

JOHN SCHELHAS*

Race, Ethnicity, and Natural Resources in the United States: A Review

ABSTRACT

The United States is a racially and ethnically diverse country, but only recently have researchers and scholars paid much attention to the significance of this diversity for natural resource management and policy. This article reviews the literature on racial discrimination and ethnic differences in valuing and using natural resources. The review indicates that the effects of past and current racial discrimination and ethnocentrism in the natural resource field continue to be felt today, both in individual behavior and in social structures. The review also finds complex linkages between culture and values, natural resource uses, social organization, and ecosystem characteristics that highlight the need for serious attention to racial and ethnic diversity in natural resource management and policy. Ethnocentrism in the natural resource field comes into play in many ways but may be most pernicious in cases of scientific uncertainty when managers and policy makers tend to fall back on culturally and professionally coded models that may have biases built into them. There is a need for greater attention to race and ethnicity by all in the natural resource field, and also for greater diversity among professionals in the field itself. A broader and more inclusive view of natural resource values, use, and management will both better serve a diverse U.S. population and attract more diversity to the natural resource professions.

INTRODUCTION

The United States has always been a racially and ethnically diverse country and is continuing to diversify with the arrival of new groups of immigrants from around the globe.¹ Natural resource management, growing out of the progressive era at the beginning of the twentieth century, has tended to emphasize science-based, expert decision making to

* John Schelhas is a Research Forester with the Southern Research Station of the USDA Forest Service at the George Washington Carver Agricultural Experiment Station at Tuskegee University. Acknowledgments: The author thanks James Granskog, James Lassoie, Max Pfeffer, Carl Wilmsen, and Robert Zabawa for helpful comments on earlier drafts.

1. It is important to note that the geographic distribution of racial and ethnic minorities is exceedingly uneven in the United States. See William H. Frey, *The Diversity Myth*, 20 AM. DEMOGRAPHICS 39, 39, 43 (1998).

provide "efficient" levels of resource use for generic "users."² The literature that has grown out of this tradition has generally paid little attention to issues of racial and ethnic diversity.³ In the 1990s, new approaches to natural resource management began to give greater attention to diversity in users and interest groups. It has been increasingly recognized that different costs and benefits accrue to stakeholders and interest groups, and that these interests should be represented through participation of diverse groups in management and policy-making.⁴ The literature in the social sciences and natural resources is changing as it begins to chronicle the diverse ways that people value and use natural resources and the different social contexts in which natural resource management must operate. Several specific topics have attracted sufficient attention for a fairly comprehensive literature to emerge, including environmental justice, environmentalism among African-Americans, and race and ethnicity in outdoor recreation. But other topics have received much less attention, and the more general relationships between racial and ethnic diversity and natural resources in the United States remain largely unexplored. This article reviews the emerging literature in race, ethnicity, and natural resources,⁵ with the goal of distilling some new insights and lessons for natural resource policy and management.

2. See HANNA J. CORTNER & MARGARET A. MOOTE, *THE POLITICS OF ECOSYSTEM MANAGEMENT* 14-16 (1999); Sally Fairfax, Lynn Huntsinger, & Carmel Adelburg, *Lessons from the Past: Old Conservation Models Provide New Insight into Community-Based Land Management*, 14 F. APPLIED RES. & PUB. POL'Y 84 (1999); Bonnie J. McKay, *Post-modernism and the Management of Natural and Common Resources*, 54 COMMON PROP. RESOURCE DIG. 1, 2 (2000).

3. For efforts to correct this, see generally Rabel J. Burdge, *Introduction: Cultural Diversity in Natural Resource Use*, 9 SOC'Y & NAT. RESOURCES 1 (1996); see generally Rebecca T. Richards & Max Creasy, *Ethnic Diversity, Resource Values, and Ecosystem Management: Matsutake Mushroom Harvesting in the Klamath Bioregion*, 9 SOC'Y & NAT. RESOURCES 359 (1996); JUSTICE AND NATURAL RESOURCES: CONCEPTS, STRATEGIES, AND APPLICATIONS (Kathryn M. Mutz et al. eds., 2001).

4. See CORTNER & MOOTE, *supra* note 2, at 44-45, 94-100; McKay, *supra* note 2, at 3-5; Thomas K. Rudel & Judith M. Gerson, *Postmodernism, Institutional Change, and Academic Workers: A Sociology of Knowledge*, 80 SOC. SCI. Q., 213, 222-23 (1999).

5. It should be noted that class, economic scale, and gender are all important social variables that intermingle with race and ethnicity in many cases. See, e.g., Spencer D. Wood & Jess Gilbert, *Returning African American Farmers to the Land: Recent Trends and a Policy Rationale*, 27 REV. BLACK POL. ECON. 43, 45-46 (2000); Dorceta Taylor, *American Environmentalism: The Role of Race, Class and Gender in Shaping Activism 1820-1995*, 5 RACE, GENDER & CLASS 16, 56-57 (1997); ROBERT GOTTLIEB, *FORCING THE SPRING: THE TRANSFORMATION OF THE AMERICAN ENVIRONMENTAL MOVEMENT* 319 (1993); T. Dietz et al., *Gender, Values, and Environmentalism*, 83 SOC. SCI. Q. 353, 361-62 (2002).

TERMINOLOGY

While easily recognizable to most people, the terms race and ethnicity are often used in different ways in popular culture and social science, and therefore a brief discussion of the social science definitions of these terms is helpful. Race generally refers to distinctions made on the basis of the physical attributes of individuals.⁶ Physical anthropologists disagree as to whether there is a biological basis for race. Proponents of a biological race concept highlight the fact that certain physical characteristics are more likely to be present among populations with similar geographic origins and suggest that these categories have practical value, for example, in bio-medical research, criminology, and environmental-exposure research.⁷ Opponents of the biological basis for race argue that "racial" types in populations are highly variable and intergrade with each other imperceptibly, and that race therefore has no real taxonomic utility nor biological meaning and hinders, rather than helps, our efforts to describe human variation.⁸ According to this second view, race is a socially constructed category important for social identity and self image, but with little biological basis or utility.⁹ The prevailing view among anthropologists today, with relatively few dissenters, is that racial categories are socially constructed but lead to important material outcomes.¹⁰

Ethnicity, according to Smedley, refers to "all those traditions, customs, activities, beliefs, and practices that pertain to a particular group of people who see themselves and are seen by others as having distinct cultural features, a separate history, and a specific socio-cultural identity."¹¹ Although physical characteristics may be used to speculate on the nationality or geographical origins of individuals, they do not automatically proclaim the cultural background of any individual or group.¹² For example, people with African American racial characteristics may express diverse cultural values, including those of mainstream North America, West Africa, or the Caribbean. Smedley argues that ethnicity is more conditional

6. See AUDREY SMEDLEY, *RACE IN NORTH AMERICA: ORIGIN AND EVOLUTION OF A WORLDVIEW* 6 (1993).

7. See Matt Cartmill, *The Status of the Race Concept in Physical Anthropology*, 100 AM. ANTHROPOLOGIST 651, 652 (1998).

8. *Id.* at 652-53.

9. See *id.* at 659; Alan H. Goodman, *Biological Diversity and Cultural Diversity: From Race to Radical Bioculturalism*, in *CULTURAL DIVERSITY IN THE UNITED STATES* 29, 33-36 (Ida Susser & Thomas C. Patterson, eds., 2001).

10. See LEE D. BAKER, *FROM SAVAGE TO NEGRO: ANTHROPOLOGY AND THE CONSTRUCTION OF RACE, 1896-1954* 210-12 (1998); Thomas C. Patterson, *Diversity and Archeology*, in *CULTURAL DIVERSITY IN THE UNITED STATES*, *supra* note 9, at 140, 141.

11. SMEDLEY, *supra* note 6, at 30.

12. See *id.*

or temporary than race, even though ethnocentrism and race hatred have many similar characteristics.¹³

While the concept of ethnicity best captures the cultural variations that are found among groups, it cannot completely replace the race concept. Harrison argues that subsuming race under ethnicity amounts to ignoring an important social fact that has produced distinct structural and experiential outcomes and is used for identification and self-identification; doing so would therefore limit our ability to address important continuing issues of racism in society.¹⁴

The race and ethnicity concepts are distinct but overlap and may be articulated in complex ways. Both terms will be retained here. For the purposes of this article, race will refer to distinctions that are made on the basis of physical characteristics, recognizing that these are largely socially constructed. Ethnicity will refer to cultural differences in thought and behavior. Both race and ethnicity are important to our understanding of natural resource use and management. It is important to recognize that there is a great deal more racial and ethnic diversity beyond the categories commonly used in the U.S. census, for example.¹⁵ Race and ethnicity can be culturally defined in multiple ways, with usages changing by group, purpose, and context.¹⁶

DISCRIMINATION

Discrimination is an important social fact related to race, ethnicity, and natural resources. Pincus defines three types of discrimination: individual, institutional, and structural.¹⁷ Individual discrimination refers to behavior of individuals of one racial or ethnic group that treats members

13. *Id.* at 31.

14. Faye V. Harrison, *Introduction: Expanding the Discourse on "Race,"* 100 AM. ANTHROPOLOGIST 609, 613 (1998).

15. Categories used in Census 2000 included the following: Mexican, Mexican Am. Chicano; Puerto Rican; Cuban; Other Spanish/Hispanic/Latino; White; Black, African Am. or Negro; American Indian or Alaska Native; Asian Indian; Japanese; Native Hawaiian; Chinese; Korean; Guamanian or Chamorro; Filipino; Vietnamese; Samoan; Other Asian; Other Pacific Islander; Some other race. U.S. DEPT. OF COMMERCE, BUREAU OF THE CENSUS, UNITED STATES CENSUS 2000.

16. See Faye V. Harrison, *Rehistoricizing Race, Ethnicity, and Class in the U.S. Southeast*, in CULTURAL DIVERSITY IN THE U.S. SOUTH: ANTHROPOLOGICAL CONTRIBUTIONS TO A REGION IN TRANSITION 179, 182-83 (Carole E. Hill & Patricia D. Beaver, eds., 1998); Carole E. Hill, *Contemporary Issues in Anthropological Studies of the American South*, in CULTURAL DIVERSITY IN THE U.S. SOUTH: ANTHROPOLOGICAL CONTRIBUTIONS TO A REGION IN TRANSITION, *supra*, at 12, 14-15.

17. See Fred L. Pincus, *From Individual to Structural Discrimination*, in RACE AND ETHNIC CONFLICT: CONTENTING VIEWS ON PREJUDICE, DISCRIMINATION, AND ETHNOVIOLENCE 82, 82-84 (Fred L. Pincus & Howard J. Ehrlich eds., 1994).

of another race or ethnic group differently and/or harmfully.¹⁸ Individual discrimination can involve a wide range of behaviors, "including avoidance (by the outgroup), exclusion, physical threats, and blatant attacks."¹⁹ Institutional discrimination describes the policies of institutions dominated by racial or ethnic majorities, "and the behavior of individuals who implement these policies and control these institutions," that treat members of minority groups differently and/or harmfully.²⁰ Examples of institutional discrimination include the Jim Crow laws that were once in place in southern states, seizure of land from and confinement to reservations of Native Americans, and internment of, and forced sale of property by, Japanese Americans during World War II.

Discrimination may also be structural. Structural discrimination refers to the policies of majority institutions that are intended to be race neutral "but have differential and/or harmful effects on minority groups."²¹ Structural discrimination also includes the behavior of the individuals who implement such policies and control such institutions. The key aspect is not the intent but the effect of keeping minority groups in a subordinate position. An example is race neutral admission requirements, such as SAT scores, that have a negative effect on African Americans and Hispanics who score lower on these tests,²² perhaps because of language biases in the tests or differential access to educational opportunities. Although some people do not consider this to be discrimination because of the lack of clear intent, the fact remains that many social institutions work to the disadvantage of minority groups.²³

Discrimination may be based on either race or ethnicity. White groups such as Irish, Italian, and Polish immigrants, as well as Catholics and Jews, were subject to ethnic discrimination at various times in U.S. history, some of which continues today. Nevertheless, ethnic discrimination in the United States has tended not to be as intense or as enduring as racial discrimination.²⁴

18. *Id.* at 82.

19. Myron F. Floyd, *Getting Beyond Marginality and Ethnicity: The Challenge for Race and Ethnic Studies in Leisure Research*, 30 J. LEISURE RES. 3, 13 (1998).

20. Pincus, *supra* note 17, at 83.

21. *Id.* at 84.

22. *Id.*

23. *Id.* at 185.

24. See Fred L. Pincus & Howard J. Ehrlich, RACE AND ETHNIC CONFLICT: CONTENDING VIEWS ON PREJUDICE, DISCRIMINATION, AND ETHNOVIOLENCE 76 (1994).

Tenure: Ownership and Access to Resources

One of the ways that racial and ethnic groups have been discriminated against is in ownership and access to land and resources. The Rural Sociological Society's task force on Persistent Rural Poverty²⁵ found that a great deal of wealth was taken out of many parts of rural America and accumulated by members of the White majority. The White majority often denied property rights to minorities or directly took their property. Institutions that subjugated minority populations and extracted their labor value also played a role. These historical events have continuing structural effects today, such as the absence of capital in minority communities, which in turn hinders economic growth.²⁶ These problems have historically been much more severe for racial minorities—African-Americans, American Indians, and Asians—than for ethnic minorities.²⁷

Native Americans

Disenfranchisement of Native Americans from their lands and resources began early in the colonization process of the United States, as Native Americans in the East were pushed off their land by the early westward expansion of colonists in the seventeenth and eighteenth centuries.²⁸ Many examples can be cited. In New England, Indians had been largely forced off their traditional lands by 1800, with those remaining in the region confined to reservations, forced onto the poorest farmlands, and left without animals to hunt and fish.²⁹ In the South, the Choctaw, Cherokee, and other tribes were relocated from their Southern homelands to "Indian Territory" in the early 1800s.³⁰ For example, by the time of Alabama statehood in 1819, the Creeks had given up 14 million acres of land and many had been relocated to land reserved for them in Oklahoma, and in 1832, by treaty, the Creeks ceded all of their lands east of the Mississippi to the U.S. government.³¹ In the West, U.S. government archives show that the government took Zuni coal and timber with little or no

25. See RURAL SOCIOLOGICAL SOCIETY TASK FORCE ON PERSISTENT RURAL POVERTY, *PERSISTENT POVERTY IN RURAL AMERICA* 174 (1992).

26. *Id.* at 183.

27. *Id.* at 173.

28. See MICHAEL WILLIAMS, *AMERICANS AND THEIR FORESTS: A HISTORICAL GEOGRAPHY* 53 (1989).

29. See WILLIAM CRONON, *CHANGES IN THE LAND: INDIANS, COLONISTS, AND THE ECOLOGY OF NEW ENGLAND* 159 (1983).

30. See RICHARD WHITE, *THE ROOTS OF DEPENDENCY: SUBSISTENCE, ENVIRONMENT, AND SOCIAL CHANGE AMONG THE CHOCTAWS, PAWNEES, AND NAVAJOS* 138-46 (1983).

31. See Sarah T. Warren & Robert E. Zabawa, *The Origins of the Tuskegee National Forest: Nineteenth- and Twentieth-Century Resettlement and Land Development Programs in the Black Belt Region of Alabama*, 72 *AGRIC. HIST.* 487, 488-89 (1998).

compensation.³² Elsewhere, Bannocks with treaty rights to hunt elk on unclaimed federal land were arrested, had their property confiscated, and were shot while hunting by White settlers and state game agents.³³

Perhaps most significantly for natural resource management, portions of the land lost by native people ended up as government reserves and, in some cases, native people were disenfranchised from their land in the name of conservation. The establishment of early western national parks and forests was concurrent with the settlement of the West and the removal of Native Americans from lands they had traditionally lived on or used for subsistence.³⁴ While much of the purpose of reservations was to move Native Americans out of the path of national expansion and development, rather than out of the path of protected areas,³⁵ expanding federally protected areas were often made up of the remaining undeveloped areas of Native American homelands. This led to continuing, direct conflicts between natural resource managers and native peoples. Crow, Shoshone, Bannock, Blackfeet, and Yosemite people all used or lived within different national parks (e.g., Yosemite, Yellowstone, and Glacier) at the time of park establishment. Native peoples also claimed resource use rights in Glacier, Death Valley, and Grand Canyon National parks.³⁶ In some cases, native people were completely denied access to their lands and resources, while in others, continued access was initially permitted—although this access was often eroded over time through administrative actions.

While it may be tempting to think that these issues have turned around today with increased attention to Native American land rights, there are indications that indigenous lands are now under assault for a new reason. McCool suggests that, because Indian lands have not been subject to the dramatic growth that has taken place on other lands and because they were bypassed by many Western water resource development projects, they provide habitat to many endangered species and are significant sites for

32. See Richard I. Ford, *Ethnoecology Serving the Community: A Case Study from Zuni Pueblo, New Mexico*, in *ETHNOECOLOGY: SITUATED KNOWLEDGE/LOCATED LIVES* 71, 74 (Virginia D. Nazarea ed., 1999).

33. See LOUIS S. WARREN, *THE HUNTER'S GAME: POACHERS AND CONSERVATIONISTS IN TWENTIETH-CENTURY AMERICA* 1-2, 140-41 (1997).

34. See MARK DAVID SPENCE, *DISPOSSESSING THE WILDERNESS: INDIAN REMOVAL AND THE MAKING OF THE NATIONAL PARKS* 4-5 (1999); Richard White, *Indian Land Use and the National Forests*, in *ORIGINS OF THE NATIONAL FORESTS: A CENTENNIAL SYMPOSIUM* 173, 173 (Harold K. Steen ed., 1992).

35. See ROBERT H. KELLER & MICHAEL F. TUREK, *AMERICAN INDIANS AND NATIONAL PARKS* 8 (1998).

36. SPENCE, *supra* note 34, at 48-49, 73-76, 101-08, 135-38. See also KELLER & TUREK, *supra* note 34, at 19.

biological diversity.³⁷ Outsiders often view these lands as environmental refuges, rather than as homelands and the only fragments of much larger land bases that Native Americans were allowed to retain, and seek to limit their development and other activities by the tribes, often without compensation.³⁸ Furthermore, Dark discusses how, as Native Americans become more like their rural neighbors (*i.e.*, assimilated) by participating in natural resource management regimes, developing business enterprises, or using modern technology to harvest traditional resources, the associated loss of cultural difference can undermine their ability to exercise their treaty rights because some outside of Native American communities see the legitimacy of these rights as being based in cultural differences.³⁹

Other impacts of conservation on Native Americans have been less direct than outright land loss. One key example is the livestock reductions on the Navajo reservation in the 1930s and 40s. During this time, the U.S. government forced the sale of nearly two-thirds of the livestock on the reservation to solve a perceived problem of overgrazing believed to be contributing silt to the reservoir behind the newly constructed Hoover Dam.⁴⁰ Since that time, scientists have raised questions about the relative roles of grazing, changing agricultural patterns, and changing climate in producing gullies, as well as about the background or "natural" level of erosion used in sediment budgets.⁴¹ There are indications that the scientific justification for the livestock reductions may have been flawed. The social consequences of the reductions, however, were significant. The livestock reductions brought about changes in subsistence patterns and household security among the Navajos, forcing them to change their way of life. The changes were particularly hard on those with small land holdings, women, and children, since the wage labor that replaced livestock largely went to men.⁴² White suggests that this was a case where abstract notions of scientific conservation overwhelmed Native American property and self-

37. Daniel McCool, *Indian Reservations: Environmental Refuge or Homeland?* 32 HIGH COUNTRY NEWS No. 7 (2002), available at http://www.hcn.org/2000/apr10/dir/Essay_Indian_res.html).

38. *Id.*

39. Alx Dark, *Landscape and Politics on the Olympic Peninsula: Social Agendas and Contested Practices in Scientific Forestry*, 4 J. POL. ECOLOGY 1, 12-13 (1997).

40. See Nicholas E. Flanders, *Native American Sovereignty and Natural Resource Management*, 26 HUM. ECOLOGY 425, 435 (1998).

41. See *id.* at 435; WHITE, *supra* note 30, at 258-89; William M. Denevan, *Livestock Numbers in Nineteenth Century New Mexico, and the Problem of Gullying in the Southwest*, 57 ANNALS OF THE ASSOCIATION OF AMERICAN GEOGRAPHERS 691, 702 (1967); Yi-Fu Tuan, *New Mexican Gullies: A Critical Review and Some Recent Observations*, 56 ANNALS OF THE ASSOCIATION OF AMERICAN GEOGRAPHERS 573, 595-97 (1966).

42. Flanders, *supra* note 40, at 437; WHITE, *supra* note 30, at 265.

determination rights.⁴³ The fact that the reductions were not successful, either environmentally or socially, makes questions about their scientific basis more important. But regardless of the accuracy of the science behind the decision, Flanders argues that things would have been done differently if the land had not been on the Navajo Reservation.⁴⁴ Specifically, Flanders suggests that the government would have passed legislation describing the public purpose of the reduction, would have paid fair market value for losses, would have dealt with herders individually rather than as a group (which resulted in disproportionate harm falling on the poor), and would have more closely scrutinized the causes of the siltation.⁴⁵

Berry discusses how Native Americans lost many of their water rights and then had difficulty asserting rights they did retain under treaties.⁴⁶ In general, Native Americans bore large and disproportionate costs and received few benefits from western water development. For example, the Pick-Sloan water plan in the upper Missouri Basin after World War II affected 23 reservations in five states, resulted in the relocation of 900 families, and cut off many more from basic services (roads, power, phone) and land.⁴⁷

There are other less obvious problems than outright takings. Native American values and decision-making processes were not incorporated into water management schemes, even on reservations. Berry finds that Native Americans have repeatedly been forced to accommodate themselves to water distribution systems and policies of European origin and projects that served White interest groups at their expense, with often disastrous results for Native Americans' well-being and culture.⁴⁸

Hispanos in the Southwest

When the United States acquired the lands that are now California, New Mexico, Arizona, and Texas under the Treaty of Guadalupe Hidalgo in 1848, the United States agreed to honor property rights of former Mexican citizens. Under the terms of the treaty, valid U.S. titles were not automatic and land grantees were required to petition for title confirmation. The U.S. government adopted a legalistic, restrictive stance towards land claims, and, as a result, only 24 percent of acres of land claimed in New

43. WHITE, *supra* note 30, at 282.

44. Flanders, *supra* note 40, at 437.

45. *Id.* at 437.

46. See Kate A. Berry, *Race for Water? Native Americans, Eurocentricism, and Western Water Policy*, in ENVIRONMENTAL INJUSTICES, POLITICAL STRUGGLES 101 (David E. Camacho ed., 1998).

47. *Id.* at 113-18.

48. *Id.* at 118-19.

Mexico were confirmed (compared to 73 percent in California).⁴⁹ A number of different problems prevented confirmation of all lands, including vague boundaries and lost original titles. Furthermore, communally owned pastures and woodlands were not recognized.⁵⁰ As a result, even successful claimants lost much of their land. In addition, because the former Mexican citizens had a subsistence economy and were cash poor, land often had to be sold to pay legal fees and, later, property taxes.⁵¹ The result was that an estimated 80 percent of the Spanish and Mexican grant lands were alienated from their owners in New Mexico, stripping Hispano villagers of their patrimony and chief source of wealth.⁵²

Much of the lost land eventually ended up in National Forests, generally passing through other private landowners first.⁵³ Some of these lands were acquired under the Depression-Era Land Utilization Program, which was to hold them for the benefit of the dependent local population. Eventually, many of these lands were transferred to the Forest Service where this history was gradually ignored or forgotten. Although Hispanic interests were initially accounted for in management policies, they were gradually eroded by administrative and congressional decisions.⁵⁴ For example, up to the end of World War II, the Forest Service provided some benefits to Spanish Americans by allowing them to graze small numbers of cattle, sheep, work horses, and milk cows on National Forest lands.⁵⁵ Later, the implementation of modern, standardized grazing policies led to reductions in their grazing allotments and the banning of grazing of milk cows (resulting in malnutrition) and work horses (affecting the agricultural operations of those who could not afford machinery).⁵⁶ The troubled relationship between Hispanos and the Forest Service in New Mexico has continued to the present time, with many Hispanos believing that the Forest Service stole their land; failed to take their needs, interests, and landscape

49. See Carol Raish, *Environmentalism, the Forest Service, and the Hispano Communities of Northern New Mexico*, 13 SOC'Y & NAT. RESOURCES 489, 493 (2000); Clark S. Knowlton, *Land Loss as a Cause of Unrest Among the Rural Spanish-American Village Population of Northern New Mexico*, 2 AGRIC. & HUM. VALUES 25, 28-29 (1985).

50. Raish, *supra* note 49, at 493.

51. *Id.*

52. *Id.* at 493-94; WILLIAM DEBUYS, ENCHANTMENT AND EXPLOITATION: THE LIFE AND HARD TIMES OF A NEW MEXICO MOUNTAIN RANGE 172-75 (1985).

53. DEBUYS, *supra* note 52, at 241; Raish, *supra* note 49, at 494; Lane Krahll & Doug Henderson, *Uncertain Steps Toward Community Forestry: A Case Study in Northern New Mexico*, 38 NAT. RESOURCES J. 53, 59 (1998).

54. See SUZANNE FORREST, THE PRESERVATION OF THE VILLAGE: NEW MEXICO'S HISPANICS AND THE NEW DEAL 163-66 (1989).

55. See PATRICK C. WEST, NATURAL RESOURCE BUREAUCRACY AND RURAL POVERTY: A STUDY IN THE POLITICAL SOCIOLOGY OF NATURAL RESOURCES 91 (1982).

56. *Id.* at 91.

values into account in management and policy; and mistreated them in hiring, timber programs, management policies and through cultural slights.⁵⁷

African Americans in the Rural South

African Americans in the United States have historically had less land than whites due to slavery, discrimination, and legal chicanery.⁵⁸ Even after the end of slavery, landlords generally would not sell land to African American tenants. Davis et al. describe how, when white landlords did sell, they charged exorbitant prices when the price of cotton was high and then foreclosed on the land when prices were low. Another common practice was giving buyers spurious titles or no titles at all.⁵⁹ Moreover, since whites controlled the legal system and violence and intimidation were used to maintain racial inequalities, African American tenants or buyers could not effectively sue white landlords for contract violations in foreclosures.⁶⁰

Zabawa et al. maintain that landownership is a prerequisite for economic and political development in a capitalist society, and the separation of African Americans from land ownership is a major reason for African American underdevelopment in the United States.⁶¹ The U.S. Commission on Civil Rights and Gilbert and Eli summarize the situation of African American land ownership as follows⁶²: African Americans, as slaves, played a significant role in the generation of farm wealth. However, the Civil War did not give them a stake in this land or the wealth derived from it. At the end of the Civil war, most African Americans owned only their clothes, a few tools, and perhaps some farm animals. Promises and efforts to distribute land to African Americans were left unfulfilled. Sale of land to African Americans was discouraged, and violence was used to prevent them from acquiring assets, education, and skills. Sharecropping

57. See LAURA PULIDO, ENVIRONMENTALISM AND ECONOMIC JUSTICE: TWO CHICANO STRUGGLES IN THE SOUTHWEST 133 (1996); Henry H. Carey, *Forest Management in Northern New Mexico*, in JUSTICE AND NATURAL RESOURCES: CONCEPTS, STRATEGIES, AND APPLICATIONS 209, 213-20 (Kathryn M. Mutz et al. eds., 2002); Johannes H. Drielsma, Joseph A. Miller, & William R. Burch, Jr., *Sustained Yield and Community Stability in American Forestry*, in COMMUNITY AND FORESTRY: CONTINUITIES IN THE SOCIOLOGY OF NATURAL RESOURCES 55, 61 (1990).

58. See Robert Zabawa, *The Black Farmer and Land in South-Central Alabama: Strategies to Preserve a Scarce Resource*, 19 HUM. ECOLOGY 61, 68-69 (1991).

59. ALLISON DAVIS, BURLEIGH B. GARDNER, & MARY R. GARDNER, DEEP SOUTH: A SOCIAL ANTHROPOLOGICAL STUDY OF CASTE AND CLASS 293-94 (1941).

60. *Id.*

61. See Robert Zabawa, Arthur Siaway, & Ntam Baharanyi, *The Decline of Black Farmers and Strategies for Survival*, 7 S. RURAL SOC. 106, 111-12 (1990).

62. U.S. COMMISSION ON CIVIL RIGHTS, THE DECLINE IN BLACK FARMING IN AMERICA 14-43 (1982); see generally CHARLENE GILBERT & ELI QUINN, HOMECOMING: THE STORY OF AFRICAN AMERICAN FARMERS (2000).

replaced slavery as the prevailing relationship between white landowners and African American farmers. It was a more subtle form of domination than slavery but yielded a similar pattern of control and subservience. Although more African Americans obtained land in the early 1900s, they always had less and poorer lands than whites. Much of this was lost with the collapse of the cotton market during World War I, the arrival of the boll weevil, and the shift of cotton growing to irrigated Western lands.

Successful farming was made more difficult for African American farmers because African American financial institutions were few and weak. There was also poor access to white financial institutions due to continuing racial discrimination in education and difficulties in accessing government assistance programs.⁶³ As a result, although both African American and white-owned farm numbers have declined, African American-owned farms have declined much more precipitously.⁶⁴ African American farm operations are also small in size and farm-generated sales. Thus, African American farmers are often forced to rely on off-farm labor, in an environment where these jobs are declining, where discrimination continues, and where their education and age restrict them to low wage jobs. The net result of these factors is fewer and fewer African American farmers owning a disproportionately small share of the land. Today, as farm and rural economies in the South are undergoing a transition from agriculture to forestry, inequities in farm ownership are becoming an important issue in natural resource management.⁶⁵

Asian-Americans

Japanese immigrants were brought to the United States around the beginning of the twentieth century as agricultural laborers. They quickly pooled their money to purchase land and began to directly compete with white growers.⁶⁶ Led by California in 1913 and 1920, "Alien Land Laws" were passed that prohibited non-citizens from owning land. Although the laws were couched in racially neutral terms, voter pamphlets explaining the measure frankly acknowledged that the overriding purpose was to drive the Japanese immigrants out of their agricultural holdings.⁶⁷ Similar laws

63. See U.S. COMMISSION ON CIVIL RIGHTS, *supra* note 61, at 293-94; E. Yvonne Beauford, H. Max Miller, & Melvin E. Walker, *Effects of the Changing Structure of Agriculture on Nonwhite Farming in the U.S., the South, and Georgia: 1954-1978*, 4 SOC. SPECTRUM 405, 408-09 (1984).

64. Zabawa, *supra* note 58, at 62-63; Wood & Gilbert, *supra* note 5, at 55.

65. See John Schelhas, *Sustainability and Forest Fragmentation in the U.S. South: Minority and Limited Resource Landowners*, in FOREST FRAGMENTATION 2000: SUSTAINING PRIVATE FORESTS IN THE 21ST CENTURY 154, 155 (2000).

66. See DON MITCHELL, *THE LIE OF THE LAND: MIGRANT WORKERS AND THE CALIFORNIA LANDSCAPE* 96 (1996).

67. *Id.*

were then passed by Oregon and Washington and finally by a total of 11 states.⁶⁸ After Japan attacked Pearl Harbor in 1941, all Japanese people on the West Coast were taken from their homes and placed in internment camps for the duration of the war, forcing many of them to sell their property at a great loss.⁶⁹ During this same period, California "amended its Fish and Game Code to bar the issuance of fishing licenses to 'aliens ineligible for citizenship,'" a change targeted at Japanese-Americans.⁷⁰ This history is one of systematic deprivation of Asian Americans of the rights and opportunities to use and own land and natural resources.

White Ethnic Groups

There is relatively little literature on land and resource loss due to discrimination against white ethnic groups. However, in one example, Johnson chronicles the establishment of Superior National Forest in Minnesota, in which local support and opposition was divided along ethnic lines.⁷¹ Merchants supported National Forest establishment because they wanted to take advantage of tourism, while subsistence users of the forest, largely recent immigrants from southern and eastern Europe, were opposed to National Forests. Local newspapers were open in their contempt for immigrants, accusing them of unsustainable resource use patterns and criticizing them for being "meat hunters" rather than "sport hunters."⁷²

Common patterns across these examples

Although the details of discrimination in access to land and resources vary for the different racial and ethnic groups discussed above, these cases have many things in common. In all cases, members of racial and ethnic groups were systematically and intentionally denied access to land and resources. When they did have land and resources, similar systematic and intentional efforts often took them away. Many of the most blatant acts took place in the past, but subtler deprivations continue. The effects of both continue and are wide-ranging because social structures reflect and perpetuate these inequalities.⁷³ It is important to recognize that

68. See JAPANESE IMMIGRANTS AND AMERICAN LAW: THE ALIEN LAND LAWS AND OTHER ISSUES x (Charles McClain ed., 1994).

69. Pincus, *supra* note 17, at 83.

70. JAPANESE IMMIGRANTS AND AMERICAN LAW: THE ALIEN LAND LAWS AND OTHER ISSUES, *supra* note 67, at xii.

71. Benjamin Heber Johnson, *Conservation, Subsistence, and Class at the Birth of Superior National Forest*, 4 ENVTL. HIST. 80, 87-90 (1999).

72. *Id.* at 90.

73. See MARK A. FOSSETT & M. THERESE SEIBERT, *LONG TIME COMING: RACIAL INEQUALITY IN THE NONMETROPOLITAN SOUTH, 1940-1990* 6 (1997).

some of these actions were part of or linked to conservation and natural resource management.

Environmental Racism and Justice

The environmental justice movement achieved national prominence in the late 1980s, as explicit links were shown between race and the increased likelihood of being exposed to toxic waste and other hazardous environmental conditions.⁷⁴ To a large extent, the environmental justice movement is associated with the distribution of environmental hazards; including toxic dumps, industries, landfills, and incinerators.⁷⁵ Environmental justice enters into the domain of natural resources in cases centered on mining, water, and land. Goldtooth finds that, in North America, energy resources (uranium, coal, hydroelectric sources, and nuclear storage) are disproportionately obtained from indigenous lands.⁷⁶ Gedicks describes the efforts of Native Americans to gain a place in the decision-making processes related to the proposed development of a copper mine by Exxon adjacent to a Wisconsin Chippewa Indian reservation and on lands on which Indians had traditional harvesting rights.⁷⁷ Peña and Gallegos report on the struggle of a Chicano agropastoral community against a mining company in Southern Colorado that involved a fight over irrigation water as well as threatened toxic pollution.⁷⁸ LaDuke details nine cases of interlinked environmental and natural resource justice issues involving Native Americans in the United States.⁷⁹ These cases include the exclusion of the Seminole from the Everglades, mineral leases of northern

74. See Dorceta E. Taylor, *The Rise of the Environmental Justice Paradigm: Injustice Framing and the Social Construction of Environmental Discourses*, 43 AM. BEHAV. SCIENTIST 508, 508 (2000).

75. See generally Kelly D. Alley, Charles E. Faupel, & Conner Bailey, *The Historical Transformation of a Grassroots Environmental Group*, 54 HUM. ORG. 410 (1995); Regina Austin & Michael Schill, *Black, Brown, Poor & Poisoned: Minority Grassroots Environmentalism and the Quest for Eco-Justice*, 1 KAN. J.L. & PUB. POL'Y 69 (1991); ENVIRONMENTAL JUSTICE: ISSUES, POLICIES, AND SOLUTIONS (Bunyan Bryant ed., 1995); ROBERT D. BULLARD, DUMPING IN DIXIE: RACE, CLASS, AND ENVIRONMENTAL INEQUALITY (1990); ENVIRONMENTAL INJUSTICES, POLITICAL STRUGGLES (David E. Camacho ed., 1998); WINONA LADUKE, ALL OUR RELATIONS: NATIVE STRUGGLES FOR LAND AND LIFE (1999).

76. Tom B.K. Goldtooth, *Indigenous Nations: Summary of Sovereignty and Its Implications for Environmental Protection*, in ENVIRONMENTAL JUSTICE: ISSUES, POLICIES, AND SOLUTIONS 138, 143 (Bunyan Bryant ed., 1995).

77. See Al Gedicks, *War on Subsistence: Mining Rights at Crandon/Mole Lake, Wisconsin*, in LIFE AND DEATH MATTERS: HUMAN RIGHTS AND THE ENVIRONMENT AT THE END OF THE MILLENNIUM 128, 138-44 (Barbara Rose Johnston ed., 1997).

78. Devon Peña & Joseph Gallegos, *Nature and Chicanos in Southern Colorado*, in CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 141, 146-55 (Robert D. Bullard ed., 1993).

79. See generally LADUKE, *supra* note 75.

Cheyenne lands to mining corporations by the Bureau of Indian Affairs, efforts to reassemble tribal lands by the White Earth reservation in Minnesota, a history of buffalo-Native American relations on the Great Plains, and native land loss in Hawaii. The book documents a diverse array of strategies, ranging from legal to cultural, by which native people have sought to retain their lands and resources with varying degrees of success.⁸⁰

Government Programs

The Civil Rights Action Team of the U.S. Department of Agriculture (USDA) described a number of ways in which discrimination has been evident in government assistance programs for agriculture and natural resources.⁸¹ Many minority farmers reported that participation in the Farm Service Agency (and its predecessor, the Farmers Home Administration, or FmHA) programs has long been blocked by discriminatory county office staffs that did not share information, delayed processing, or otherwise blocked minority participation. In many regions of the country, these claims are corroborated by statistics that show lower rates of approval and longer processing times for African American and Native American farmers. These problems were the basis of a class action lawsuit by African American Farmers against the USDA.⁸² *Pigford v. Glickman* was settled when African American farmers and the USDA entered into a five-year consent decree in 1999.⁸³ The decree provides a process for redressing claims of discrimination, although groups representing African American farmers have expressed concern about the number of claims that have been denied under the process.⁸⁴ Native American, Hispanic American/Latino, and women farmers have filed similar class action suits.⁸⁵ An example of how this history impinges on natural resource management is provided by Gunter et al., who found that minority landowners were suspicious of the motives behind government reforestation programs.⁸⁶

80. *Id.*

81. U.S. DEP'T OF AGRIC. CIVIL RIGHTS ACTION TEAM, CIVIL RIGHTS AT THE UNITED STATES DEPARTMENT OF AGRICULTURE: A REPORT BY THE CIVIL RIGHTS ACTION TEAM 6-8 (1997).

82. *Pigford v. Glickman*, 206 F.3d 1212 (D.C. Cir. 2000).

83. *Id.*

84. See Letter from Ralph Paige, Executive Director, Fed'n of S. Coops., to Judge Paul Friedman (Mar. 23, 2000) available at <http://www.federationsoutherncoop.com/appeals32300.htm>; GILBERT & QUINN, *supra* note 62, at 163-64.

85. See, e.g., *Keepseagle v. Veneman*; *Garcia v. Veneman*; *Love v. Glickman* (case information available at <http://www.farmerslawyer.com>).

86. See JOHN E. GUNTER, JOSHUA O. IDASSI, & JAMES E. GRANSKOG, FOREST AND WILDLIFE RESEARCH CENTER, FINANCING INVESTMENTS IN REFORESTATION WITH GOVERNMENT SPONSORED LOANS (A MISSISSIPPI CASE STUDY), BULLETIN FO194 8 (2002).

There is also evidence of structural discrimination in government assistance programs. Programs are administered at the county level, with a high degree of local autonomy. County committees are selected by farmers, and in turn hire county executive directors and county office staff. As of 1994, minorities were still underrepresented on county committees and county staffs, with two-thirds of the 101 U.S. counties with the highest number of minority farmers having no minority committee members.⁸⁷ Only landowners who meet the government definition of "farm" can participate in assistance programs and county committees, and there is historic evidence of structural discrimination in the official definition of a "farm." For example, the government definition was changed for the 1978 Census of Agriculture, increasing the amount of sales required to make a farm fall within the governmental definition. As a result, a disproportionate number of African American-owned farms (one out of two African American-owned farms versus one out of five white-owned farms) were not counted, in spite of the social and economic importance of African American-owned small farms.⁸⁸

Similar actions have affected Hispanics in the Southwest. Peña describes efforts to declassify farms in Colorado so that they would no longer be officially considered agricultural lands, thereby cutting these off from access to farm assistance programs and threatening the ability of Chicano smallholders to continue their sustainable tradition of subsistence agropastoralism.⁸⁹ Raish and West each discuss how Hispano land uses and rights in New Mexico were eroded under a series of administrative decisions regulating natural resource use.⁹⁰ They find that government agencies have historically paid greater attention to the resource use needs of powerful interest groups, such as stockmen, the timber industry, and environmentalists, than to the subsistence and socio-cultural uses of politically weak ethnic groups in establishing use regulations.

87. U.S. DEPT. OF AGRIC., *supra* note 80; Wood & Gilbert, *supra* note 5, at 56-8; GILBERT & QUINN, *supra* note 62, at 166-67.

88. African Americans not only had much smaller landholdings but also lower participation in off-farm work—perhaps due to more limited opportunities. See U.S. COMMISSION ON CIVIL RIGHTS, *supra* note 62, at 47.

89. Agropastoralism here refers to a traditional farming system that mixes crops and grazing. Devon G. Peña, *Cultural Landscapes and Biodiversity: The Ethnecology of an Upper Río Grande Watershed Commons*, in *ETHNOECOLOGY: SITUATED KNOWLEDGE/LOCATED LIVES* 107, 111 (Virginia D. Nazarea ed., 1999).

90. Raish, *supra* note 49, at 495-96, 500, 503; WEST, *supra* note 55, at 91-93.

Discrimination and Bias in the Conservation Movement and Natural Resource Management

Movements and individuals often reflect the social context of their times, and conservation and natural resource management are no different. Discrimination and insensitivity to racial and ethnic minorities characterized some of the time periods since the rise to prominence of conservation in the late 1800s, and conservation or conservationists have reflected this. In the early 1900s, William Hornaday of the New York Zoological Park, Madison Grant of the Boone and Crocket Club and the Save-the-Redwoods League, and the Audubon Society criticized alien and Southern European hunters.⁹¹ John Muir overlooked Native American shaping of the "wilderness" landscapes he celebrated.⁹² Muir at times admired Yosemite's Native Americans romantically as a part of nature, equating their impact with that of wildlife; at other times he found them "dirty" and "lazy."⁹³ DeLuca and Demo find in early conservationists' descriptions of nature as sublime and religious a devaluing of the working and material relationships with nature of the working class and minorities.⁹⁴ Limerick finds that Aldo Leopold and Joseph Wood Krutch were indifferent to important issues facing African Americans such as slavery and segregation.⁹⁵ In the 1950s, the Southern California Chapter of the Sierra Club screened out minorities from its meeting, and when Executive Director David Brower declared the club open to all in 1959, the board failed in an effort to pass a resolution against the exclusion of minorities.⁹⁶ These historical examples of racism and discrimination were perhaps not unusual in their times but should not be forgotten or ignored; they are an important part of conservation history and have a bearing on the historical

91. See Dan L. Flores, *Environmentalism and Multiculturalism*, in REOPENING THE AMERICAN WEST 24, 29-30 (Hal K. Rothman ed., 1998); WARREN, *supra* note 33, at 26-29.

92. See Gary Paul Nabhan, *Cultural Parallax in Viewing North American Habitats*, in REINVENTING NATURE? RESPONSES TO POSTMODERN DECONSTRUCTION 87, 88 (Michael E. Soulé & Gary Lease eds., 1995).

93. See Mark Spence, *Dispossessing the Wilderness: Yosemite Indians and the National Park Ideal, 1864-1930*, 65 PAC. HIST. REV. 27, 42 (1996); Kevin DeLuca & Anne Demo, *Imagining Nature and Erasing Class and Race: Carleton Watkins, John Muir, and the Construction of Wilderness*, 6 ENVTL. HIST. 541, 553-54 (2001).

94. See DeLuca & Demo, *supra* note 93, at 547-51.

95. Patricia Nelson Limerick, *Hoping Against History: Environmental Justice in the Twenty-first Century*, in JUSTICE AND NATURAL RESOURCES: CONCEPTS, STRATEGIES AND APPLICATIONS 337, 340-44 (Kathryn M. Mutz et al. eds., 2002).

96. See STEPHEN R. FOX, JOHN MUIR AND HIS LEGACY: THE AMERICAN CONSERVATION MOVEMENT 349 (1981).

development and current practice of natural resource management and policy.⁹⁷

More recently, environmental stands against immigration—including those of writer Edward Abbey and the Sierra Club—have been called racist.⁹⁸ Gottlieb finds that environmentalist positions on population control and immigration restrictions have a legacy of mistrust of mainstream environmental organizations among African Americans and Latinos.⁹⁹

Peña and Martínez discuss examples of cultural bias in mainstream natural resource management that are less direct.¹⁰⁰ One example is the widespread use of Garret Hardin's "tragedy of the commons" idea,¹⁰¹ even in the face of recent empirical and theoretical literature that points out this model's failure to take into account successful common property management regimes in traditional natural resource management.¹⁰² They argue that the Forest Service "targeted Hispano sheepherders in its efforts to limit grazing to protect and restore watersheds," while at the same time it "promoted massive logging and mining operations which benefited corporate interest to the detriment of the same objective of watershed protection."¹⁰³ Peña and Martínez additionally assert that the generally accepted resource management narrative of the Southwest is one of unsubstantiated environmental degradation by Hispano sheepherders of grazing on common lands. They present a counter argument, that Hispanos logged selectively rather than clear cutting, built few roads, did not disrupt the natural fire regime, and did not allow large-scale recreational development. Peña and Martínez also criticize a conservation perspective that sees scientific management, government ownership, and the "Leopold land ethic" as the saviors and ignores culturally imbedded conservation

97. It should be noted that some conservationists were more progressive on social matters. Gifford Pinchot, for example, was a strong advocate for the rights of minorities and women. See M. NELSON MCGEARY, GIFFORD PINCHOT: FORESTER-POLITICIAN 243, 384, 420 (1960). Limerick highlights Henry David Thoreau as having a commitment to both human rights and nature. See Limerick, *supra* note 95, at 343-44. Salazar notes Robert Marshall's populism and concern for the urban poor. See Debra J. Salazar, *Environmental Justice and a People's Forestry*, 94 J. FORESTRY 32, 33 (1996).

98. JAMES M. CALAHAN, EDWARD ABBEY: A LIFE 209-13 (2001).

99. GOTTLIEB, *supra* note 5, at 259-60.

100. Devon Peña & Rubén Martínez, *The Capitalist Tool, the Lawless, and the Violent: A Critique of Recent Southwestern Environmental History*, in CHICANO CULTURE, ECOLOGY, POLITICS: SUBVERSIVE KIN 141 (Devon G. Peña ed., 1998).

101. Garrett Hardin, *Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

102. See generally U.S. NAT'L RESEARCH COUNCIL COMM. ON THE HUMAN DIMENSIONS OF GLOBAL CHANGE, THE DRAMA OF THE COMMONS (Elinor Ostrom et al. eds., 2002).

103. Peña & Martínez, *supra* note 100, at 150-51.

practices and ethics practiced by indigenous and Hispano users.¹⁰⁴ In a similar vein, Wilmsen suggests that science-based interpretations of sustainability and the increasing importance of science in environmental management have marginalized Hispano local knowledge and reduced local Hispano contributions to natural resource management to being a source of labor to implement scientific prescriptions.¹⁰⁵ If we recognize that science and science-based management can be influenced by social trends and biases, these examples show another way in which racial and ethnic minorities can be disenfranchised.

CULTURE AND RESOURCE USE

The ethnic diversity of the U.S. population means that there are many different ways of valuing and using natural resources and different groups can come into conflict or even fail to recognize the legitimacy of some of these uses. There has been a great deal of research and writing during the last decade on the subject of cultural diversity and natural resources, ranging from values to natural resource uses.

Values and Worldviews

Environmentalism

There is an extensive body of literature on racial and ethnic minorities, particularly African Americans, and environmentalism. For a long time, conventional wisdom held that African Americans cared less than whites about the environment and were less involved in environmental issues. This idea had its basis in studies that purported to show lower levels of African-American concern for the environment, membership in environmental organizations, environmental activism, and natural resource-based outdoor recreation.¹⁰⁶ In the 1990s, more careful analyses began to challenge the myth of low levels of African-American environmental concern. Mohai, using data from several national surveys, found no significant difference in environmental concerns between African Americans and whites but did find significant differences in levels of

104. *Id.* at 150.

105. Carl Wilmsen, *Sustained Yield Recast: The Politics of Sustainability in Vallecitos, New Mexico*, 14 SOC'Y & NAT. RESOURCES 193, 195, 203-04 (2001).

106. For reviews of this literature, see Eric Jay Dolin, *Black Americans' Attitudes toward Wildlife*, 20 J. ENVTL. EDUC. 17 (1988); Robert Emmet Jones, *Black Concern for the Environment: Myth Versus Reality*, 11 SOC'Y & NAT. RESOURCES 209 (1998); Paul Mohai, *Black Environmentalism*, 71 SOC. SCI. Q. 744 (1990).

environmental activism.¹⁰⁷ He suggested two explanations for the low level of activism: (1) structural barriers to African American participation in environmental organizations and policy/government positions and (2) the fact that African Americans as a whole face more social and environmental problems than whites, and therefore their attention is often divided in more ways. Jones also found no support for the hypothesis that African Americans are not interested in environmental issues.¹⁰⁸ He did, however, find evidence that African Americans and whites may be concerned about different specific environmental problems.¹⁰⁹ African Americans and people of color were more concerned about safety and health effects associated with nuclear power and solid, toxic, and nuclear wastes, while whites were more concerned with ozone depletion and global warming. He also found that, in terms of relative but not absolute priorities, African Americans tend to rank environmental issues lower than other social issues (supporting the idea that African Americans face more competing priorities). Parker and McDonough found that both African and European Americans showed environmental concern in their attitudes but that feelings of powerlessness were stronger in African Americans, perhaps accounting for lower rates of minority participation in the environmental movement.¹¹⁰ More recently, some studies have found greater support for environmental concerns among both the poor and minorities.¹¹¹

Jones suggests that analyses of race and ethnicity and environmental concern need to take several factors into consideration. First, care must be taken in defining what constitutes environmentalism and how it is worded, since environmentalism and its concerns are not the same for all ethnic and racial groups. Second, environmental concern and activism are not the same thing, and, just as there are differences in the content of environmental values, there are different ways of being environmentally active that include attendance at public meetings, voting behavior, and involvement in protests. And finally, there are different ways to define an environmental group, depending on the definition of environmentalism and exactly where the boundary is drawn in the fuzzy area between environmentalism and social concerns.¹¹²

There are several examples of these considerations in the emerging literature on Hispanic environmentalism. Peña argues that evidence of a

107. Mohai, *supra* note 106, at 761.

108. Jones, *supra* note 106, at 224.

109. *Id.*

110. Julia Dawn Parker & Maureen H. McDonough, *Environmentalism of African Americans: An Analysis of the Subculture and Barriers Theory*, 31 ENV'T & BEHAV. 155, 168-70 (1999).

111. See Eugene S. Uyeki & Lani J. Holland, *Diffusion of Pro-Environment Attitudes?*, 43 AM. BEHAV. SCIENTIST 646, 658 (2000).

112. Jones, *supra* note 106, at 210-11.

Mexican-American conservation ethic has been ignored.¹¹³ He suggests that Mexican Americans were portrayed as having no conservation ethic, having to wait instead for the founding of the land ethic by Aldo Leopold. Peña, in contrast, finds evidence of a land ethic in "cuentos" or folktales, oral tradition, and customary law, which contain stories of sanctions against greed, the idea of "vergüenza" or shame, and a preference for place and biotic diversity over economic rationality.¹¹⁴ Pulido also discusses generalizations of Hispanics engaging in environmentally destructive land use practices and efforts to counter these claims.¹¹⁵ Pulido emphasizes social location or positionality as influencing the definition of and priority given to social and environmental problems.¹¹⁶ The social locations of racial and ethnic minorities, like those of class and gender, produce different environmental experiences, perceptions of environmental issues, environmental discourses, and activist strategies (e.g., direct action versus congressional access).¹¹⁷ Thus, environmental issues affecting minority racial and ethnic groups are often framed around injustice rather than romantic or transcendentalist themes, wilderness getaways, or wildlife.¹¹⁸

Natural Resource Values and Attitudes

Strang, in her ethnography of environmental values in Australia, said, "walking in the same place, people from different cultures see, experience and value different landscapes, and construct with those perceived landscapes entirely different environmental relationships. They do this according to their cultural beliefs and knowledge, locating value in the things that their culture values."¹¹⁹ The natural resource management field has had, until recently, little diversity in its practitioners, nor has it paid much attention to cultural diversity in resource values and use. In fact, as Strang indicates, people from different cultural backgrounds, with different experiences, can be expected to value and think about natural

113. Devon G. Peña, *Los Animalitos: Culture, Ecology, and the Politics of Place in the Upper Rio Grande*, in *CHICANO CULTURE, ECOLOGY, POLITICS: SUBVERSIVE KIN* 25, 38-43 (1998); Devon Peña & Maria Mondragon-Valdéz, *The "Brown" and the "Green" Revisited: Chicanos and Environmental Politics in the Upper Rio Grande*, in *THE STRUGGLE FOR ECOLOGICAL DEMOCRACY: ENVIRONMENTAL JUSTICE MOVEMENTS IN THE UNITED STATES* 312 (Daniel Faber ed., 1998).

114. Peña, *supra* note 113, at 25, 38-41.

115. Laura Pulido, *Ecological Legitimacy & Cultural Essentialism: Hispano Grazing in the Southwest*, in *CHICANO CULTURE, ECOLOGY, & POLITICS: SUBVERSIVE KIN* 121, 126-28 (Devon G. Peña ed., 1998).

116. Pulido, *supra* note 57, at 25.

117. *Id.* at 25-26.

118. Taylor, *supra* note 74, at 514.

119. VERONICA STRANG, *UNCOMMON GROUND: CULTURAL LANDSCAPES & ENVIRONMENTAL VALUES* 276 (1997).

resources in different ways than has previously been customary in professional circles in the United States.

Jostad et al. discuss a generalized Native American worldview, while recognizing that care must be taken not to see all Native Americans as one group and to recognize cultural differences among them.¹²⁰ They characterize Euro-American culture as scientific and utilitarian and Native Americans as more ethical and spiritual. In the Native American worldview, resources are gifts that are to be used wisely and with respect, and spiritual concepts enter into natural resource management. These differences are reflected in the use practices of individuals and in tribal natural resource management approaches.¹²¹

Freeman et al. describe the deeply spiritual relationship between Inuit hunters and their prey, including the belief that harvests are a respectful way to use gifts presented by the creator.¹²² This presents a striking alternative to the animal rights views popular in white culture and has implications for both whales and programs such as catch-and-release angling.

Endter-Wada and Levine suggest that for Alaska native peoples subsistence use is the basis for a system of relationships between people and between people and the natural world.¹²³ Such relationships differ from those formed around commercial use.¹²⁴ The social relationships around subsistence use organize the production, distribution, and consumption of natural resources as a means to maintain a community in ways that are socially and culturally meaningful. Although technology may change, patterns of behavior and values associated with Native subsistence activities have often remained unchanged and distinct.¹²⁵

Davis discusses how the Menominee Indian Tribe has managed their forest differently than those on other lands.¹²⁶ The Menominee have managed their forests for selective harvests of old and dead trees, with attention to non-timber values (water and wildlife) and maintaining a forested landscape in the long term.¹²⁷ Davis attributes this both to Menominee forest values and institutions. Menominee forest values are oriented toward maintaining long-term forest viability rather than short-

120. Patricia M. Jostad et al., *Native American Land Ethics: Implications for Natural Resource Management*, 9 SOC'Y & NAT. RESOURCES 565, 570 (1996).

121. *Id.* at 575-77.

122. MILTON M.R. FREEMAN ET AL., INUIT, WHALING, & SUSTAINABILITY 40 (1998).

123. Joanna Endter-Wada & Douglas W. Levine, *Comparison of Subsistence Activities among Natives and Non-Natives in Bristol Bay, Alaska*, 9 SOC'Y & NAT. RESOURCES 595, 606 (1996).

124. *See id.* at 606.

125. *Id.* at 596-97.

126. THOMAS DAVIS, SUSTAINING THE FOREST, THE PEOPLE, & THE SPIRIT 204-08 (2000).

127. *Id.* at 206.

term economic returns. Menominee institutions tend to level political power and prevent the formation of coalitions of political and economic interest groups that are able to skew forest management and policy toward a single group's narrow economic interests.¹²⁸

Lynch discusses Latino environmental worldviews, noting that socially constructed notions of the environment are shaped by life experiences and, therefore, differ with ethnicity.¹²⁹ She finds that the garden and the sea are important symbols for U.S. Caribbean Latinos, comparable to the frontier, wild rivers, and redwoods for Anglo Americans. She suggests that ideal or utopian landscapes in Latino literature are populated and productive—more like a garden; rather than the pristine wilderness, Arcadian landscapes, or unpeopled frontiers common in Anglo-American literature.¹³⁰

Some ethnic cultural conceptions directly challenge the cultural conceptions that lie at the heart of the natural resource management field in the United States. Cronon discusses how wilderness is a culturally defined notion, rising out of the unique circumstances of the colonization of the American West, and a counterpoint to Eastern urbanization.¹³¹ The wilderness concept has generally ignored the extent to which the North American landscape was populated and used by native peoples prior to the arrival of Europeans.¹³² A number of authors point out that what some call wilderness, others, such as Hispanos and indigenous people, see as their backyard, homeland, or as sacred and spiritual sites.¹³³ The result is that the wilderness concept is seen by some as a vehicle for denying them their lands and resources. Nabhan describes how John Muir and others failed to note the extent to which areas they called wilderness had been lived in, consisting of a vegetation mosaic that was the result of centuries of use and manipulation by native peoples who called these lands home.¹³⁴ Nabhan goes on to show how differences in viewpoint influence both the cultural

128. *Id.* at 206-08.

129. Barbara Deutsch Lynch, *The Garden and the Sea: U.S. Latino Environmental Discourses and Mainstream Environmentalism*, 40 SOC. PROBS. 108, 109-10 (1993).

130. *Id.* at 112.

131. William Cronon, *The Trouble with Wilderness; or, Getting Back to the Wrong Nature*, in UNCOMMON GROUND: RETHINKING THE HUMAN PLACE IN NATURE 69-70, 78-79 (William Cronon ed., 1996).

132. See William M. Denevan, *The Pristine Myth: The Landscape of the Americas in 1492*, 82 ANNALS OF THE ASS'N OF AM. GEOGRAPHERS 369, 379 (1992).

133. DEBUYS, *supra* note 52, at 285-87; McCool, *supra* note 37, at 10; Carolyn Merchant, *Reinventing Eden: Western Culture as a Recovery Narrative*, in UNCOMMON GROUND: RETHINKING THE HUMAN PLACE IN NATURE 132, 140, 144-45 (William Cronon ed., 1996); Peña, *supra* note 113, at 35-36.

134. Nabhan, *supra* note 92, at 94.

and scientific interpretation of ecosystems and then contribute to ethnically biased resource management approaches.¹³⁵

Natural Resource Use

Extractive uses

Culture and ethnicity affect extractive natural resources in many ways. They influence what species are commonly harvested, as well as the acceptability of harvesting certain species. They affect the way that people harvest, including both the technology used and the social organization of harvesting. Culture and ethnicity also impact the amount harvested and the purpose to which the harvest is put. And, ultimately, they affect larger ecosystems and landscape characteristics where harvesting takes place.

Ethnicity shapes very basic notions of what is viewed as a harvestable resource. Early twentieth-century conservationists often decried the "wasteful" and greedy hunting practices of certain ethnic and social groups, such as American Indians, African Americans, and immigrants—especially Italians.¹³⁶ As an example, Warren notes that songbirds were a customary Italian delicacy and were widely hunted and sold in markets in Italy. However, songbird harvesting violated dominant U.S. conservationist cultural norms. Even while embracing raptor eradication programs, conservationists predicted that ecological disaster would result from killing songbirds.¹³⁷ In the Southwest, Native Americans and Euro-Americans maintained radically different ideas about wild animals, proper behavior toward them, rights to hunt, and hunting patterns, but the Native American ways gave way to those of the more powerful newcomers.¹³⁸ More recently, a debate over the acceptability of harvesting whales has erupted, pitting a Native American group, the Makah, who traditionally hunted whales, against some conservation and animal rights groups.¹³⁹ The point here is not to pass judgment on the harvesting of songbirds and whales but rather to show how race and ethnicity can influence the definition of a harvestable resource and the purposes for which harvesting is considered appropriate. Power relationships, which often are structured along racial or ethnic lines, can force one group's definition of what is appropriate on another group.

135. See *id.* at 96-97.

136. WARREN, *supra* note 33, at 26.

137. *Id.* at 27.

138. *Id.* at 102-03, 110-13.

139. See Richard Kirk Eichstaedt, "Save the Whales" v. "Save the Makah," 4 ANIMAL L. 145, 170 (1998); Patricia Pierce Erikson, *A-Whaling We Will Go: Encounters of Knowledge and Memory at the Makah Cultural and Research Center*, 14 CULTURAL ANTHROPOLOGY 556, 556-57 (1999).

Different ethnic groups harvest different resources, and these harvests are often intimately bound up with social relationships. Marks traces the history of African American-white interactions around wildlife in North Carolina and demonstrates how African Americans and whites in the antebellum South had different hunting experiences.¹⁴⁰ At that time, slaves owned neither the land, weapons, nor the game pursued. The planters took game in the broad daylight on horseback with guns, accompanied by dogs and retinues of servants. Slaves participated as drivers and subordinates for their masters during the day and at night went after raccoons, opossum, and other game with dogs. African Americans also took wild animals with deadfalls, snares, and other unobtrusive means (especially because their gun-owning privileges were eroded as white fears of slave insurrections grew).¹⁴¹

Marks discusses how this history led to different hunting traditions.¹⁴² Wealthy whites established an aristocratic tradition of sport hunting in which only certain mammals and birds were deemed worthy to test the skills of the sportsman and his dog. Subsistence hunters emphasized hunting efficiency. Not willing to waste ammunition on a bird in flight, they used traps and snares when possible. Today, proportionately fewer African Americans than whites hunt, which may be a historical legacy of opportunities to participate in hunting in the past, as well as a reflection of the historical dangers faced by African American hunters in the woods from racial violence.¹⁴³ Current differences in access to hunting opportunities may also contribute to the disparity, since in the South access to hunting depends on participation in hunting organizations, which have often not been open to African Americans.¹⁴⁴

Lynch discusses New York Latino bluefish fishing from party boats.¹⁴⁵ She notes how party boat fishing is recreation for the poor, who justify the expense by catching enough bluefish to share with family, neighbors, and friends—thereby meeting their social obligations at the same time. Daily restrictions on the recreational catch, established under assumptions related to white patterns of social organization for fishing, cause problems for Latinos who cannot justify their participation under these conditions.¹⁴⁶ In this, and other cases, there may be more than one way to implement ecologically effective restrictions depending on the cultural patterns of fishing considered.

140. STUART A. MARKS, *SOUTHERN HUNTING IN BLACK AND WHITE* 28 (1991).

141. *Id.* at 31.

142. *Id.* at 28.

143. *Id.* at 67.

144. *Id.* at 223.

145. Lynch, *supra* note 129, at 117.

146. *Id.*

West et al. describe a different result of the failure to include ethnic considerations in fishing regulations. They note that average "[f]ish consumption patterns are an important component used in setting water quality standards in Michigan."¹⁴⁷ The greater the amount of fish consumption assumed, the lower the levels of toxic chemicals permitted to be discharged. However, minorities (and the poor) consume statistically significant higher amounts of fish than the general population.¹⁴⁸ If the averages used to establish recommendations do not take into account consumption patterns for different ethnic groups, members of those groups with disproportionately higher fish consumption may take in unsafe levels of pollutants even if they follow the recommendations.

The harvesting of non-timber forest products (NTFPs), or specialty forest products, has increased in importance in many parts of the country over the last decade, driven in part by a more ethnically diverse population. Richards and Creasy discuss Matsutake mushroom harvesting in the Pacific Northwest.¹⁴⁹ Matsutakes have long been a traditional food for the indigenous Karuk, Yurok, and Hupa people of the region. Harvesting increased dramatically in the 1990s, dominated by Southeast Asian immigrant harvesters, as a commercial market developed in Japan. Different groups of harvesters have different motivations and practices. Karuk picked on traditional family sites, tended to pick only what they could use or give away (for family tradition or special feast meals), picked only mature mushrooms (leaving very young to grow and very old to distribute spores), and tried to minimize litter or duff disturbance. Some Karuk did pick commercially for cash income, for example for "Christmas money." Asian harvesters, on the other hand, were generally non-local, picked for cash, and sought to maximize their picking time and harvest. The practice also had cultural value for them, because camp life and mushroom picking itself are traditions from their native countries. But without the long term and local ties to the land, they picked all sizes, disturbed leaf litter (believing that mushrooms "grow on their own"), and generally tried to harvest patches before others did.¹⁵⁰ Latinos are also involved in harvesting special or non-timber forest products in the Pacific Northwest, including "beargrass, huckleberries, boughs, greens, medicinal herbs, and firewood."¹⁵¹ In this case, harvesting is often a fallback activity when agricultural work is not available or fruit harvests are bad.

147. Patrick West et al., *Minorities and Toxic Fish Consumption: Implications for Point Discharge Policy in Michigan*, in ENVIRONMENTAL JUSTICE 124 (Bunyan Bryant ed., 1995).

148. *Id.* at 135.

149. Richards & Creasy, *supra* note 3.

150. *Id.* at 370-71.

151. Richard Hansis, *The Harvesting of Special Forest Products by Latinos and Southeast Asians in the Pacific Northwest: Preliminary Observations*, 9 SOC'Y & NAT. RESOURCES 611, 613 (1996).

Anderson et al.'s study of Korean and Japanese fern gathering on a southern California national forest provides an example of non-timber forest product harvesting that differs markedly from the Pacific Northwest studies described above.¹⁵² They find that fern gathering was primarily a social and recreational activity rather than a commercial one, with important cultural meaning and group experiences in picking, processing, cooking, and eating. They suggest that their results add a third category of picker—recreational—to the subsistence and commercial pickers previously identified in the literature.¹⁵³ Recreational pickers generally pick once a year for a short time period, pick small quantities, and pick primarily for cultural and social reasons. Anderson et al. found numerous differences between Japanese and Korean pickers and emphasize the dangers in lumping these two groups into a single "Asian" category.¹⁵⁴

The issues around extractive natural resource uses are not limited to the species that are harvested. They also involve larger ecosystem and landscape relationships. Blackburn and Anderson discuss the many ways that native Californians subtly managed, maintained, and transformed various "wilderness" habitats with fire, harvesting strategies such as bulb thinning and selection, seedbeating, sowing, pruning, coppicing, and tillage.¹⁵⁵ In California, many of the important pre-European features of major ecosystems developed as a result of human intervention, and many habitats were deliberately maintained by, and essentially dependent on, continuing human activities.¹⁵⁶ Anderson notes that a number of plants that were widely harvested by Native Americans are currently classified as extinct, rare, or endangered, raising the possibility that the absence of indigenous management may be responsible for the diminishing numbers of some species.¹⁵⁷ Anderson and Nabhan point out similar examples from the Sonoran Desert.¹⁵⁸ These studies suggest that allowing, and even encouraging, native uses may be an important aspect of ecosystem management for biodiversity.

Pulido describes how rural Hispanos base their livelihoods on complex sets of strategies designed to provide at least a minimal year-round

152. Janet A. Anderson, Dale J. Blahna, & Deborah J. Chavez, *Fern Gathering on the San Bernardino National Forest: Cultural versus Commercial Values Among Korean and Japanese Participants*, 13 SOC'Y & NAT. RESOURCES 747, 758-59 (2000).

153. *Id.*

154. *Id.*

155. Thomas Blackburn & Kat Anderson, *Introduction: Managing the Domesticated Environment*, in *BEFORE THE WILDERNESS: ENVIRONMENTAL MANAGEMENT BY NATIVE CALIFORNIANS* 15, 18-21 (Thomas C. Blackburn & Kat Anderson eds., 1993).

156. Kat Anderson, *Native Californians as Ancient and Contemporary Cultivators*, in *BEFORE THE WILDERNESS*, *supra* note 155, at 151, 171-74.

157. *Id.*

158. Kat Anderson & Gary Paul Nabhan, *Gardeners in Eden*, 55 *WILDERNESS* 27, 28-30 (1991).

cash flow and meet economic, cultural, and social needs.¹⁵⁹ For example, ranching and grazing have multiple meanings; they are both economic activities, but both also symbolize a particular quality of life and meaningful identity.¹⁶⁰

Peña discusses Chicano agrosilvopastoralism.¹⁶¹ When looked at in an agroecological context, these systems show many attributes of sustainability and adaptation to the arid environment of the Southwest. Upland common lands are important for grazing, timber, wildlife, and medicinal plants.¹⁶² The riparian long-lot/acequia complex presents a unique set of opportunities for biodiversity conservation by creating habitat islands and biological corridors connecting larger regional islands.

Salamon studied two ethnic farming communities in Illinois of German-Catholic and Yankee (or old American) ancestry.¹⁶³ She found that "not all farmers operate in accord with the typically assumed entrepreneurial motives" (*i.e.*, profit maximization).¹⁶⁴ Yankees maximize profit and independence (and therefore risk), while German's maximize family and farm continuity (passing land in good condition on to future generations).¹⁶⁵ The result of this was that Germans had more mixed farming systems.

Bliss discusses differences in forest and farm management style among different white ethnic landowners in Wisconsin: Norwegian-American, Yankees, German-American, and Finnish-American landowners.¹⁶⁶ Bliss found differences in forest cover, land degradation, and off-farm employment among farmers of different ethnic backgrounds: Farmers of Norwegian, Finnish, and German ancestry tended to manage their land and forests for the long term, while the more entrepreneurial Yankee landowners tended to overgraze and overcut their woodlands.¹⁶⁷

Outdoor Recreation

The recreation literature related to race and ethnicity is better developed than that in other natural resource sub-fields. It includes many

159. PULIDO, *supra* note 56, at 135.

160. *Id.* at 137.

161. Peña, *supra* note 89.

162. *Id.* at 115-17.

163. Sonya Salamon, *Ethnic Communities and the Structure of Agriculture*, 50 RURAL SOC. 323, 336 (1985).

164. *Id.* at 337.

165. *Id.*

166. John C. Bliss, *Evidence of Ethnicity: Management Styles of Forest Owners in Wisconsin*, 36 FOREST & CONSERVATION HIST. 63, 63-71 (1992).

167. *Id.*

empirical studies, several review papers,¹⁶⁸ and at least one edited volume.¹⁶⁹ Because of the amount of literature on this topic and because several excellent review papers have been written, only a summary of the key findings and issues will be given here.

Much of the recreation literature has focused on the apparent under-participation of minorities in most types of outdoor recreation.¹⁷⁰ Two major theoretical explanations have been offered: marginality and ethnicity. The marginality hypothesis explains under-participation as resulting from socioeconomic factors such as lack of access to recreational sites and economic barriers to participation.¹⁷¹ Differences that are not accounted for when controlling for socioeconomic status are generally attributed to ethnicity. The ethnicity or subculture hypothesis posits that differences in outdoor recreation participation and behavior are the result of different values and expectations in outdoor recreation experiences. That is, ethnic and racial minorities often have preferences and make choices for different forms of recreation than majority groups, and this is reflected in under-participation in certain outdoor recreation activities. West and Floyd each offer a third explanation, that of interracial relations or discrimination.¹⁷² This hypothesis holds that people choose their recreational sites with racial composition in mind, often taking into consideration feelings that people of their ethnic or racial group are unwelcome or will experience discrimination. For example, an Asian individual may choose not to go to a certain park because it is viewed as a "white person's park," which may generate feelings of unwelcomeness or fear of physical harm.

A number of limitations have been identified in the recreation literature on race and ethnicity. Carr and Williams point out the need to go beyond studies of recreation participation rates and patterns to also study

168. See, e.g., JAMES H. GRAMANN, U.S. ARMY CORPS OF ENGINEERS, *ETHNICITY, RACE, AND OUTDOOR RECREATION: A REVIEW OF TRENDS, POLICY, & RESEARCH*, (1996); CASSANDRA Y. JOHNSON ET AL., U.S.D.A. FOREST SERVICE, *THEORETICAL PERSPECTIVES OF ETHNICITY AND OUTDOOR RECREATION: A REVIEW AND SYNTHESIS OF AFRICAN AMERICAN AND EUROPEAN-AMERICAN PARTICIPATION* (1997); Myron Floyd, *Race, Ethnicity and Use of the National Park System*, SOC. SCI. RESEARCH REV., Spring/Summer 1999, at 1; Paul Gobster, U.S.D.A. FOREST SERVICE, *MANAGING URBAN AND HIGH-USE RECREATION SETTINGS* (1993); Floyd, *supra* note 19.

169. ALAN W. EWERT, DEBORAH J. CHAVEZ, & ARTHUR W. MAGILL, *CULTURE, CONFLICT AND COMMUNICATION IN THE WILDLAND-URBAN INTERFACE* (1993).

170. See Deborah S. Carr & Daniel R. Williams, *Understanding the Role of Ethnicity in Outdoor Recreation Experiences*, 25 J. LEISURE RES. 22, 22-23 (1993).

171. Floyd, *supra* note 19, at 5.

172. Patrick C. West, *Urban Regional Parks and Black Minorities: Subculture, Marginality, and Interracial Relations in Park Use in the Detroit Metropolitan Area*, 11 LEISURE SCI. 11, 12 (1989); Patrick C. West, *The Tyranny of Metaphor: Interracial Relations, Minority Recreation, and the Wildland-Urban Interface*, in *CULTURE, CONFLICT & COMMUNICATION IN THE WILDLAND-URBAN INTERFACE* 109, 111-12 (Alan W. Ewert et al. eds., 1993); Floyd, *supra* note 19, at 6.

the meaning, significance, and styles of recreation participation. Such studies will require going beyond large-scale population surveys to use a variety of social science methodologies.¹⁷³ A number of authors note that ethnic groups are often treated as if they are homogenous, ignoring inter-group diversity.¹⁷⁴ Carr and Williams also address this limitation by developing an empirical measure of ethnicity that takes into account ancestral group, generational status, and level of acculturation.¹⁷⁵ Floyd criticizes the subculture and marginality hypotheses as being underlain by biased ideological assumptions. Both hypotheses assume that minority or ethnic groups should exhibit or adopt the leisure preferences of the dominant group or mainstream society.¹⁷⁶ These concepts do not allow for or value the possibility of unique ethnic and cultural forms of recreation that vary from white majority norms.

Chavez and Carr discuss how the recreational activities, the social groups that engage in them, and the meanings attached to them may all differ with ethnicity.¹⁷⁷ For example, Hispanic and white groups using National Forest picnic sites differ in many ways: Hispanics visiting in large groups, with more onsite food preparation and full day use; whites visiting in nuclear family groups, bringing home-prepared foods, and engaging in shorter visits.¹⁷⁸ Mismatches between recreational facilities and recreational-use patterns can result in dissatisfied users and resource degradation (for example, as larger groups spill out of sites designed for nuclear families). Chavez discusses the way that these differences were used to redesign a picnic area on the San Bernardino National Forest in Southern California to better serve the Hispanic majority that used the site.¹⁷⁹ Ethnic and racial diversity in recreational use is only beginning to be explored in many parts of the country. For example, Morrissey and Manning found that racial and ethnic minorities in Massachusetts showed lower support for the recreational values of White Mountain National Forest, while placing

173. Carr & Williams, *supra* note 170, at 23, 37.

174. Carr & Williams, *supra* note 170, at 23; Floyd, *supra* note 19, at 6.

175. Carr & Williams, *supra* note 170, at 25.

176. Floyd, *supra* note 19, at 7.

177. Deborah J. Chavez, *Invite, Include, and Involve! Racial Groups, Ethnic Groups, and Leisure, in DIVERSITY & THE RECREATION PROFESSION: ORGANIZATIONAL PERSPECTIVES* 179 (Maria T. Allison & Ingrid E. Schneider eds., 2000); Deborah S. Carr & Deborah J. Chavez, *A Qualitative Approach to Understanding Recreation Experiences: Central American Recreation on the National Forests of Southern California, in CULTURE, CONFLICT, AND COMMUNICATION IN THE WILDLAND-URBAN INTERFACE* 181, 182-85 (Alan W. Ewert et al. eds., 1993).

178. Carr & Chavez, *supra* note 177, at 186-91.

179. DEBORAH J. CHAVEZ, U.S.D.A FOREST SERVICE, *MANAGING OUTDOOR RECREATION IN CALIFORNIA: VISITOR CONTACT STUDIES 1989-1998* (2001).

greater emphasis on religious and spiritual values.¹⁸⁰ As the U.S. population diversifies, different outdoor recreational patterns will be observed more frequently and a diversity of appropriate ways to engage in recreational activities must be acknowledged in site design and regulations. Many of these patterns will differ from the standard ways that public sites have been developed in the past. Accounting for these differences in facility design can serve ethnic constituencies as well as ease management and resource degradation problems.

Tourism

Tourism often has an ethnic component or differential ethnic impacts. By its nature, tourism brings outsiders to new places and sets up a new relationship between two groups of people. Sometimes these groups are members of the same racial or ethnic group, but they often are not. Nature tourism often blends together with cultural tourism.¹⁸¹ The role of cultural mystique in tourism in New Mexico provides a good example.¹⁸² Rothman shows that in cultural tourism local people are fit into tourist imaginings, often times by cultural mediators who construct and promote a cultural-natural image for an area.¹⁸³ Many tourists are engaged in what van den Berghe has called the "quest for the other."¹⁸⁴ Local ethnic groups, to participate in this tourism in jobs other than menial labor, must fit themselves into this image. This tends to produce a commercialized stereotype of the culture, which can be degrading or constraining to local people. However, van den Berghe also notes that ethnic tourism not only debases culture, but also leads to creative processes of renewal and transformation through the renaissance of native cultures and the reassertion of ethnic identity.¹⁸⁵

Tourism also produces material relationships and conflicts. In some cases, subsistence resource or sacred sites of native groups may become tourist sites for people from outside.¹⁸⁶ Examples include the Havasupai and the Grand Canyon, the Navajo and Rainbow Bridge, and the Seminole and

180. Jennifer Morrissey & Robert Manning, *Race, Residence and Environmental Concern: New Englanders and the White Mountain National Forest*, 7 HUM. ECOLOGY REV. 12, 21 (2000).

181. See HAL K. ROTHMAN, *DEVIL'S BARGAINS: TOURISM IN THE TWENTIETH CENTURY AMERICAN WEST* 23-25 (1998).

182. PULIDO, *supra* note 57, at 151, 204-06.

183. Rothman, *supra* note 181, at 11-12, 43-45, 84-93, 104-08.

184. PIERRE L. VAN DEN BERGHE, *THE QUEST FOR THE OTHER: ETHNIC TOURISM IN SAN CRISTÓBAL, MEXICO* 8 (1994).

185. *Id.* at 17.

186. See Deborah Ramer McLaren, *The History of Indigenous Peoples and Tourism*, CULTURAL SURVIVAL Q., Summer 1999, at 29-30.

Miccosukee and the Everglades.¹⁸⁷ Native people may be displaced from their lands and end up in low-wage, menial labor jobs.¹⁸⁸ In some cases, illegal immigrants are employed in the tourism industry (for example, Latino and Filipino labor in the ski industry in places like Sante Fe and Aspen), displacing or undercutting the wages of local people.¹⁸⁹

Social Organization

As the above discussion has shown, race and ethnicity produce diversity that goes beyond simply the products that people use or the activities in which they engage, including fundamental social structures and relationships. Howard describes the historical changes in African-American employment in the lumber industry, noting both the high levels of African-American employment in the industry in the South and the historical fact that African Americans have been most highly represented in the lower skilled jobs, with only gradual increases in representation in the higher skilled jobs over time.¹⁹⁰ Sociologists have studied segmented labor markets, where there is a primary sector with relatively more opportunities for job advancement, stable employment, and high wages and a secondary sector of dead-end jobs, high turnover, and frequent layoffs (often through subcontracting).¹⁹¹ Bailey et al. used the segmented labor market framework for analyzing employment in pulp and paper mills in Alabama.¹⁹² They found that, as a result of historical racial discrimination that prevented African Americans from being hired when pulp and paper mills first were established in the 1950s and 1960s, African Americans have been relegated to the secondary labor sector and have great difficulty breaking into the primary sector.¹⁹³

Pfeffer studied Cambodian and African-American agricultural day-haul workers in Philadelphia, finding that social factors, like household structure, which differ with ethnicity, can place important constraints (and opportunities) on members of certain ethnic groups and influence the

187. LADUKE, *supra* note 75, at 35; McLaren, *supra* note 186, at 29; Chris Smith & Elizabeth Manning, *The Sacred and the Profane Collide in the West*, 29 HIGH COUNTRY NEWS No. 10, at 1, 7, 8, 12 (1997).

188. McLaren, *supra* note 186, at 27; PULIDO, *supra* note 57, at 130; ROTHMAN, *supra* note 181, at 109, 248.

189. Rothman, *supra* note 181, at 109, 357-61, 367.

190. John C. Howard, *The Negro in the Lumber Industry*, Report No. 19, in THE RACIAL POLICIES OF AMERICAN INDUSTRY, 25-45, 76 (1970).

191. Craig R. Humphrey, *Timber-Dependent Communities in American Rural Communities*, in AMERICAN RURAL COMMUNITIES 34, 40 (A.E. Luloff & Louis E. Swanson eds., 1990).

192. Conner Bailey et al., *Segmented Labor Markets in Alabama's Pulp and Paper Industry*, 61 RURAL SOC. 475 (1996).

193. *Id.* at 493.

racial/ethnic composition of the labor force.¹⁹⁴ The result was differential ethnic involvement in different sectors of the labor force, with African Americans relying on multiple income sources (including services such as handyman or grocery shopper for the elderly) and Cambodians concentrating on farm work.¹⁹⁵ Pfeffer shows the importance of crew leaders, acting as social buffers, in linking people from different ethnic groups to labor markets.¹⁹⁶ Hansis also discusses ethnicity and crew leaders, finding that Asian Americans are hiring illegal immigrant Latinos to pick non-timber forest products in the Pacific Northwest.¹⁹⁷

As the nation's ethnic composition changes, new immigrant groups often enter into the labor force in areas that have traditionally been the domain of other minority groups. For example, in the 1970s, Vietnamese entered into shrimp fishing and seafood processing on the Gulf Coast.¹⁹⁸ The entrance of other ethnic groups may create and displace or undercut the wages of one group by a new group. But the results are never simple nor easily predicted. Moberg and Thomas find that Asian participation in seafood processing along the Gulf of Mexico led to the breakdown of the previously racially segregated market.¹⁹⁹ They argue that Asian employment in what were previously considered to be white jobs in crab processing paved the way for African American employment in these jobs by dispelling the myths that only whites could do such jobs.²⁰⁰ Tree planting is another area where there has been ethnic change in natural resource-related labor, with a widespread shift to predominantly Latino tree planting crews.²⁰¹

194. Max J. Pfeffer, *Work versus Welfare in the Ethnic Transformation of a Philadelphia Labor Market*, 78 SOC. SCI. Q. 452, 467-69 (1996).

195. *Id.* at 469.

196. Max J. Pfeffer, *Low Wage Employment and Ghetto Poverty: A Comparison of African-American and Cambodian Day-Haul Farm Workers in Philadelphia*, 41 SOC. PROBLEMS 9, 22, 27 (1994).

197. Richard Hansis, *A Political Ecology of Picking: Non-Timber Forest Products in the Pacific Northwest*, 26 HUM. ECOLOGY 67, 75 (1998).

198. See Mark Moberg & J. Stephen Thomas, *Indochinese Resettlement and the Transformation of Identities along the Alabama Gulf Coast*, in CULTURAL DIVERSITY IN THE U.S. SOUTH: ANTHROPOLOGICAL CONTRIBUTIONS TO A REGION IN TRANSITION 113, 116 (Carole E. Hill & Patricia D. Beaver eds., 1998); Mark Moberg & J. Stephen Thomas, *Class Segmentation and Divided Labor: Asian Workers in the Gulf of Mexico Seafood Industry*, 32 ETHNOLOGY 87, 87 (1993).

199. Moberg & Thomas, *Class Segmentation and Divided Labor: Asian Workers in the Gulf of Mexico Seafood Industry*, *supra* note 198, at 96-97.

200. *Id.*

201. See BEVERLY A. BROWN, IN TIMBER COUNTRY 92 (1995).

Management and Conflict

Increased awareness and attention to ethnic and racial dimensions of natural resource use and values is leading to greater accounting for them in management. In a study of ethnic difference in recreation at a site in Southern California, Baas et al. describe the importance of considering ethnic differences in recreational activities when planning and managing recreation areas.²⁰² McCorquodale et al. describe a forest planning and management approach on Yakima lands that accounts for diverse forest values.²⁰³ Forests are managed for timber, wildlife, fish habitats, cultural and religious sites, non-timber forest products, and water quality and quantity by setting priorities for different land units and using management options such as uneven aged-forest management. Einbender and Wood describe social surveys carried out on behalf of the Navajo Forestry Department (NFD) to understand and address the needs of traditional forest users.²⁰⁴ Commercial forestry is an important source of tribal employment and income, but forests are also seasonally inhabited by traditional users. Many of the uses of the forest are fundamental to Navajo cultural identity. These include poles for constructing traditional dwellings, grazing, fuelwood, sacred sites, medicinal plants, ceremonial items, and raw materials for crafts. The NFD is developing methods to incorporate these needs into the planning process on a continual basis, making it more responsive to cultural values than it had become under the influence of the Bureau of Indian Affairs.²⁰⁵ The Menominee have similarly integrated their cultural values into forest management.²⁰⁶ Harris and Cox and Kimmerer discuss bringing Native American perspectives to natural resource management education and curriculum, highlighting the need for attention to intellectual property and treaty rights, diversity in environmental values and management approaches, and indigenous knowledge and culture.²⁰⁷

202. John M. Baas, Alan Ewert, & Deborah J. Chavez, *Influence of Ethnicity on Recreation and Natural Environmental Use Patterns: Managing Recreation Sites for Ethnic and Racial Diversity*, 17 ENVTL. MGMT. 523, 528 (1993).

203. Scott M. McCorquodale et al., *Integrating Native American Values into Commercial Forestry*, 95 J. FORESTRY 15, 17 (1997).

204. LeGrand Einbender & D.B. Wood, *Social Forestry in the Navajo Nation*, 89 J. FORESTRY 12 (1991).

205. LeGrand Einbender-Velez, *Navajo Forestry Faces a Cultural Challenge*, 17 CULTURAL SURVIVAL Q. 32, 33 (1993).

206. DAVIS, *supra* note 126.

207. Richard R. Harris & Randi Cox, *Curriculum on Ecology and Natural Resource Management for Indian Natural Resource Workers*, 21 AM. INDIAN CULTURE & RES. J. 33 (1997); Robin Kimmerer, *Bringing the Native American Perspective into Natural Resources Education*, 13 WINDS OF CHANGE No. 3, at 16-18 (1998).

But the answer is not as simple as paying more attention to ethnic differences in uses, values, and social organization. Sometimes fundamental conflicts between uses and values arise. Hansis notes that small town and rural residents near public and private forestlands in the Pacific Northwest have resented the entrance of Asian mushroom pickers on lands they traditionally considered to be theirs for use.²⁰⁸ Newcomers sometimes begin to use patches that longtime residents consider to be for their exclusive use. He notes that many people began to carry weapons when picking following the deaths of two Asian mushroom pickers.²⁰⁹ Other conflicts in the Pacific Northwest have included those between Asian and Native American mushroom pickers²¹⁰ and Latino and Yakima huckleberry pickers.²¹¹ There have also been conflicts between pickers and elk hunters when they are in the woods at the same time.²¹²

Conflicts in other parts of the country include those between white and Vietnamese shrimpers in the Gulf of Mexico. Asians violated some of the norms for fishing, such as where to fish, how to cross the path of another boat, and how close to the shore to fish. There were also questions about whether a limited resource could be shared. But Vietnamese fisherman used strong kin ties to survive and secure a major foothold in the fishing industry, and, eventually, common interests were formed around opposition to Turtle Excluder Devices.²¹³ Other examples of conflicts are those between historic and cultural values of lands for grazing and other uses by Hispanos and wilderness preservation/deep ecology advocates in the Southwest.²¹⁴

Conflicts can arise even when managers account for ethnic values and claims on resources. Smith and Manning describe conflicts between Anglo recreationists and Native Americans over National Park Service and Forest Service efforts to preserve sacred sites in the western United States.²¹⁵ Examples include Rainbow Bridge, Devils Tower, The Great Kiva at Chaco Canyon, Lions Shrine in Bandolier National Monument, Big Horn Medicine Wheel in Bighorn National Forest, and ski area development near Santa Fe and Flagstaff.²¹⁶

208. Hansis, *supra* note 197, at 81-82.

209. *Id.* at 82.

210. Richards & Creasy, *supra* note 3, at 372.

211. Hansis, *supra* note 197, at 83.

212. Hansis, *supra* note 151, at 614.

213. Moberg & Thomas, *Indochinese Resettlement and the Transformation of Identities along the Alabama Gulf Coast*, *supra* note 198, at 119.

214. Raish, *supra* note 49, at 502; Pulido, *supra* note 115, at 150.

215. Smith & Manning, *supra* note 187, at 7-8.

216. *Id.*

Federal agencies have been sued for protecting Native American sacred sites by restricting public access on the grounds that this represents a religious preference and therefore is a First Amendment violation.²¹⁷ Unlike tribal natural resource management, where resource management objectives may be more clearly defined, federal agencies have a mandate to serve multiple interest groups and must negotiate a management path among highly diverse and often conflicting values. Many of these issues will have to be resolved by the courts, since they often invoke issues of Native American treaty rights securing tribal rights to certain uses and resources.

In Alaska, there have been conflicts between subsistence and sport hunters over rights to hunting, in which sportsmen have contended that game belongs to everyone and cannot be apportioned to an ethnic or racial minority.²¹⁸ Endter-Wada and Levine report that the Alaskan Supreme court ruled that the state could not grant priority in subsistence use to any group, including indigenous groups.²¹⁹

A case of extreme cultural difference and conflict related to natural resource harvesting and worldviews is that of whales and other marine mammals. Freeman et al. discuss Inuit whaling, noting the social, cultural, economic, and subsistence importance of whales to Inuit people.²²⁰ They suggest that animal rights views common in the western industrialized world that seek to prohibit whaling are a form of cultural imperialism that antagonizes local resource users rather than enlisting them as partners in conservation. They further assert that this can be seen as in conflict with indigenous peoples' human rights.²²¹ Similarly, the decision of the Makah tribe to resume whaling after a hiatus of nearly a century aroused a bitter controversy between animal rights advocates and the Makah.²²² In these cases, the fundamental conflict between worldviews and values makes easy resolution or compromise impossible.

217. *Id.* at 8.

218. PETER POOLE, DEVELOPING A PARTNERSHIP OF INDIGENOUS PEOPLES, CONSERVATIONISTS, AND LAND USE PLANNERS IN LATIN AMERICA 27 (The World Bank, Policy, Planning, and Research Working Paper WPS 245) (1989).

219. Endter-Wada & Levine, *supra* note 123, at 596. See also *McDowell v. Alaska*, 785 P.2d 1 (Alaska 1989).

220. FREEMAN ET AL., *supra* note 122, at 30-56.

221. *Id.* at 159, 166-67.

222. Erikson, *supra* note 139, at 556.

Race and Ethnicity as the Basis for Resistance and Social Capital

While some researchers have used racial minority status as a proxy for low levels of social capital,²²³ others have shown the positive and constructive ways that race and ethnicity may be used. Pulido, noting that U.S. society is highly racialized, discusses how many U.S. social movements are situated in the context of racism, as opposed to Third World social movements that have tended to be situated in the context of development.²²⁴ Pulido sees many U.S. social movements as combinations of material struggles, identity politics, and environmental concern, in which ethnic identity and symbolism are used both internally and with supporters from outside.²²⁵ Ethnic identity may thus play a key role in facilitating social movements that resist discrimination, advocate for greater attention to ethnic values and uses, bring about management and policy changes, and garner a share of resources such as land, water, and grazing rights.²²⁶ But the role of ethnicity can also move beyond resistance to being the basis for social capital supporting productive natural resource uses and the social organization that underlies them. Ethnic and racial communities can also draw on internal resources such as ritual, kinship, and morality in supporting their natural resource use systems and developing tools and skills for community persistence, survival, and well-being.²²⁷

Diversity in the Professions and Beyond

Several studies have addressed questions of race and ethnicity within the natural resource and environmental fields. Mayberry reports that the number of African American foresters in the United States in the mid 1960s was in the single digits.²²⁸ Growth was slow; in 1971 the number was

223. See Lionel J. Beaulieu & Glenn D. Israel, *Strengthening Social Capital: The Challenge for Rural Community Sustainability*, in *RURAL SUSTAINABLE DEVELOPMENT IN AMERICA* 191, 200 (Ivonne Audirac ed., 1997).

224. PULIDO, *supra* note 57, at 128.

225. *Id.* at 196-207.

226. Raish, *supra* note 49, at 501. See also Louise Fortmann, *Locality and Custom: Non-aboriginal Claims to Customary Usufructuary Rights as a Source of Rural Protest*, 6 J. RURAL STUD. 195, 197-98 (1990).

227. See Carole E. Hill & Patricia D. Beaver, *Introduction: Southern Culture and Diversity—A Bridge to the Twenty-first Century*, in *CULTURAL DIVERSITY IN THE U.S. SOUTH: ANTHROPOLOGICAL CONTRIBUTIONS TO A REGION IN TRANSITION* 1, 10 (1998).

228. B.D. Mayberry, *Historical Perspective on the Tuskegee Forest Resources Program*, in *EMBRACING DIVERSITY IN THE NATURAL RESOURCES WORKFORCE: A BLUEPRINT FOR SUCCESS* 103, 103 (Stephen H. Kolison, Jr., Walter A. Hill, & John H. Yancy eds., 1995); B.D. MAYBERRY, *SHARE THE VISION: THE HISTORY OF THE TUSKEGEE UNIVERSITY FOREST RESOURCES PROGRAM* 1 (1993).

reported to be less than a dozen.²²⁹ Thomas and Mohai studied workforce diversification in the Forest Service. They found that the percentage of people of color employed by the agency increased from 10.1 percent to 14.7 percent of all agency employees from 1980 to 1991, an increase to a level that exceeds the percentage of people of color in the entire civilian workforce (12.5 percent in 1980; 14.2 percent in 1991).²³⁰ While the largest gains have occurred in the administrative and clerical ranks, they also note increases in different professions—most notably a 35.5 percent increase in the forestry category (the 1991 total was five percent of the total Forest Service workforce).²³¹ Race and ethnicity have also been issues in the leadership and membership of environmental and conservation groups. Gottlieb and Taylor each describe the historical dominance of these groups by whites, finding that diversity increased only when attention began to be focused on environmental justice and social concerns in the 1990s.²³²

CONCLUSION

This review provides evidence of the need for greater attention to race and ethnicity in natural resource management. Notions of one clearly definable common good and of a generic "user" do not reflect the many different natural resource experiences, uses, and values of a diverse national population. The complex and multi-faceted relationships between race, ethnicity, and natural resources point to the need for thoughtful empirical analysis rather than generalizations. Nevertheless, several themes emerge from this review that can provide guidance in developing new ideas and practices for the field of natural resource management.

History

The roots of ethnic and racial relationships with natural resources are deep. Historical actions of discrimination and inattention to cultural diversity in resource management have left a legacy that continues to be experienced today. Injustices in the past have denied people from ethnic and racial minorities access to the natural resources, land, capital, and education that are the foundations for success in modern America. Injustices from many years ago manifest themselves in the resources and

229. Joe Brown, *Opportunities for Minorities in State and Private Forestry*, in *EMBRACING DIVERSITY IN THE NATURAL RESOURCES WORKFORCE: A BLUEPRINT FOR SUCCESS* 21, 22 (Stephen H. Kolison, Jr., Walter A. Hill, & John H. Yancy eds., 1995).

230. Jennifer C. Thomas & Paul Mohai, *Racial, Gender, and Professional Diversification in the Forest Service from 1983 to 1992*, 23 *POL'Y STUD. J.* 296 (1995).

231. *Id.* at 304.

232. GOTTLIEB, *supra* note 5, at 260-69; Taylor, *supra* note 5, at 553.

options available to current members of these groups. Many minority groups feel that they have been, and still are being, denied access to land, resources, and programs; or that they have been asked to bear the brunt of the costs as the resource use and conservation agendas of dominant and powerful groups were pursued. Racism survives not only in individual attitudes, but also in social structures.²³³ It affects who has land, who has access to resources, and whose values are represented in natural resource management and policy. Today's natural resource managers cannot ignore historical events that have conditioned people's attitudes; affected the resources that they and their families have available, and fundamentally changed their relationships to natural resources. Dealing with this legacy is not easy, since in some cases different groups have incompatible claims to the same resource. In some cases, competing claims will have to be addressed on a case-by-case basis through legal or legislative action (because treaty and tribal sovereignty rights are involved). Yet this review has also noted several examples where racial and ethnic minorities have been harmed by administrative decisions. In many cases, natural resource managers already have the opportunity and authority to pursue policies that strive to serve members of all racial and ethnic groups. This must begin with an understanding of both historical and current social relations influencing the value, use, and management of natural resources.

Complexity and Participation

Developing fair and equitable policies and management programs requires more attention to racial and ethnic diversity. This review has shown that there are complex linkages between culture and values, natural resource uses, social organization, and, ultimately, the conditions of natural resources and the attributes of ecosystems. Human culture has much variation, and this permeates nearly all aspects of natural resource values, use, and management. What some see as sacred, others see as a harvestable resource. Even among harvested resources, ethnic groups may use resources for very different purposes and through different forms of social organization. The basis of natural resource management may include science, religion, and a wide range of socially and culturally constructed goals that may or not be shared across groups. The failure to recognize the diverse values and uses that different racial and ethnic groups have for natural resources has the same exclusionary effect as discrimination. Ethnocentrism in natural resource management has had the effect of systematically excluding or harming minorities in the United States for

233. See Eduardo Bonilla-Silva, *Rethinking Racism: Toward a Structural Interpretation*, 62 AM. SOC. REV. 465, 474-76 (1996).

many years. It restricts access to resources that are important parts of their culture and that may be important to their livelihoods and well-being. In some cases, it may also hinder ecosystem and biodiversity management. Recognizing diversity in values and uses of natural resources is a first step, but it must be followed by mechanisms and efforts to include the full range of users and their values into natural resource decision making. The examples of Native American natural resource management and education that have been cited in this article provide some insights into how this can be done.

Uncertainty and Culturally-Biased Models

The case of Navajo stock reductions (discussed above), which were carried out with an incomplete scientific understanding of the relationship between grazing and sedimentation, is a lesson in the need to exercise particular caution in cases of scientific uncertainty. Such uncertainty is not uncommon, but in the face of scientific uncertainty natural resource professionals may respond by falling back on culturally and professionally coded models that have many biases built into them.²³⁴ Managers may confuse open access regimes with common property regimes, because Western culture has paid little attention to the latter and used the "tragedy of the commons" as a way to justify excluding traditional uses or users without a careful look at the actual people-resource relationships. Managers may assume that certain resources should be harvested, while others are for non-consumptive use only, without being aware of why they are making these assumptions or how other cultures have made different decisions. Someone's homeland or "backyard" may be declared a wilderness area or biological reserve without professional natural resource managers even stopping to wonder why important resources or species are more abundant on the land that native peoples have been using for centuries than on lands that majority groups have used for a much shorter time. While some people feel that environmental issues are so critical today that we need to act quickly and without full scientific knowledge, crisis responses taken without full knowledge or carefully thought-out actions often do more harm than good.²³⁵ Time taken to understand social and cultural context is rarely wasted.

234. Several authors discuss biases in natural resource professionals' norms and beliefs: see Sally K. Fairfax & Lynn Huntsinger, *The New Western History: An Essay from the Woods (and Rangelands)*, 53 ARIZ. Q. 191, 202 (1997); Louise Fortmann, *The Role of Professional Norms and Beliefs in the Agency-Client Relations of Natural Resource Bureaucracies*, 30 NAT. RESOURCES J. 361, 367 (1990).

235. See Jane Guyer & Paul Richards, *The Invention of Biodiversity: Social Perspectives on the Management of Biological Variety in Africa*, 66 AFRICA 1, 2 (1996).

Diversity in the Professions

It is important that everyone in the natural resource field improves their understanding of the complex relationships between racial and cultural diversity and natural resources. This is, to a significant extent, an issue of awareness and education. But it is also important to acknowledge the significant role that increasing racial and cultural diversity among academics and practitioners in the field can play in bringing about this change. Increasing diversity within the profession will be facilitated by recognition that there have been patterns of historical discrimination and ethnocentrism in our field, and that there is a need to explicitly recognize and teach that there are many ways that humans can use and value natural resources and not just one right way. A broader and more inclusive view of natural resource values, use, and management will better serve a diverse population and also attract more diversity to the natural resource professions.