

NOTES

ABBREVIATIONS

- Archivo de la Comisión Forestal del Estado de Michoacán – COMFORMICH
Archivo General de la Nación – AGN
 Departamento del Trabajo – DT
 Dirección General de Gobierno – DGG
 Fomento – F
 Sección Bosques – B
 Presidentes – P
 Sección Obregón y Calles – OC
 Manuel Ávila Camacho – MAC
 Secretaría de Agricultura y Recursos Hidráulicos / Política Forestal – SARH/PF
Archivo Histórico del Centro de Estudios de la Revolución Mexicana “Lázaro Cárdenas” – AHCERM
 Fondo Papeles de Lázaro Cárdenas del Río – LC
 Fondo Papeles de Francisco J. Múgica – FJM
 Sección de Documentación Suelta – DS
Archivo Histórico Municipal de Morelia – AHMM
Archivo Histórico del Poder Ejecutivo de Michoacán – AHPEM
 Amparos – A
 Bosques – B
 Hijuelas – H
Archivo Histórico de la Secretaría de Educación Pública – AHSEP
Archivo Municipal de Zamora – AMZ
 Justicia – J
Archivo Personal de Enrique Beltrán – APEB
Centro de Investigaciones de Chihuahua – CIDECH
 Ramo Batopilas – B
 Fondo Porfiriato y Terracismo – P&A
 Sección Administración – A
 Sección Justicia – J

Escuela Nacional de Antropología e Historia, Sede Chihuahua – ENAH
Documentos del Centro Coordinador Indigenista de la Tarahumara – CCIT
expediente (exp.); legajo (leg.)
John Hamilton McNeely Papers, University of Texas at El Paso Library – JHM
legajo (leg.)
Registro Agrario Nacional – RAN

INTRODUCTION

1. Population figures are based on Basauri, *Monografía de los tarahumaras*, 13; Antonio H. Sosa, “Exploración forestal en la Alta Sierra Tarahumara del Estado de Chihuahua,” *Boletín del Departamento Forestal de Caza y Pesca* 3.9 (December 1937–February 1938), 197.

2. Sosa, “Exploración forestal en la Alta Sierra Tarahumara del Estado de Chihuahua,” 222.

3. Foresters often displace their existing knowledge onto new and unfamiliar landscapes, at least until they learn more about it. See Langston, *Forest Dreams, Forest Nightmares*, 20–41.

4. Antonio H. Sosa, “A través de la Tarahumara,” *México Forestal* 29.4 (July–May 1965): 1–4, continued in 29.5 (September–October 1965): 1–4, p. 4:1.

5. Sosa, “A través de la Tarahumara,” 4:1.

6. Sosa, “A través de la Tarahumara,” 4:3.

7. Acta de infracción, 2 November 1955, AGN, SARH/PF, caja 192, exp. 23855, leg. 1.

8. Nicolás Villalobos to Enrique Beltrán, 22 March 1961, AGN, SARH/PF, caja 152, exp. 3. The full quotation reads (textually, with errors and all): “Nosotros les preguntamos a todos y a cada uno de Uds. ¿no creen que los que nacimos en este suelo; Aunque ese terreno no sea nuestro, nosotros somos de él? Somos hijos de esa Tierra, y como hijos creémos tener mas derecho que un Infulente que por tener dinero se lleve todas las riquezas de esos Bosques, sin recibir nosotros ni siquiera consideraciones.

“Estos Bosques Dios los Crío para todos sus hijos; nosotros hemos credido juntos con ellos, los hemos defendidi de los incendios; pero los que se nos llevan, nunca se han charrascado un dedo por defenderlos.”

9. Consejo Supremo Tarahumara to Presidencia de la República, 10 June 1960, ENAH, CCIT 15/25/9, doc. 6. For an early example of complaints about bureaucracy, see Benjamín González et al. to Lázaro Cárdenas, 13 July 1936, AGN, SARH/PF, caja 192, exp. 23855, leg. 1; Roberto Barrios to Secretaría de Agricultura, 21 September 1948, AGN, SARH/PF, caja 197, exp. 29952, leg. 1.

10. See Matthews, *Instituting Nature*.

11. For overviews, see Challenger, *Utilización y conservación de los ecosistemas terrestres de México*, 75–93; and Redowski, *Vegetación de México*, 91–96.
12. For the big picture, see Williams, *Deforesting the Earth*.
13. Aguirre Beltrán, *Regiones de refugio*.
14. Tsing, *Friction*, 16. See also Scott, *Seeing Like a State*, 11–52. For an ecologist's critique of simplification, see Maser, *The Redesigned Forest*.
15. Guha, *The Unquiet Woods*, 48–61, 69–72; Peluso, *Rich Forests, Poor People*, 50–72. Both of these authors regard scientific forestry as a form of social control. For a case study in 1820s France, see Sahlins, *Forest Rites*; and in the United States, Kosek, *Understories*, 65–102.
16. Matthews, "Suppressing Fire and Memory."
17. Agrawal, *Environmentality*, 164–65, 167–81.
18. This ironic turn of phrase headlines a 1972 book denouncing technocratic rule and the endemic shortage of credit in the land reform sector. See Warman, *Los campesinos, hijos predilectos del regimen*.
19. For a discussion of landscape and territoriality, see Radding, *Landscapes of Power and Identity*, esp. 5–8.
20. Boyer, *Becoming Campesinos*.
21. I am not the first to recognize the relationship between politics and environmental degradation. Several studies have attributed deforestation to insecure property rights, for example, or to the incapacity to enforce environmental regulations. See the pathbreaking work of Deacon, "Deforestation and the Rule of Law in a Cross-Section of Countries"; and Mendelsohn, "Property Rights and Tropical Deforestation."
22. For definitions of *commons* and *ejidos*, see the preface.
23. Here, I follow the definition of a commodity offered by Arjun Appadurai, who interprets commodities as "economically valuable objects that nevertheless have their own biography, their own commonly-agreed-upon history, social meaning, and social value." See Appadurai, "Introduction," 32.
24. Compare with "Autoridades indígenas buscan fortalecer la política Rarámuri," *La Jornada*, 13 June 2000.
25. Matthews, "Unlikely Alliances."
26. On "legibility," see Scott, *Seeing Like a State*.
27. Today, the archive is located in the National Archives (AGN). On nomenclature for the forest service, see the preface.
28. Torres-Rojo and Flores-Xolocotzi, "Deforestation and Land Use Change in Mexico."
29. Scholars have done relatively little to investigate the relationship between environmental change and migration in Mexico. For a view from Africa, see White, *Climate Change and Migration*.

30. Migration alone is not enough to protect forests, although it can offer a partial respite. See Klooster, “Forest Transitions in Mexico.”
31. For an overview, see Bray, Merino-Pérez, and Barry, “Community Managed in the Strong Sense of the Term.”
32. Barsimantov and Kendall, “Community Forestry, Common Property, and Deforestation in Eight Mexican States.”
33. Among the numerous examples, see Challenger, *Utilización y conservación de los ecosistemas terrestres de México*, 201–65; Klooster, “Campesinos and Mexican Forest Policy during the Twentieth Century”; Merino Pérez, *Conservación o deterioro*, 175–234; and Weaver, “Neoliberalism and the Social Relations of Forestry Production in the Sierra Tarahumara.”
34. “Exposición de motivos que funda el proyecto de la ley forestal y de Arboledas,” *México Forestal* 1.1 (January 1923): 10–17, 12.
35. See Wakild, *Revolutionary Parks*.
36. Villaseñor, “Los Bosques de México,” 9.

1. THE COMMODIFICATION OF NATURE, 1880–1910

1. For an overview, see Hart, *Empire and Revolution*, 173–267.
2. Hale, *Transformation of Liberalism in Late Nineteenth-Century Mexico*, 219–31; Weiner, *Race, Nation, and Market*, 33–42.
3. Holden, *Mexico and the Survey of Public Lands*, 16–22.
4. Holden, *Mexico and the Survey of Public Lands*, 159–66.
5. On growing inequality within villages, see Knight, *The Mexican Revolution*, 2:112–15. On popular-class attraction to private ownership, see Kourí, *A Pueblo Divided*, 157–86.
6. Santiago, *The Ecology of Oil*, 61.
7. On Michoacán, see Friedrich, *Agrarian Revolt in a Mexican Village*, 41–56. On Morelos, see Tortolero Villaseñor, “Water and Revolution in Morelos.”
8. Salvia Spratte, *Los Laberintos de Loreto y Peña Pobre*, 30–37; Haber, *Industry and Underdevelopment*, 46–47, 96–99.
9. Coatsworth, *Growth against Development*.
10. On Oaxaca and Puebla, see H. S. Beattie to Secretario de Fomento, 8 November 1910, AGN, SB, caja 8, exp. 25.
11. Vos, *Oro verde*; Evans, “King Henequen.”
12. On Chihuahua, see below. For Cuanajo, see AHPM, Hijueltas, libro 11, Pátzcuaro, foja 112–12v, Cuanajo, 24 January 1878. Thanks to Juan Manuel Mendoza for bringing this document to my attention.
13. Population statistics derive from the 1900 census, which underestimated the native population at 41,035.

14. Lumholtz, *Unknown Mexico*, 2:363.
15. Ruiz, *Michoacán*, 199–202, 65–71.
16. Lumholtz, *Unknown Mexico*, 2:366.
17. See the historical analysis in Unidad Industrial de Explotación Forestal Michoacana del Occidente, “Proyecto General de Ordenación Forestal,” typescript, Uruapan, December 1959, 77–78, COMFORMICH.
18. Beltrán, *Los recursos naturales de México*, 6; Vázquez, “Los actos depredatorios del hombre en la conservación forestal,” 60, 64.
19. Romero, *Noticias para formar la historia y la estadística del obispado de Michoacán*, 86; Anonymous report to Francisco Múgica, 1916, AHCERM, FJM, DS, 6/1218; Report of Adolfo Espino Arpio, 3 December 1915, AHCERM, FJM, DS, 5/1064a.
20. Hinojosa, *Memoria*, 22, 23.
21. Waldemar Díaz, “Plan de Explotación,” 15 December 1958, AGN, SARH/PF, caja 880, exp. 32298, leg. 1; see also the case of the Anguiano family in Parangaricutiro in AGN, SARH/PF, caja 746, exp. 1839.
22. See, for instance, the case of Los Alzati (Zitácuaro district), AGN, SARH/PF, caja 3–2, exp. 275, leg. 1.
23. See, e.g., Juárez Flores, “Alumbrado público.”
24. Hinojosa, *Memoria*, 24.
25. Report of Luis Varela Ponce de León, 13 June 1963, AGN, SARH/PF, caja 917, exp. 40678, leg. 1.
26. Guzmán Ávila, *Michoacán y la inversión extranjera*, 39–67.
27. *Diario Oficial*, 26 August 1893.
28. Díaz, “Plan de Explotación,” 15 December 1958, AGN, SARH/PF, caja 880, exp. 32298, leg. 1.
29. Francisco Carvajal Ch., “Informe de revisión de gabinete . . . San Lorenzo,” 30 April 1965, AGN, SARH/PF, caja 753, exp. 2333, leg. 2.
30. “Proyecto general de ordenación . . .,” by Ing. Régulo García M. and David Bello M., 30 September 1964, AGN, SARH/PF, caja 768, exp. 2393, vol. 1.
31. López Maya, *Ciudad Hidalgo*, 168–69.
32. These were Tingambato, Cirucat, San Angel, and Comachuén. See Guzmán Ávila, *Michoacán y la inversión extranjera*, 109–11.
33. Guzmán Ávila, *Michoacán y la inversión extranjera*, 115.
34. Vázquez, *Diagnóstico estatal*, 8.
35. Guzmán Ávila, *Michoacán y la inversión extranjera*, 125–28; Sánchez Díaz, “Reparto y resistencia en las comunidades nahuas de la costa de Michoacán.”
36. Guzmán Ávila, *Michoacán y la inversión extranjera*, 129.
37. Anonymous report to Francisco Múgica, 1916, AHCERM, FJM, DS, 6/1218; Purnell, “With All Due Respect.”

38. Vidal Aguilar Soto and Felipe Ruiz Anguianoto to Comisión Mixta Agraria, 18 April 1977, AGN, SARH/PF, caja 746, exp. 1839, vol. 5.
39. Ramírez, *La verdad sobre la Revolución Mexicana*, 1:139–42.
40. Some of the crooked village representatives that Governor Mercado named on behalf of Slade's company included Lic. Ignacio Hernández for Parícutín, Nabor Flores for Capácuaro, and Vicente Gómez for Parangaricutiro. Anonymous report to Francisco Múgica, 1916, AHCERM, FJM, DS, 6/1218; Report of Adolfo Espino Arpio, 3 December 1915, AHCERM, FJM, DS, 5/1064a.
41. For an overview, see Aboites, *Breve historia de Chihuahua*, 118–25.
42. Hart, *Silver of the Sierra Madre*, 105–21.
43. Complaint of Luis Musy et al., 15 October 1901, CIDECH, RB, P&T, SA, caja 34, exp. 7.
44. Hart, *Silver of the Sierra Madre*, 62–63. On the history of cyanide, see Edward Beatty, "El más sutil proceso de química": Cyanide and the Transformation of Mining in Mexico," forthcoming.
45. Hart, *Silver of the Sierra Madre*, 25.
46. W. S. Kirby Buurt to Departamento de Agricultura, 1 August 1910, AGN, FO, SB, caja 8, exp. 17.
47. The Rio Grande, Sierra Madre and Pacific Railway, inaugurated in 1896, connected Ciudad Juárez with Casas Grandes; its subsidiary, the Sierra Madre and Pacific, pushed further south. Most of the third railroad, the Chihuahua and Pacific, was built between 1899 and 1900, although it was not formally completed until 1905. It ran westward from the main line of the National Railway, which crossed through Chihuahua City into the heart of the Sierra Madre, through Madera and Pearson (now Mata Ortiz). For histories, see unsigned, undated "History" (ca. 1904), JHM, box 8, fol. 8; and French, "Business as Usual," 221–38.
48. Unsigned, undated "History," JHM, box 8, fol. 8.
49. Spude, "Frank Morrill Murphy."
50. Report entitled "Sierra Madre Country," n.d. (ca. 1904), JHM, box 8, fol. 11.
51. Report entitled "Sierra Madre Country," n.d. (ca. 1904), JHM, box 8, fol. 11; unsigned report dated at Prescott, Arizona, 24 June 1903, JHM, box 8, fol. 11.
52. Almada and Martínez, "El Norte," 157–58; Padilla Sánchez, "Estudio forestal del Estado de Chihuahua," 34; Report of Alberto García Balda, 4 August 1944, AGN, SARH/PF, caja 1576 (antes Chihuahua 2–1), exp. 2/402, leg. 13.
53. Emilio Flores Calderón, "Proyecto de Ordenación por Reserva Forestal Nacional Papigochic," 28 February 1945, AGN, SARH/PF, caja 202, exp. 34270, leg. 4, "Reserva de Papigochic"; Antonio H. Sosa, "Exploración forestal en la Alta Sierra Tarhumara del Estado de Chihuahua," *Boletín del Departamento de Caza y Pesca* 3.9 (December 1937–February 1938), 187–235, p. 200; Hart, *Empire and Revolution*, 174–77.
54. JHM, box 10, fol. 1, file S-10.

55. G. B. Schley to H. C. Ferris, 6 January 1908, JHM, box 8, correspondence book entitled “Confidential.”
56. Report of Alberto García Balda, 4 August 1944, AGN, SARH/PF, caja 1576 (antes Chihuahua 2-1), exp. 2/402, leg. 13.
57. Ignacio Ruiz Martínez, “Expediente relativo a la inspección practicada al Ferrocarril Noroeste de México,” 18 December 1924, AGN, SARH/PF, caja 1577 (antes Chihuahua 2-3), exp. 2/402, leg. 1. See also “Manufacturing and Sales Estimate for Six months ending 12/31/10,” JHM, box 10, fol. 1, file S-9.
58. “Estimates of Cash Requirements Account New Capital,” 1910, JHM, box 10, fol. 1, file S-1; Padilla Sánchez, “Estudio forestal del Estado de Chihuahua,” 41.
59. “La industria forestal en el Estado de Chihuahua,” *El Correo de Chihuahua*, 11 November 1910.
60. Walter M. Brodie to Jefe Político de Batopilas, 5 October 1887, and depositions later that month, in CIDECH, RB, P&T, SJ, caja 3, exp. 39.
61. Testimony of Refugio Hernández, Juan Gutiérrez, and José María Meza, 5 October [*sic.*; should be September] 1887, CIDECH, RB, P&T, SJ, caja 3, exp. 39.
62. Hart, *Silver of the Sierra Madre*, 186–88.
63. “Averiguación,” 12 August 1909, CIDECH, RB, P&T, SJ, caja 3, exp. 8; Francisco Salazar, 29 August 1927, AGN, SARH/PF, Chihuahua, caja 152–53.
64. Deeds, *Defiance and Deference*, 67–80, 108–24.
65. Gonzalo Aguirre Beltrán to Alfonso Caso, 18 June 1952, ENAH, CCIT 47.3.5, doc. 1.
66. Lumholtz, *Unknown Mexico*, 1:139–43; Zingg, *Behind the Mexican Mountains*, 67–73; Kennedy, “Tesguino Complex.”
67. Lumholtz estimated 25,000, according to *Unknown Mexico*, 1:119. The Comisión Nacional Agraria made a detailed census in 1926–1927 that enumerated 28,000; however, the lead surveyor estimated that the actual population was closer to 40,000. Bennett and Zingg, *The Tarahumara*, vii. The 1900 general census enumerated 19,778 “Tarahumara” speakers in Chihuahua, which is likely an undercount.
68. Speech by Roberto Gonzalez to Club Rotario de Monterrey, 1962, ENA/C, ENAH, CCIT, caja 7, exp. 13, fol. 6a; Plancarte, *El problema indígena tarahumara*, 33.
69. Bennett and Zingg, *The Tarahumara*, 42–44, 48–77. See also Schwatka, *In the Land of the Cave and Cliff Dwellers*, 230–33.
70. Plancarte, *El problema indígena tarahumara*, 65.
71. Lumholtz, *Unknown Mexico*, 1:127.
72. Reports of Hilario Espinoza, 5 February 1895, and Martín Ramos, 8 January 1895, CIDECH, RB, P&T, SJ, caja 1, exp. 4.
73. Letter from Trinidad Martínez et al., 18 May 1898, CIDECH, RB, P&T, SJ, caja 1, exp. 4. See also Vanderwood, *The Power of Guns against the Guns of Government*, 135–38.

74. The 1812 Cádiz constitution specifically charged ayuntamientos with administration of the woods (*montes*), a provision that appears to have remained in effect until it was reaffirmed by Antonio López de Santa Anna in 1855. See Dublán and Lozano, *Legislación Mexicana*, vol. 1, doc. 96 and vol. 7, doc. 4401.

75. For a narrative of this progression in the case of water, see Aboites, *El agua de la nación*, 81–89.

76. Dublán and Lozano, “Reglamento expedido por el Ministerio de Fomento á que deben los cortadores de árboles en terrenos nacionales,” *Legislación Mexicana*, vol. 9 (18 April 1861), doc. 5315.

77. See Vos, *Oro verde*, 75–100; Konrad, “Tropical Forest Policy and Practice during the Mexican Porfiriato.”

78. García Martínez, “Legislación forestal,” 236–37.

79. The total value of wood production was approximately 10 million pesos in 1890 and 31 million pesos a decade later. Data from Dirección General de Estadística, *Estadístico de la Republica Mexicana*, 1893 and 1900.

80. “Reglamento para la explotación de los bosque y terrenos baldíos y nacionales” [Law of 1 October 1894], in Villamar, *Leyes federales*, 52–79.

81. On desiccation theory, see Grove, *Green Imperialism*, 156–57, 168–263.

82. Humboldt and Bonpland, *Personal Narrative of Travels to the Equinoctial Regions of the New Continent*, 4:143. See 4:134–60 for a full elaboration. Humboldt and Bonpland’s narrative was translated and published in Spanish in 1826.

83. Humboldt, *Political Essay on the Kingdom of New Spain*, 60. Humboldt’s essay appeared in Spanish in 1822.

84. Rómulo Escobar, “Las lluvias en México,” 7, 55–56.

85. Desiccation theory was too widespread to trace exhaustively here; an early case was made in Hinojosa, *Memoria*, 1, and repeated in Bárcena, *Selvicultura*, 3–5. Desiccation theory became a part of the national curriculum for forest wardens (compare with *Cartilla Forestal*, vol. 2). It was still widely believed by the educated classes at least through the 1950s. See the three-part series by Hans Lenz in *Excelsior*, 23–26 December 1957.

86. Bárcena, *Selvicultura*, 54.

87. The theory of hygienic forests and their effects on miasmas was likewise extremely widespread. Notable discussions include Hinojosa, *Memoria*, 10–11; and Guzmán, “Climatología de la República Mexicana,” 181–85.

88. Rómulo Escobar, “Las lluvias en México,” 7.

89. Simonian, *Defending the Land of the Jaguar*, 57–58.

90. Rómulo Escobar, “Las lluvias en México.” On the use of river water for irrigation, see Tortolero Villaseñor, “Water and Revolution in Morelos”; and Aboites, *El agua de la nación*.

91. Edicto No. 50, reproduced in Pérez Gil, *Primer inventario de los bosques y montes de Michoacán*, viii–ix.

92. See a list of concessions in Secretaría de Agricultura y Fomento, *Memoria de la Primera Convención Nacional Forestal*, 123–38; on the lawsuit, see *Dictamen del Lic. Andrés Horcasitas*, 3–15.

93. Quevedo, *Relato de mi vida*, 9–37. On torrentialism in French thought, see Whited, *Forests and Peasant Politics in Modern France*, 56–74.

94. Miguel Ángel de Quevedo, “Las Resoluciones . . .,” *México Forestal* 18.3–4 (March–April 1940): 20–24.

95. Report of Gilberto Crespo Martínez, April 1896, and other documents in AGN, FO, SB, caja 3, exp. 1; Quevedo, *Relato de mi vida*, 37–46.

96. See the discussion of the conference in Konrad, “Tropical Forestry Policy and Practice during the Mexican Porfiriato,” 133–35.

97. Report of Junta Central de Bosques, 1910–1911, AGN, FO, SB, caja 68, exp. 9. See also *Revista Forestal Mexicana* 1 (1909), 16–17.

98. Kalaora and Savoye, *La forêt pacifiée*, 15–46. The French contingent included George Lapie, Edmond Bournet, Lucien Gainet, Henry Burces, and Eugène Beaux. See Vásquez de la Parra, “Reminiscencia histórica.”

99. *México Forestal* 14.9–10 (September–October 1936), 76.

100. Presupuesto Dirección de Bosques, 1912–1913, AGN, FO, SB, caja 30, exp. 4; *México Forestal* 14.9–10 (September–October 1936), 76 and 16.10–12 (October–December 1938), 61–62. In the Federal District, trees were planted in Desierto de los Leones, Acopilco, Santa Fe, Villa de Guadalupe, and Texcoco.

101. Vitz, “La ciudad y sus bosques,” 138.

102. Vitz, “La ciudad y sus bosques,” 138; *Cartilla Forestal*, no. 3: *Reforestación* (Mexico City: Secretaría de Fomento, 1911), 55–57; Bárcena, *Selvicultura*, 50–52.

103. Federico Reyes to Jefe del Departamento de Bosques, 10 August 1910, AGN, FO, SB, caja 68, exp. 12.

104. Hart, *Empire and Revolution*, 122.

2. REVOLUTION AND REGULATION, 1910–1928

1. McCaa, “Missing Millions.”

2. Notable exceptions include Aboites, *El agua de la nación*; Cotter, *Troubled Harvest*; and Santiago, *The Ecology of Oil*.

3. Miguel Ángel de Quevedo, “Exposición de motivos que funda el Proyecto de la Ley Forestal de Arboledas,” *México Forestal* 1.1 (January 1923): 10–17, p. 10.

4. On Quevedo’s concerns, see chapter 1 in this volume. For a complementary view by one of his followers, see Salvador Hernández Barrón, “La influencia de los desmontes en la disminución de las aguas corrientes,” *México Forestal* 7.1 (January 1929): 1–7.

5. Miguel Ángel de Quevedo, “Alocución,” reprinted in *México Forestal* 1.2 (February 1923): 18–20, p. 19.

6. Guha, *The Unquiet Woods*, 59.

7. For case studies of the mismanagement of the early land reform, see Craig, *The First Agraristas*; Fallaw, *Cárdenas Compromised*; Gledhill, *Casi Nada*; Nugent, *Spent Cartridges of Revolution*; and Warman, *Y veninos a contradecir*.

8. On the agrarian elements of the revolution, see Gilly, *La revolución interrumpida*; Katz, *The Life and Times of Pancho Villa*; Knight, *The Mexican Revolution*. For a discussion of communities that at least partially accommodated to market society, see Kourí, *A Pueblo Divided*.

9. For workers and the revolution, see Guerra, *México*; and Lear, *Workers, Neighbors, and Citizens*.

10. For interpretations that emphasize nationalism, see Gilly, *La revolución interrumpida*, and Hart, *Revolutionary Mexico*.

11. For treatments of Zapatismo, see Brunk, *Emiliano Zapata*; and Womack, *Zapata and the Mexican Revolution*. On the Plan de Ayala, see appendix 1 in Womack, *Zapata and the Mexican Revolution*.

12. Falcón, “San Luis Potosí,” 149.

13. Vos, *Oro verde*, 229.

14. Vos, *Oro verde*, 228–39.

15. Miguel Ángel de Quevedo, “La necesaria acción conjunta en pro de la higiene y del aprovechamiento de los recursos naturales en México,” *México Forestal* 6.9 (September 1928): 167–72.

16. Miguel Ángel de Quevedo, “Feliz coincidencia climática que produce grandes bienes a nuestra Nación,” *México Forestal* 16.10–12 (October–December 1938): 61–62.

17. Katz, *The Life and Times of Pancho Villa*, 291–92.

18. Ruiz Martínez, “Discurso,” 56.

19. M. Sánchez (Xochimilco) to Jefe del Departamento de Bosques, 10 November 1914, AGN, FO, SB, caja 71, exp. 46.

20. Miguel Ángel de Quevedo, “La Riqueza Forestal de México,” paper presented at the 1918 meeting of the Sociedad de Geografía y Estadística, reprinted (with annotations) in *México Forestal* 1.3 (March 1923): 1–13. The specific areas where timber companies ceased operations included Milpa Alta, Xochimilco, Cumbres de Maltrata, and the eastern slopes of the Pico de Orizaba range. Chihuahua is discussed below.

21. H. S. Beattie to Secretario de Fomento, 8 November 1910; “Informe” of Dirección de Bosques, 23 November 1910, AGN, FO, SB, caja 8, exp. 25.

22. Marcos V. Méndez to Gobernación, 30 July 1911, quoted in Knight, *The Mexican Revolution*, 1:107.

23. The major exception was the area around Zitácuaro, where Joaquín Amaro and his lieutenants did recruit among peasant villages. See *El Baluarte* (Zitácuaro), 14 February 1926.

24. Oikión Solano, *El constitucionalismo en Michoacán*, 337–40.
25. These events are mentioned in Knight, *The Mexican Revolution*, 1:220 and 1:350. On the Mirabeau-Rothschild properties, see Guzmán Avila, “Michoacán en vísperas.”
26. Oikión Solano, *El constitucionalismo en Michoacán*, 333–35.
27. Quevedo, “Riqueza.” The specific areas where timber companies ceased operations included Milpa Alta, Xochimilco, Cumbres de Maltrata, and the eastern slopes of the Pico de Orizaba.
28. Report of Miguel Silva, 26 July 1911, AHPEM, Bosques, caja 2, exp. 5.
29. The expansion of commerce was hardly uncommon during the revolution. In addition to the case of the Madera Company discussed below, see Womack, “The Mexican Economy during the Revolution.”
30. Report of Adolfo Espino Arpio, 3 December 1915, AHCERM, FJM, DS, 5/1064a; Calderón, “*Caciquismo* and *Cardenismo* in the Sierra Purépecha, Michoacán,” 136.
31. Zacarías Gómez Urquiza to Secretaría de Gobernación, 20 June 1921, AGN, DGG, B.2.71–107, caja 4, exp. 2.
32. H. I. Miller to P. C. Theade, 11 March 1912, JHM, box 10, fol. 2, unnumbered file.
33. Anon. report to F. S. Pearson, 7 February 1914, JHM, box 10, fol. 1, file S-1.
34. On capital investments, see “Estimates of Cash Requirements Account New Capital,” 1 March 1910–1 January 1911, JHM, box 10, fol. 1, file S-1; and M. A. Leach to H. C. Smith, 29 August 1911, JHM, box 10, fol. 1, file S-2.
35. Unsigned telegram (Pearson?) to Pearmiler, 27 February 1912, JHM, box 10, fol. 2, file S-8.
36. French, “Business as Usual,” 226–27.
37. Madera Company to Sr. General Don Victoriano Huerta, 27 September 1912, JHM, box 10, fol. 1, file S-1; on the United States, see H. I. Miller to Thomas P. Littlepage, 26 April 1912, JHM, box 10, fol. 2, file S-8; and on Villa, see H. I. Mille to Luis Riba, 13 January 1914, JHM, box 11-A, fol. 1.
38. Unsigned letter (J. O. Crockett?) to Hiram C. Smith, 18 March 1911, JHM, box 10, fol. 1, file S-15. On slingshots, see J. M. Peek to P. C. Thede, 6 September 1913, JHM, box 11, fol. 5.
39. Parra Orozco, *Madera*, 61–62.
40. Beezley, “State Reform during the Provisional Presidency,” 531.
41. J. M. Peek to P. C. Thede, 6 September 1913, JHM, box 11, fol. 5; unsigned letter (E. H. Clark?) to the American Council in Chihuahua City, 23 August 1913, JHM, box 10, fol. 1, file S-15; *El Paso Times-Democrat*, 25 August 1913.
42. Translation of coded telegram (no writer or recipient named), February 1912, JHM, box 10, fol. 2, file S-8.
43. Report of Alberto García Balda, 4 August 1944, AGN, SARH/PF, caja 1576

(a.k.a. Chihuahua 2-1), exp. 2/402, leg. 13, 1944. On Orozqista sympathies, see below and J. M. Peek to P. C. Thede, 6 September 1913, JHM, box 11, fol. 5.

44. F. L. Kinsman to A. M. Trueb, 23 August 1913, JHM, box 10, fol. 1, file S-15.

45. J. O. Crockett H. I. Miller, 23 August 1913, JHM, box 10, fol. 1, file S-15.

46. Ruiz Martínez, "Discurso."

47. Ruiz Martínez, "Discurso," 21-23, 39.

48. For an overview, see López, *Crafting Mexico*, esp. 65-94, 127-35.

49. Quevedo, *Relato de mi vida*, 40.

50. The language giving the nation the right to regulate the use of natural resources did not appear in the original version of Article 27, drafted by Pastor Rouaix and his collaborators. It was inserted by the review committee (the Primera Comisión de Constitución), headed by Francisco J. Múgica and Enrique Colunga. See Rouaix, *Génesis de los artículos 27 y 123 de la Constitución Política de 1917*, 175, 184-86.

51. For an overview, see Tobler, "Peasants and the Shaping of the Revolutionary State."

52. Córdova, *La ideología de la revolución mexicana*, 177-87.

53. Nugent, *Spent Cartridges of Revolution*, 91. On the desire by Chihuahua communities to receive restitution rather than grants, see 88-92.

54. Hall, "Alvaro Obregón and the Politics of Mexican Land Reform," esp. 213-15.

55. See, for example, "Informe del Consejo Directivo o de Gerentes ante la Asamblea General de Accionistas Propietarios, acerca de los trabajos llevados a cabo durante el año Social dd 1922 a 1923," by Miguel Ángel de Quevedo (pres) and Ángel Roldán (srio), 27 February 1923, *México Forestal* 1.4 (April 1923): 21-23.

56. Miguel Ángel de Quevedo, "Alocución," reprinted in *México Forestal* 1.2 (February 1923): 18-20, p. 19.

57. Roque Martínez, "Cooperativas ejidales: Determinación de zonas forestales y agrícolas: Reglamentación del pastoreo," *México Forestal* 8.4 (April 1930): 67-69, p. 68.

58. Report of Salvador Guerrero, 23 September 1922, AGN, SARH/PF, caja 1577 (antes Chihuahua 2-3), exp. 2/402, leg. 1.

59. "La necesidad de una política de protección forestal de parte de nuestras empresas Ferrocarrileras," *México Forestal* 2.5-6 (May-June 1924): 43-45, p. 43.

60. Ángel Roldán, "Las delegaciones municipales y la cuestión forestal," *México Forestal* 7.8 (August 1929): 165-68, p. 167.

61. "Explotaciones Colectivas," by Ing. Forestal Sergio Barojas A., presented at the Congreso Forestal Mexicano, 3a mesa, reproduced in *México Forestal* 8.5 (May 1930): 90-92, p. 90.

62. Compare with "Sección Administrativa," in *México Forestal* 1.4 (April 1923): 21-23 and in *México Forestal* 3.5 (May 1925): 43-46.

63. Miguel Ángel de Quevedo, “Exposición de Motivos que funda el Proyecto de la Ley Forestal de Arboledas,” *México Forestal* 1.1 (January 1923): 10–17, pp. 10, 11. For a history of *México Forestal*, see Cortez Noyola, “*México Forestal*.”
64. “La necesidad de una política de protección doestal de parte de nuestras empresas Ferrocarrileras,” *México Forestal* 2.5–6 (May–June 1924), 7–9.
65. Undated “Circular” of Ramón P. de Negri, circa May 1922; and “Decreto” of Alvaro Obregón, 4 October 1923, both in AGN, PR, SOC, 121-A-B-3.
66. Secretaría de Agricultura y Fomento, *Ley forestal y su reglamento*, 6.
67. Sebastian Bautista Madrigal to Lázaro Cárdenas, Uruapan, 16 November 1938, AHCERM, LC, caja 32. See also Miguel Ángel de Quevedo, “Informe sobre los principales trabajos desarrollados por el Departamento Forestal y de Caza y Pesca durante el año de 1936,” *Boletín del Departamento Forestal y de Caza y Pesca* 2.6 (March 1937): 1–12, p. 4.
68. See the enacting legislation (*reglamento*) of the 1926 forest code in Secretaría de Agricultura y Fomento, *Ley forestal [de 1926] y su reglamento*, especially chapters 6 (on communal, ejidal, and municipal land) and 7 (on private land).
69. *Ley Forestal [de 1926]*, 51–57.
70. *Ley Forestal [de 1926]*, chap. 1, article 33, p. 12.
71. “Informe sobre la necesaria aplicación de medidas tendientes a corregir las malas prácticas en la Explotación de los Bosques de México,” *México Forestal* 7.11 (November 1929): 228–32; Presidente Municipal de San José Allende to Gerardo González, 21 August 1907, AHPPEM, Bosques, caja 1, exp. 16.
72. Boyer, “Revolución y paternalismo ecológico.” Other interpretations include Hinojosa Ortiz, *Los bosques de México*, 25–28; Klooster, “Conflict in the Commons,” 122–29; and Simonian, *Defending the Land of the Jaguar*, 82–84.
73. Domínguez Rascón, *La política de la reforma agraria en Chihuahua*, 79–95; Wasserman, *Persistent Oligarchs*, 34–37.
74. Domínguez Rascón, *La política de la reforma agraria en Chihuahua*, 44–48.
75. Alonso, *Thread of Blood*; Nugent, *Spent Cartridges of Revolution*.
76. Daniel F. Galicia, “Plan de Explotación del Predio denominado Chihuahua Lumber, Bocoyna,” October 1928, AGN, SARH/PF, caja 152, exp. 1227. On the use of wood as fuel, see Proyecto General de Ordenación Forestal, Unidad de Ordenación Forestal “Industrial Río Verde,” August 1968, AGN, SARH/PF, caja 158.
77. L. R. Hoard, undated memorandum [ca. 25 February 1921], JHM, box 11-B, fol. 2, file S-4.
78. Vatant, “Un ejido forestal de la alta Tarahumara,” 45.
79. Data from Domínguez Rascón, *La política de la reforma agraria en Chihuahua*, “Anexo,” 159–62.
80. Decreto presidencial, 9 June 1937, AGN, SARH/PF, caja 261, exp. 18064, leg. 1.
81. Rodolfo Rodríguez Caballero, “Proyecto General de Ordenación Forestal,

Unidad de Ordenación Forestal "Industrial Río Verde," August 1968, AGN, SARH/PF, caja 158.

82. "Acta," by Inspector General A. Martínez, San Juanito, Bocoyna, 4 December 1927, AGN, SARH/PF, 152–53; Sociedad de Padres y Maestros de la Escuela de Bahuinocachi (Bocoyna) to Adolfo López Mateos, 8 June 1961, AGN, SARH/PF, caja 153, exp. "Protección Forestal." See also Molinari Medina, "Protestantismo y explotación forestal," 26–28.

83. Daniel F. Galicia, "Plan de Explotación," October 1928, AGN, SARH/PF, caja 152–53. See transcription of Esteban L. Almeida to Agencia General, 21 November 1930, AGN, SARH/PF, caja 152, exp. 1227.

84. Report of Daniel F. Galicia, 30 April 1928, AGN, SARH/PF, caja 152–53.

85. Alcocer Patiño, *Un siglo en el bosque*, 112–13.

86. "Únicamente pequeños bosquetes vírgenes," according to Armando Fuentes Flores (n.d. in 1961), AGN, SARH/PF, caja 152–53. See also report of Armando Fuentes Flores, 23 August 1960, AGN, SARH/PF, caja 1575 (antes Chihuahua 1–2), exp. 2/28, leg. 5; and report of Martín López Astudillo, 6 April 1961, AGN, SARH/PF, caja 152–53.

87. Agente General de la Secretaría de Agricultura y Fomento (Chihuahua) to Director Forestal y de Caza y Pesca, 23 June 1927, AGN, SARH/PF, caja 152, exp. 844. See also the memo from Director Interino DFCP Celistino Coq, 29 June 1927, in the same folder.

88. "Es de lamentar que nuestras autoridades Forestales autorizen ó apoyen á personas de origen extranjero como al citado Señor Broks para que maten neustra riqueza Forestal cinninguna consideración racional humana, menos patriótica" [multiple spelling errors in the original]. C. B. Silva (Urique) to Secretaría de Agricultura y Fomento (Chihuahua), 24 July 1927, AGN, SARH/PF, caja 152–53.

89. Report of Compañía Industrial Mercantil, n.d. [ca. March 1939], AGN, SARH/PF, caja 152–53.

90. On Galicia, see Report of Roberto Barrios, 23 January 1948, AGN, SARH/PF, caja 1575 (antes Chihuahua 1–2), exp. 2/28, leg. 3. On González Ugarte, see Rodolfo Rodríguez Caballero, "Proyecto General de Ordenación Forestal, Unidad de Ordenación Forestal 'Industrial Río Verde,'" August 1968, AGN, SARH/PF, caja 158.

91. On agrarian leaders in Michoacán, see Boyer, *Becoming Campesinos*; Friedrich, *Agrarian Revolt in a Mexican Village*; and Guerra Manzo, *Caciquismo y orden público en Michoacán*.

92. ASARCO to Enrique Ramírez, 23 July 1925; and Secretaría de Gobernación (Michoacán) to Secretaría de Gobernación (D.F.), 2 September 1925, AGN, DGG, E.2.71–135.

93. Examples include the petitions filed by the barrio of San Francisco (Uruapan), as discussed in the amparo of José Encarnación Jiménez, 17 December

1928, AHPEM, Amparos, caja 266, exp. 9; and the amparo on behalf of Tingambato brought by Manuel Tercero on 15 March 1922, AHPEM, Amparos, caja 212, exp. 27.

94. See, for example, the armed conflict on the hacienda Atecuario, per the transcript of meeting in the *presidencia municipal*, 29 October 1931, AMZ, Justicia, 1931, exp. 3.

95. Representante Agraria de Atécuaro to Procuraduría de Pueblos, 16 December 1924, AHMM, caja 75, exp. 9.

96. Ejidatarios rancho Coro Grande to Secretaría de Gobernación, 6 February 1929, AHMM, caja 99, exp. 19.

97. Report of Vicente Cedillo, 17 April 1925, AHPEM, Amparos, caja 238, exp. 3.

98. For a discussion, see Ginzberg, *Lázaro Cárdenas*, 206–14.

99. *El Gráfico* (Mexico City), 19 February 1938. See also Cenobio E. Blanco, “La Ley Forestal,” *México Forestal* 7.2 (February 1929): 25–27; and *El Universal*, 2 January 1936. On the species favored for charcoal making, see comments by the president of the Unión de Productores, Introdutores, Detallistas y Despachadores de Carbón Vegetal de la República, in *El Universal*, 7 November 1951.

100. Report of Pedro Roa V., 18 September 1925, AGN, DT, caja 841, exp. 3.

101. Joaquín Iranzo to Secretaría de Agricultura y Fomento, 7 June 1927; and Pomposo Solís to Secretaría de Agricultura y Fomento, 9 July 1926, both in AGN, SARH/PF, Michoacán caja 4–2, exp. 364, leg. 1.

102. Alfonso Escudero to Gobernador, 8 October 1926, and Salvador Guerrero to Jefe del Distrito Forestal en Michoacán, 29 June 1926, AGN, SARH/PF, Michoacán caja 1–1, exp. 107, leg. 1.

103. Vecinos de Aputzio to Presidente de la República, 28 September 1927, AGN, DGG, 2.321 (13)-1 (caja 2). On social conditions, see the report of Cuca García, 28 August 1922, AHSEP, caja 747, exp. 49.

104. Report of Secretaría del Estado, 7 November 1927, and the report of José J. Parres, 2 January 1928, in AGN, DGG, 2.321 (13)-1 (caja 2).

3. REVOLUTIONARY FORESTRY, 1928–1942

1. Report of Andrés Orozco, 26 December 1929, AGN, SARH/PF, caja 719, exp. 8600.

2. In this sense, villagers had the capacity to behave very much like a “closed corporate community,” in Eric Wolf’s terms. However (as Wolf also foresaw), some members of these same communities might welcome outsiders or fragment in such a way that one or more factions *sought out* allies from outside the village—for example, allies within the forest bureaucracy—once they no longer faced a common threat. For the original discussion of the closed corporate community, see Wolf, “Closed Corporate Peasant Communities in Mesoamerica and Central Java.”

3. Report of Andrés Orozco, 28 February 1930, AGN, SARH/PF, caja 719, exp. 8600.
4. This discussion is inspired in part by Arun Agrawal's reflections on the making of environmental subjects in *Environmentality*.
5. In 1930, for example, President Pascual Ortiz Rubio suggested that forest products might ultimately prove more valuable to the nation than petroleum, insofar as forests were a renewable resource. "Unificar las labores," *El Nacional*, 10 September 1930.
6. For an overview of popular responses to postrevolutionary social projects, see Knight, "Revolutionary Project, Recalcitrant People." See also the pivotal discussions in Joseph and Nugent, *Everyday Forms of State Formation*.
7. McCook, *States of Nature*, 47–76.
8. Eduardo García Díaz, "La conservación de las maderas industriales," *México Forestal* 4.5–6 (May–June 1926): 50–53; "La conveniente reserva forestal de propiedad de la nación," *México Forestal* 3.8–9 (August–September 1925): 107–10. At a later point, Díaz also suggested that Mexican requirements for the production of railroad ties were *more* stringent than in Europe, meaning that some otherwise useful stands of timber were never put into production. See his "Algunas consideraciones . . .," *México Forestal* 6.1 (January 1928): 4–6.
9. Miguel Ángel de Quevedo, "Discurso de inauguración del Primer Congreso Forestal Mexicano," *México Forestal* 8.3 (March 1930): 31–35, p. 31.
10. Miguel Ángel de Quevedo, "La quema de pastos es la causa principal del incendio de nuestros bosques," *México Forestal* 6.12 (December 1928): 233–37, p. 235.
11. Roberto Gayol, "La Repoblación como Problema Nacional," *México Forestal* 8.11–12 (November–December 1930): 269–76, p. 273.
12. See for example "La Unión Nacional de Resineros," *México Forestal* 7.7 (July 1929): 145–46; and Ricardo Lezama y Michel, "La Resinación en el Estado de Durango," *México Forestal* 8.6 (June 1929): 124–25.
13. "Exposición de motivos que funda el proyecto de la ley forestal y de Arboledas," *México Forestal* 1.1 (January 1923): 10–17, p. 13.
14. Ignacio E. Zepeda, "La Repoblación Forestal," *México Forestal* 8.5 (May 1930): 93–94, p. 93.
15. In addition to the discussion in chapter 1, see Montes Eduardo García Díaz, "Conferencia dedicada a la Fiesta del Arbol," *México Forestal* 3.2 (February 1925): 26–29, p. 29.
16. Quevedo, "Alocución," *México Forestal* 1.2 (February 1923): 19–20, p. 19. On Michoacán, see circular 12 of the Dirección General de Educación Pública, 15 February 1920, AMZ, Instrucción Pública, 1920, exp. 12.
17. "La Fiesta del Árbol en San Angel, D.F.," *México Forestal* 2.3–4 (March–April 1924): 34–35.

18. See, for example, the “Conferencia dedicada a la Fiesta del Árbol” given by forest warden Eduardo García Díaz in the Colonia Acera of Compañía Fundidora de Fierro y Acero de Monterrey, 8 February 1925, printed in *México Forestal* 3.2 (February 1925): 26–29.
19. See, for example, the photographs of schoolchildren and community leaders planting trees in Mexico City, Michoacán, and Yucatán during the 1938 Arbor Day celebrations, in *México Forestal* 16.1 (January–March 1938): 8–9.
20. “Acta,” Cofradía (Túxpan), 18 February 1927, AHSEP, caja 7221, exp. 8.
21. “Discurso pronunciado en la Fiesta del Árbol, organizada por la Secretaría de Agricultura en el Bosque de Chapultepec, por el Sr. General Francisco J. Mújica [sic],” *México Forestal* 12.2 (February 1934): 39–40, p. 39.
22. “Las Fiestas del Día del Árbol en el año de 1938,” *México Forestal* 16.1 (January 1938): 6–7, p. 7.
23. “Las ‘Fiestas del Árbol’ en el Presente Año,” *México Forestal* 17.1 (January–March 1939): 27–28, p. 28.
24. *Boletín del Departamento Forestal y de Caza y Pesca* 1.4 (August 1936): 52–54, pp. 52–53.
25. *Boletín del Departamento Forestal y de Caza y Pesca* 2.7 (April–August 1937): 8–12, p. 10.
26. “La Palpitante Cuestión Forestal,” *El Gráfico*, 17 August 1929.
27. Fabián G. Sánchea et al. to Departamento Forestal, 17 March 1933, AGN, SARH/PF, Serie Michoacán caja 3–2, exp. 275, leg. 1.
28. Jefe del Departamento de Bosques Salvador Guerrero to Jefe del Distrito Forestal de Michoacán, 29 June 1926, AGN, SARH/PF, Serie Michoacán, caja 1–1, exp. 107, leg. 1.
29. On national parks, see Wakild, *Revolutionary Parks*. On the parks and reserves, see Secretario de Agricultura y Ganadería, “Índice general de disposiciones legislativas sobre agricultura, ganadería y recursos forestales y de caza,” unpublished manuscript, 1962, available in the library of the Comisión Forestal Estatal de Michoacán in Morelia. On the progress of reforestation, see the “Informes” published in the *Boletín del Departamento Forestal y de Caza y Pesca* between 1936 and 1939. On the bans, see chapter 4 of this book, as well as Calva Téllez et al., *Economía política de la explotación forestal en México*, app. 4. The best overview of conservation during the Cárdenas presidency remains Simonian, *Defending the Land of the Jaguar*, 85–110.
30. Cárdenas decreed the establishment of the Departamento Autonomo Forestal y de Caza y Pesca on 29 December 1934. The description of personnel is based on an organizational chart printed on the inside of each issue of *Boletín del Departamento Forestal y de Caza y Pesca*, published 1935 to 1940, and on Julio Riquelme Inda, “Tres años de campaña forestal,” in the *Boletín del Departamento Forestal y de Caza y Pesca* 4.12 (September–November 1938), 119–27.

31. “Programa de trabajos . . .,” *Boletín del Departamento Forestal y de Caza y Pesca* 1.4 (August 1936): 217–27.
32. “Existencias . . .,” *Boletín del Departamento Forestal y de Caza y Pesca* 4.12 (September–November 1938): 266–30, p. 266.
33. Agrawal makes a similar point with regard to the (far earlier) consolidation of scientific knowledge of forests in India (see *Environmentality*, 39, and 32–39 more generally). On the relationship between expertise and resource governance, see Mitchell, *The Rule of Experts*.
34. Quevedo, *Relato de mi vida*, 63–64.
35. Boyer, *Becoming Campesinos*, 226–29. On the massive push to organize the popular classes, see Córdova, *La política de masas del Cardenismo*.
36. These were San Nicolás Totolapan, Magdalena Contreras, San Bartolo Ameyalco, San Mateo Tlaltenango, Acopilco, and San Salvador Cuatenco. See Francisco Salazar, José Gutiérrez, and Felipe Santibáñez, “Criterio de la Comisión N. Agraria respecto a la Organización Económica que debe darse al Sistema de Explotación Forestal en Terrenos Comunales y Ejidales,” *México Forestal* 8.4 (April 1930): 78–81; “Las Cooperativas Forestales,” *Boletín del Departamento Forestal y de Caza y Pesca* 2.7 (April–August 1937): 98–110, pp. 100 and 108.
37. In addition, there were twenty-seven cooperatives comprising smallholders, renters, and people working in national forests. See “Informe mensual,” *Boletín del Departamento Forestal y de Caza y Pesca* 4.12 (September–November 1938): 1–10, p. 5; Departamento Agrario, *Memoria del Departamento Agrario, 1941–1942*, 232.
38. Sergio Barojas A., “Explotaciones colectivas,” *México Forestal* 8.5 (May 1930): 90–92. Another presenter at the conference arrived at essentially the same conclusion; see Roque Martínez, “Cooperativas ejidales,” *México Forestal* 8.4 (April 1930): 67–69, p. 68.
39. “Cooperativas para explotación de bosques,” *El Nacional*, 7 May 1934; Armando Mancilla Chávez and Manuel Caballero Olguín, “Los Estados,” *Agricultura*, (July–August 1938): 1–6.
40. Salvador Guerrero, “Conveniencia de que el Estado Controle Técnica y Económicamente la Producción Forestal,” *Boletín del Departamento Forestal y de Caza y Pesca* 2.7 (April–August 1937): 121–33.
41. On the discounts, see “Resumen,” *México Forestal* 16.1–3 (January–March 1938): 1–3, p. 2. On charcoal makers, see *El Nacional*, 20 January 1938.
42. “Cooperativas para explotación de bosques,” *El Nacional*, 7 May 1934.
43. See, for example, Salvador Guerrero, “Conveniencia de que el estado controle técnica y económicamente la producción forestal,” *Boletín del Departamento Forestal y de Caza y Pesca* 2.7 (April–August 1937): 123–24.
44. “Informe . . .,” *Boletín del Departamento Forestal y de Caza y Pesca* 2.6 (January–March 1937): 1–12, p. 4.

45. "Informe . . .," *Boletín del Departamento Forestal y de Caza y Pesca* 4.12 (September–November 1938): 1–12, p. 5.
46. Michoacán's 91 cooperatives thus accounted for slightly more than 10 percent of the 866 cooperatives in the nation, second only to the State of Mexico's 216 cooperatives. An unknown number of informal cooperatives also existed whose leaders had never filled out the proper paperwork. See Departamento Agrario, *Memoria 1941–1942*, 155, 161, 232.
47. Juan Contreras and Srio Félix Joaquín to Jefe Delegación Forestal, 31 July 1936, AGN, SARH/PF, caja 896, exp. 36119, leg. 1.
48. The emergence of resin tapping and the role of the Banco Nacional de Crédito Agrícola in providing subsidies are discussed below. For Cárdenas's decree exempting cooperatives from 50 percent of the fees and taxes for logging, see the *Periódico Oficial*, 8 November 1936.
49. Report of Graciano Sánchez, 3 February 1938, AGN, SARH/PF, caja 880, exp. 32298, leg. 1.
50. Acta de investigación, Charapan, 23 October 1938, and report of David Riquelme, 7 July 1939, AGN, SARH/PF, caja 880, exp. 32298, leg. 1.
51. "Acta y Bases . . .," 26 March 1937, AGN, SARH/PF, caja 719, exp. 14027.
52. Acta, 15 December 1937, AGN, SARH/PF, caja 719, exp. 14027.
53. Report of Luis Sánchez Sandoval, 19 July 1940, AGN, SARH/PF, caja 822, exp. 19937, leg. 1.
54. Reynaldo Torres to Agente de la Secretaría de Agricultura en Uruapan, 19 February 1941, AGN, SARH/PF, caja 822, exp. 19937, leg. 1.
55. Reynaldo Torres to Agente de la Secretaría de Agricultura en Uruapan, 19 February 1941, AGN, SARH/PF, caja 822, exp. 19937, leg. 1.
56. Reynaldo Torres to Agente de la Secretaría de Agricultura en Uruapan, 7 June 1941, AGN, SARH/PF, caja 822, exp. 19937, leg. 1.
57. The verbatim quote is: "Anda gente del Pueblo soloquehesdefuera i tumbando madera sin marcar es parte que hasta hen Beda" [spelling errors in original]. "Algunos Ciudadanos del Pueblo de Cherán" to Departamento Forestal, 12 February 1940, AGN, SARH/PF, caja 896, exp. 36119, leg. 1.
58. Report of Estidígrafo Agustín Calderón Rodríguez, 12 November 1940, AGN, SARH/PF, caja 896, exp. 36119, leg. 1.
59. Vecinos de Cherán, n.d. (ca. January 1941), AGN, SARH/PF, caja 896, exp. 36119, leg. 1.
60. On the organization that Cárdenas created as governor, see Hernández, *La Confederación Revolucionaria Michoacana del Trabajo*; and Boyer, *Becoming Campesinos*, 190–95.
61. Sebastian Bautista Madrigal to Lázaro Cárdenas, 16 November 1938, AHICERM, LC, caja 32. He had established cooperatives in Capacuaro (Uruapan),

Pomocuarán (Paracho), San Felipe de los Herreros (Charapan), and Ahuirán (Paracho).

62. See copies of the presidential declarations in *Boletín del Departamento Forestal y de Caza y Pesca* 3–4 (1936–1937). Also during 1936, Cárdenas established nine national parks, but these were principally intended as nature reserves to attract tourists, not as instruments to protect over-exploited forests. See Simonian, *Defending the Land of the Jaguar*, 94–100; and Wakild, *Revolutionary Parks*. The bans are discussed in greater detail in chapter 4.

63. See Miguel Ángel de Quevedo, “Recorrido,” *Boletín del Departamento Forestal y de Caza y Pesca* 2.5 (September–December 1936): 137–42.

64. “Acta” in Capácuaro, 1 September 1941, AGN, SARH/PF, Michoacán, caja 2–3, exp. 212, leg. 2; BNCA to Lázaro Cárdenas, 12 December 1938, AHERMLC, LC, caja 32. See also Gaspar González (BNCA) to Representante Forestal Uruapan, 4 October 1941, and BNCA to Director Dirección General Forestal, 22 September 1943, both in AGN, SARH/PF, Michoacán, caja 2–3, exp. 212, leg. 2.

65. See for example Graciano Sánchez to Dirección Forestal y de la Caza y Pesca, 3 February 1938, and other correspondence in AGN, SARH/PF, caja 822, exp. 19937, leg. 1.

66. Report of Jesús Ceja Banajas, 8 October 1941, AGN, SARH/PF, Michoacán, caja 2–3, exp. 212, leg. 2; report of David Riquelme, 7 July 1939, AGN, SARH/PF, caja 880, exp. 32298, leg. 1.

67. González de la Cadena, “Sugestiones para una mejor organización de los núcleos campesinos,” 165.

68. For example, Vecinos Paracho to Presidente de la República, 27 February 1939, AGN, SARH/PF, caja 848, exp. 23528, leg. 1.

69. Boyer and Wakild, “Social Landscaping in the Forests of Mexico.” See also González y González, *Los artifices del Cardenismo*.

70. “Decreto Presidencial” regarding Rochéachi, 9 June 1937, AGN, SARH/PF, caja 261, exp. 18064, leg. 1.

71. Julián Guerra et al. to Secretaría de Agricultura y Ganadería, 24 December 1933, AGN, SARH/PF, caja 261, exp. 18064, leg. 1. See also Basauri, *Monografía de los tarahumaras*, 33–34.

72. Basauri, *Monografía de los tarahumaras*, 13–15, 42–43.

73. Schwatka, *In the Land of the Cave and Cliff Dwellers*, 242–45.

74. Basauri, *Monografía de los tarahumaras*, 64–65.

75. A typical example can be found in the Decreto Presidencial for El Nogal y Anexos, 16 April 1940, AGN, SARH/PF, caja 152, exp. 543.

76. Molinari Medina, “Protestantismo y explotación forestal en la Tarahumara,” 38–40.

77. Antonio H. Sosa, “Exploración forestal en la Alta Sierra Tarahumara del Estado de Chihuahua,” *Boletín del Departamento de Caza y Pesca* 3.9 (December

1937–February 1938): 185–235, p. 234. Foresters were still complaining about goats three decades later: see Luis Espejel D., “Plan Provisional de Explotación” (Bocoyna), 20 April 1967, AGN, SARH/PF, caja 192, exp. 23855, leg. 2.

78. “En fin deseamos darle ser a este Pueblo que los indígenas se nivelen con los blancos y sean al fin buenos Ciudadanos y útiles a su Patria.” Transcription of Comisariado Ejidal de Guachochi to Productor Comunidades Indígenas, n.d. (ca. June 1937), AGN, SARH/PF, caja 190, exp. 23605, leg. 1. Indigenous community leaders also expressed interest in forestry projects a few years later, during the 1939 Primer Congreso de la Raza Tarahumara: see report of Prof. Rafael Castro, 7 June 1939, AGN, SARH/PF, caja 190, exp. 23605, leg. 1.

79. Benítez, *Los indios de México*, 107–9; Juan F. Treviño to Departamento Forestal, 8 September 1937, and Juan F. Treviño to Jefe de la Guardia Forestal en San Juanito, 29 November 1939, AGN, SARH/PF, caja 190, exp. 23605, leg. 1.

80. The original mill had a capacity of 500,000 board feet per day, whereas the new one had a capacity of 150,000. Padilla Sánchez, “Estudio forestal del Estado de Chihuahua,” 49–50, 73. The company owned 1,141,641 hectares outright and leased another 300,000 from the San José Babícora hacienda; half a million hectares were classified as forest. See Daniel F. Galicia, “Plan de Explotación,” 24 September 1928, AGN, SARH/PF, caja 1573 (antes Chihuahua 2–4), exp. 2/402, leg. 2.

81. The microclimate depended on altitude: 1,500–2,000 meters had oak, Mexican piñon pine (*Pinus cembroides*), sugar pine (pinabete or *P. lambertiana*); 2,000–2,250 meters had ponderosa pine (*P. ponderosa*) and Jeffrey pine (pino negro or *P. jeffreyi*); 2,250–2,500 meters had Chihuahua pine (*P. leiophylla* var. *chihuahuana*), bristlecone pine (*P. aristada*), southwestern white pine (*P. strobiformis*); 2,500–3,000 meters had Chihuahua pine, Douglas firs (*Pseudotsuga*), and others. Daniel F. Galicia, “Plan de Explotación,” 24 September 1928, AGN, SARH/PF, caja 1573 (antes Chihuahua 2–4), exp. 2/402, leg. 2.

82. Daniel F. Galicia, “Plan de Explotación,” 24 September 1928, AGN, SARH/PF, caja 1573 (antes Chihuahua 2–4), exp. 2/402, leg. 2. On the taxes, see Daniel F. Galicia and Adolfo E. Galicia, “Proyecto de Ordenación,” July, AGN, SARH/PF, caja 1573 (antes Chihuahua 2–4), exp. 2/402, leg. 2.

83. Memorandum, 18 July 1928, JHM, box 8, fol. 2.

84. Padilla Sánchez, “Estudio forestal del Estado de Chihuahua,” 74–75; Parra Orozco, *Madera*, 62.

85. Padilla Sánchez, “Estudio forestal del Estado de Chihuahua,” 40.

86. Transcription of Departamento de Bosques to Compañía Maderera y Manufacturera, S.A., 7 July 1932, AGN, SARH/PF, caja 1573 (antes Chihuahua 2–4), exp. 2/402, leg. 3; transcription of Procuraduría de Comunidades Indígenas to Departamento de Asuntos Indígenas, 13 December 1939, caja 1574 (antes Chihuahua 2), exp. 2/402, leg. 7, 1939.

87. Raul Vargas, "Proyecto de Explotación," June 1944, AGN, SARH/PF, caja 195, exp. 29942.

88. "End of an Empire," *Time*, 7 September 1953. On Socorro Rivera and Babicora, see Palomares Peña, *Propietarios norteamericanos y reforma agraria en Chihuahua*, 124–29.

89. The ejidos of Pichachí, Arisiachi, Tomachi, Guadalupe, and Bocoyna received a paltry 12,295 hectares. Palomares Peña, *Propietarios norteamericanos y reforma agraria en Chihuahua*, 26–27.

90. In addition to Antonio Guerrero, the members of the group that became Maderas de Chihuahua, S.A., included Alvaro Guerrero García, José Amézquita de los Pinales, Eduardo Guerrero Peralta, Simón Ventura Neri, Adolfo Trespalacios, Greagorio Castañeda V., Jacobo L. Castro, Eugenio Caballero, J. J. Gil Sandoval, Fidel Toledo Gómez, Felipe Naveda Rosario, Mario Velazquez V., Gregorio Ponce, and Carlos Alvarez Q. See Emilio Flores Calderón, "Proyecto de Ordenación for Reserva Forestal Nacional Papigochic," 28 February 1945, AGN, SARH/PF, caja 202, exp. 34270, leg. 4. On Guerrero's seizure of the Ojo Caliente hacienda, see Wasserman, *Persistent Oligarchs*, 114. On his purchase of the box-making plant, see Parra Orozco, *Madera*, 62. As we shall see in chapter 4, Antonio Guerrero sold his company in the mid-1950s to Eloy S. Vallina Jr. and Carlos Trouyet, the founders of Grupo Chihuahua, the parent company of the huge forestry concern Bosques de Chihuahua, S.A., which became one of northern Mexico's largest corporations.

91. See Flores Calderón, "Proyecto . . .," 23 March 1944, AGN, SARH/PF, caja 202, exp. 34270, leg. 4; and Agencia General Forestal de Chihuahua to Compañía Maderas de Chihuahua, 20 September 1950, AGN, SARH/PF, caja 202, exp. 34270, leg. 5.

92. Benjamín González et al. to Lázaro Cárdenas, 13 July 1936, AGN, SARH/PF, caja 192, exp. 23855, leg. 1. See also the BNCE's memorandum of 17 August 1936 memorandum, in the same file.

93. Abraham González and Ignacio Carrasco to Director de Organización Ejidal, 27 October 1943; and Luis Espejel D., "Plan Provisional de Explotación," 12 November 1943, AGN, SARH/PF, caja 192, exp. 23855, leg. 1.

94. Abraham González and Ignacio Carrasco to Director de Organización Ejidal, 27 October 1943; and Luis Espejel D., "Plan Provisional de Explotación," 12 November 1943, AGN, SARH/PF, caja 192, exp. 23855, leg. 1.

95. On "grandfathering" existing producers cooperatives, see Waldemar Díaz, "Plan de explotación," 3 October 1947, AGN, SARH/PF, caja 896, exp. 36119, leg. 2. On the 1949 forestry code, see chapter 4 in this volume.

96. Instituto Nacional de Investigación Forestal en México, *50 años de investigación forestal en México*, 9–10.

97. Miguel Ángel de Quevedo (D.F.) to Manuel Ávila Camacho, 19 April 1944, AGN, PR, MAC, 501.1/79.

98. Simonian, *Defending the Land of the Jaguar*, 107–8.

99. *El Nacional*, 18 January 1938.

100. “Informe,” *Boletín del Departamento Forestal y de Caza y Pesca* 3.7 (April–August 1937): 90–91.

101. According to one estimate, ejidos produced a mere 2 percent of the nation’s commercial output in 1936, the only year for which such data are available. On the other hand, it is likely that this figure does not include the railroad ties, electrical poles, and other productions fashioned by rural communities and then sold to sawmills and lumber company. See *Excelsior*, 25 December 1936.

102. Miguel Ángel de Quevedo, “Anteproyecto del plan sexenal para el periodo 1941–1946 . . .,” *Boletín del Departamento Forestal y de Caza y Pesca* 4.14 (March–May 1939): 1–18, p. 1.

103. “Informe mensual,” *Boletín del Departamento Forestal y de Caza y Pesca* 4.13 (December 1938–February 1939): 1–12, p. 2. For an example of a contratista who had never managed to control his largely indigenous workforce, see Antonio Alarcón, “Informe de paso de anualidad,” 12 August 1947, AGN, SARH/PF, caja 192, exp. 23855, leg. 1.

104. The only other community in the highlands with such an arrangement was in Heredia, but that one never got off the ground. See Roberto Barrios to Dirección General Forestal y de Caza, 23 January 1948, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3.

105. Alcocer Patiño, *Un siglo en el bosque*, 78.

106. Emilio Flores Calderón, “Plan Provisional de explotación,” 23 March 1944, and Guillermo Pischansky Miguel to Agente General de la Secretaría de Agricultura, 8 December 1944, AGN, SARH/PF, caja 196, exp. 29882, leg. 1.

107. Transcription of letter from Confederación Nacional Campesina to Dirección General Forestal y de la Caza, 4 June 1947, AGN, SARH/PF, caja 202, exp. 34270, leg. 4.

108. Padilla Sánchez, “Estudio forestal de Estado de Chihuahua,” 40.

4. INDUSTRIAL FORESTS, 1942–1958

1. I explore the concept of regimented empowerment in *Becoming Campesinos*, 226–29.

2. Data from Walsh Sanderson, *Land Reform in Mexico*, app. E, 164–65.

3. For an overview, see Babb, *Managing Mexico*, 75–87.

4. For an overview, see Hewitt de Alcántara, *La modernización de la agricultura mexicana*.

5. This is the evocative formulation of Tsing, *Friction*, 21.
6. Examples include Alemán Valdés, *Un México mejor*, 3:180–85; and Adolfo Ruiz Cortines, “Se proyecta la planificación de la industria forestal del país,” *El Popular*, 3 May 1957.
7. Víctor M. Arreola to Secretaría de Agricultura y Ganadería, 9 May 1955, AGN, SARH/PF, caja 245, exp. 54603, leg. 1, part I.
8. See the series of articles in *Excelsior* instigated by the journalist Rodrigo del Llano’s call for nationalization on 6 September 1958. Del Llano was responding in part to a series of articles that the former forestry secretary Enrique Beltrán had published beginning on 1 September 1958 in *El Universal*, the first of which said it all with the title “El desastre forestal.”
9. Benítez, *Los indios de México*, 80.
10. Felipe Cuara Echeverría to Departamento Forestal, 2 September 1947, AGN, SARH/PF, caja 745, exp. 1938, leg. 2. The idea continued to have purchase among rural people, at least in some instances, until well into the 1970s. See Ejido Sorobuena (Chihuahua) to Cuauhtémoc Cárdenas, 31 May 1978, AGN, SARH/PF, caja 161, exp. 2958, leg. 11.
11. Miguel Ángel de Quevedo, “Anteproyecto del plan sexenal para el periodo 1941–1946 . . .,” *Boletín del Departamento Forestal y de Caza y Pesca* 4:14 (March–May 1939): 1–18, pp. 4–9.
12. Ávila Camacho, “Convocatoria,” 3–4.
13. Vázquez, “Los actos depredatorios del hombre en la conservación forestal,” 60, 64.
14. Vázquez, “Los actos depredatorios del hombre en la conservación forestal,” 67.
15. Fifty-one of the convention’s 179 global recommendations dealt with questions of commercial development. See *Memoria de la Primera Convención Nacional Forestal*, 29–32.
16. González de la Cadena, “Sugestiones para una mejor organización de los núcleos campesinos,” 164.
17. See Dictamen Pericial by Ings. Juan Manuel González, Ricardo Tecanhuey M., Miguel Esquivias O., and Emilio Flores Calderón, 15 April 1957, AGN, SARH/PF, caja 246, exp. 54603, leg. 3.
18. Mexico, *Nueva ley forestal y reglamento* (1942), 5–6. On industrialists’ involvement in writing the new law, see Salvia Spratte, *Los laberintos de Loreto y Peña Pobre*, 72.
19. Hinojosa Ortiz, *Los bosques de México*, 91–97.
20. Mexico, *Nueva ley forestal y reglamento* (1951), 7.
21. Mexico, *Nueva ley forestal y reglamento* (1942), 3.
22. *Novedades*, 9 August 1950; *El Universal*, 16 June 1951. A list of presidential

orders quashing the cooperatives can be found in Calva Téllez, *Economía política de la explotación forestal en México*, 418–35.

23. Mexico, *Nueva ley forestal y reglamento* (1942), 3, 6.

24. Mexico, *Nueva ley forestal y reglamento* (1942), 2, 8; Mexico, *Nueva ley forestal y reglamento* (1951), 11–12, 59–60.

25. In addition, there were nineteen smaller vedas established by the forest service itself, including eleven in Mexico state alone. See Secretaría de Economía, *Anuario estadístico . . . 1957*, 815, tables 212 and 213; and Barrena, “Zonas Forestales Vedadas.”

26. *El Universal*, 5 December 1939. The ban had actually been declared in 1937, but the forest service did not try to enforce it until three years later.

27. Nicolás J. Banda to Manuel Ávila Camacho, Mexico City, 5 November 1944, AGN, PR, MAC, 501.1/5; see also Gerez Fernández, “¿Qué pasa en el Cofre de Perote?” 152.

28. *El Universal*, 13 March 1940. See also *El Nacional*, 12 March 1940. González was Secretario de Acción Campesina de la Federación de Trabajadores del Estado de Veracruz.

29. *Excelsior*, 25 April 1959; Benito Coquet to Director General de Información, Mexico, 15 July 1946, AGN, PR, MAC, 545.22/573.

30. “Índice general de disposiciones legislativas sobre agricultura, ganadería y recursos forestales y de caza,” unpublished manuscript (1962), available in the library of the Universidad Autónoma de Chapingo. Statewide bans were declared in Aguascalientes (1940); Mexico State, Puebla, and the Federal District (1947); Jalisco (1949); Michoacán and Querétaro (1950); Colima and Guanajuato (1951); and Veracruz (1952). Partial moratoria were declared for most forested districts of Tlaxcala (1940); Hidalgo (1947); Chihuahua, Durango, Sinaloa, Sonora, and Tamaulipas (1949); and Nayarit (1951).

31. Ferreyra Soriano, “Las vedas forestales en México y sus consecuencias,” 52.

32. For an analysis of the 1930s-era moratoria, see Barrena, “Zonas Forestales Vedadas.”

33. For careful analyses, see Report of Guarda Forestal Sexta Luis Sánchez Sandoval, 19 July 1940, AGN, SARH/PF, caja 822, exp. 19937, leg. 1; and Report of Jesús Zárate Hernández, 5 September 1977, AGN, SARH/PF, caja 799, exp. 2–6625.

34. Nacional Financiera, S.A., “Proyecto Celulosa de Michoacán,” unpublished typescript (1958), AGN, SARH/PF, caja 806; Merino Pérez, *Conservación o deterioro*, 45–46.

35. In addition to the discussions below, see Klooster, “Conflict in the Commons,” 129–35.

36. *Excelsior*, 30 October 1957; *Memoria de la Primera Convención Nacional Forestal*, 146.

37. *Boletín Forestal*, “Visita del Sr. Subsecretario . . .,” 15 May 1951, 15.
38. *Excelsior*, 16 June 1946. For specific examples of companies’ efforts to win exemptions, see Salvia Spratte, *Los laberintos de Loreto y Peña Pobre*, 71–75, on Loreto y Peña Pobre; and on the Dos Estrellas Mine, see the voluminous correspondence between managers and the forest service during the 1940s, in AGN, SARH/PF, caja 902, exp. 37555, leg. 1, discussed in greater detail below.
39. Alcocer Patiño, *Un siglo en el bosque*, 21; *Excelsior*, 11 May 1957.
40. Mexico, *Nueva ley forestal y reglamento* (1942), 3; Roberto Barrena, “Unidades de Ordenación Forestal,” *México Forestal* 35.4 (June–August 1961): 11–15, p. 12.
41. Dictamen Pericial, 15 April 1957, AGN, SARH/PF, caja 246, exp. 54603, leg. 3; Alberto Terrones Benítez, in *El Universal*, 19 June 1951.
42. Mexico, *Ley forestal y su reglamento* (1942), 12, 19–20.
43. In addition to appendix 2 of this volume, see also Felipe Birgos Martínez, “Proyecto General de Ordenación Forestal: Unidad Industrial de Explotación Forestal de las Fábricas de Papel San Rafael y Anexas, S.A.,” unpublished typescript (1965), 3, COMFORMICH; Chambille, *Atenquique*, 35–39.
44. Salvia Spratte, *Los laberintos de Loreto y Peña Pobre*, 69–70; Rodríguez Caballero et al., *Algunas prácticas de ordenación de montes*, 13; Raufflet, “Institutional Change and Forest Management,” 6–7.
45. On Atenquique’s role in the MMOM, see Rodríguez Caballero et al., *Algunas prácticas de ordenación de montes*; and Ing. Tirso Gutiérrez Jarquín, “Proyecto General de Ordenación Forestal, Unidad Ejidal de Ordenación Forestal “Melchor Ocampo,”” typescript (Ocampo, Michoacán: n.p., 1969), 243–45, COMFORMICH.
46. Broadleaf species tend to reproduce more rapidly after logging in Mexico, and loggers usually cut more pines than oaks to begin with. In either case, this led to high grading. This was not usually a serious problem, however, since so few loggers actually followed the guidelines. See Bray and Merino-Pérez, *La experiencia de las comunidades forestales en México*, 157, 222–23; Snook and Negreros, “Effects of Mexico’s Selective Cutting System”; and *El Nacional*, 27 February 1963.
47. *El Universal*, 31 January 1962. See also Union Nacional de Resineros to Dámaso Cárdenas, 25 July 1951, AGN, SARH/PF, caja 6, exp. 3.
48. On the establishment of UIEFs, see appendix 2 of this volume. See also Aguilar Espinoza, “Organización forestal en México,” 36.
49. *Excelsior*, 11 June 1956 and 9 February 1957.
50. Salvia Spratte, *Los laberintos de Loreto y Peña Pobre*, 114–16; *Excelsior*, 3 November 1962.
51. Alcocer’s Arizona partner was Warren M. Tenney. For more on Alcocer, see chapter 5 of this volume, as well as his autobiography, *Un siglo en el bosque*, esp. 101.
52. Ing. Rodolfo Rodríguez Caballero, “Proyecto General de Ordenación Forestal, Unidad de Ordenación Forestal ‘Industrial Río Verde,’” 9 August 1968, AGN,

SARH/PF, caja 158; Enríquez Hernández, “Análisis geoeconómico del sistema regional de la Sierra Tarahumara,” 173–78. The Grupo Parral companies included Duraplay de Parral S.A., Industrial Río Verde S.A. de R.L., Industrial González Ugarte S.A. (IGUSA), and Empaques Ugarte S.A.

53. Enríquez Hernández, “Análisis geoeconómico del sistema regional de la Sierra Tarahumara,” 57–60, 135, 169–71; Carlos Trouyet to Secretaría de Agricultura y Ganadería, 18 April 1952, AGN, SARH/PF, caja 245, exp. 54603, leg. 1, part I; and “Decreto Presidencial,” *Diario Oficial*, 14 August 1952. On Vallina, see Wasserman, *Persistent Oligarchs*, 111–12. For allegations of Alemán’s pecuniary involvement, see Antonio P. Rodríguez to Lic. Noel Alrich Solano, 20 July 1953, AGN, SARH/PF, caja 245, exp. 54603, leg. 1, part I.

54. Untitled list of logging operations in Chihuahua, 1948–51, ENAH, CCIT, 37.56.6.

55. Gómez González, *Rarámuri*, 113–18.

56. Memorandum of Francisco M. Plancarte et al. to Governor of Chihuahua, 22 October 1955, ENAH, CCIT, 37.57.21, doc. 1. See also Gonzalo Aguirre Beltrán to Alfonso Caso, 18 June 1952, ENAH, CCIT, 47.3.5, doc. 1.

57. Meza Flores, *San José Baqueachi*, 32.

58. Acta, 24 June 1960, ENAH, CCIT, 15.25.9, doc. 8.

59. The other protected zones were protective forest zones created on the San Elías hacienda in Bocoyna in 1933, around Chihuahua City in 1936, and around the city of Aldama in 1940, as well as a small reserve made in Campo Verde, Madero. See Ferreyra Soliano, “Las vedas forestales en México y sus consecuencias,” 28–29.

60. “Editorial,” *Boletín Forestal* (Órgano de la Unión de Madereros de Chihuahua) 1.2 (November 1948): 1–2, p. 2.

61. *Boletín Forestal* 3.31 (May 1951): 14–17, pp. 15, 14. The union itself had been formed in 1942; among its founding members were Antonio Guerrero Peralta, Mario González Múzquiz, Eduardo Ortiz, Ing. Raúl Chávez, and Fernando Alcocer Patiño (who erroneously states it was founded in 1946). See Alcocer Patiño, *Un siglo en el bosque*, 17.

62. Plancarte, *El problema indígena tarahumara*, 68.

63. See for example the report of Francisco M. Plancarte, n.d. (ca. September 1955), ENAH, CCIT, 37.57.21, doc. 3.

64. *Novedades*, 19 August 1954; and Jordán, *Crónica de un país bárbaro*, 407–13.

65. Benítez, *Los indios de México*, 1:138; *El Popular*, 29 January 1958; and Madereras de Chihuahua to Enrique Beltrán, 3 July 1964, APEB, caja 18, exp. 31.

66. Dictámen of Vicente H. Cedillo, 7 May 1962, AGN, SARH/PF, caja 1578 (formerly Chihuahua 1–3), exp. 2/28, leg. 7; Dictámen of Luis Espejel D., 28 March 1964, AGN, SARH/PF, caja 1583 (formerly Chihuahua 4–1), exp. 2/988, leg. 8.

67. *El Nacional*, June 9, 1957.

68. The other communities were Panalachi, Pichachi, and Maguayachi. See Domingo R. Vázquez to León García, 19 January 1961, AGN, SARH/PF, caja 152, exp. 3.
69. Benítez, *Los indios de México*, 1:138; *El Popular* (Mexico City), 29 January 1958, 125.
70. Domingo R. Vázquez to León García, 19 January 1961, AGN, SARH/PF, caja 152, exp. 3.
71. Benítez, *Los indios de México*, 1:124–38.
72. This was the case in San Rafael. See Agente General to Director General de Supervisión y Vigilancia, 2 February 1959, AGN, SARH/PF, caja 153, exp. “Protección Forestal” no. 1.
73. *El Popular*, 29 January 1958.
74. *Excelsior*, 30 November 1959.
75. Agente General to Eduardo Uribe, 16 August 1961, AGN, SARH/PF, caja 153, exp. “Protección Forestal” no. 1.
76. “Proyecto de Ordenación para la UIEF B.C.: Serie de Explotación El Largo,” December 1954, and “1949 Anexo,” AGN, SARH/PF, caja 255.
77. Report of V. M. Arreola, 28 July 1953, and collective contract, 1953, AGN, SARH/PF, caja 245, exp. 54603, leg. 1, part I.
78. “Proyecto de Ordenación para la UIEF B.C.: Serie de Explotación El Largo,” December 1954, and “1949 Anexo,” AGN, SARH/PF, caja 255.
79. Report of Carlos Treviño Saldaña, 15 December 1952, AGN, SARH/PF, caja 245, exp. 54603, leg. 1, part I.
80. Report of Emilio Flores Calderón, 15 July 1956, AGN, SARH/PF, caja 246, exp. 54603, leg. 2; Herminio Aceves Ruiz, “Acta de Inspección,” 8 July 1959, AGN, SARH/PF, caja 247, exp. 54603, leg. 6.
81. Sindicato de Trabajadores Madereros de Chihuahua to Pres Ruiz Cortínez [sic], 28 July 1952, AGN, SARH/PF, caja 245, exp. 54603, leg. 1, part I.
82. “Informe Bimestral,” 18 June 1956, AGN, SARH/PF, caja 246, exp. 54603, leg. 2; and “Informe Bimestral,” 2 February 1958, AGN, SARH/PF, caja 246, exp. 54603, leg. 4.
83. “Informes bimestrales,” 15 January 1956 and 15 March 1957, AGN, SARH/PF, caja 246, exp. 54603, leg. 3.
84. Report of Tito Herca de la O., 2 April 1957, AGN, SARH/PF, caja 246, exp. 54603, leg. 3.
85. Cayetano Zamarrón et al. to Adolfo Ruiz Cortines, 19 December 1956, AGN, SARH/PF, caja 246, exp. 54603, leg. 3.
86. Informe of Agustín Galindo Alfonso and Víctor V. Lara Pelayo, 23 March 1957, AGN, SARH/PF, caja 246, exp. 54603, leg. 3.
87. Emilio Flores Calderón to Comisariado, 22 July 1957, AGN, SARH/PF, caja 246, exp. 54603, leg. 4.

88. Emilio Flores Calderón to Director Forestal y de la Caza, 23 January 1958, AGN, SARH/PF, caja 246, exp. 54603, leg. 4.
89. See the eyewitness accounts in Lázaro Jiménez, *Paricutín a cincuenta años de su nacimiento*, 20–22.
90. Foshag and González, “Birth and Development of Paricutín Volcano,” 375–85.
91. Foshag and González, “Birth and Development of Paricutín Volcano,” 396.
92. Scarth, *Vulcan’s Fury*, 203–7; Rees, “Effects of Parícutin [sic] Volcano on Landforms, Vegetation, and Human Occupancy,” 277–79.
93. Report of Manuel Fernández Anaya, 27 April 1936, AGN, SARH/PF, caja 745, exp. 1839, leg. 1; AHPEM, *Hijuelas*, libro 20, pp. 1–119. These were Rafael Ortiz, José María Méndez Orozco, Luis Méndez Orozco, Heliodoro Méndez, and Reynaldo Vargas, the first three of whom had also formed an alliance with the regional agent of the Banco Nacional de Crédito Agrícola, Rafael Hinojosa, who had some family in San Juan Parangaricutiro.
94. See Report of Luis Espejel, 1 June 1937, AGN, SARH/PF, caja 745, exp. 1839, leg. 1.
95. Report of Alfredo Ortiz Barragán, 28 October 1937; Report of C. Martínez, March 1937; dasonometric study by Waldemar Díaz M., 10 May 1937, all in AGN, SARH/PF, caja 745, exp. 1839, leg. 1.
96. Rafael Echeverría and Vicente Aguilar to Presidente de la República, 19 October 1939, AGN, SARH/PF, caja 745, exp. 1839, leg. 1.
97. Rees, “Effects,” 257–58; Lázaro Jiménez, *Paricutín a cincuenta años de su nacimiento*, 52–53; Report of Francisco Valdés Benítez, 18 March 1967, AGN, SARH/PF, caja 746, exp. 1839, leg. 4; Report of José García Martínez, 10 January 1944, AGN, SARH/PF, caja 717, exp. 1545.
98. Ortiz was one of the community’s leading residents. He presided over a network of tree tappers and had developed a close relation with the BNCE agent in Uruapan. Vaca was a well-known Michoacán politician with close ties to the Cárdenas family. See the “recibos oficiles” in AHPEM, *Bosques*, caja 4, exp. 6; and *El Universal*, 21 August 1945.
99. Dasonometric study [of Cherán] by Waldemar Díaz, 8 January 1948, AGN, SARH/PF, caja 880, exp. 32298, leg. 3; Arias Portillo, “La región devastada por el volcán de Paricutín.”
100. See, for example, Miguel Antolino Anguiano to Carlos Navarro, 13 August 1948, AGN, SARH/PF, caja 880, exp. 32298, leg. 3.
101. Management Plan by Waldemar Díaz, 26 October 1956, AGN, SARH/PF, caja 760, exp. 2558.
102. Contract between Parangaricutiro and Eufemio Ortiz Chávez, 10 November 1952, AGN, SARH/PF, caja 745, exp. 1839, leg. 3; and Contract between San Lázaro Uruapan and Luis Méndez Orozco, 29 May 1952, caja 753, exp. 2333, leg. 1.
103. These projects employed around 1,500 people, though as I suggest in

chapter 5, most of these people used tapping as part of a broader subsistence strategy. The Resinera Uruapan also ended up hiring the most experienced federal forester in the Uruapan area, Waldemar Díaz, sometime in the 1950s; it also appears that the timber magnate Paulo Doddoli may have been a silent partner. See the files marked “Relativa Resinera Uruapan,” AGN, SARH/PF, caja 939, exp. 48891, legs. 1 and 2. The primary family companies were owned by Pomposo Solís and his heirs in the region around Ciudad Hidalgo, Rafael Vaca Solorio in the Parangaricutiro area, and, in Uruapan, the eponymous Lluch y Llanderal company and Industrial Uruapan, owned by Rafael Ortiz.

104. Klein, *The Shock Doctrine*, esp. 390–407.

105. *El Universal*, 21 August 1945.

106. Vecinos of Cherán to Secretaría de Agricultura, n.d. [ca. January 1941]; María Estefanía García de Chávez, María Juventina Muñoz, et al., 11 March 1942; and José García Márquez, “Revisión,” 14 June 1948, all in AGN, SARH/PF, caja 896, exp. 36119, leg. 1; Report of Alfredo Ortiz Barragán, 22 September 1949, AGN, SARH/PF, caja 896, exp. 36119, leg. 2.

107. Examples are too numerous to list, but a representative case is Charapan, discussed in Pablo Velásquez Gallardo to Director General Forestal, 14 November 1946, AGN, SARH/PF, caja 880, exp. 32298, leg. 1. Another case is the multiyear conflict between Tanaquillo and its dependent community of Rancho Huecito, as described in Waldemar Díaz, “Plan de Explotación,” 10 June 1958, AGN, SARH/PF, caja 823, exp. 19937, leg. 2.

108. Vecinos of Acachuén to Secretaría de Agricultura, 23 January 1942, and Porfirio Vallejo et al. to Director General Forestal y de Caza, 15 July 1946, AGN, SARH/PF, caja 916, exp. 40678, leg. 1.

109. Report of Delegado of Secretaría de Agricultura, 8 August 1944, and Waldemar Díaz, “Plan de Explotación,” 25 June 1955, AGN, SARH/PF, caja 921, exp. 41636, leg. 1.

110. Bello Méndez and Carreón Reyes, “La industria resinera en el Estado de Michoacán,” 68; Severino Herrera Bazán, “Informe de inspección,” 28 August 1954, AGN, SARH/PF, caja 823, exp. 19937, leg. 2.

111. See the cases of Charapan, Tanaquillo, and Capácuaro, in Waldemar Díaz, “Plan de Explotación,” 15 December 1958, AGN, SARH/PF, caja 880, exp. 32298, leg. 2; Waldemar Díaz, “Informe,” 29 August 1946, AGN, SARH/PF, caja 823, exp. 19937, leg. 2; Report of Fernando Romero Quintana, 22 April 1941, AGN, SARH/PF, caja Michoacán 2–3, exp. 212, leg. 2; Gaspar González and Angel Aceves Paredo to Jesús Ceja Banajas, 4 October 1941, AGN, SARH/PF, caja Michoacán 2–3, exp. 212, leg. 2; and Humberto Ortega C, 27 November 1941, AGN, SARH/PF, caja Michoacán 2–3, exp. 212, leg. 2.

112. For a complete listing of UIEFs, see appendix 1 of this volume.

113. On San José, see Régulo García M. and David Bello, “Proyecto general de ordenación,” tomo I, 1964, AGN, SARH/PF, caja 768, exp. 2393.

114. Datos que rinde la Cooperativa Minera, 1946, AGN, SARH/PF, caja 902, exp. 37555, leg. 1.

115. “Decreto Presidencial,” *Diario Oficial*, 18 December 1952; Report of Antonio Martínez Báez, 31 May 1952, AGN, SARH/PF, caja 902, exp. 37555, leg. 1.

116. Luis D. Galindo, “Estudio Técnico Forestal,” 12 December 1953, and complaints among others by Asociación de Mineros en Pequeño, 9 October 1953, AGN, SARH/PF, caja 902, exp. 37555, leg. 2.

117. The most comprehensive coverage of this announcement is in *El Popular*, 3 May 1957.

118. Ismael Arteaga et al. to CNC, 23 July 1957, AGN, SARH/PF, caja 190, exp. 23605, leg. 1; León Soto Campa et al. to Adolfo Ruiz Cortines, 16 May 1957, AGN, SARH/PF, caja 903, exp. 37555, leg. 5.

119. Acta de Infracción by Erasmo Gutiérrez Ricaño, 2 May 1954, AGN, SARH/PF, caja 153, exp. “Protección Forestal No. 1.”

5. THE ECOLOGY OF DEVELOPMENT, 1952–1972

1. Data based on Garza, *La urbanización de México en el siglo 20*, tables A1, A2, and A3.

2. For an overview of public health, see Moreno Cueto, *Sociología histórica de las instituciones de salud en México*. On water and parks, see, respectively, Aboites Aguilar, “The Illusion of National Power”; and Wakild, “Parables of Chapultepec.”

3. González Casanova, *La democracia en México y la banca internacional*.

4. Barkin and King, *Regional Economic Development*, 1–4.

5. For example, the 1960 forestry law gave state-level “forest commissions” the final word on how resources would be used. See chapter 1 of “Ley Forestal,” *Diario Oficial* 238.13 (16 January 1960): 7–17.

6. I am not the first to note the utopian quality of development paradigms, particularly in the context of finite natural resources. Consider, for example, David Blackbourn’s discussion of hydroelectricity in *The Conquest of Nature*, 217–28, or James C. Scott’s discussion of utopian social engineering in *Seeing Like a State*, chap. 1.

7. Gamio, *Forjando patria*, 183.

8. On Gamio and the development of official indigenismo between 1916 and 1940, see Dawson, *Indian and Nation*, 6–15. The Departamento de Asuntos Indígenas briefly considered using pine trees to produce turpentine in 1944, though nothing came of that project. Report of Isidro Candia, 20 January 1944, AGN, SARH/PF, caja 233, exp. 43807.

9. Olivé Negrete, *Antropología mexicana*, 224–27.
10. Olivé Negrete, *Antropología mexicana*, 227.
11. Lewis, “Mexico’s National Indigenist Institute and the Negotiation of Applied Anthropology in Highland Chiapas.”
12. Cited in Olivé Negrete, *Antropología Mexicana*, 226; Gonzalo Aguirre Beltrán to Alfonso Caso, 18 June 1952, ENAH, CCIT, 47.3.5, doc. 1.
13. Barkin and King, *Regional Economic Development*, 91–92.
14. Cited in Poleman, *The Papaloapan Project*, 28.
15. Tamayo et al., *Recursos naturales de la cuenca del Papaloapan*, 46–51; Poleman, *The Papaloapan Project*, 46–54.
16. Poleman, *The Papaloapan Project*, 115.
17. The commission is the subject of a doctoral dissertation in progress by Diana Schwartz, at the University of Chicago.
18. Barkin and King, *Regional Economic Development*, 102–19.
19. Cárdenas, *Apuntes*, 2:238; Barrett, *La cuenca del Tepalcatepec*, 2:93–94. The three smaller dams were the Piedras Blancas, the Jicalan, and the Cajones.
20. For example, see Cárdenas, *Apuntes*, 2:338, 571.
21. Barrett, *La cuenca del Tepalcatepec*, 2:83–143; Baker, “Salud Colectiva,” 56–91.
22. For local memories of Cárdenas, see interviews in Ramírez Heredia, *Lázaro Cárdenas en la Tierra Caliente*. For the alternative view, see Veladiaz, *El general sin memoria*, 146.
23. Calderón, “Lázaro Cárdenas del Río en la cuenca Tepalcatepec-Balsas”; interviews with José Chávez Ruiz and Roberto Salgado Terán, in Ramírez Heredia, *Lázaro Cárdenas en la Tierra Caliente*, 24 and 58, respectively.
24. Cited in Olivé Negrete, *Antropología Mexicana*, 226; Gonzalo Aguirre Beltrán to Alfonso Caso, 18 June 1952, ENAH, CCIT, 47.3.5, doc. 1.
25. Plancarte, *El problema indígena tarahumara*, 29–30; Cummings O’Hara, “Transforming the Sierra Tarahumara,” 195–200.
26. Romero Contreras and Castaños Montes, “Gonzalo Aguirre Beltrán.”
27. Gonzalo Aguirre Beltrán to Alfonso Caso, 18 June 1952, ENAH, CCIT, 47.3.5, doc. 1.
28. Gonzalo Aguirre Beltrán, untitled manuscript, ca. 1955, ENAH, CCIT, 36.55.7, doc. 1. This assessment echoes observations that Eric R. Wolf began to make around the same time, about the pivotal role of cultural brokers in so-called traditional communities. See Wolf, “Aspects of Group Relations in a Complex Society.”
29. Plancarte, *El problema indígena tarahumara*, 12.
30. Plancarte, *El problema indígena tarahumara*, 8.
31. Sariego, *El indigenismo en la Tarahumara*, 174.
32. Sariego, *El indigenismo en la Tarahumara*, 182–84.
33. Plancarte, *El problema indígena tarahumara*, 67. Emphasis in original.

34. Francisco M. Plancarte, n.d. (ca. September 1955), ENAH, CCIT, 37.57.21, doc. 3
35. *Diario Oficial*, 25 July 1957.
36. Map insert after p. 8 in Plancarte, *El problema indígena tarahumara*.
37. Agustín Romano D. to Arnaldo Gutiérrez Hernández, 10 July 1959, ENAH, CCIT, 40.65.3, doc. 10.
38. Francisco M. Plancarte, n.d. (ca. September 1955), ENAH, CCIT, 37.57.21, doc. 3.
39. Benítez, *Los indios de México*, 95.
40. Contracts of association were signed by Basiguare, Cabórachi, Choguita, Guaguachique, Norogachi, and Samachique. In addition, the CCIT had helped negotiate traditional lease agreements (in which timber companies paid a royalty for wood, but used their own crews to fell the timber and transport) with two other communities—Rocheáchi and Papajichi. The CCIT also oversaw the community-forestry program in Cusárare. Report of Agustín Romano, 10 July 1959, ENAH, CCIT, 40.65.3, doc 10. By 1960, Yoquivo had signed a contract of association as well. See Report of Armando Fuentes Flores, 26 November 1959, AGN, SARH/PF, caja 233, exp. 43807. On the Supreme Council's response, see VI Congreso Tarahumara, "Resoluciones," November 1960, ENAH, CCIT, 15.1.14.1.
41. "Síntesis Justificativa," n.d. (ca. 1962), ENAH, CCIT, 33.52.21a, doc. 1.
42. Leopoldo Yáñez et al. to Gov. Teófilo Borunda, 17 February 1960, ENAH, CCIT, 15.25.9, doc. 1.
43. Santiago Recalache et al. to Oficina de Quejas de la Presidencia de la República, 10 July 1960, ENAH, CCIT, 15.25.9, doc. 6.
44. Transcription of Compañía Maderera Río Septentrión to Departamento de Asuntos Agrarios y Colonización, 27 April 1960, ENAH, CCIT, 15.25.9, doc. 7.
45. These were Basihuare, Caborachi, Choguita, Cusárare, Guachochi, Guaguachique, Nararichi, Norogachi, Pahuichique, Papajichi, Rocheáchi, Samachique, Tecorichi, Tehuerichi, Tonachi, and Yoquivo. Aboréachi, Sehuérachi, and Tatahuichi also began production in 1968–1969, while Rocheáchi completed its project. Untitled reports, 18 November 1968, ENAH, CCIT, 5.9.12; and untitled reports, November 1969, ENAH, CCIT, 26.41.10, doc. 2.
46. Memorandum by Horacio Lira Esquivel, n.d. (ca. August 1967), ENAH, CCIT, 5.10.27b.
47. Confidential memo, 17 May 1960, ENAH, CCIT, 40.65.9a, doc. 5.
48. See, for example, Fernando Alcocer Patiño to Alfonso Caso, 28 July 1960, ENAH, CCIT, 15.25.9, doc. 4; or Horacio Lira Esquivel to Juan de Dios Pérez, 30 October 1967, ENAH, CCIT, 12.21.11.
49. Sariego, *El indigenismo en la Tarahumara*, 184.
50. Report of Maurilio Muñoz Basilio, 30 April 1966, ENAH, CCIT, 11.20.16, doc. 1.

51. Report of Gildardo González Ramos, 16 April 1964, ENAH, CCIT, 15.26.19, doc. 5.
52. Report of Maurilio Muñoz Basilio, 2 November 1959, ENAH, CCIT, 40.65.3, doc. 5; Report of Maurilio Muñoz Basilio, 9 February 1960, ENAH, CCIT, 40.65.9b, doc. 1.
53. See, for example, Ramón Valenzuela et al. to Adolfo Ruiz Cortines, 4 August 1958, AGN, SARH/PF, caja 261, exp. 18064, leg. 1.
54. Ismael Arteaga, Antonio García, and Librado P. Ronquillo to Confederación Nacional Campesina, 23 July 1957, AGN, SARH/PF, caja 190, exp. 23605, leg. 1. It is not clear what prompted this letter, but it may have reflected an effort to discredit Plancarte after the INI had sided with indigenous people in a land dispute in Guachochi.
55. See, for example, Reports of Roberto González, April and August 1962, ENAH, CCIT, 7.12.1, docs. 5 and 6; and Report of Horacio Lino Esquivel, 7 July 1969, ENAH, CCIT, 5.10.27b.
56. Agustín Romano to Alfonso Caso, 27 February 1959, ENAH, CCIT, 40.65.3, doc. 1.
57. Agustín Romano to Alfonso Caso, 27 February 1959, ENAH, CCIT, 40.65.3, doc. 1.
58. Romano, “El Centro Coordinador Indigenista de la Tarahumara,” 80. On the Rocheáchi clinic where the doctors Mejía and Rodríguez worked, see Francisco Javier Alvarez to Alfonso Caso, 2 July 1961, ENAH, CCIT, 38.59.15, doc. 1.
59. Report of Roberto González, September 1961, ENAH, CCIT, 7.12.1, doc. 1.
60. Lumholtz, *Unknown Mexico*, 1:136.
61. Oscar Flores Loza, Estudio Dasonómico, April 1956, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 4.
62. Oscar Flores Loza, Estudio Dasonómico, April 1956, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 4; Vatant, “Un ejido forestal de la alta Tarahumara,” 39–40.
63. Technically, the cooperative was refounded in 1945 as a Sociedad Local de Crédito Ejidal, though foresters continued to refer to it as a “cooperative” until well into the 1950s. See Memorandum by Miguel Esquivas, 11 August 1953, and Report of Roberto Barrios, 23 January 1948, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3.
64. Report of Silvestre Aguila, 10 March 1948, and Daniel Galicia, Telegram, 18 March 1948, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3.
65. Vatant, “Un ejido forestal de la alta Tarahumara,” 35–37.
66. Francisco Javier Alvarez to Roberto González, 29 April 1961, ENAH, CCIT, 36.55.8, doc. 1.
67. Report of Daniel F. Galicia, 20 February 1948, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3.
68. Heredia Alfredo Rascón et al. to Nazario Ortiz Garza, 8 September 1948,

AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3. On taxes, see Alfredo Navarro Cortina to Dirección General Forestal y de Caza, 6 June 1949, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3.

69. Roberto González Loya to Agustín Romano, 21 December 1961, ENAH, CCIT, 7.12.1, doc. 2. See also Roberto Barrios to Departamento Forestal y de la Caza, 9 March 1949, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3.

70. Comisariado Ejidal Cusárare to Alberto Flores Muñoz, 15 July 1953, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 3. Emphasis in the original.

71. Eleuterio Rodríguez to Agustín Romano, 19 December 1961, ENAH, CCIT, 27.44.13, doc. 1; Consejo de Vigilancia (Cusárare) to Presidente de la República, 3 March 1966, ENAH, CCIT, 5.8.10.

72. See, for example, Prof. Roberto González Loya, "Informe de labores," December 1961 and January 1962, ENAH, CCIT, 7.12.1, docs. 3 and 4.

73. Prof. Roberto González Loya, "Informe de labores," September 1961, ENAH, CCIT, 7.12.1, doc. 1.

74. Benítez, *Los indios de México*, 1:113–14.

75. "Análisis de la cuenta," 15 January 1966, ENAH, CCIT, 17.28.13.

76. Vatant, "Un ejido forestal," 60–63. See also Contract between Fernando Alcocer Patiño and Cusárare, 15 January 1964, ENAH, CCIT, 17.29.26, doc. 9; Report of Virgilio Bustillos Orpinel, 30 April 1965, ENAH, CCIT, 10.17.2, doc. 2.

77. Roberto González Loya, "Informe de labores," December 1961 and January 1962, ENAH, CCIT, 7.12.1, docs. 3 and 4; and Industrializadora de Desperdicios Forestales to Agustín Romanos, 22 March 1962, ENAH, CCIT, 12.22.18.

78. Comisariado Ejidal to Maurilio Muñoz, 23 December 1966, ENAH, CCIT, 17.29.26, doc. 1.

79. "Síntesis Justificativa," n.d. (ca. 1962), ENAH, CCIT, 33.52.21a, doc. 1.

80. Sánchez Díaz, *El suroeste de Michoacán*, 82. For a detailed analysis of this process, see Gledhill, *Cultura y desafío en Ostula*, 228–70. Population figures from Barrett, *La Cuenca de Tepalcatepec*, 2:12.

81. María de Lourdes Canul, "Aspectos socioeconómicos del area de influencia de la U.I.E.F. Michoacana de Occidente S. de R. L.," unpublished typescript (1972), AGN, SARH/PF, caja 971, exp. 54175, leg. 61, pp. 18, 20–24.

82. Gledhill, *Cultura y desafío en Ostula*, 166–69; Marín Guardado, "Etnicidad, territorio y cultura en la costa nahua de Michoacán."

83. Marco Buenrostro to León J. Castaños Martínez, 23 November 1979, AGN, SARH/PF, caja 971, exp. 54175, leg. 63.

84. Alarcón Cháires, *Flora, fauna y apropiación de la naturaleza en la región nahua de Michoacán*, 20–21.

85. Aguirre Beltrán, *Problemas de la población indígena de la Cuenca de Tepalcatepec*, 178–82.

86. Unidad Industrial de Explotación Forestal Michoacana del Occidente, S. de

R. L., “Proyecto General de Ordenación Forestal,” December 1959, COMFORMICH. For authorities’ nineteenth-century complaints, see AHPPEM, *Hijuelas*, libro 2, fojas 23–24V, 1892, reproduced in Gledhill, *Cultura y desafío en Ostula*, 243.

87. “Estudio Dasonómico,” 1951, AGN, SARH/PF, caja 973, exp. 54175; Roberto Mendoza Medina, “Memorandum,” 23 February 1962, AGN, SARH/PF, caja 956, exp. 54175, leg. 12.

88. Informe paso de anualidad from SAG Agencia Forestal Morelia, 20 August 1973, AGN, SARH/PF, caja 964, exp. 54175, leg. 45; Cochet, Léonard, and de Sirgy, *Paisajes agrarios de Michoacán*, 267.

89. Michoacana de Occidente, “Presupuesto,” 1963, AGN, SARH/PF, caja 958, exp. 54175, leg. 17; Informe of Lic Francisco Xavier Ovando H., 6 September 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61.

90. “Informe de la Inspección,” 1966, AGN, SARH/PF, caja 972, exp. 54175.

91. Informe of Lic Francisco Xavier Ovando H., 6 September 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61.

92. Roberto Mendoza Medina, “Programa de Reforestación 1962,” AGN, SARH/PF, caja 956, exp. 54175, leg. 12. Emphasis in original.

93. Report by Enrique Beltrán, n.d. (ca. 1961), APEB, caja 22, exp. 28.

94. “Ley Forestal,” *Diario Oficial de la Federación* 13 (16 January 1960): arts. 44–48; Beltrán, *La batalla forestal*, 95–101.

95. “Informe de labores,” February 1963, AGN, SARH/PF, caja 958, exp. 54175, leg. 15; for an example of the burning permits, see AGN, SARH/PF, caja 962, exp. 54175, leg. 30.

96. María de Lourdes Canul, “Aspectos socioeconómicos del area de influencia de U.I.E.F. Michoacana de Occidente S. de R. L.,” AGN, SARH/PF, caja 971, exp. 54175, leg. 61, pp. 66–68; Report of Guillermo Herrera Hernández, 3 October 1964, and Report of Artemio Heredia Ochoa, 4 October 1964, AGN, SARH/PF, caja 959, exp. 54175, leg. 19.

97. “Informe de labores,” March to April 1963, AGN, SARH/PF, caja 958, exp. 54175, leg. 16.

98. Roberto Mendoza Medina, “Informe de labores,” 10 December 1968, AGN, SARH/PF, caja 962, exp. 54175, leg. 30.

99. José M. Cárdenas to Presidente de la República, 27 October 1964, AGN, SARH/PF, caja 959, exp. 54175, leg. 19; *Diario Oficial*, 18 April 1959; Cochet, Léonard, and de Sirgy, *Paisajes agrarios de Michoacán*, 264.

100. Acta Notarial of José Navarrete Guizar, 13 November 1969, AGN, SARH/PF, caja 964, exp. 54175, leg. 34; “Acta” El Varaloso, 25 September 1964, AGN, SARH/PF, caja 959, exp. 54175, leg. 21. According to one study in the late 1970s, 56 percent of all men and 64 percent of ejidatarios between the ages of 18 and 30 temporarily migrated out of the area each year; most went to the United States. See María de Lourdes Canul, “Aspectos socioeconómicos del área de influencia de

U.I.E.F. Michoacana de Occidente S. de R. L.," AGN, SARH/PF, caja 971, exp. 54175, leg. 61, pp. 24–26, 88.

101. José M. Cárdenas to Presidente de la República, 27 October 1964, AGN, SARH/PF, caja 959, exp. 54175, leg. 19; *Amparo* of Michoacana de Occidente, 18 March 1964, AGN, SARH/PF, caja 959, exp. 54175, leg. 19.

102. Informe of Lic Francisco Xavier Ovando H., 6 September 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61.

103. Lázaro Cárdenas to José Antonio Arias, 15 June 1968, in Cárdenas, *Epistolario de Lázaro Cárdenas*, 266–67.

104. Cárdenas, *Apuntes*, 4:83.

105. Cárdenas, "Declaraciones del vocal ejecutivo . . .," 8 May 1968, in Cárdenas, *Palabras y documentos públicos de Lázaro Cárdenas*, 3:247–49.

106. Lázaro Cárdenas to Juan Gil Preciado, 12 April 1969, in Cárdenas, *Epistolario de Lázaro Cárdenas*, 271. Cárdenas continued to condemn La Michoacana even in the final days of his life. See *Apuntes*, 4:230–32.

107. Unidad Industrial de Explotación Forestal Michoacana del Occidente, S. de R. L., "Proyecto General de Ordenación Forestal," December 1959, COMFORMICH; María de Lourdes Canul, "Aspectos socioeconómicos del área de influencia de U.I.E.F. Michoacana de Occidente S. de R. L.," AGN, SARH/PF, caja 971, exp. 54175, leg. 61, p. 6.

108. Informe de Investigación of Cecilio Romero Romero, 19 November 1968, AGN, SARH/PF, caja 962, exp. 54175, leg. 30; Informe paso de anualidad, 20 August 1973, AGN, SARH/PF, caja 964, exp. 54175, leg. 45.

109. Unión de Pequeños Propietarios de Montes y Ganado to Secretaría de Agricultura, 11 September 1973, AGN, SARH/PF, caja 964, exp. 54175, leg. 45; and Unión de Pequeños Propietarios to Secretaría de Agricultura, 11 February 1975, AGN, SARH/PF, caja 966, exp. 54175, leg. 50.

110. Gledhill, *Cultura y desafío en Ostula*, 282–87.

111. Gledhill, *Cultura y desafío en Ostula*, 294–371; *La Jornada*, 20 September 2007.

112. Report of Marco Buenrostro, 23 November 1979, AGN, SARH/PF, caja 971, exp. 54175, leg. 63; Cochet, Léonard, and de Sirgy, *Paisajes agrarios de Michoacán*, 285–302.

113. In 1978, for example, the company's net sales totaled more than 124 million pesos, but it still ran a deficit of 26.1 million pesos. Grupo San Rafael, "Presentación a la Subsecretaría Forestal y de la Fauna," 4 August 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61; Gerente de CEPAMISA to Subsecretaría Forestal y de la Fauna, 11 April 1972, AGN, SARH/PF, caja 796, exp. 2–6011. On resin, see the report of Federico Carrillo Aguilera, 7 December 1987, AGN, SARH/PF, caja 971, exp. 54175, leg. 62.

114. Grupo San Rafael, "Presentación a la Subsecretaría Forestal y de la

Fauna," 4 August 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61; María de Lourdes Canul, "Aspectos socioeconómicos del área de influencia de U.I.E.F. Michoacana de Occidente S. de R. L.," AGN, SARH/PF, caja 971, exp. 54175, leg. 61, pp. 10–11.

115. On the terms of the sale, see Informe of Lic Francisco Xavier Ovando H., 6 September 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61.

116. Letter from Sindicato General de Trabajadores "Gral. Rafael Sánchez Tapia" to Cuauhtémoc Cárdenas, 5 April 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61.

117. *La Voz de Michoacán*, 20 and 25 October 1978.

118. *Diario Oficial* (Mexico City), 13 February 1979; *Verdad* (Morelia) no. 251 (15 October 1978).

119. Cipriano González Barajas et al. to Subsecretaría de Recursos Forestales y de Caza, 21 September 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 62.

120. "Acta de inspección," 8 November 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 63.

121. Informe of Lic Francisco Xavier Ovando H., 6 September 1978, AGN, SARH/PF, caja 971, exp. 54175, leg. 61.

122. "Síntesis Justificativa," n.d. (ca. 1962), ENAH, CCIT, 33.52.21a, doc. 1.

123. Oscar Flores Loza, Estudio Dasonómico, April 1956, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 4.

124. Comisariado Ejido de Cusárare to Adolfo Ruiz Cortines, 10 March 1957, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 4; "Estudio dasonómico," by José M. Aguilar, November 1958, AGN, SARH/PF, caja 1575, exp. 2/28, leg. 5.

125. Roberto González Loya to Francisco Javier Alvarez, 5 March 1960, ENAH, CCIT, 36.44.8, doc. 6; Francisco Javier Alvarez to SAG, 26 January 1960, ENAH, CCIT, 37.57.17, doc. 1.

126. The 1966 management plan stated that 30,777 hectares were classified as forests in Cusárare: 14,863 were in production, 7,890 had already been logged, and 4,042 were inappropriate for logging (i.e., *inexplotable*), leaving a reserve of 3,982. Report of José Aguilar Uranga, 6 December 1966, AGN, SARH/PF, caja 1572, exp. 2/28, leg. 10.

127. The federal entities included the Agriculture Department (Secretaría de Agricultura y Ganadería, via its dependency, the Subsecretaría de Recursos Forestales y de Caza), the Agrarian Reform Department (Departamento de Asuntos Agrarios y Colonización, via its dependency the Dirección General de Fomento Ejidal), the Rural Development Organization (Comité Técnico de Inversión de Fondos), and the Institute of Indian Affairs (Instituto Nacional Indigenista).

6. THE ROMANCE OF STATE FORESTRY, 1972–1992

1. Morett Sánchez, *Reforma agraria*, 102–8.
2. For a contemporary viewpoint, see Montes de Oca Luján, “La cuestión agraria y el movimiento campesino,” 62–64.
3. For an overview, see Herrera Calderón and Cedillo, “Introduction.”
4. Walsh Sanderson, *Land Reform in Mexico*, 117–20.
5. Jesús Vázquez Soto, *La política forestal de México*, 32.
6. Vázquez León, *Antropología política de la comunidad indígena en Michoacán*, 56, 71; and Mexico, *Manual de estadísticas básicas*, 779–92.
7. Kimberly-Clark de México, www.kimberly-clark.com.mx/Empresa/KCM_historia.asp, accessed 12 December 2011.
8. On birth-control pills, see Soto Laveaga, *Jungle Laboratories*.
9. *Excelsior*, 15 October 1972.
10. Bray and Merino-Pérez, *La experiencia de las comunidades forestales en México*, 56–60.
11. Jesús Veruette Fuentes, “Una alternativa para el desarrollo de la actividad forestal,” *Revista del México Agrario* 9.2 (March–April 1976): 30–34, p. 31.
12. See, for example, *Excelsior*, 10 October 1964; *El Universal*, 11 October 1964.
13. Beltrán, “La conservación como instrumento de desarrollo,” 190.
14. Klooster, “Conflict in the Commons,” 145–55.
15. See, for example, the 1976 documents relating to the creation of the ejido Lázaro Cárdenas, in Quintana Roo, with colonists from Cuanajo, in RAN, “Cuanajo,” exp. 443. My thanks to Juan Manuel Mendoza for passing this along.
16. Merino Pérez, *Conservación o deterioro*, 95–96.
17. Mexico, “Ley Forestal,” *Diario Oficial* 238.13 (16 January 1960): chap. 2.
18. Subsecretaría Forestal y de la Fauna, *Silvicultura* 77: 119–22, p. 121. This chart divided forest species as “pine,” “oak,” “oyamel,” and, of course, “*corrientes*.” Further evidence that deforestation projects expressly bypassed commercial forests can be seen by their exemption from the National Deforestation Program, discussed below.
19. Moreno Unda, “Environmental Effects of the National Tree Clearing Program, Mexico,” 32–33; Andrade Limas, del Carmen, Ramírez, and Serrato, *La región agrícola del norte de Tamaulipas (México)*, 35–36.
20. Moreno Unda, “Environmental Effects of the National Tree Clearing Program, Mexico,” 42–60; Bartra, “¿Colectivización o proletarización?”
21. Parra Orozco, *Madera*, 143.
22. Cayetano Zamarrón, Tiburcio Domínguez, and F. Chávez O to Ruiz Cortines, 19 December 1956, and undated report of forest wardens, ca. 1959, AGN, SARH/PF, caja 246, exp. 54603, legs. 3 and 4, respectively.

23. For analyses of the Gámiz uprising, see Henson, “Madera 1965”; and the carefully researched fictional account in Montemayor, *Las armas del alba*.
24. Juan Rodríguez González and Gerardo Martínez Uriarte to Echeverría, 30 October 1975, AGN, SARH/PF, caja 254, exp. 54603, leg. 33.
25. Report of Manuel de los Santos, 25 January 1972, AGN, SARH/PF, caja 251, exp. 54603, leg. 27; Rafael Quiñones V to Echeverría, 26 May 1972, AGN, SARH/PF, caja 251, exp. 54603, leg. 27; Acta of 21 April 1975, AGN, SARH/PF, caja 254, exp. 54603, leg. 32.
26. Contrato de asociación en participación, 2 August 1971, AGN, SARH/PF, caja 250, exp. 54603, leg. 25.
27. Enríquez Hernández, “Análisis geoeconómico del sistema regional de la Sierra Tarahumara,” 155–56.
28. Abraham Escarpita Herrera, “Ajuste al proyecto general de ordenación,” April 1976, AGN, SARH/PF, caja 156; Gingrich, “The Political Ecology of Deforestation in the Sierra Madre Occidental of Chihuahua,” 20.
29. Emetrio Ponce to Adolfo López Mateos, 10 March 1959, AGN, SARH/PF, “Chihuahua” 152–53.
30. Manuel Corona G., “Estudio Dasonómico,” December 1963, AGN, SARH/PF, caja 159.
31. *Excelsior*, 1 February 1972.
32. *Excelsior*, 1 February 1972.
33. *Excelsior*, 15 October 1972.
34. Enríquez Hernández, “Análisis geoeconómico del sistema regional de la Sierra Tarahumara,” 156–58.
35. It also turned out that the vast majority of native people in the Sierra Tarahumara actually had a legal standing to do so but the Secretariat of Agrarian Reform had never formally certified their status (that is, it had never granted certificates of agrarian rights to 90 percent of native ejidatarios). Acta of VII Congreso de los Pueblos Tarahumaras, 27 January 1972, ENAH, CCIT, 9/17/22.
36. Acta of VII Congreso de los Pueblos Tarahumaras, 27 January 1972, ENAH, CCIT, 9/17/22. The communities with their own logging enterprises included Tatahuichi, Cabórachi, Tacorichi, Guahuachique, Aporéachi, Yoquivo, Pahuichique, Tónachi, Sehuérachi, and Guachochi. Samachique and Narárachi would also soon have their own logging enterprises.
37. “Palabras prunciadas por el Lic. Luis Echeverría Álvarez,” reproduced in López Velasco, *Y surgió la unión*, 162. See also Augusto Gómez Villanueva, “Informe,” in López Velasco, *Y surgió la unión*, 149–58.
38. PROFORTARH, *Memoria*, 21.
39. PROFORTARH, *Memoria*, 27. The entire presidential decree can be found on pp. 26–32.

40. PROFORTARH, *Memoria*, 9–11, 102, 107.
41. PROFORTARH, *Memoria*, 60–67, 74–88, 93–95.
42. PROFORTARH, *Memoria*, 98.
43. José Rodríguez C. to Luis Echeverría, n.d. (ca. 10 January 1974), AGN, SARH/PF, caja 1581 (antes Chihuahua 3–2), exp. 2/402, leg. 29.
44. José Gascón Mercado to Jesús Vásquez Soto, 30 November 1972; Report of Juvenal Ramos Aguirre, 29 January 1974, AGN, SARH/PF, caja 153, exp. “Aserraderos,” leg. 2; notes from meeting of José Rodríguez Vallejo, Lázaro Ramos Esquer, and Manuel Luna Verduzco, 8 December 1981, AGN, SARH/PF, caja 179, exp. 2/6093, Cuaderno “Informe de Labores”; Mexico, “Silvicultura ‘77,” 151.
45. See, for example, Enrique Estrada Chávez to Subsecretaría, 26 January 1977, AGN, SARH/PF, caja 242, exp. 30092, leg. 5 “Aboreachic.”
46. Abraham Escárpita H., “Estudio Dasonómico,” 27 October 1977, AGN, SARH/PF, caja 179, exp. 2/6093.
47. Abraham Escárpita H., “Estudio Dasonómico,” 27 October 1977, AGN, SARH/PF, caja 179, exp. 2/6093; Report of José Ramírez Maldonado, 3 August 1973, AGN, SARH/PF, caja 242, exp. 30092, leg. 5 “Aboreachic.”
48. Report of Unidad de Ordenación Forestal Tutuaca, n.d. (ca. January 1978), AGN, SARH/PF, caja 153, exp. “Aserraderos,” leg. 3.
49. Manuel Jaques Olivas to Francisco Merino Rábago, 14 February 1978, AGN, SARH/PF, caja 153, exp. “Aserraderos,” leg. 3; Report of Janitzio Múgica Rodríguez Cabo, 16 February 1978, AGN, SARH/PF, caja 1581 (antes Chihuahua 3–2), exp. 2/402, leg. 31.
50. Ejido Madera to Abraham Escarpita Herrera, n.d. (ca. June 1980), AGN, SARH/PF, caja 153, exp. “Aserraderos,” leg. 3.
51. “Discurso,” by Paulino López Velsco, 19 April 1977, reproduced in López Velasco, *Y surgió la union*, 297; Report of Jorge Sánchez Aldana, 9 March 1981, AGN, SARH/PF, caja 242, exp. 30092, leg. 5 “Aboreachic.”
52. Instituto Nacional Indigenista, “Programa de desarrollo integral para la Sierra Tarahumara,” unpublished typescript (1 August 1990), 60, ENAH, CCIT.
53. Vázquez León, *Antropología política de la comunidad indígena en Michoacán*, 56, 71.
54. Report of Ing. Zárate H., May 1975, AGN, SARH/PF, caja 800, exp. 2–6875.
55. Sánchez Herrera et al., “Explotación del bosque en la Meseta Purépecha y su impacto en la población,” 1:38–42.
56. Vázquez León, *Antropología política de la comunidad indígena en Michoacán*, 76–79.
57. Anonymous letter to SAG, April 1971, annexed in Severino Herrera Bazán, “Algunos antecedentes relativos a la política forestal en Michoacán,” unpublished typescript (July 1971), COMFORMICH.

58. Severino Herrera Bazán, "Algunos antecedentes relativos a la política forestal en Michoacán," unpublished typescript (July 1971), COMFORMICH.
59. Comisión Forestal del Estado de Michoacán, "Actividades de la Comisión Forestal del Estado de Michoacán 1970," 9.
60. Comisión Forestal del Estado de Michoacán, "Michoacán forestal," 43.
61. *El Día*, 19 December 1974. See also *El Nacional*, 7 January 1974.
62. Antonio Várgas Macdonald [sic], "PROFORMICH prepara la ruina de Michoacán," *México Forestal* 48 (November 1974): 26–28. See also *La Voz de Michoacán*, 6 November 1978.
63. Report of Juan Figueroa Torres, Director Gen Proformich, 6 August 1976, AGN, SARH/PF, caja 796, exp. 2–5953.
64. Estudio Dasonómico de Aranza by Silverio Hernández Gutiérrez, 2 May 1975, AGN, SARH/PF, caja 722/18483, leg. 2, pp. 544–54.
65. Vázquez León, *Antropología política de la comunidad indígena en Michoacán*, 76–77.
66. Informe Técnico de Aranza by Agustín Sánchez Espinoza, August 1979, AGN, SARH/PF, caja 722/18483, leg. 3, pp. 1–8; see also Merino Pérez, *Conservación o deterioro*, 46.
67. "Acta," 17 December 1977, AGN, SARH/PF, caja 796, exp. 2–5953.
68. "Acta," 17 December 1977, AGN, SARH/PF, caja 796, exp. 2–5953.
69. Barsimantov and Antezana, "Forest Cover Change and Land Tenure Change in Mexico's Avocado Region"; Bárcenas Ortega and Aguirre Paleo, *Pasado, presente y futuro del aguacate en Michoacán, México*, 51.
70. Waldemar Díaz Martínez, "Estudio Forestal," 15 March 1978, AGN, SARH/PF, caja 750, exp. 2/2160, leg. 5.
71. Waldemar Díaz Martínez, "Estudio Forestal," 15 March 1978, AGN, SARH/PF, caja 750, exp. 2/2160, leg. 5. See also Francisco Opengo Salvador, "Revisión de Campo y de Gabinete," 15 December 1978, AGN, SARH/PF, caja 750, exp. 2/2160, leg. 5.
72. Sánchez Herrera et al., "Explotación del bosque en la Meseta Purépecha y su impacto en la población," 1:42–43, 109–14.
73. Ing. Agustín Sánchez Espinosa, "Informe técnico justificativo . . ." August 1980, AGN, SARH/PF, caja 805, wherein many smallholder requests for desmonte and land conversion may also be found.
74. Report of Luis Hernández, September 1971, AGN, SARH/PF, Serie Michoacán, caja 3–2, exp. 275, leg. 2; Vidal Aguilar Soto and Felipe Ruiz Anguiano to Comisión Mixta Agraria, 18 April 1977, AGN, SARH/PF, caja 746, exp. 1839, leg. 5; Bárcenas Ortega and Aguirre Paleo, *Pasado, presente y futuro del aguacate en Michoacán, México*, 25–27.
75. Sánchez Herrera et al., "Explotación del bosque en la Meseta Purépecha y su impacto en la población."

76. Bárcenas and Aguirre, *Pasado, presente y futuro del aguacate en Michoacán, México*, 24.
77. Vidal Aguilar Soto and Felipe Ruiz Anguiano to Comisión Mixta Agraria, 18 April 1977, and administrative settlement 207.92, 15 July 1977, AGN, SARH/PF, caja 746, exp. 1839, leg. 5.
78. *Diario Oficial*, 25 November 1991.
79. Reports of Waldemar Díaz, 30 July 1958, and Director General de Supervisión Técnica y Vigilancia, 17 October 1962, AGN, SARH/PF, caja 745, exp. 1839, leg. 3.
80. Comunidad Indígena de Nuevo Parangaricutiro to Sub-Secretaría Forestal y de Caza, 4 February 1967, AGN, SARH/PF, caja 745, exp. 1839, leg. 4.
81. Memorandum of Alfonso Loera Borja, 20 May 1969, Acta de conformidad, 23 February 1970, and Report of Lázaro Mejía Fernández, 15 December 1972, AGN, SARH/PF, caja 745, exp. 1839, leg. 4.
82. Report of Agustín Sánchez Espinosa, 10 July 1978, AGN, SARH/PF, caja 745, exp. 1839, leg. 4.
83. Meeting minutes, 27 April 1977, and Felipe Aguilar Soto and Felipe Ruiz Anguiano to Comisión Mixta, 18 April 1977, AGN, SARH/PF, caja 746, exp. 1839.
84. SARH, Logging Permission of 16 January 1978, AGN, SARH/PF, caja 746, exp. 1839, leg. 5.
85. Torres, Bocco, and Velázquez, “Antecedentes históricos”; Álvarez Icaza, “Forestry as a Social Enterprise”; Sánchez Pego, “The Forestry Enterprise of the Indigenous Community of Nuevo San Juan Parangaricutiro, Michoacán, Mexico,” 148–52.
86. Specifically, UNAM researchers sought to transmit San Juan’s lessons to the Organización de Ejidos Forestales “Hermenegildo Galeana,” in Guerrero; to indigenous communities in the region of Ixtlan de Juárez, Oaxaca; to mestizo ejidos in Durango; to the Organización de Ejidos Productores Forestales de la Zona Maya “Felipe Carrillo Puerto,” in Quintana Roo; and to the Ejido de San Nicolás Totolapan, on the Ajusco volcano of the Distrito Federal. Bray and Merino-Pérez, *La experiencia de las comunidades forestales en México*, 80–82.
87. Mexico, “Ley Forestal,” *Diario Oficial* 396.19 (30 May 1986): art. 67.
88. For an analysis, see Bray and Merino-Pérez, *La experiencia de las comunidades forestales en México*, 62–64.
89. Taylor, “Community Forestry as Embedded Process,” 63–65.
90. Instituto Nacional de Investigación Forestal en México, “Programa de desarrollo integral para la Sierra Tarahumara,” unpublished typescript (1 August 1990), 60–61, ENAH, CCIT.
91. World Bank, “Staff Appraisal Report,” 1.
92. González Pacheco, *Bosques de México*, 81–93.
93. *Excelsior*, June 30, 1985.

94. World Bank, “Staff Appraisal Report,” 13.
95. Lowerre, “Evaluation of the Forestry Development Project of the World Bank,” 7.
96. Gingrich, “The Political Ecology of Deforestation in the Sierra Madre Occidental of Chihuahua,” 37–41.
97. González Pacheco, *Los bosques de México y la banca internacional*, 71.
98. Instituto Nacional Indigenista, Delegación Chihuahua, “Programa de desarrollo forestal Chihuahua-Durango: Pueblos indígenas y microdesarrollo en la Tarahumara,” typescript (1993), 73, ENAH, CCIT.
99. Instituto Nacional Indigenista, Delegación Chihuahua, “Programa de desarrollo forestal Chihuahua-Durango: Pueblos indígenas y microdesarrollo en la Tarahumara,” typescript (1993), 52, ENAH, CCIT.
100. Secretaría de Medio Ambiente, Recursos Naturales y Pesca, *Programa forestal y de suelo, 1995–2000*, 51, 62.

CONCLUSION

1. There are many online sources that address this event. Two of the best are El Enemigo Común, elenemigocomun.net (see especially x carolina, “Autonomous Paths Converge in Cherán,” 3 June 2012, <http://elenemigocomun.net/2012/06/autonomous-paths-converge-cheran/>) and NACLA: North American Congress on Latin America, nacla.org (especially Clayton Conn, “Cherán: Community Self-defense in Mexico’s Drug War [Photo Essay],” 3 July 2011, <http://nacla.org/news/cheran-community-self-defense-mexico-s-drug-war-photo-essay>).
2. These events are described in chapter 2 in this volume.
3. See, for example, “Mexican Human Rights Lawyer Is Killed,” *New York Times*, 22 October 2001, 12. See also Diebel, *Betrayed*, 202–32.
4. See, for example, “Ejido Pino Gordo Journal; All Across Mexico, a Chainsaw Massacre of Trees,” *New York Times*, 28 April 1999.
5. For news on Pino Gordo, see *La Jornada*, 8 March 2005. In Guerrero several local leaders have been killed as of the time of this writing (September 2013). Most notably, Juventina Villa Mojica—herself the widow of a murdered community leader—was ambushed and killed in 2012, prompting her followers to flee from the well-armed loggers presumably responsible for her death. See, for example, “Environmental Activist and Her Son Slain in Mexico,” *Los Angeles Times*, 29 November 2012; and “Sin destino, campesinos ecologistas de Guerrero,” *La Jornada*, 7 December 2012.
6. Bray, “Community Forestry in Mexico,” 348.
7. Secretaría de Medio Ambiente y Recursos Naturales, *Informe de la situación del medio ambiente en México*, 71–80.

8. Madrid, Núñez, Quiroz, and Rodríguez, “La propiedad social forestal en México,” 196, table 3.
9. Matthews, *Instituting Nature*, 160–202.
10. Tilly, *The Contentious French*.
11. The pirekua can be found in the epigraph of this book.
12. For an extended discussion of the link between mountains and sociopolitical autonomy, see Scott, *The Art of Not Being Governed*, 31.
13. Hardin, “The Tragedy of the Commons.”
14. Secretaría del Medio Ambiente y Recursos Naturales, *Informe de la situación del medio ambiente en México*, 71, 79–82.
15. For discussions of how a community can develop a moral economy that favors the conservation of the commons, see Ostrom, *Governing the Commons*. For the case of Mexico, see Basurto, “Biological and Ecological Mechanisms Supporting Marine Self-Governance”; and Basurto and Ostrom, “The Core Challenges of Moving beyond Garrett Hardin.”
16. El Largo is discussed in chapter 6. For Durango, see Taylor, “Reorganization or Division”; and Taylor, “New Organizational Strategies in Community Forestry in Durango, Mexico.”
17. See an overview in Bray, Merino-Pérez, and Barry, “Community Managed in the Strong Sense of the Term.”
18. For an overview and definition of resource curse literature, see Ross, “The Political Economy of the Resource Curse.”
19. Agustín Sánchez Espinosa, “Proyecto de integración y funcionamiento de los servicios técnicos forestales de la Unidad de Administración Forestal No. 6 ‘Meseta Tarasca,’” 20 July 1978, AGN, SARH/PF, caja 805.
20. For an overview, see Neumann, *Making Political Ecology*, 80–114. For a historical example, see Miller, *Fruitless Trees*.
21. Food and Agriculture Organization of the United Nations, *Global Forest Resources Assessment 2000*, 391–94, table 4.
22. Secretaría del Medio Ambiente y Recursos Naturales, *Visión de México sobre REDD+*, 13, table 2.
23. Matthews, *Instituting Nature*, 239.
24. For an overview, see Bray, Merino-Pérez, and Barry, *The Community Forests of Mexico*.