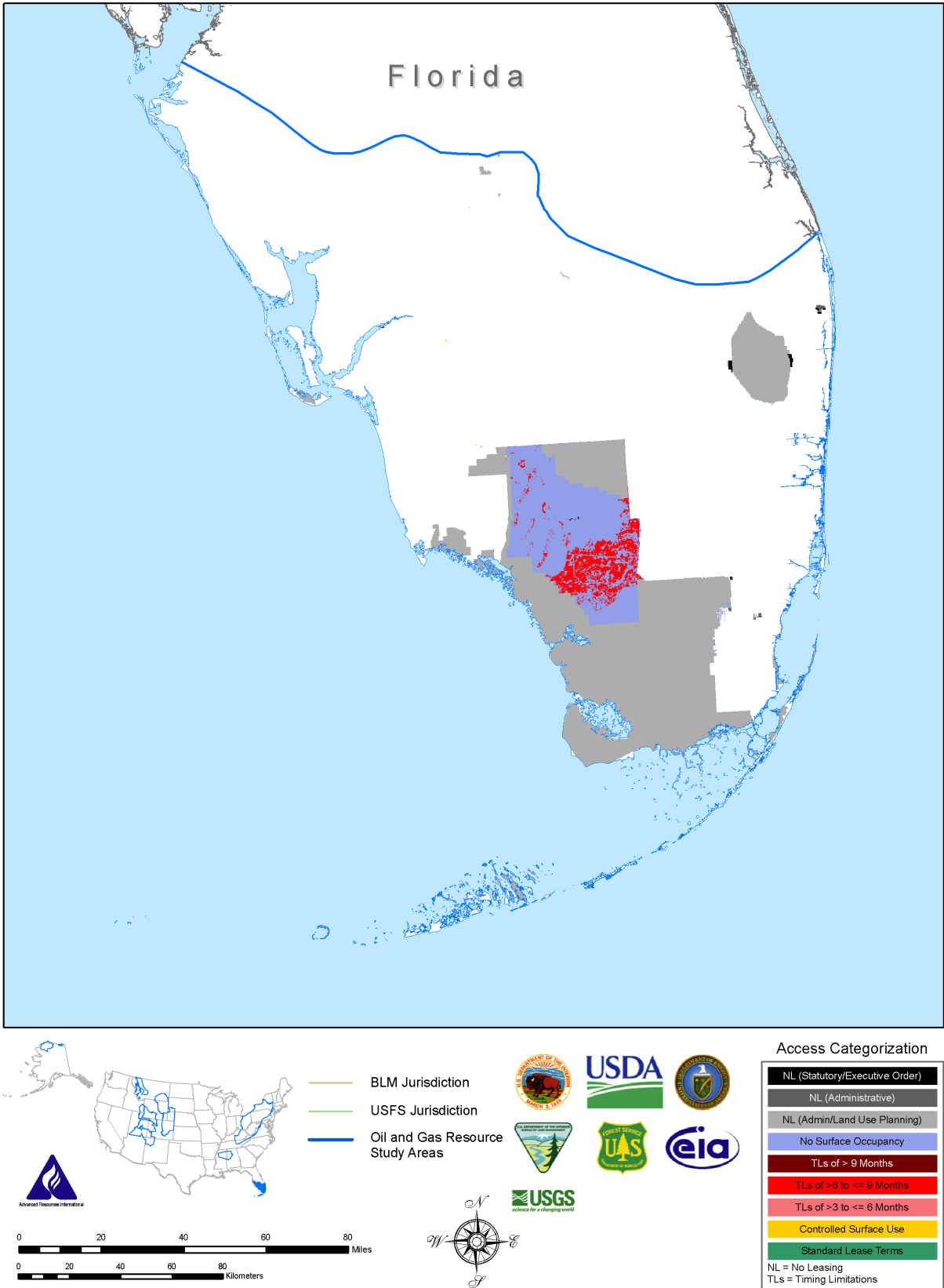


Figure 3-45. Federal Land Access Categorization Map, Florida Peninsula Study Area

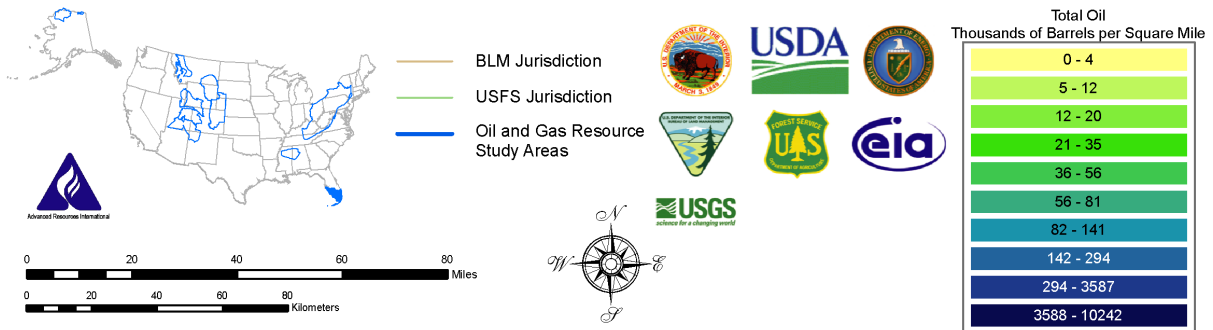
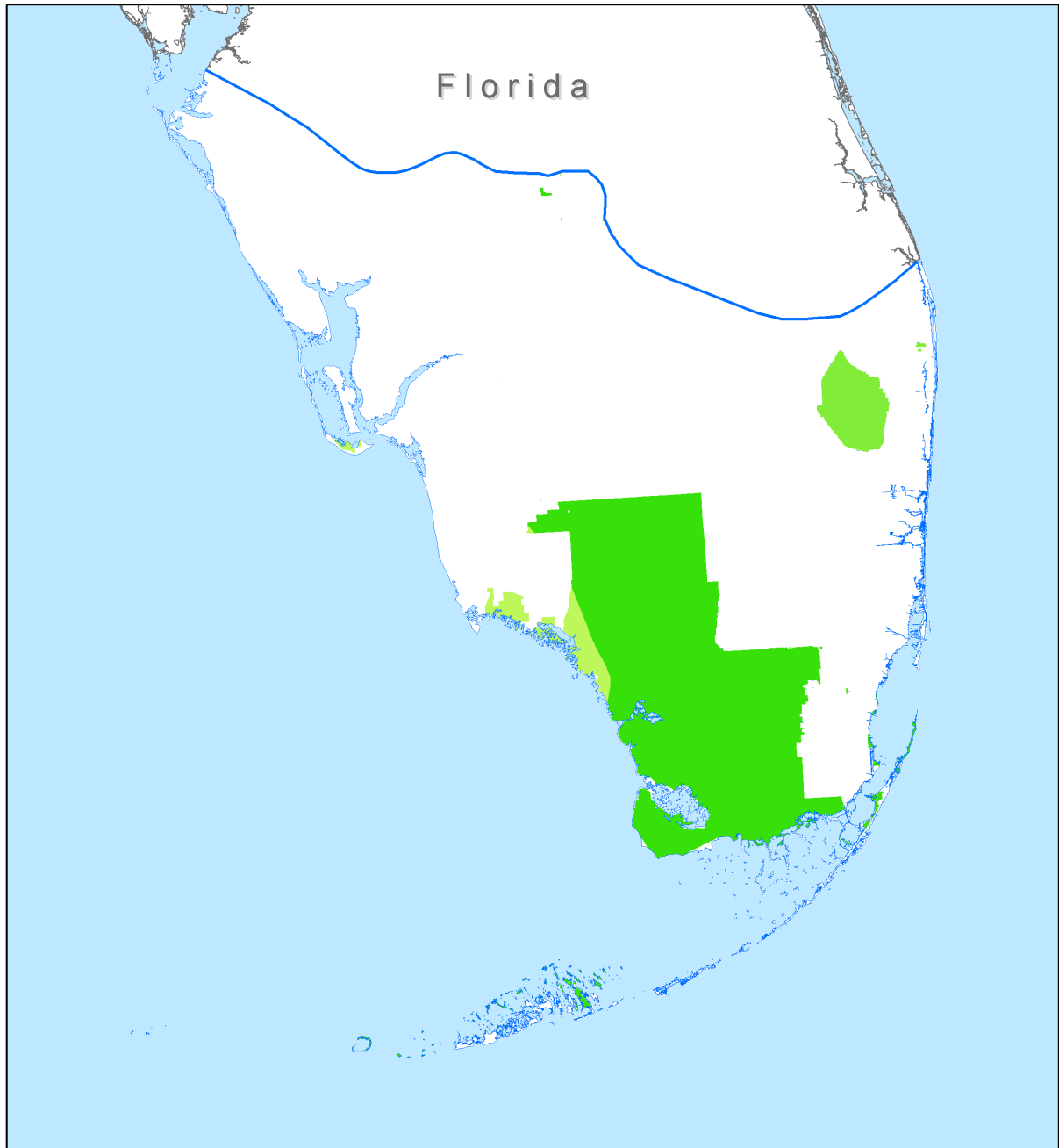


Figure 3-46. Map of Total Federal Oil, Florida Peninsula Study Area

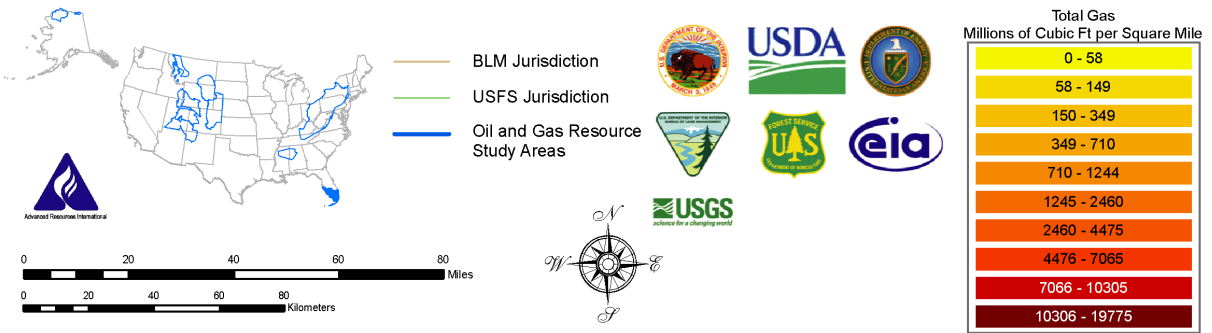
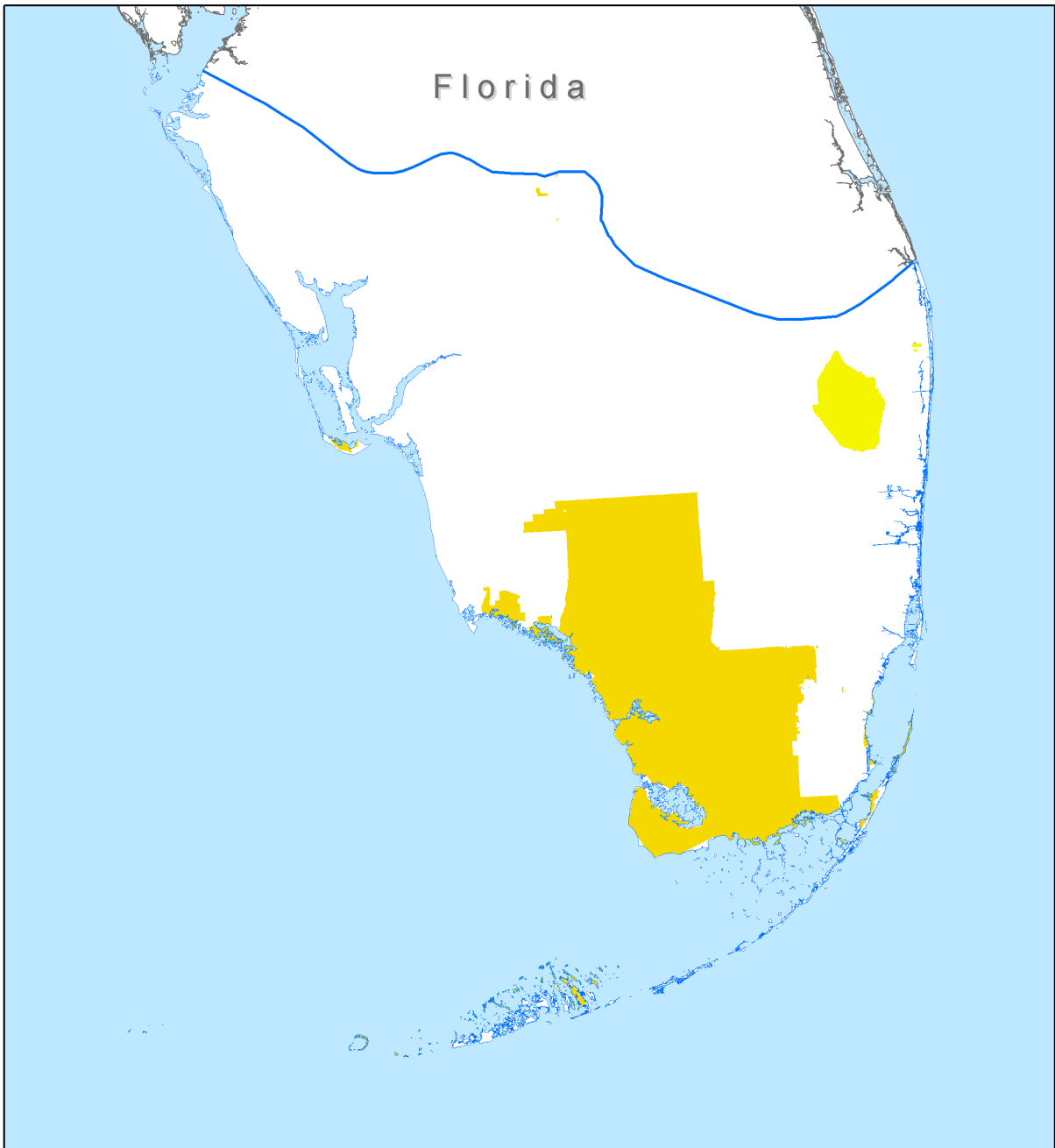


Figure 3-47. Map of Total Federal Natural Gas, Florida Peninsula Study Area

MMBbls) and 18 percent (0.07 TCF) of the Federal natural gas.

- Approximately 15 percent (0.10 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-48 and 3-49, Categories 5 through 8). Based on resource estimates, these lands contain 32 percent of the Federal oil (0.24 MMBbls) and 35 percent (0.14 TCF) of the Federal natural gas.
- Approximately 82 percent (0.57 million acres) of the Federal land is not accessible (Figures 3-48 and 3-49, Categories 1 through 4). Based on resource estimates, these lands contain 57 percent of the Federal oil (0.43 MMBbls) and 47 percent (0.19 TCF) of the Federal natural gas.

3.1.11 Appalachian Basin

- Approximately 16 percent (0.9 million acres) of the Federal land is accessible under standard lease terms (Figures 3-53 and 3-54, Category 9). Based on resource estimates, these lands contain 15 percent (5 MMBbls) of the Federal oil

and 17 percent (0.4 TCF) of the Federal natural gas.

- Approximately 39 percent (2.1 million acres) of the Federal land is accessible with restrictions on oil and gas operations beyond standard lease terms (Figures 3-53 and 3-54, Categories 5 through 8). Based on resource estimates, these lands contain 43 percent (14 MMBbls) of the Federal oil and 41 percent (1 TCF) of the Federal natural gas.
- Approximately 45 percent (2.4 million acres) of the Federal land is not accessible (Figures 3-53 and 3-54, Categories 1 through 4). Based on resource estimates, these lands contain about 41 percent (14 MMBbls) of the Federal oil and 42 percent (1.01 TCF) of the Federal natural gas.
- Most of the undiscovered gas resource (94 percent) is expected to occur in continuous deposits.
- Coalbed natural gas accounts for about 13 percent of the total undiscovered continuous gas.

Table 3-11. Black Warrior Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	1	0.2%	0	0.1%	0	0.0%
2.	No Leasing (Administrative) (NLA)	-	0.0%	-	0.0%	-	0.0%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	361	52.0%	0	45.8%	168	41.3%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	208	30.0%	0	11.4%	24	6.0%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	-	0.0%	-	0.0%	-	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	-	0.0%	-	0.0%	-	0.0%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	-	0.0%	-	0.0%	-	0.0%
8.	Leasing, Controlled Surface Use (CSU) ^f	101	14.6%	0	31.9%	141	34.7%
9.	Leasing, Standard Lease Terms (SLTs)	23	3.3%	0	10.7%	73	17.9%
Total, Federal Lands including Split Estate		694	100.0%	1	100.0%	406	100.0%
Total Non-Federal		10,853		13		9,484	
Total Inventory Area		11,547		13		9,890	
Summary							
Inaccessible (Categories 1-4)		570	82%	0	57%	192	47%
Accessible with Restrictions (Categories 5-8)		101	15%	0	32%	141	35%
Accessible under Standard Lease Terms (Category 9)		23	3%	0	11%	73	18%
Total, Federal Lands Including Split Estate		694	100%	1	100%	406	100%

^a Undiscovered technically recoverable resources and reserves growth

Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

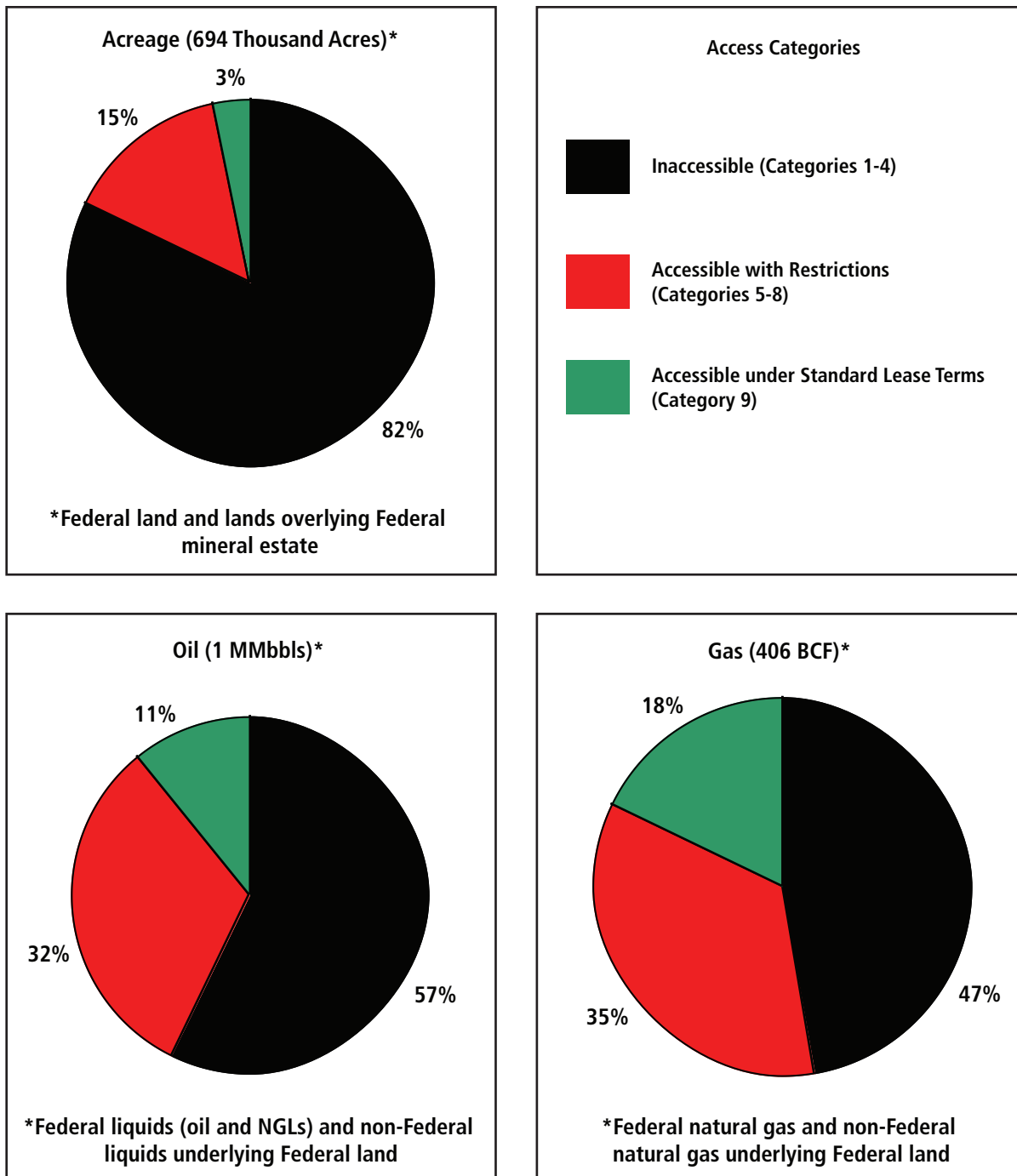


Figure 3-48. Simplified Chart of Results, Black Warrior Basin Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

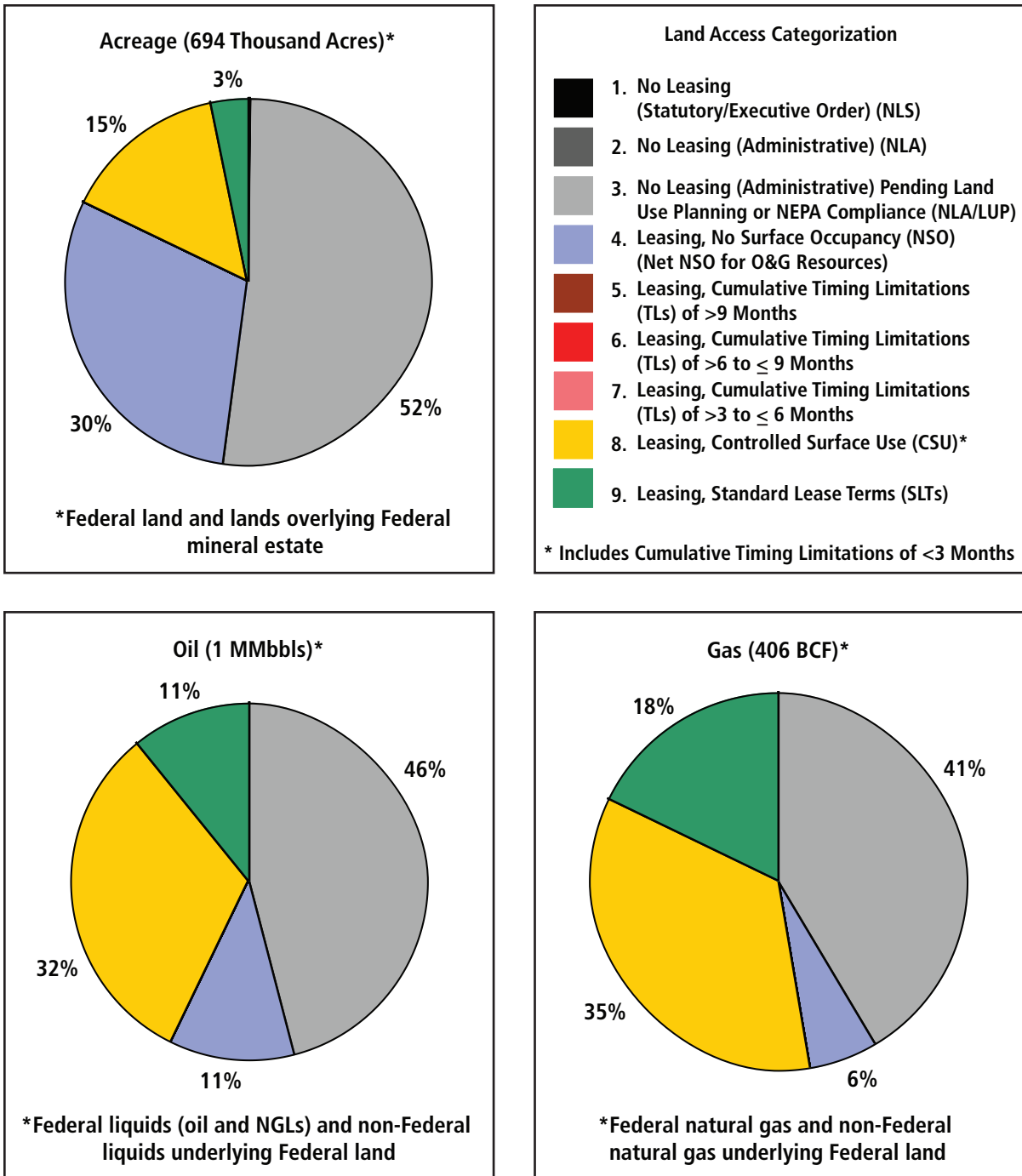


Figure 3-49. Chart of Results, Black Warrior Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

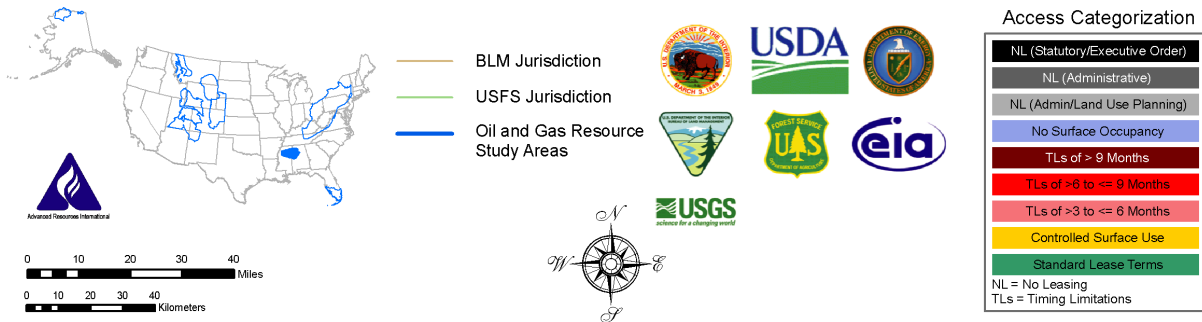
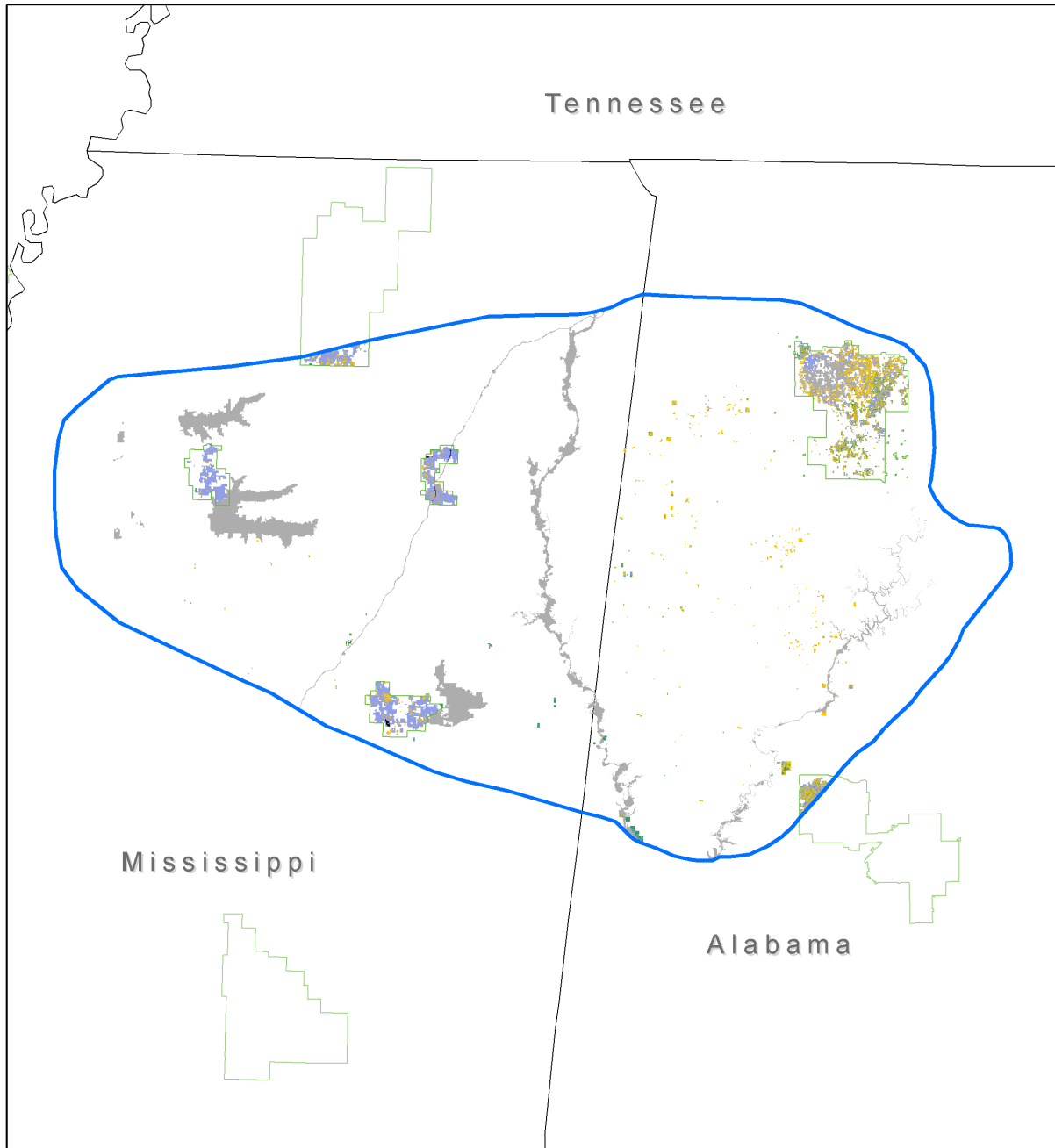


Figure 3-50. Federal Land Access Categorization Map, Black Warrior Basin Study Area

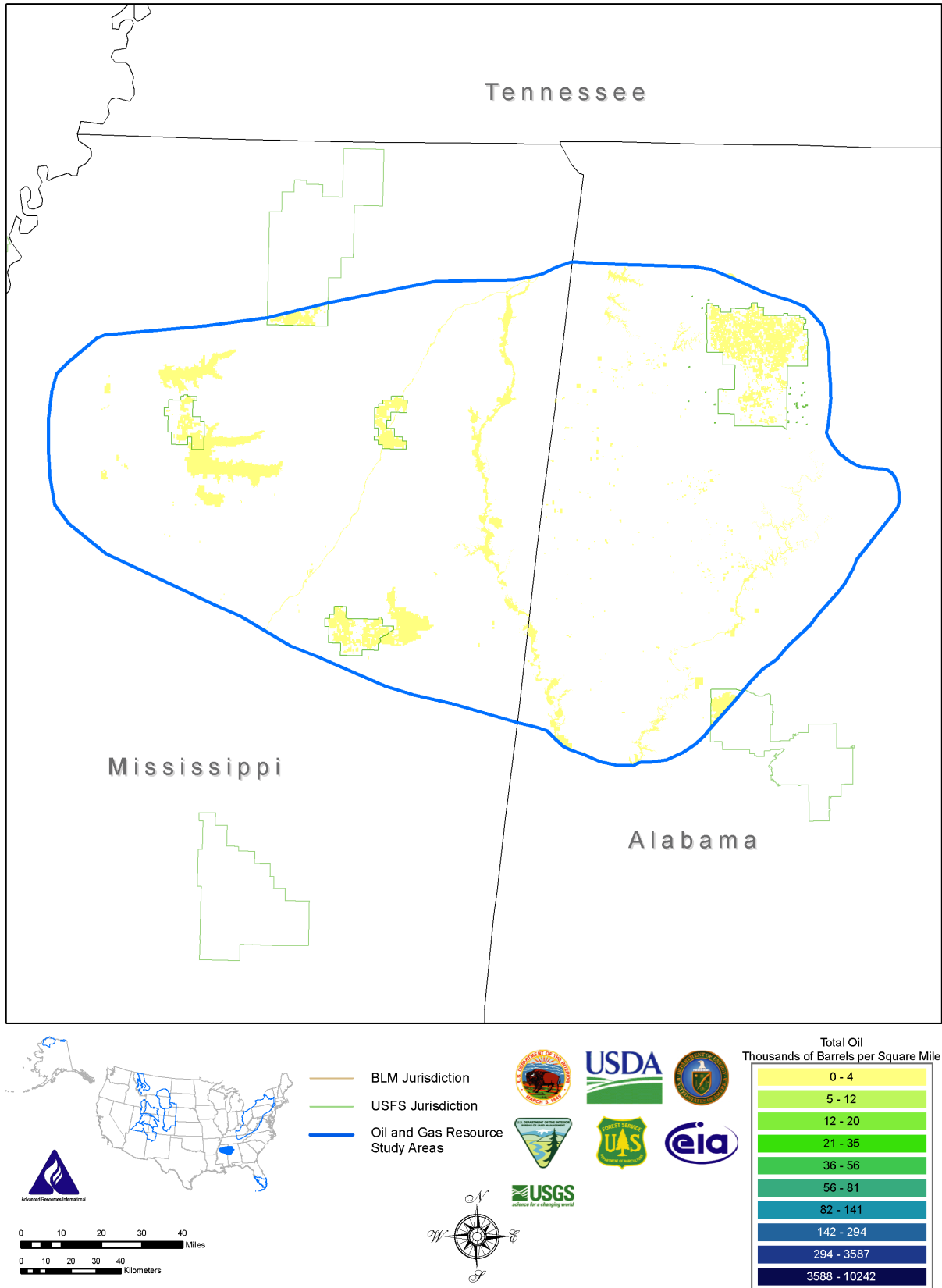


Figure 3-51. Map of Total Federal Oil, Black Warrior Basin Study Area

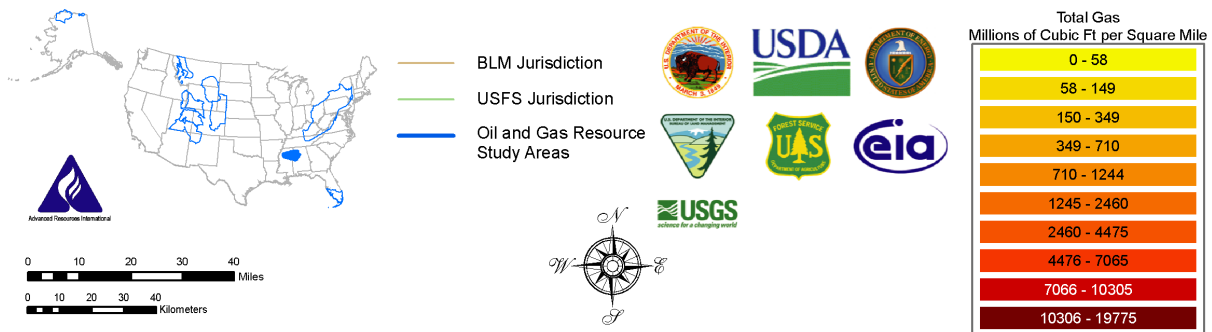
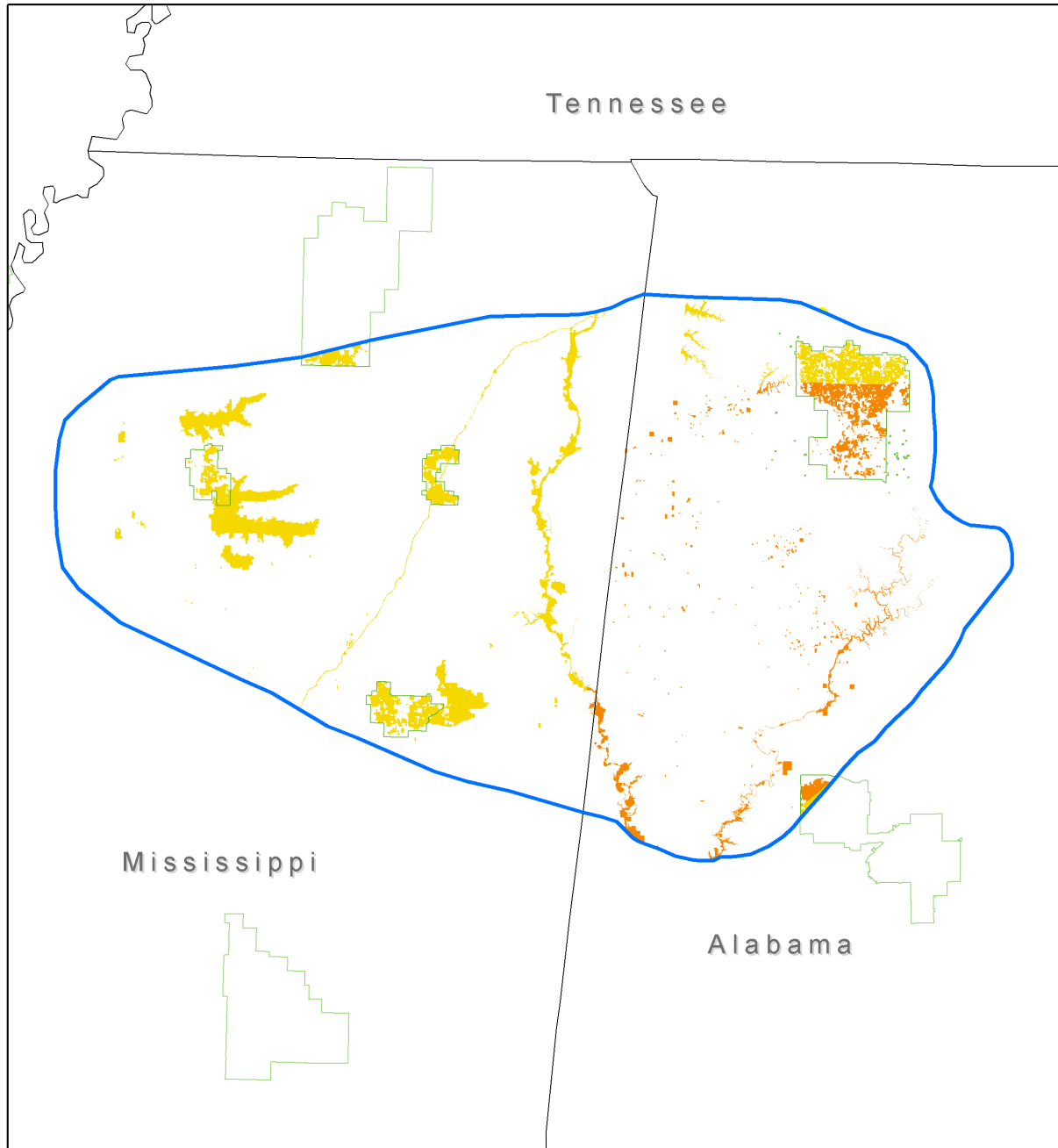


Figure 3-52. Map of Total Federal Natural Gas, Black Warrior Basin Study Area

Table 3-12. Appalachian Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

		Area		Resources ^a			
				Total Oil ^b		Total Gas ^c	
		(acres x 1000)	Percent of Federal	(MMbbbls) ^d	Percent of Federal	(BCF) ^e	Percent of Federal
1.	No Leasing (Statutory/Executive Order) (NLS)	107	2.0%	0	1.2%	26	1.1%
2.	No Leasing (Administrative) (NLA)	119	2.2%	1	3.2%	99	4.1%
3.	No Leasing (Administrative) Pending Land Use Planning or NEPA Compliance (NLA/LUP)	1,477	27.4%	10	30.3%	731	30.5%
4.	Leasing, No Surface Occupancy (NSO) (Net NSO for O&G Resources)	729	13.5%	2	6.5%	151	6.3%
5.	Leasing, Cumulative Timing Limitations (TLs) of >9 Months	-	0.0%	-	0.0%	-	0.0%
6.	Leasing, Cumulative Timing Limitations (TLs) of >6 to ≤9 Months	96	1.8%	0	0.5%	10	0.4%
7.	Leasing, Cumulative Timing Limitations (TLs) of >3 to ≤6 Months	335	6.2%	0	0.5%	20	0.8%
8.	Leasing, Controlled Surface Use (CSU) ^f	1,651	30.6%	14	42.4%	956	39.9%
9.	Leasing, Standard Lease Terms (SLTs)	884	16.4%	5	15.4%	402	16.8%
Total, Federal Lands including Split Estate		5,398	100.0%	33	100.0%	2,396	100.0%
Total Non-Federal		93,158		859		65,392	
Total Inventory Area		98,556		892		67,788	
Summary							
Inaccessible (Categories 1-4)		2,432	45%	14	41%	1,007	42%
Accessible with Restrictions (Categories 5-8)		2,082	39%	14	43%	987	41%
Accessible under Standard Lease Terms (Category 9)		884	16%	5	15%	402	17%
Total, Federal Lands Including Split Estate		5,398	100%	33	100%	2,396	100%

^a Undiscovered technically recoverable resources and reserves growth

Small rounding errors may be present.

^b Including oil, natural gas liquids (NGLs) and liquids associated with natural gas reservoirs

^c Including associated dissolved and nonassociated natural gas

^d Million barrels

^e Billion cubic feet

^f Includes Cumulative Timing Limitations of ≤3 months

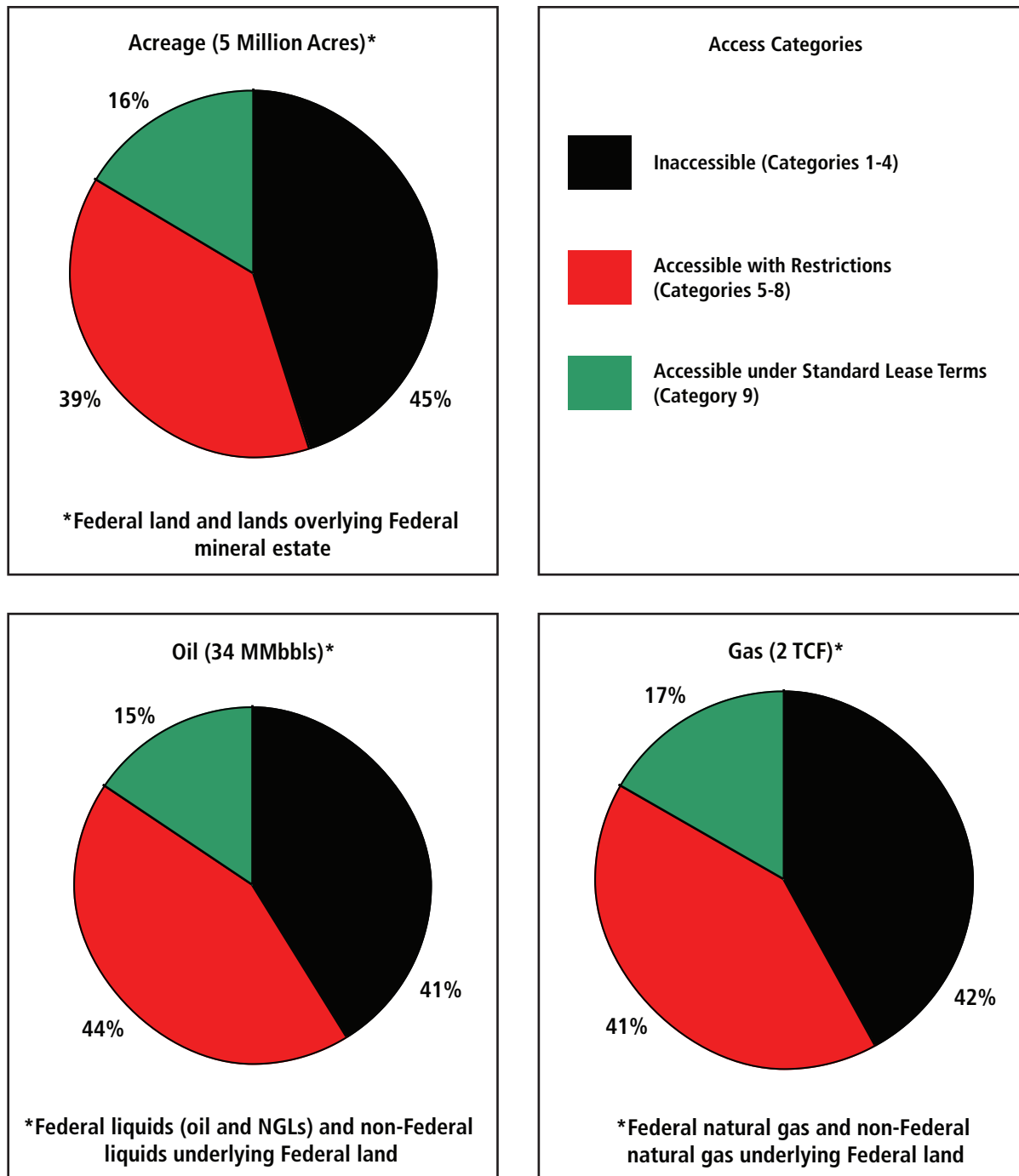


Figure 3-53. Simplified Chart of Results, Appalachian Basin Study Area—Federal Land and Oil and Natural Gas Resources by Accessibility

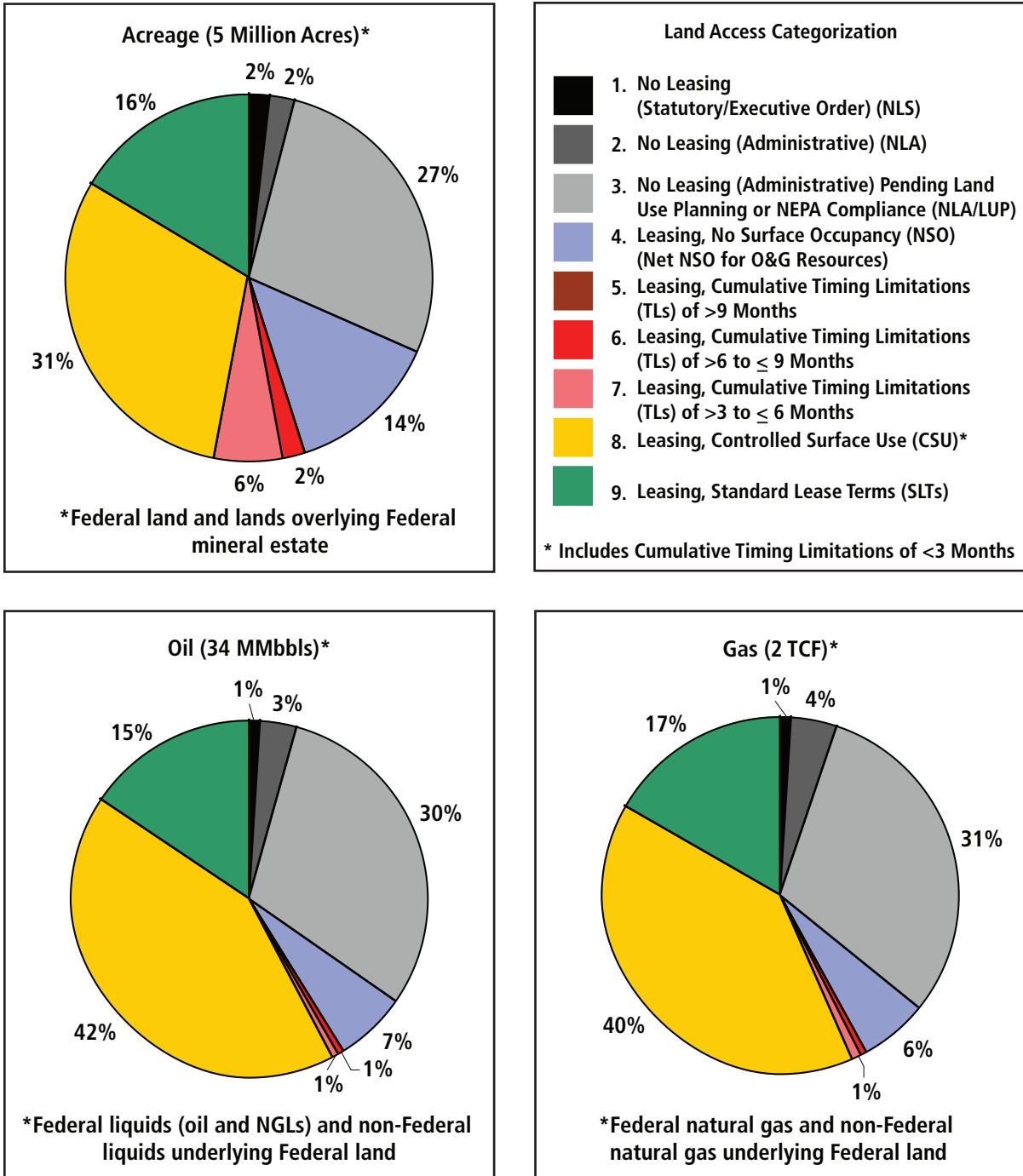


Figure 3-54. Chart of Results, Appalachian Basin Study Area—Federal Land and Oil and Natural Gas Resources by Access Category

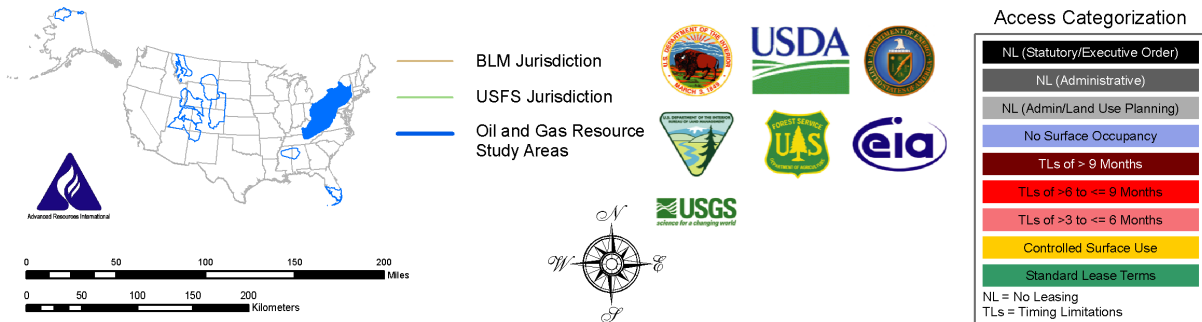
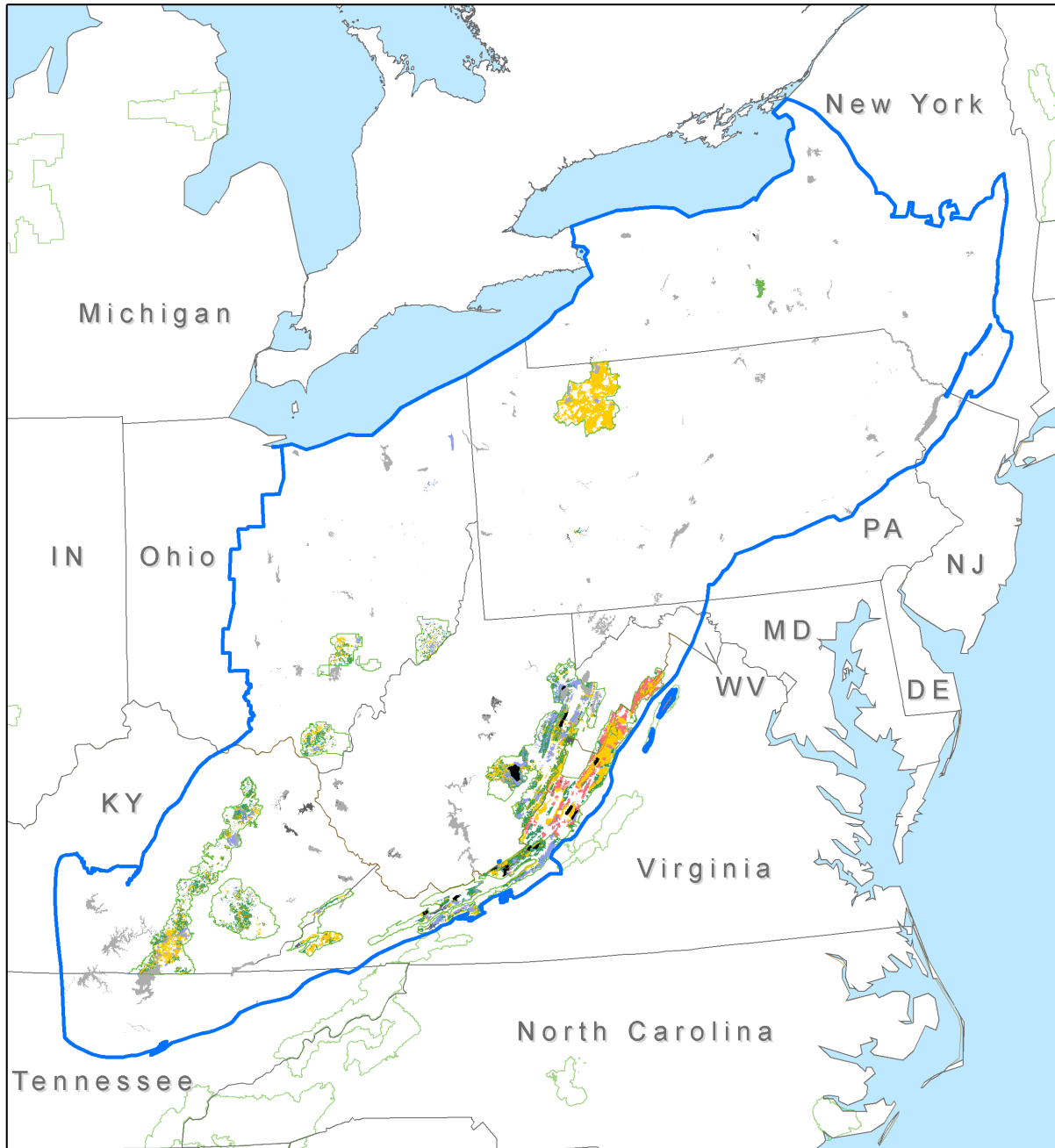


Figure 3-55. Federal Land Access Categorization Map, Appalachian Basin Study Area

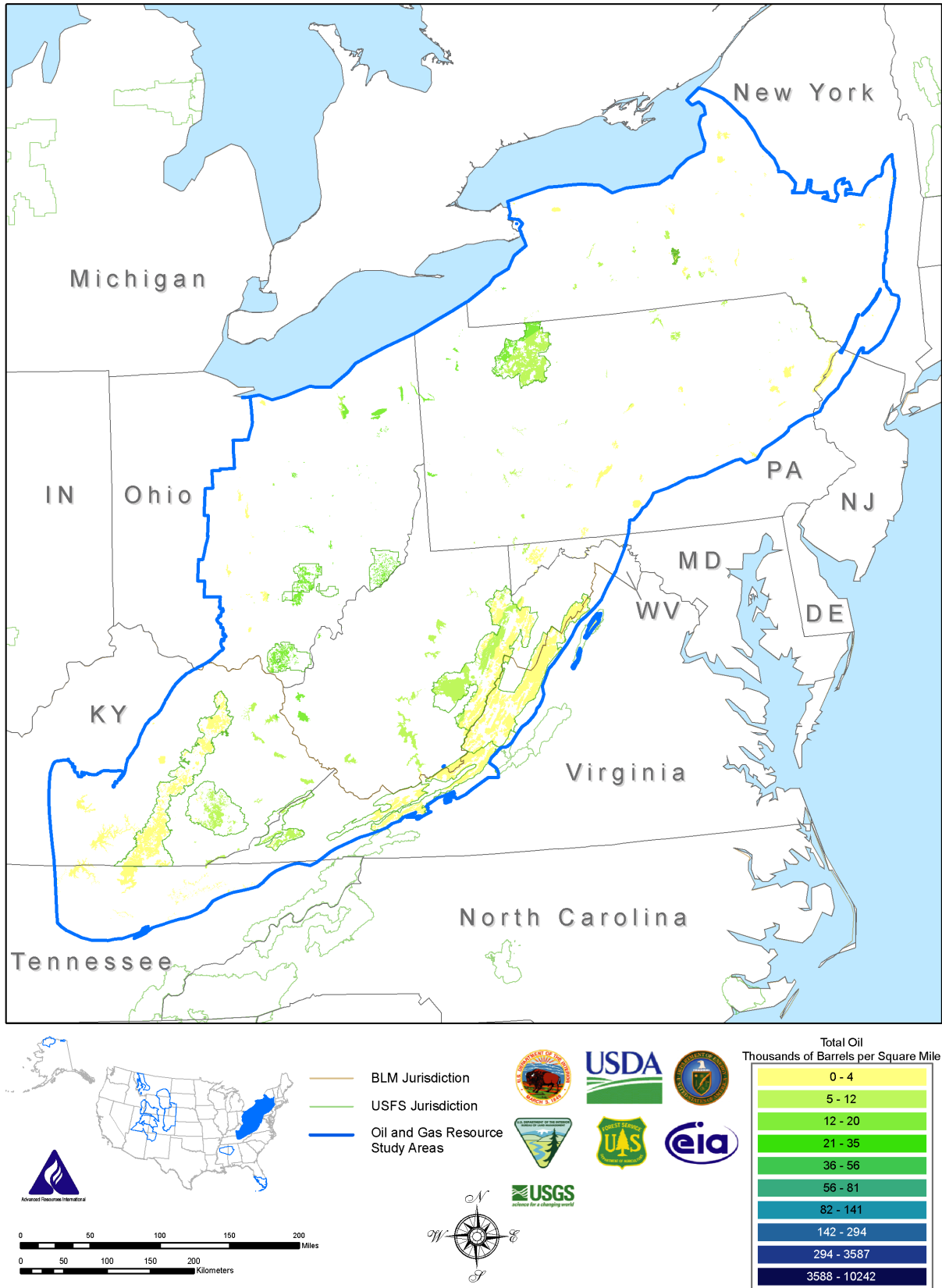


Figure 3-56. Map of Total Federal Oil, Appalachian Basin Study Area

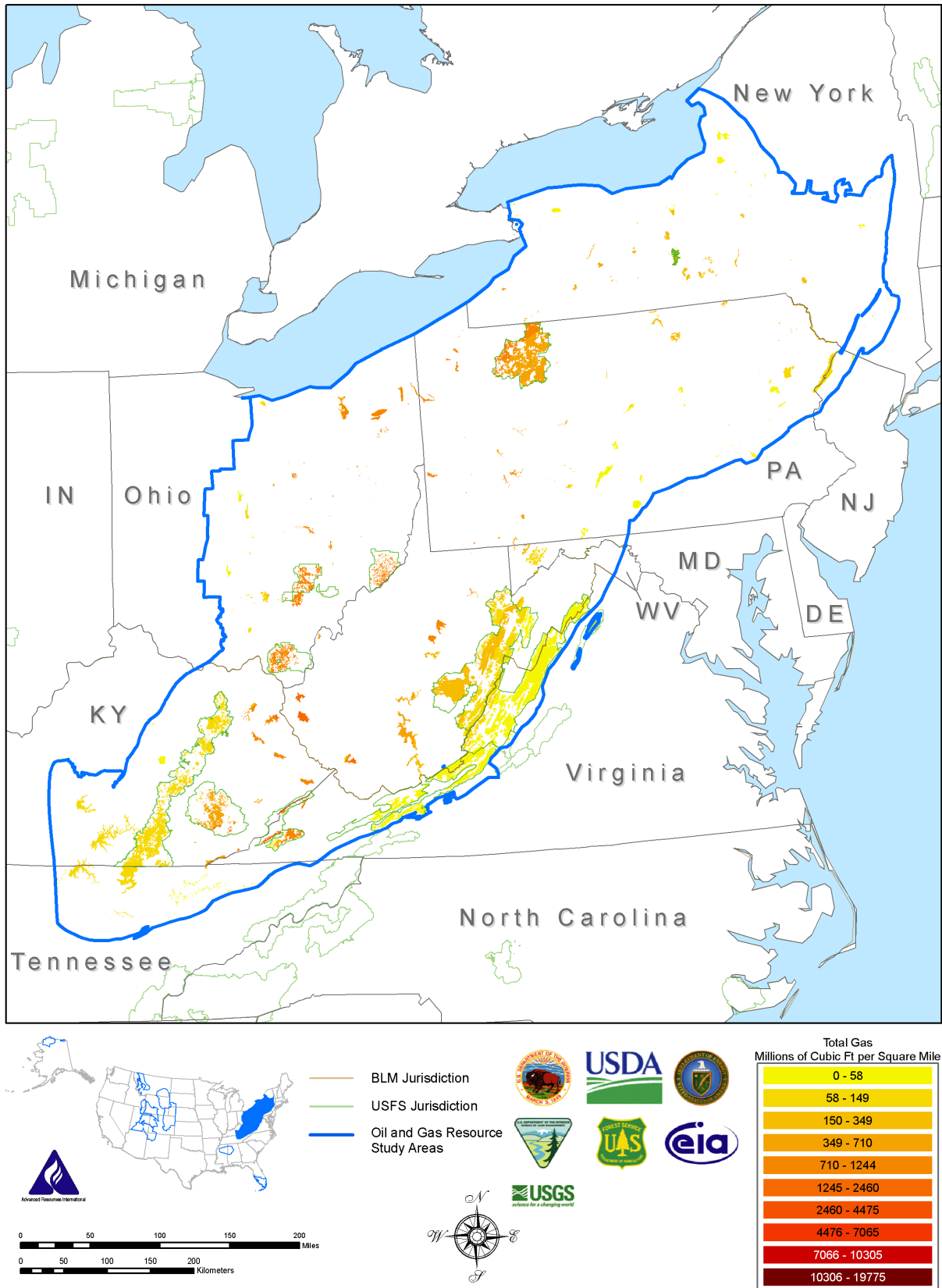


Figure 3-57. Map of Total Federal Natural Gas, Appalachian Basin Study Area

3.2 Regional Features

Figure 3-58 shows a comparison of the access charts for the top five basins in the following categories: total Federal land, total Federal oil, and total Federal natural gas. The pie charts are scaled proportionately to one another. Northern Alaska dominates both the land and the resource categories, followed by the Rocky Mountain basins.

Figure 3-59 is a map showing the Phase II study areas with the access category charts compiled by region, relatively sized, by total resources.² The largest amount of oil and gas resources are found in Northern Alaska (165 TCFe), followed closely by the Rocky Mountain region (142 TCFe), with the Eastern basins a distant third in rank (4 TCFe).

None of the resources in the two Northern Alaska study areas are accessible under standard lease terms, 45% are accessible with additional restrictions (in NPRA only, due primarily to drilling being restricted to the winter), and 55% are inaccessible.

About 20% of the resources in the seven Rocky Mountain study areas are accessible under standard lease terms, 66% are accessible with additional restrictions (primarily because of timing limitations and the impact of conditions of approval), and 14% are inaccessible.

About 13% of the resources in the three Eastern study areas are accessible under standard lease terms, 35% are accessible with additional restrictions, and 52% are inaccessible.

² On a TCF-equivalent (TCFe) basis

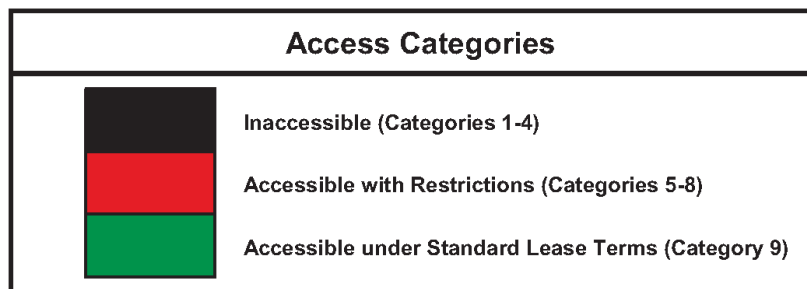
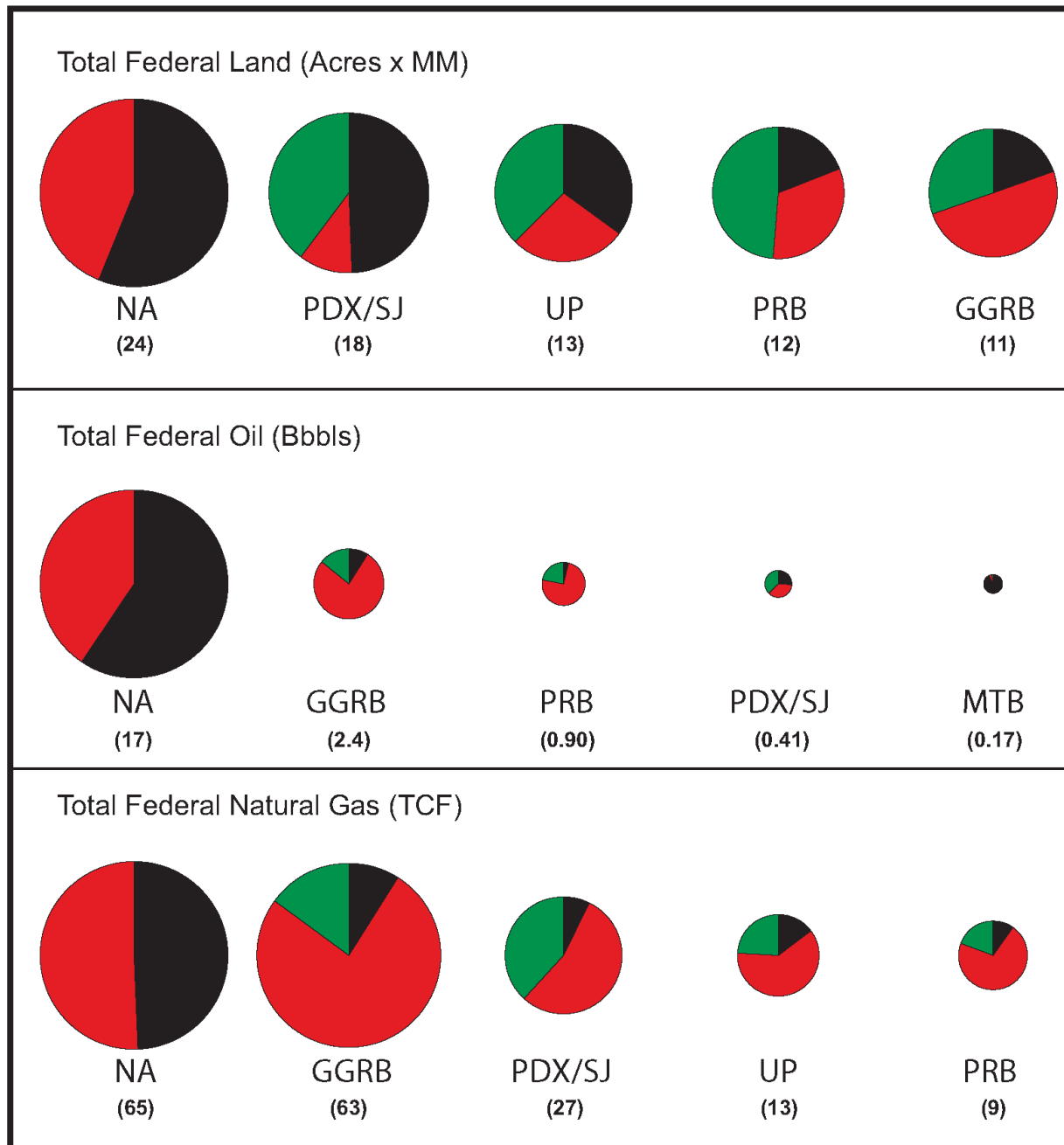


Figure 3-58. Charts of the Top Five Study Areas by Federal Lands and Oil and Natural Gas Resources

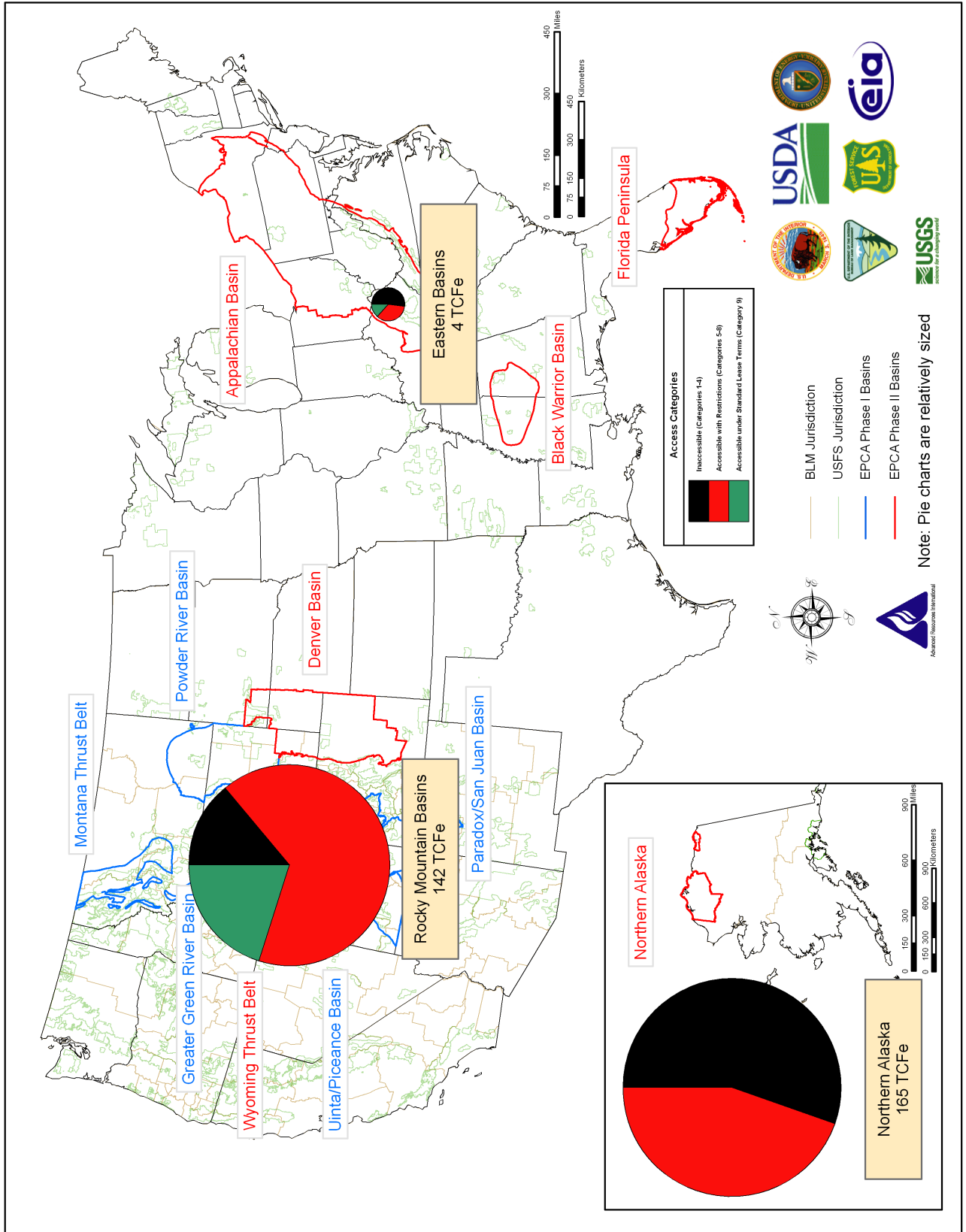


Figure 3-59. Regional Charts

