



SECOND AMERICAN DENDROCHRONOLOGY CONFERENCE

University of Arizona

Laboratory of Tree-Ring
Research

AmeriDendro 2013

Midweek Excursions

May 15, 2013

1:00 PM – 8:30 PM



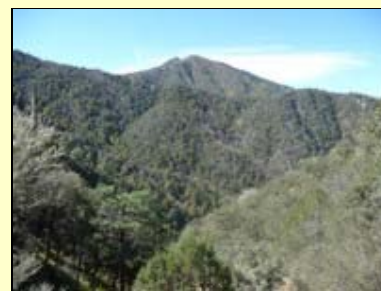
San Xavier Mission and Madrean Woodland (green line): The San Xavier Mission is a prime example of Spanish Mission architecture, and it serves as a focal point for discussion of Spanish Entrada into the American Southwest. Then, the Santa Rita Experiment Station, the oldest experiment station in the US, has an extensive history of environmental research. Lastly, Madera Canyon is a popular respite from the heat and a classic Madrean Mixed Woodland, complete with active bird feeders and perhaps owls at dusk.



[San Xavier Mission](#)



[Santa Rita Experiment Station](#)



[Madera Canyon](#)



San Xavier–Santa Rita Exp. Sta.–Madera Canyon			time
1:00 PM	1:30 PM	drive to San Xavier	0:30
1:30 PM	3:00 PM	tour San Xavier, fry bread, photo, yes bathrooms	1:30
3:00 PM	3:45 PM	drive to Santa Rita	0:45
3:45 PM	4:45 PM	Santa Rita Experiment Station, photo, no bathrooms	1:00
4:45 PM	5:00 PM	drive to Madera Canyon	0:15
5:00 PM	6:15 PM	Madrean Woodland, visitor center, stroll to picnic area	1:15
6:15 PM	7:30 PM	dinner, sunset 7:15, photo, yes bathrooms	1:15
7:30 PM	8:30 PM	drive to DoubleTree	1:00

While in Madera Canyon, keep an eye out for poison oak. It is a low-lying woody, vine-like shrub, with a compound leaf. Famously, it has leaflets of three (“let it be”). Here’s a picture:





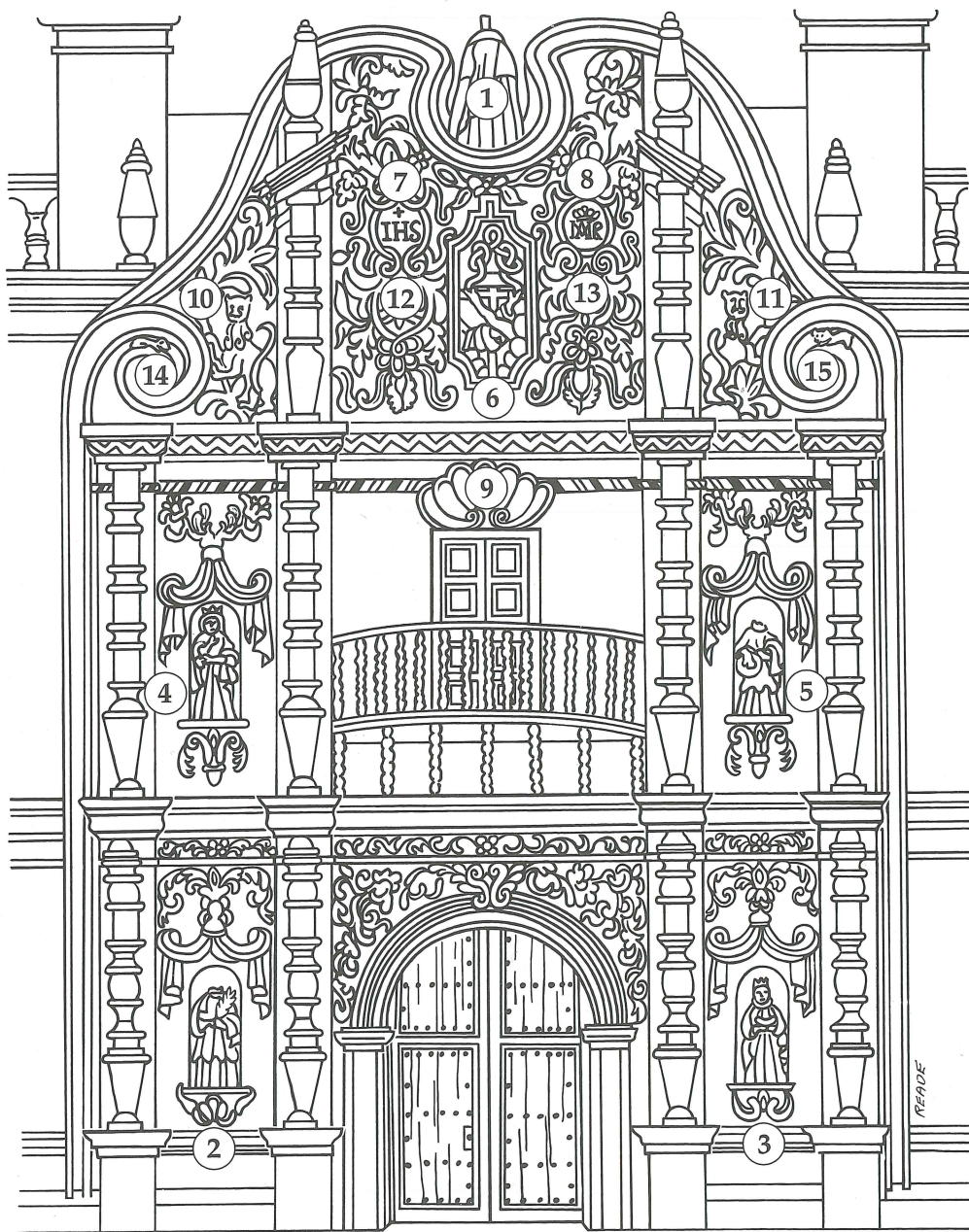


PLATE 1 Facade of Mission San Xavier del Bac

1. St. Francis Xavier (headless, enrobed in plaster); 2. St. Agatha of Catania (Sicily); 3. St. Lucy of Syracuse (Sicily); 4. St. Agnes of Rome; 5. St. Cecilia of Rome; 6. Franciscan Coat of Arms; 7. IHS: Monogram of Jesus; 8. MAR: Monogram of the Virgin Mary; 9. Scallop Shell of St. James the Greater; 10. Royal Lion of León and Castile; 11. Royal Lion of León and Castile; 12. Vine of Christ; 13. Vine of Christ; 14. Mouse; 15. Cat

PLATE 2 (facing) Facade of Mission San Xavier del Bac



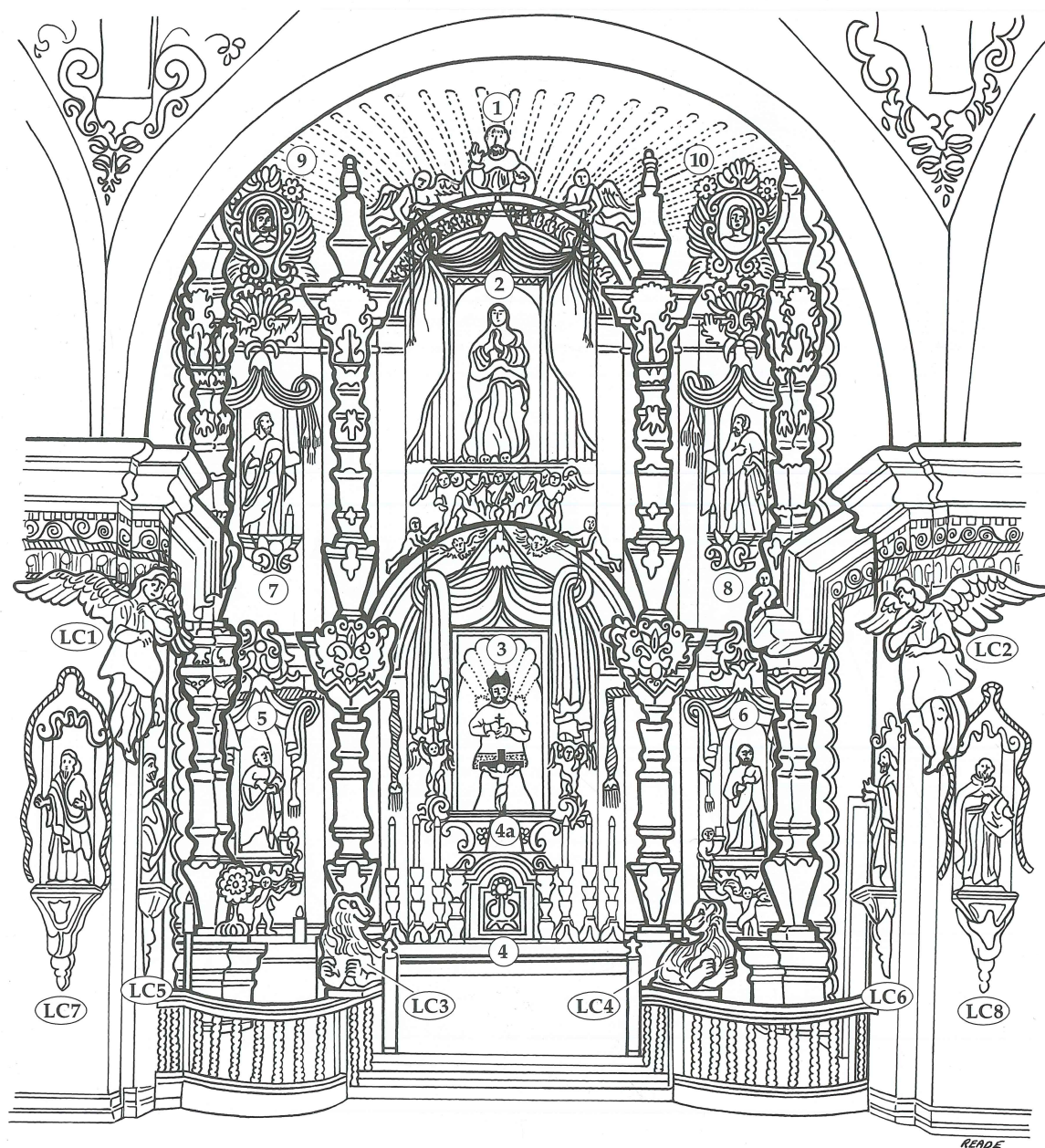


PLATE 3 Sanctuary of Mission San Xavier del Bac

LC = Lower Crossing; 1. God the Father; 2. Virgin of the Immaculate Conception; 3. St. Francis Xavier; 4. Tabernacle (monstrance); 4A. Crucifix; 5. St. Simon, Apostle; 6. St. Andrew, Apostle; 7. St. Peter, Apostle to the Jews; 8. St. Paul, Apostle to the Gentiles; 9. St. Laurence of Huesca; 10. St. Stephen of Jerusalem; LC1. Great Angel; LC2. Great Angel; LC3. Royal Lion of Spain; LC4. Royal Lion of Spain; LC5. St. James the Greater, Apostle; LC6. St. Matthias, Apostle; LC7. St. Bartholomew, Apostle (?); LC8. St. Ignatius of Loyola

PLATE 4 (facing) Sanctuary of Mission San Xavier del Bac



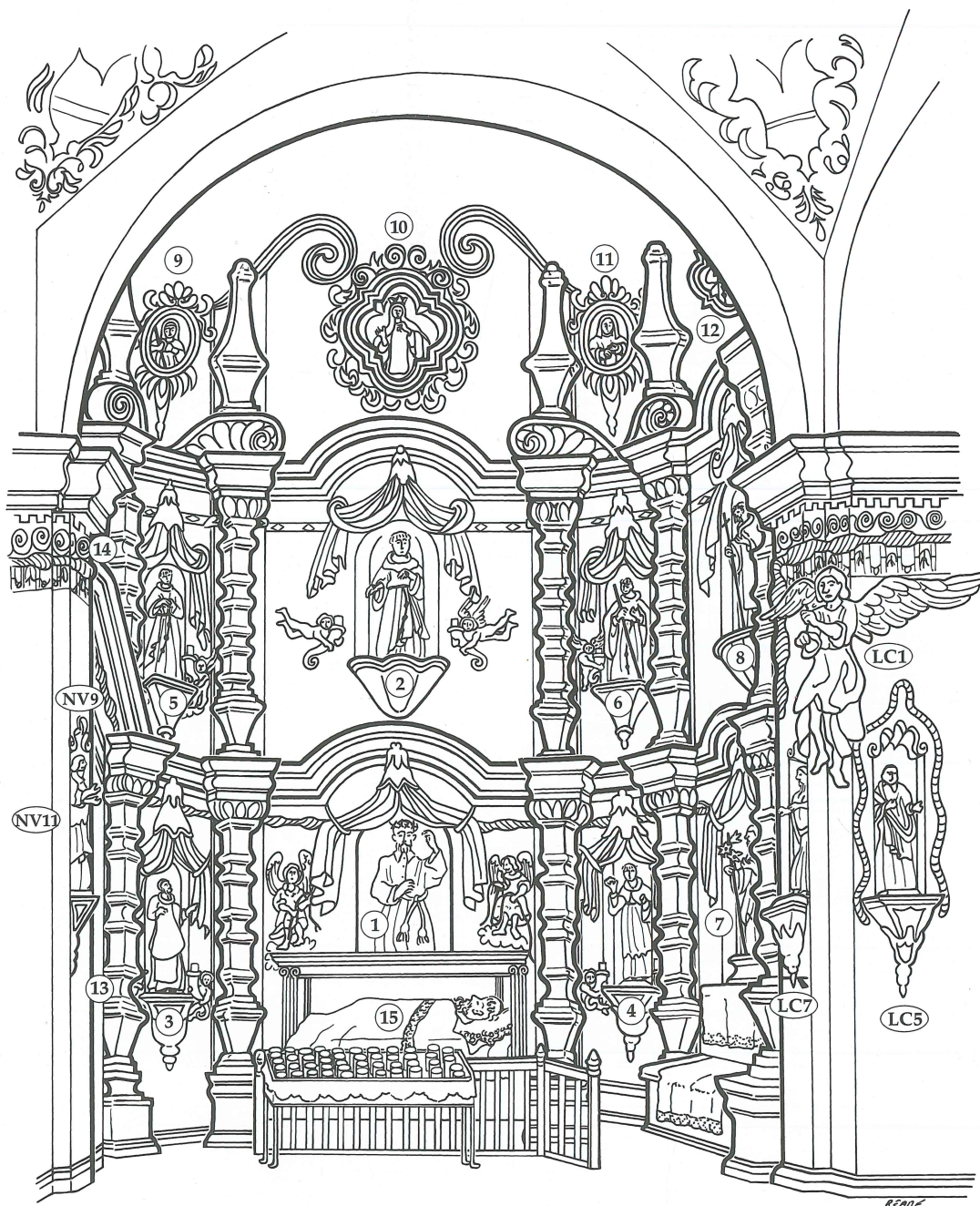


PLATE 5 Gospel, or West, Transept of Mission San Xavier del Bac

LC = Lower Crossing; NV = Nave. 1. Jesus the Nazarene (flanked by angels); 2. St. Francis of Assisi; 3. St. Ildefonso of Toledo; 4. St. Bonaventure of Bagnoreggio; 5. St. Peter Regalatus; 6. St. Peter of Alcantara; 7. St. Joseph the Patriarch; 8. St. Dominic Guzman; 9. St. Gertrude the Great (Gertrudis Magna); 10. St. Theresa of Avila; 11. St. Rita of Cascia; 12. St. Clare of Assisi; 13. Virgin of the Pillar (fresco); 14. Virgin of Bethlehem (fresco); 15. St. Francis Xavier entombed; LC 1. Great Angel; LC 5. St. James the Greater, Apostle; LC 7. St. Bartholomew, Apostle (?); NV 9. St. Philip, Apostle; NV 11. St. John, Apostle and Evangelist

PLATE 6 (facing) Gospel, or West, Transept of Mission San Xavier del Bac



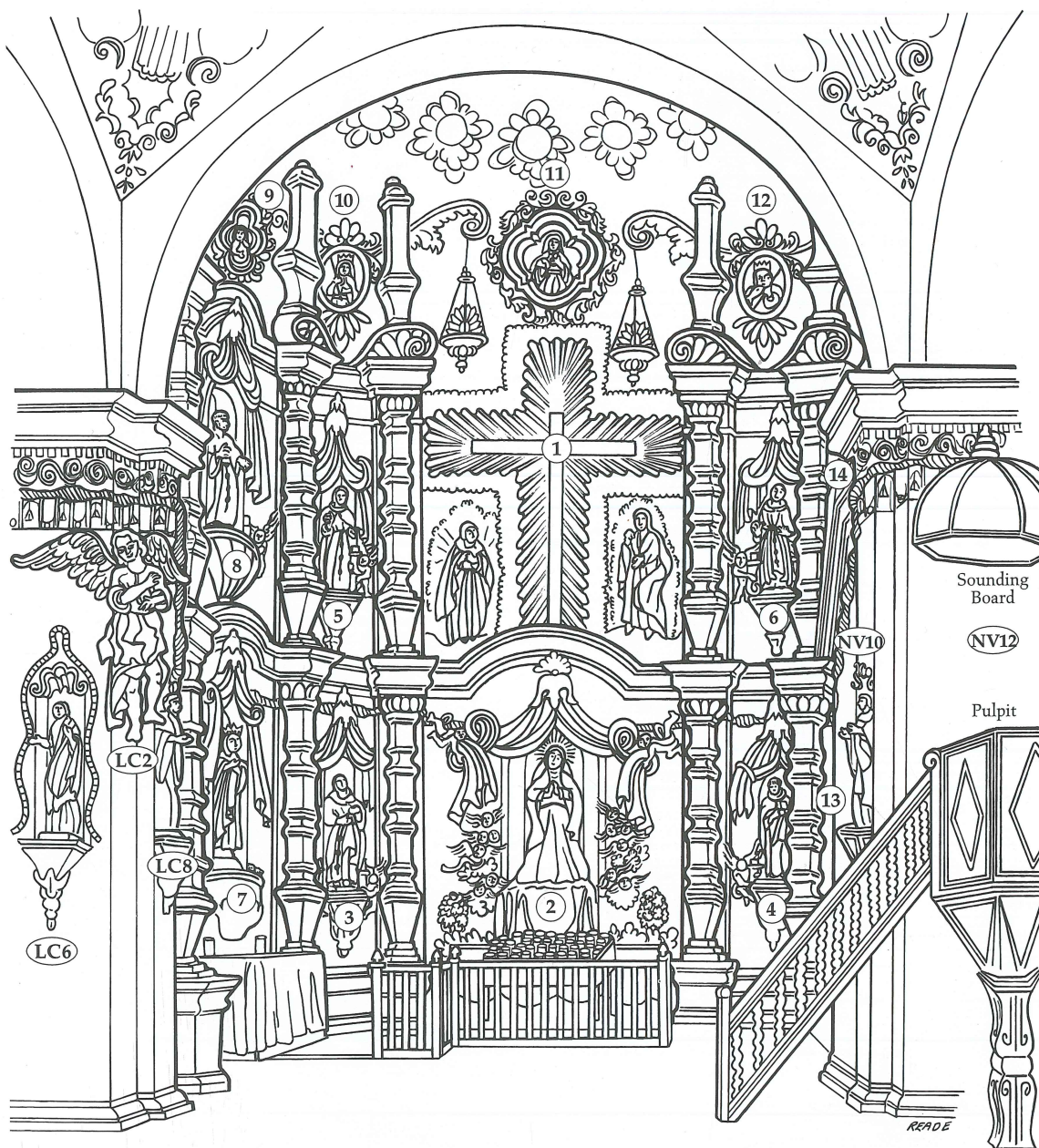


PLATE 7 Epistle, or East, Transept of Mission San Xavier del Bac

LC = Lower Crossing; NV = Nave. 1. Crucifixion (corpus missing); 2. Virgin of the Assumption (sometimes dressed as the Sorrowing Mother); 3. St. Didacus (San Diego) of Alcala; 4. St. Anthony of Padua; 5. St. Bernardine of Feltre; 6. St. Fidelis of Sigmaringen; 7. Virgin of the Immaculate Conception; 8. St. Benedict the Moor; 9. St. Colette Boylet of Corbie; 10. St. Elizabeth of Portugal; 11. St. Agnes of Assisi; 12. St. Elizabeth of Hungary; 13. Virgin of Aranzazu (fresco); 14. St. Joaquim and St. Anne Meet at the Golden Gate; St. Anne Teaches the Child Mary to Read (fresco); LC 2. Great Angel; LC 6. St. Matthias, Apostle; LC 8. St. Ignatius of Loyola; NV 10. St. Jude Thaddeus, Apostle; NV 12. Empty niche

PLATE 8 (facing) Epistle, or East, Transept of Mission San Xavier del Bac

AmeriDendro Field Trip

15 May 2013



SANTA RITA EXPERIMENTAL RANGE
COLLEGE OF AGRICULTURE & LIFE SCIENCES
THE UNIVERSITY OF ARIZONA.

Important urls:

Santa Rita home page:

<http://cals.arizona.edu/srer>

Repeat Photography

<http://cals.arizona.edu/srer/photos.html>

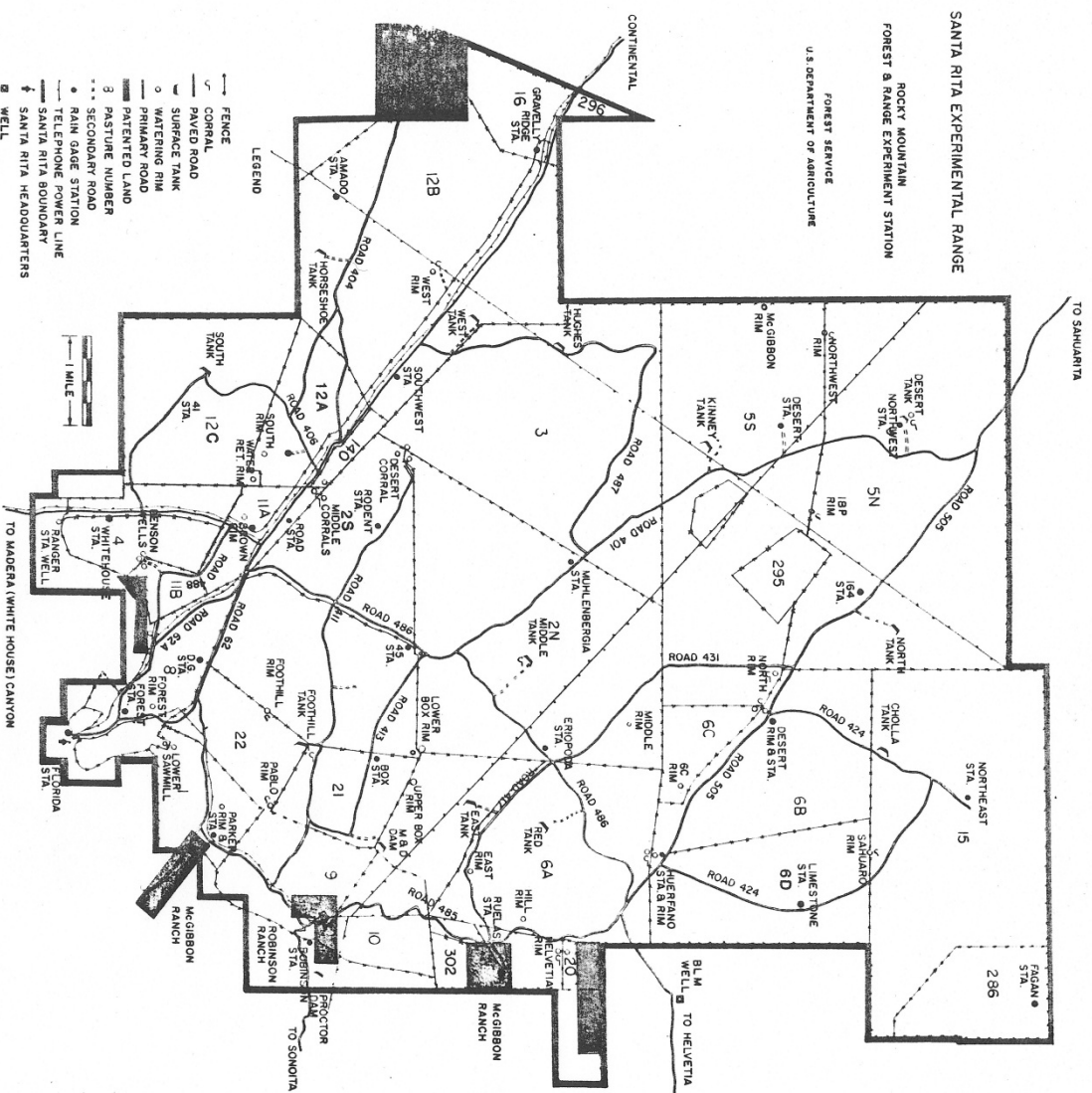
Vegetation and Rainfall Long-term data:

<http://cals.arizona.edu/srer/data.html>

Historic Research Areas:

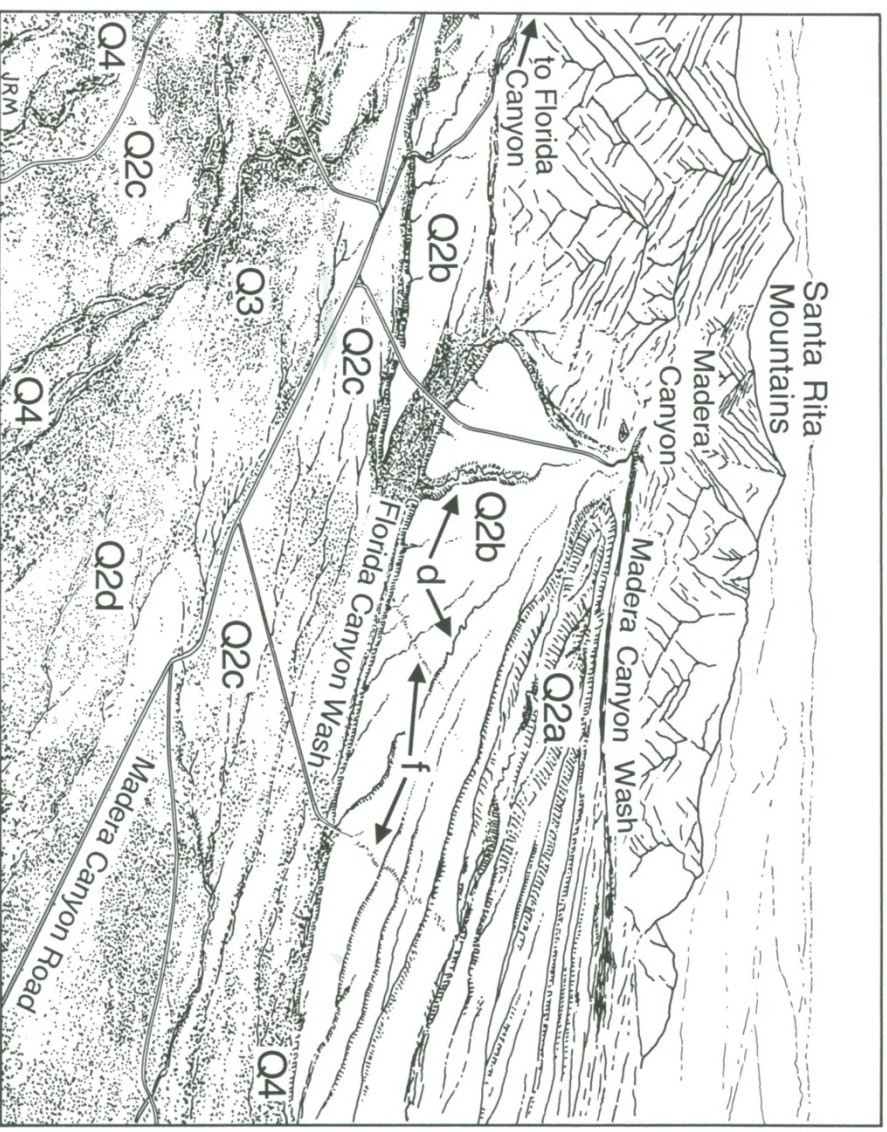
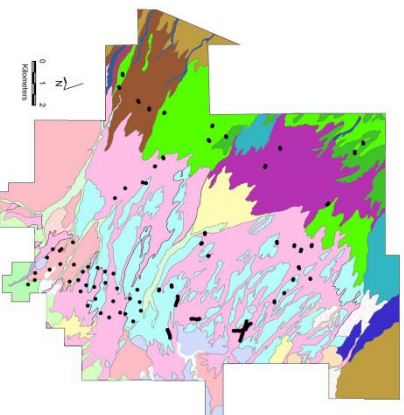
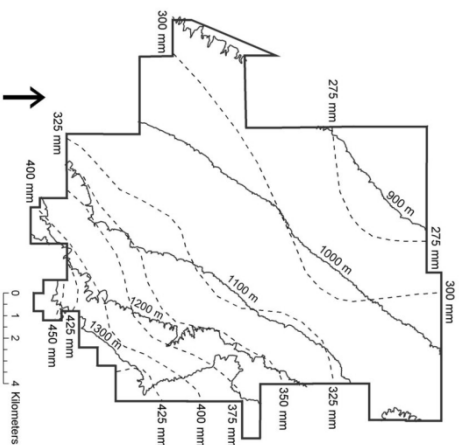
<http://cals.arizona.edu/srer/hrda>

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Diverse Environment

- 500 m elevation range
- 175 mm rainfall range
- 17 ecological sites
- 7 geomorphic types



Geomorphic and Soil Controls on Vegetation



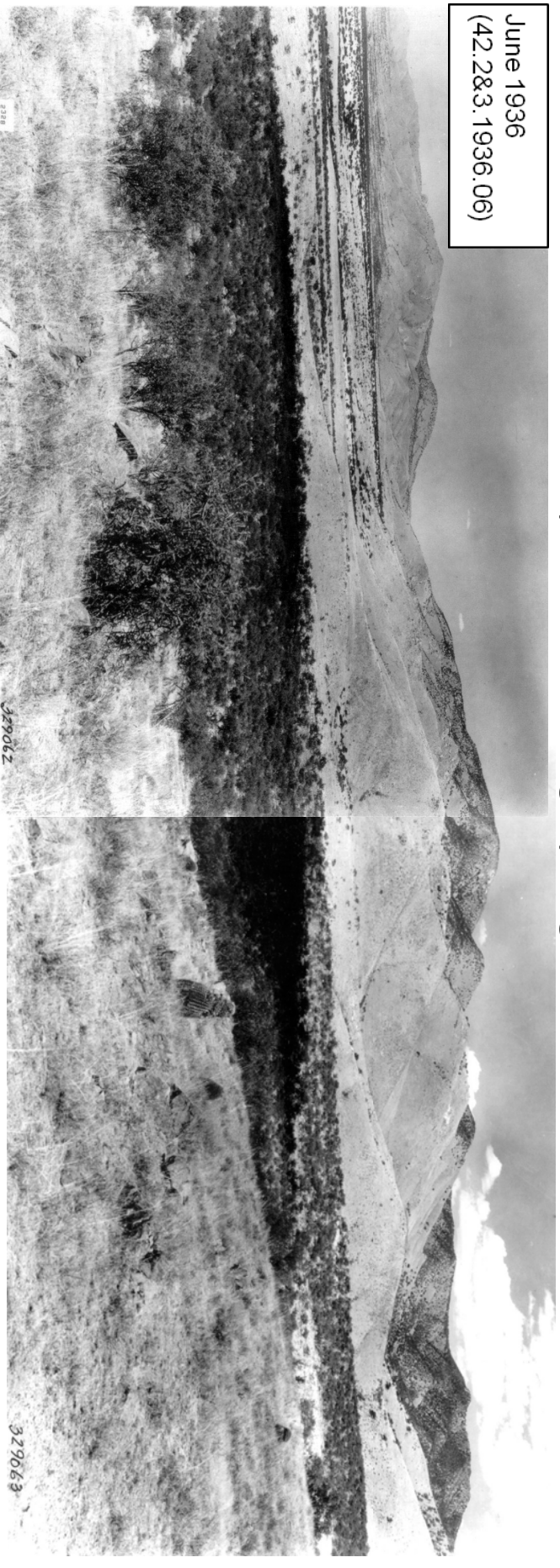
June 1936
(42.6.1936.06)



June 1956
(42.6.1956.06)

Mesquite Removal Legacy: Begins in 1945

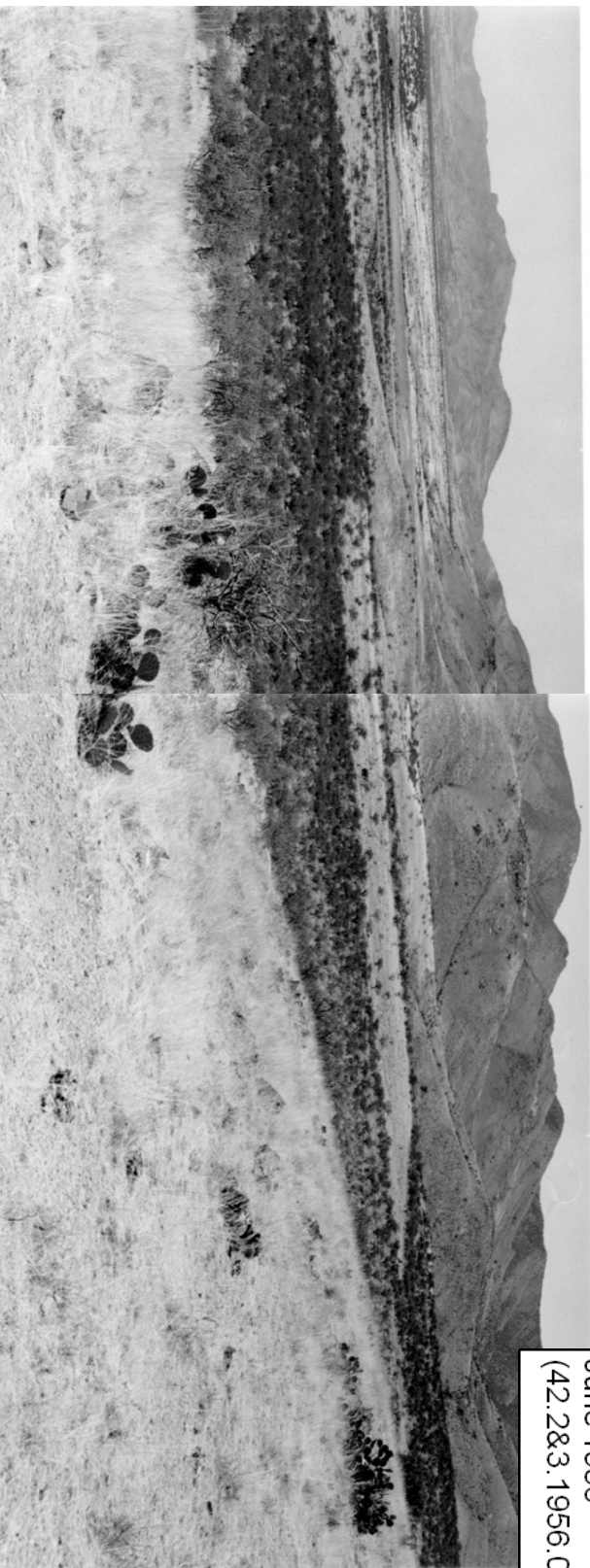
June 1936
(42.28&3.1936.06)



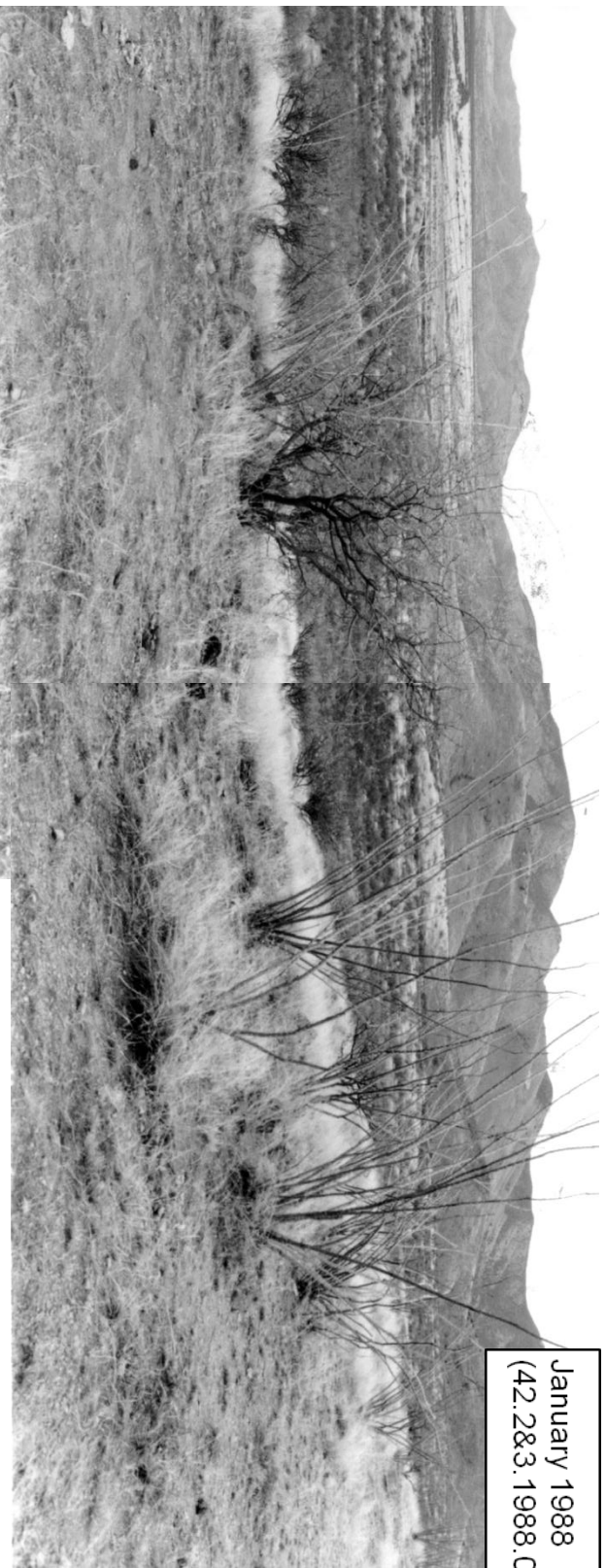
June 1948
(42.28&3.1948.06)



Mesquite Removal Legacy: Begins in 1945



June 1956
(42.283.1956.06)

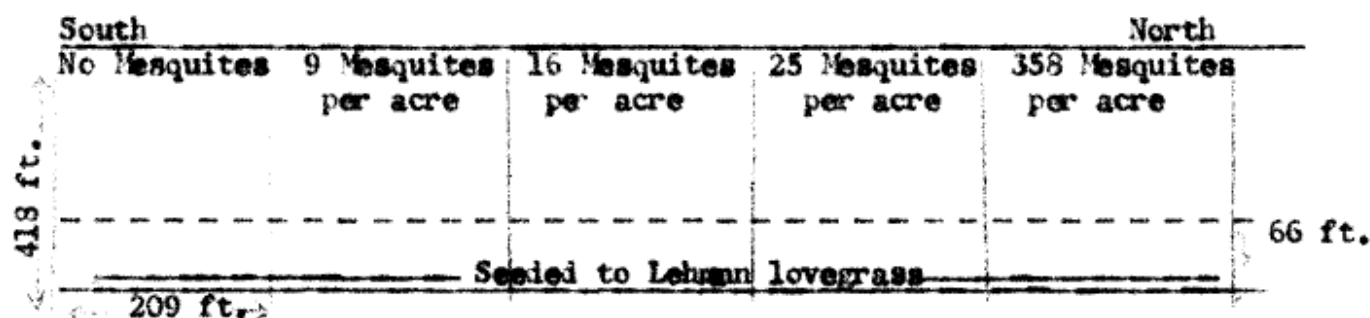


January 1988
(42.283.1988.01)

Mesquite Removal Legacy: Begins in 1945



STUDY AREA 196
MESQUITE THINNING STUDY



This experiment is one of four similar studies that began in April 1945. Five 2-acre plots were established. All mesquite trees were left on the plot at the north end of the study and all mesquites were removed from the plot at the south end. The three plots between were thinned to leave 25, 16, and 9 mesquites per acre. Lehmann lovegrass was seeded on a strip 66 feet wide across the east end of all plots in June 1945. Grass production for the 1946-1950 period and for 1958 are listed below.

Kind of grass	Period or Year	Trees left per acre				
		0	9	16	25	358
<hr/>						
		Pounds per acre				
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Native perennials	1946-50	340	187	167	176	64
Lehmann lovegrass		550	334	284	228	36
Total		890	521	451	404	100
<hr/>						
Native perennials	1958	538	326	310	327	160
Lehmann lovegrass		970	495	584	364	179
Annual grasses		18	6	4	2	0
Total		1526	827	898	693	339

Descriptive Data

Elevation 4100 ft.
Average annual rainfall 16.95 inches.
Average summer rainfall 9.81 inches.
1958 summer rainfall 16.81 inches.
Mesquite density 358 trees per acre.
Average stocking rate 36 acres per cow yearlong.

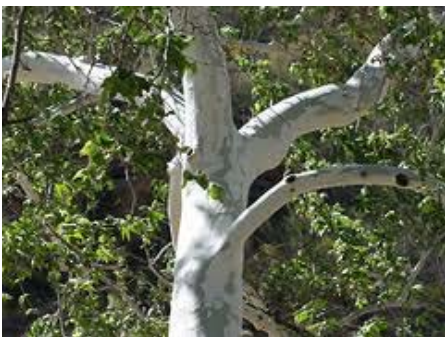
Important Results:

1. Mesquite control gave rapid grass increases that have held up well.
2. Perennial grasses made up almost all of the total grass yield.
3. Seeding Lehmann lovegrass was successful where mesquite was controlled.
4. Only 25 mesquite trees are enough to cut grass yields in half.

Trees of Madera Canyon



Arizona cypress



Arizona sycamore



live oak



alligator bark juniper

Birds of Madera Canyon





Black-Chinned Hummingbird



Broad-billed Hummingbird



Acorn Woodpecker



Painted Redstart



Black-Headed Grosbeak



White-Breasted Nuthatch