

LESA ASSESSMENT ROCKWOOD SOLAR FARM

ROCKWOOD SOLAR FARM
(E/2 section 11 (portion) and SW/4 Section 12, T17S, R13E, SBB&M)

IMPERIAL COUNTY, CALIFORNIA

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LAND EVALUATION AND SITE ASSESSMENT MODEL
ROCKWOOD SOLAR FARM
(E/2 section 11 (portion) and SW/4 Section 12, T17S, R13E, SBB&M)
IMPERIAL COUNTY, CALIFORNIA

The Land Evaluation and Site Assessment (LESA) model is an approach for rating the relative quality of land resources based upon specific measurable features. The LESA model was first developed by the federal Natural Resources Conservation Service (NRCS) in 1981. It was subsequently adapted in 1990 by the California Department of Conservation to evaluate land use decisions that affect the conversion of agriculture lands in California. The formulation of the California LESA Model is intended to provide lead agencies under the California Environmental Quality Act (CEQA) with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process.

For determining the potential CEQA significance resulting from the conversion of agricultural lands to some other purpose, the California Agricultural LESA Model has developed Scoring Thresholds which are used to compare the Final LESA Score and the Weighted Factor Scores for the Project with suggested Scoring Decisions. These LESA Scores do not take into consideration any proposed mitigation measures or other factors that might affect a lead agency's determination of the significance of the agricultural lands conversion impact under CEQA.

The information provided on the following pages present documentation of the LESA assessment prepared using the California Agricultural LESA Model for the Rockwood Solar Farm. The proposed Rockwood Solar Farm would be located about five miles west of the city of Calexico, California, on approximately 396 acres of privately owned land on APN 052-180-040-000, APN 052-180-048-000 and APN 052-180-064-000 (Figure 1 and Figure 2). APN 052-180-040-000, APN 052-180-048-000 and APN 052-180-064-000 are bounded on the north by Kubler Road; bounded on the south by the California State Highway 98; and bounded on the east by Corda Road.

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Figure 1: Location Map



Figure 2: Rockwood Solar Farm on an Aerial Photographic Base

Land Evaluation Worksheet							
A	B	C	D	E	F	G	H
Soil Map Unit*	Project Acres	Proportion of Project Area	LCC** (irrigated)	LCC Rating (irrigated)***	LCC Score (C x E)	Storie Index**	Storie Index Score (C x G)
114	366.8	0.9260	IIIw	60	55.56	42	38.89
115	29.3	0.0740	IIIw	60	4.44	72	5.33
Totals	396.1	1.00		LCC Total Score	60	Storie Index Total Score	44
Total Project Area (acres)=	396.1						
* The Soil Map Unit information and acreage were determined from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Figure 3).							
** The Land Capability Classification and Storie Index information was obtained from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Appendix A).							
*** The LCC Rating for irrigated land was determined from the LCC Point Rating Table 2 from the LESA Instruction Manual (California Department of Conservation 1997).							

Table 1: Land Capability Classification (LCC) – Storie Index Rating



Figure 3: Rockwood Solar Farm Soils Map

	Site Assessment Worksheet 1		
	Project Size Score*		
	I	J	K
	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Project Acres per LCC Class		366.8	
Project Acres per LCC Class		29.31	
Project Acres per LCC Class			
Total Project Acres per LCC Class	0	396	0
* Project Size Scores	0	100	0
Highest Project Size Score	100		
* Project Size Score was determined from the Project Size Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).			

Table 2: Project Size Rating

Site Assessment Worksheet 2				
Water Resources Availability				
A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score*	Weighted Availability Score (C x D)
1	Irrigation District Only	1.0	100	100
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	Total Water Resource Score	100
* The Water Availability Score was determined using the Water Resources Availability Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).				

Table 3: Water Resources Availability Rating

Site Assessment Worksheet 3								
Surrounding Agricultural Land & Surrounding Protected Resource Land								
A	B	C	D	E	F	G		
Zone of Influence*					Surrounding Agricultural Land Score (From LESA Manual Table 6)	Surrounding Protected Resource Land Score (From LESA Manual Table 7)**		
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (B/A)	Percent Protected Resource Land (C/A)				
2329.7	2189	0	93.9	0.0	100	0		
* In conformance with the instructions in the LESA Instruction Manual (California Department of Conservation 1997), the Zone of Influence was determined by drawing the smallest rectangle that could completely encompass the entire Project Area. A second rectangle was then drawn which extended one quarter mile on all sides beyond the first rectangle. The Zone of Influence is represented by the entire area of all parcels with any lands inside the outer rectangle, less the area of the proposed project (Figure 4).								
** The LESA Instruction Manual (California Department of Conservation 1997) describes <i>Protected Resource Land</i> as those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following: Williamson Act contracted lands; Publicly owned lands maintained as park, forest, or watershed resources; and Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.								
Surrounding Parcels***	Acres	Protected Resource Land?	Percent Protected Resource Land	Acres in Protected Land	Agricultural Land?	Percent Agricultural Land	Acres of Agriculture	
052-180-018	346.3	N	0	0	Y	98	339.4	
052-180-022	43.2	N	0	0	Y	100	43.2	
052-180-027	6.9	N	0	0	N	0	0.0	
052-180-028	71.2	N	0	0	Y	75	53.4	
052-180-030	171.1	N	0	0	Y	100	171.1	
052-180-034	82.2	N	0	0	Y	100	82.2	
052-180-039	152.4	N	0	0	Y	85	129.6	
052-180-042	204.0	N	0	0	Y	95	193.8	
052-180-043	178.7	N	0	0	Y	95	169.7	
052-180-044	176.7	N	0	0	Y	100	176.7	
052-180-045	162.9	N	0	0	Y	100	162.9	
052-180-047	1.2	N	0	0	Y	100	1.2	
052-180-049	11.8	N	0	0	N	0	0.0	
052-180-051	89.4	N	0	0	Y	100	89.4	
052-180-054	82.7	N	0	0	Y	100	82.7	
052-180-055	1.1	N	0	0	Y	100	1.1	
052-180-065	2.2	N	0	0	N	0	0.0	
052-210-026	61.4	N	0	0	Y	100	61.4	
052-210-027	23.9	N	0	0	Y	100	23.9	
052-210-028	71.7	N	0	0	Y	40	28.7	
052-210-033	10.3	N	0	0	N	0	0.0	
052-210-034	14.3	N	0	0	Y	100	14.3	
052-210-036	364.0	N	0	0	Y	100	364.0	
Total	2329.7		Total	0		Total	2189	
***The Imperial County Assessors website was accessed to identify the surrounding parcel numbers (http://imperialcounty.net/Assessor/index.html). The percentage of agriculture was determined from a map overlay used to estimate the proportion of land in agriculture and the California Department of Conservation Important Farmland Map Series.								

Table 4: Surrounding Agricultural & Protected Resource Land Rating

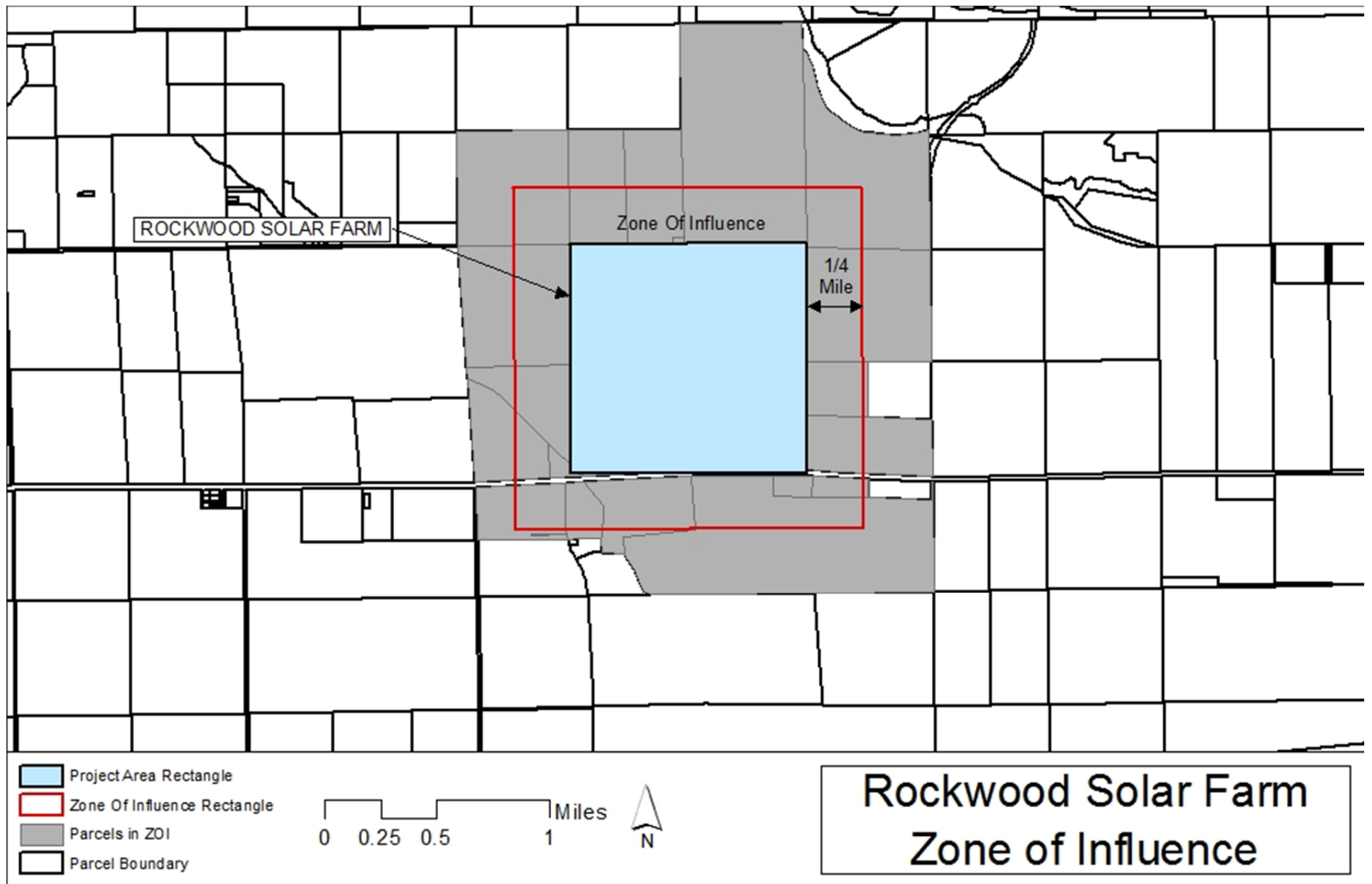


Figure 4: Zone of Influence Map

Final LESA Score Sheet				California LESA Model Scoring Thresholds	
	Factor Scores	Factor Weight	Weighted Factor Scores	Total LESA Score	Scoring Decision
LE Factors					
Land Capability Classification	60.00	0.25	15.00	0 to 39 Points	Not Considered Significant
Storie Index	44.22	0.25	11.06		
LE subtotal		0.50	26.06		
SA Factors				40 to 59 Points	Considered Significant <u>only</u> if LE <u>and</u> SA subscores are each <u>greater</u> than or equal to 20 points
Project Size	100	0.15	15.00		
Water Resource Availability	100	0.15	15.00		
Surrounding Agricultural Land	100	0.15	15.00	60 to 79 Points	Considered Significant <u>unless</u> either LE <u>or</u> SA subscore is <u>less</u> than 20 points
Protected Resource Land	0	0.05	0.00		
SA Subtotal		0.50	45.00		
		Total LESA Score	71.06	80 to 100 Points	Considered Significant

Table 5: Final LESA Score

APPENDIX A: ROCKWOOD SOLAR FARM SOILS DETAILS

Imperial County, California, Imperial Valley Area

114—IMPERIAL SILTY CLAY, WET

Map Unit Setting

Elevation: -230 to 200 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 72 to 75 degrees F

Frost-free period: 300 to 350 days

Map Unit Composition

Imperial, wet, and similar soils: 85 percent

Minor components: 15 percent

Description of Imperial, Wet

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey alluvium derived from mixed sources and/or
clayey lacustrine deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Very slightly saline to slightly saline (4.0 to 8.0
mmhos/cm)

Sodium adsorption ratio, maximum: 20.0

Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance

Land capability classification (irrigated): 3w

Land capability (nonirrigated): 7w

Hydrologic Soil Group: C

Typical profile

0 to 12 inches: Silty clay

12 to 60 inches: Silty clay loam

Minor Components

Glenbar

Percent of map unit: 4 percent

Meloland

Percent of map unit: 4 percent

Holtville

Percent of map unit: 4 percent

Niland

Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Survey Area Data: Version 5, Jul 25, 2008

Imperial County, California, Imperial Valley Area

115—IMPERIAL-GLENBAR SILTY CLAY LOAMS, WET, 0 TO 2 PERCENT SLOPES

Map Unit Setting

Elevation: -230 to 200 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 72 to 75 degrees F

Frost-free period: 300 to 350 days

Map Unit Composition

Glenbar, wet, and similar soils: 40 percent

Imperial, wet, and similar soils: 40 percent

Minor components: 20 percent

Description of Imperial, Wet

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey alluvium derived from mixed sources and/or clayey lacustrine deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Very slightly saline to slightly saline (4.0 to 8.0 mmhos/cm)

Sodium adsorption ratio, maximum: 20.0

Available water capacity: Moderate (about 8.6 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance

Land capability classification (irrigated): 3w

Land capability (nonirrigated): 7w

Hydrologic Soil Group: C

Typical profile

0 to 12 inches: Silty clay loam

12 to 60 inches: Silty clay loam

Description of Glenbar, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water
(Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water capacity: High (about 10.8 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 7w
Hydrologic Soil Group: B

Typical profile

0 to 13 inches: Silty clay loam
13 to 60 inches: Clay loam

Minor Components

Holtville

Percent of map unit: 10 percent

Meloland

Percent of map unit: 10 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

California Revised Storie Index Rating (CA)

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California.

The Storie Index assesses the productivity of a soil from the following four characteristics: Factor A, degree of soil profile development; factor B, texture of the surface layer; factor C, slope; and factor X, manageable features, including drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0 to 100 percent is determined for each factor, and the scores are multiplied together to derive an index rating.

For simplification, Storie Index ratings have been combined into six grades classes as follows: Grade 1 (excellent), 100 to 80; grade 2 (good), 79 to 60; grade 3 (fair), 59 to 40; grade 4 (poor), 39 to 20; grade 5 (very poor), 19 to 10; and grade 6 (nonagricultural), less than 10.

Report—California Revised Storie Index Rating (CA)

The Storie Index is a soil rating based on soil properties that govern a soil map unit component's potential for cultivated agriculture. [Absence of an entry indicates that a Storie Index rating is not applicable or was not estimated]. For simplification, Storie Index ratings have been combined into six grades as follows: Grade 1 (Excellent): Soils that rate between 80 and 100 and which are suitable for a wide range of crops. Grade 2 (Good) Soils that rate between 60 and 79 and which are suitable for a wide range of crops. Grade 3 (Fair): Soils that range between 40 and 59. Soils in this grade may give good results with certain specialized crops. Grade 4 (Poor): Soils that rate between 20 and 39 and which have a narrow range in their agricultural potential. Grade 5 (Very Poor): Soil that rate between 10 and 19 and are of very limited agricultural use except for pasture because of adverse soil conditions. Grade 6 (Nonagricultural): Soils that rate less than 10. [The numbers in the "Limiting feature value" column range from 0.01 to 1.00. Soils with a smaller the value have a lower potential for cultivated agriculture. The table shows each of the sub-factors used to generate the Storie Index rating for each soil component].

California Revised Storie Index Rating (CA)— Imperial County, California, Imperial Valley Area				
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (CA)		
		Storie index rating	Storie index grade and limiting features	Limiting feature value
114—IMPERIAL SILTY CLAY, WET				
Imperial, wet	85	42	Grade Three - Fair	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			Wetness, flooding, ponding, drainage, erosion	0.90
			Toxicity	0.80

California Revised Storie Index Rating (CA)— Imperial County, California, Imperial Valley Area				
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (CA)		
		Storie index rating	Storie index grade and limiting features	Limiting feature value
115—IMPERIAL-GLENBAR SILTY CLAY LOAMS, WET, 0 TO 2 PERCENT SLOPES				
Glenbar, wet	40	72	Grade Two - Good	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			USDA Texture	0.95
			Wetness, flooding, ponding, drainage, erosion	0.90
Imperial, wet	40	67	Grade Two - Good	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			USDA Texture	0.95
			Wetness, flooding, ponding, drainage, erosion	0.90

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Survey Area Data: Version 5, Jul 25, 2008