

The Creation and Management of Protected Areas in Monteverde, Costa Rica*

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his study examines Monteverde's conservation and protected-area history and current situation through insights gained from first-person interviews conducted with 40 area residents and a study of relevant secondary sources. The primary objective of the research was to answer the following questions:

1) How has the role of the Monteverde protected areas changed to fit differing con-



ceptions of what conservation is and how it should be carried out, in relationship to local communities and broader conservation trends?

2) Should the Monteverde protected areas, conservation strategies, and tourism development be regarded as models for other conservation projects or regions?

The interviews, generally lasting about 45 minutes each, were recorded onto a digital voice recorder, and then transcribed. The interviewees were selected to provide a diverse sample of Monteverde residents, including Quakers, farmers, biologists, teachers, conservationists, and tourism entrepreneurs. Generally, names of potential interviewees were offered by other residents (snowball sampling). Interview questions were not standardized, but instead were tailored to each interviewee. Information gained from the interviews falls into two general categories: 1) historical information; 2) viewpoints about conservation practice in Monteverde. Historical information was strengthened with corroboration from multiple interviewees and/or written sources. The unique insights gained from first-person interviews allowed for the creation of a detailed portrait of Monteverde's conservation history and an intimate understanding of the interaction between the community and the protected areas.

Monteverde History Overview

Today, Monteverde and its forests are international tourist attractions that bring in hundreds of thousands of visitors annually, but until the 1970s Monteverde was an agricultural community quite remote from the rest of Costa Rica and the world. The isolated nature of Monteverde has strongly influenced the trajectory of its development, as the community has had to look inward to develop its economy, social institutions, infrastructure, and conservation programs.¹

*This paper has been adapted from a Master's thesis in Interdisciplinary Ecology from the University of Florida. Professor Brian Child was the advisor for this research project

¹ J. Wolfe, interview with author, Monteverde, June 12, 2006.

Around the turn of the 20th century, prospectors from central and Pacific coastal Costa Rica discovered gold in the rivers around Guacimal, a town near present-day Monteverde. The discovery triggered a small-scale gold rush and attracted settlers to the region, who became some of the first non-indigenous residents of the Monteverde area. Settler families cleared forest for small-scale agriculture and pasture for beef cattle. The use of fire, typically during the dry season, was a common way to prepare the land for planting. Tenure laws granted ownership rights after one year of occupation and tenure after 10 years to settlers who could show they were using the land in some way, which obliged them to clear and plant at least half of their area.² Cultural traditions encouraging land clearance and squatters' rights were reinforced by these land tenure laws and hastened the process of deforestation.³ Before the 1960s there was no legal framework in Costa Rica to promote sustainable land use, and deforestation continued well into the 1980s with a countrywide boom in cattle ranching.⁴ Many residents have commented on the problems that have been caused by deforestation in the areas around Monteverde, including reduced availability of water, erosion, and lack of firewood and building materials.⁵

Agricultural settlements were generally small, and individual families lived within a subsistence economy. A constraint on trade at the time was the poor road conditions; the road to the Monteverde region from the Pan-American Highway was essentially a narrow oxcart trail until it was "improved" in the 1950s. In addition to agriculture, hunting was an important means of obtaining food, and in the 1930s families hunted tapirs, deer, monkeys, pacas (a member of the rodent family), and birds.⁶

² S. Evans, *The Green Republic: A Conservation History of Costa Rica*, University of Texas Press, Austin 1999.

³ J. and S. Trostle, interview with author, Monteverde, July 3, 2006.

⁴ Evans, *The Green Republic* cit.

⁵ F. Arguedas, interview with author, Monteverde, June 8, 2006; G. Leiton, interview with author, Monteverde, July 21, 2006.

⁶ L.J. Burlingame, "Conservation in the Monteverde Zone", in *Monteverde:*

The arrival of a group of North American Quaker settlers in Monteverde marked a fundamental shift in the region's development. Hubert and Mildred Mendenhall, Quakers from Fairhope, Alabama, visited Costa Rica in 1950 and were impressed that the Latin American nation had recently abolished its armed forces. They convinced other Quakers from Alabama and Iowa, some of whom had been recently jailed for refusing to register for the draft, to move to Costa Rica. A small group traveled to the Latin American country to look for land in April 1951. Soon thereafter, 41 North American Quakers, made up of 11 families, left the United States for Costa Rica. The Quaker families bought a 1,200 hectare parcel at present-day Monteverde from the Guacimal Land Company and settled there in 1951.⁷

Like their Costa Rican neighbors, the Quakers raised beef cattle and planted potatoes, corn, sugarcane, beans, and yucca. They instituted a system of self-governance, still partially in evidence today, that centers on group meetings and consensus decision-making. In the early years of the settlement, the Quakers focused on building community infrastructure, such as roads and schools. They engaged in land clearing, although much of the land that they purchased had already been cleared by Costa Rican settlers in the years before they had arrived.⁸

The Quakers soon focused on dairy farming as their principal occupation. Some members of the group came from dairying backgrounds and were familiar with high-production European dairy breeds and management techniques.⁹ Monteverde farmer John Campbell made the first batch of aged cheese in 1953, and later that year the community built a dairy plant, powered with electricity from a newly constructed hydroelectric generator. The Quakers began to market their cheese in San José, providing Monteverde with an exportable product and linking the region to a national mar-

Ecology and Conservation of a Tropical Cloud Forest, N.M. Nadkarni, N. Wheelright (eds), Oxford University Press, New York 2000, pp. 351-375.

⁷ Ibid.

⁸ W. Guindon, interview with author, Monteverde, June 10, 2006.

⁹ K. Griffith, D.C. Peck, J. Stuckey, "Agriculture in Monteverde", in Nadkarni, Wheelright, *Monteverde: Ecology and Conservation* cit., pp. 389-407.

ket for the first time.¹⁰ Income generated from the sale of cheese financed the construction of buildings, such as the Quaker school and meeting house, and allowed needed road improvements.

In Monteverde and surrounding towns, Costa Rican and Quaker farmers oriented their activities towards producing milk to be sold to the dairy plant. Although growing food for home consumption remained an important part of resident activities, the income from milk production became an integral part of family livelihoods and created an economic base for the community as a whole.¹¹ The market for milk also encouraged land clearing for cattle pasture in higher elevation areas such as Río Negro, San Bosco, Las Nubes and San Gerardo. Approximately 40 upland farms (ca. 560 ha of pasture) were established for dairy after 1950.¹² Although dairy farming in recent decades has shifted geographically to the point that today there are only two producers in Monteverde proper, 210 producers in communities around Monteverde continue to supply approximately 4000 kilos of milk a day to the dairy plant.¹³

Quaker Watershed Reserve

Perhaps unwittingly, the Quakers initiated the conservation movement in Monteverde and the surrounding area. Soon after arriving, they divided their land into private lots for each family. They made a group decision to leave the higher elevation, densely forested third of their land uncleared and undeveloped as a communally owned and protected forest reserve. It is important to understand that the Quaker settlers were not “environmentalists” as the term is understood today. The concerns of day-to-day survival were first and foremost on settlers minds; having enough food to eat was not always a given during the first years of settlement.¹⁴ Like their Costa

¹⁰ J. Stuckey, interview with author, Monteverde, June 30, 2006.

¹¹ Ibid.

¹² Griffith, Peck, Stuckey, “Agriculture in Monteverde” cit.

¹³ J.A. Murillo, interview with author, Monteverde June 18, 2006.

¹⁴ J. and S. Trostle, interview with author, Monteverde, July 3, 2006.

Rican neighbors, the Quakers relied on pasture for agriculture and cattle grazing, hence the plots that had already been cleared prior to the Quaker arrival held more value than forested land.¹⁵ Given this understanding, some Monteverde residents suggest that the decision to create the forest reserve was not taken to promote conservation but rather a reflection of the simple fact that the reserve land is steep, very wet, and not well-suited for production, and was therefore simply left in its forested state.¹⁶

However, Quaker traditions, dating back to the eighteenth century, do stress land conservation. Scholars have suggested that Quakers maintain an attitude toward nature that stands in contrast to the sometimes destructive land ethic of mainstream Christianity.¹⁷ These traditions may have inspired the actions of a few Monteverde Quaker settlers. Quaker farmer John Campbell decided to leave over two thirds of his original property in forest and for doing so was called “impractical” by his neighbors.¹⁸ The Quakers who came from agricultural backgrounds understood the importance of forest cover in maintaining water supply and were influenced by observing damaged watersheds on recently settled deforested land near Monteverde.¹⁹ Some settlers had experience with hydropower and had plans to use the stream-flow from the Guacimal River, originating in the cloud forest, to power a community sawmill and hydroelectric plant. Furthermore, the Quakers wished to maintain their household water quality by protecting the forest from which local streams originate.²⁰

The Quaker reserve represents a departure from Costa Rican tradition. Although the Quakers prioritized water conservation over

¹⁵ J. Wolfe, interview, with author Monteverde, June 10, 2006.

¹⁶ B. Law, interview with author, Monteverde, 2006.

¹⁷ D.B. Kelley, “The Evolution of Quaker Theology and the Unfolding of a Distinctive Quaker Ecological Perspective in Eighteenth-Century America”, in *Pennsylvania History*, 52, 1985, pp. 242-253; D.B. Kelley, “Friends and Nature in America: Toward an Eighteenth-Century Quaker Ecology”, in *Pennsylvania History*, 53, 1986, pp. 257-272.

¹⁸ M. Campbell, interview with author, Monteverde, June 26, 2006.

¹⁹ W. Guindon, interview with author, Monteverde, June 10, 2006.

²⁰ Ibid.

wildlife, they nevertheless wanted to protect the reserve from hunting or development. However, government policy and cultural traditions discouraged land conservation in rural Costa Rica in the 1950s.²¹ Quaker settler Wolf Guindon remembers how hunters seeking game continually entered the reserve from the surrounding settlements. Additionally, squatters entered the reserve to clear forest and gain title to the “unused” land. The Quakers took it upon themselves to patrol the reserve and educate their neighbors about its protected status.²²

Monteverde Cloud Forest Preserve

The Monteverde Quaker settlers strove to establish a self-sufficient, independent community. For most of the first two decades after the group arrived, Monteverde was not well known in Costa Rica or internationally. However, beginning in the 1960s, scientists came to Monteverde to conduct research and began to publish papers about their findings. These scientists recognized the forests above Monteverde as a unique ecosystem, the montane cloud forest: a mist-fed high-elevation forest with very high biodiversity and a large number of endemic species.²³ The cloud forest and the presence of a supportive English-speaking community attracted significant numbers of biologists, primarily from the United States. Scientists from the Organization for Tropical Studies first arrived in the early 1960s to study species such as the endemic Golden Toad. Researchers also began to publish papers on the distinctive birdlife of the cloud forest, piquing the interest of ornithologists and a growing number of serious birders.²⁴ A relatively large number of these scientists decided to move to Monteverde to continue their “field work” full time. Many

²¹ J. Wolfe, interview with author, Monteverde, June 12, 2006.

²² W. Guindon, interview with author, Monteverde, June 10, 2006.

²³ N.T. Wheelright, “Conservation Biology”, in *Ecology and Conservation of a Tropical Cloud Forest*, N.M. Nadkarni, N. Wheelright (eds), Oxford University Press, New York 2000, pp. 419-432.

²⁴ Burlingame, “Conservation in the Monteverde Zone” cit.

of the scientists brought with them a dedication to conservation that has strongly influenced the general outlook in Monteverde.²⁵

One researcher, University of California graduate student George Powell, arrived in Monteverde in 1970 to study mixed-species bird flocks of the cloud forest. During the course of his studies, Powell became very concerned with a rapid increase in deforestation caused by homesteaders clearing land owned by the government and the Guacimal Land Company. Impressed by the Quaker's watershed reserve, Powell decided to protect what he could by buying out squatters on government land. In 1972, Powell approached Leslie Holdridge and Joseph Tosi of the Tropical Science Center (TSC), a Costa Rican non-profit based in San José that focuses on scientific research and education. The TSC agreed to assume ownership of cloud forest land bought by Powell and donated by the Guacimal Land Company. This land became the nucleus of the Monteverde Cloud Forest Preserve (MCFP).

Fundraising campaigns led by Powell targeted international organizations, such as World Wildlife Fund and the Nature Conservancy, raising money which allowed the TSC to increase the size of the MCFP. In 1975, the Quakers agreed to lease their watershed reserve land, adjacent to the MCFP, to the TSC. The Quakers, under an ownership group called Bosqueterno (forest forever), maintained ownership over their reserve, but the land came to be managed as a unit of the MCFP. Today, the MCFP contains 10,500 hectares.²⁶

Costa Ricans and Quakers have pointed to the arrival of biologists as the primary factor in fostering a conservation ethic in the Monteverde region. Quaker settler Wolf Guindon, who worked with Powell during the expansion of the MCFP and became an ardent supporter of conservation, explains that he did not arrive in Monteverde with this attitude. Guindon recalls that in the early years of Quaker settlement, he thought of himself as a "chain saw expert" and that his "vision of development was clearing pastures

²⁵ A. Masters, interview with author, Monteverde, June 26, 2006.

²⁶ Burlingame, "Conservation in the Monteverde Zone" cit.

and building roads and schools”.²⁷ It was only after meeting Powell that Guindon began to develop an enthusiasm for preserving the local biota.

Costa Rican Park Growth

Although the Monteverde protected areas were created and are managed by private entities, they share characteristics with publicly owned and managed national parks. Throughout the 20th century, parks sharply increased in numbers throughout the world, and Costa Rica became a leader in the establishment of protected areas. Beginning with the creation of the historic Santa Rosa National Monument in the northwestern province of Guanacaste, Costa Rica embarked on a major park-making push in the 1960s and 70s. Although some parks, such as Santa Rosa, highlighted historical monuments, Costa Rica focused on creating parks that represented most of the country’s geographic zones.²⁸ Parks director Mario Boza emphasized how he pursued a parks program that, in addition to protecting areas of scenic beauty, would strive to preserve the diverse flora and fauna of Costa Rica.²⁹ Thus the Costa Rican national park system was launched with ecological goals from the beginning. Boza was heavily influenced by first-hand observation of the US National Park System, at a time when American scientists were pushing park management towards biodiversity protection.³⁰ Although not a governmental project, the MCFP paralleled the development of the Costa Rican national park system at a time of rising consciousness of the importance of preserving the country’s biodiversity.

Notably, the MCFP was supported by the international community

²⁷ Cited in M. Honey, *Ecotourism and Sustainable Development: Who Owns Paradise?*, Island Press, Washington D.C. 1999, p. 152.

²⁸ S. Evans, *The Green Republic* cit., p. 11.

²⁹ M.A. Boza, “Conservation in Action: Past, Present, and Future of the National Park System in Costa Rica”, in *Conservation Biology*, 7, 2, 1993, pp. 239-247.; D. Rains Wallace, *The Quetzal and the Macaw: The Story of Costa Rica’s National Parks*, Sierra Club Books, San Francisco 1992.

³⁰ *Ibid.*

from the beginning. In the early 1970s US-based conservation organizations began to take an active role in conservation efforts in the tropics. In its first international conservation effort, The Nature Conservancy contributed funds towards the creation of the MCFP. George Powell also raised \$75,000 from the World Wildlife Fund-US, stressing the Preserve's importance in preserving habitat for the Golden Toad, Resplendent Quetzal, Bare-Necked Umbrella Bird, tapir, and wild cats.³¹ The creation and orientation of the MCFP paralleled a rise in international concern for protecting endangered species and their habitat.

Like the Quaker watershed reserve, the Monteverde Cloud Forest Preserve was in general poorly received by its Costa Rican neighbors during its early years. In 1972, when the MCFP was established, land conservation still was not recognized as a legitimate activity under Costa Rican law. The early managers of the MCFP had to register the reserve under a forest-management law that required them to state that they would carry out selective logging sometime in the future.³² Hunters continued to pursue game in the MCFP land as they had on the Quaker watershed reserve, and many scorned the philosophy of conservation represented by the MCFP. Residents of nearby San Lu s remember that local hunters would deliberately hunt and fell trees within the Preserve in to demonstrate their unwillingness to support the protected area.³³

Monteverde Conservation League, Expanding Conservation

During the 20th century, deforestation in Costa Rica as a whole was also occurring in the Monteverde zone. The forests of the Pacific

³¹ Burlingame, "Conservation in the Monteverde Zone" cit.

³² G.V.N. Powell, S. Palminteri, B. Carlson, M.A. Boza, "Successes and Failings of the Monteverde Reserve Complex and Costa Rica's System of National Protected Areas", in *Making Parks Work: Strategies for Preserving Tropical Nature*, J. Terborgh, C. Van Schaik, L. Davenport, M. Rao (eds), Island Press, Washington D.C. 2002, pp. 156-171.

³³ G. Leiton, interview with author, San Lu s, July 27, 2006; G. Lobo, interview with author, San Lu s, July 21, 2006.

slope below the town of Monteverde had been steadily fragmented since the mid-1930s, primarily to make way for cattle pasture and an expanding human population. By the 1980s, the once-continuous forest only existed as a chain of islands in a sea of pasture grasses.³⁴ Biologists were becoming aware of the conservation value of these Pacific slope forests, as they contain high diversity of fruit-bearing trees and are relied upon by frugivorous bird species such as the Three-wattled Bellbird *Procnias tricarunculata* and the Resplendent Quetzal *Pharomachrus mocinno*.³⁵

In 1986, a group of conservation-minded Monteverde residents formed an organization, the Monteverde Conservation League (MCL), with the goal of protecting these threatened forests. The members of the League, many of whom were North American scientists, recognized that the San José-based Tropical Science Center was not willing or able to act on conservation concerns outside the boundaries of the Monteverde Cloud Forest Preserve. The League members saw the need for an organization that could raise money to conserve land outside the MCFP, although they planned to donate the land to the Tropical Science Center once it was purchased.

Though the League was initially founded to protect land on the Pacific slope, an unfolding threat on the Atlantic side of the Continental Divide quickly became the focus of the new organization. In the 1970s increasing numbers of settlers had begun moving into the Peñas Blancas valley, triggering an increase in deforestation. By the 1980s, some settlers had begun to construct a road through the MCFP with the aim of facilitating development of the valley.³⁶

Government activities created an opportunity for the Monteverde Conservation League. The Costa Rican Electric Company (I.C.E.), a federal agency, had constructed a dam seven kilometers to the west of Lake Arenal, creating a 30-kilometer lake as storage for the coun-

³⁴ Wheelright, "Conservation Biology" cit., pp. 419-432.

³⁵ C. Guindon, "The Importance of Pacific Slope Forest for Maintaining Regional Biodiversity", in *ibid.*, pp. 435-437.

³⁶ Burlingame, "Conservation in the Monteverde Zone" cit.

try's largest hydroelectric project. In 1977, the government declared a conservation area, including the Peñas Blancas valley, around Lake Arenal to help protect the watershed that drained into the lake. The government declared that the settlers in the conservation area could no longer develop the land, but promised to buy them out as soon as possible. However, by 1986 the money to do so had not materialized. The newly formed Monteverde Conservation League seized the opportunity to purchase the land from the Peñas Blancas settlers. Most settlers were eager to sell their land to the MCL because otherwise they would be left holding land that they could not develop. Furthermore, many settlers did not intend to farm the wet and steep terrain, but instead had begun to clear forest with the goal of obtaining title to the land, or in some cases to provoke the government to recognize their predicament.³⁷

In the mid 1980s, land in the Peñas Blancas Valley was relatively inexpensive – land that today is upwards of \$1000 per hectare could be bought for an average price of \$35 per hectare.³⁸ The founders of the Conservation League were able to raise money for land purchase by offering slide shows to the tourists who had begun to visit Monteverde and stay in local hotels.³⁹ The land purchased in this campaign became the nucleus for a large protected area, the Children's Eternal Rain Forest. The impetus for the Children's Forest came from a US biologist, Sharon Kinsman, who lived in Monteverde and visited Sweden in 1987. She was invited to give a slide presentation about Monteverde to a Swedish school, where students came up with the idea of raising money to help protect Monteverde forests. Kinsman put the students in contact with the Monteverde Conservation League, and the students raised money to purchase 6 hectares near the Cloud Forest Preserve. Subsequently, Kinsman and her husband

³⁷ L.A. Vivanco, "Environmentalism, Democracy and the Cultural Politics of Nature in Monte Verde, Costa Rica", in *Democracy and the Claims of Nature: Critical Perspectives for a New Century*, R. Taylor, B. Minter (eds), Rowman and Littlefield, New York 2002, pp. 215-236.

³⁸ Ibid.

³⁹ K. Masters, interview with author, Monteverde, July 5, 2006.

formed a Swedish non-profit to raise and channel funds to the MCL's campaign to protect land in the Peñas Blancas Valley. Along with other international organizations, the non-profit has raised significant funds to purchase land near Monteverde. Money raised through debt-for-nature swaps also played a major role in both the expansion of MCL and the Children's Forest. By 1998 the Children's Forest totaled over 18,000 hectares, the largest private reserve in Central America. Donations to purchase land have come from individuals, schools and foundations from more than 40 countries.⁴⁰

Conservation Outreach

The founders of the Monteverde Conservation League saw the organization as filling an important need in the local community and region. In 1991, MCL members described the League as the "local conservation group in the Monteverde zone...that has the responsibility of communicating the local, regional, national, and global conservation perspectives to the surrounding communities".⁴¹ However, the land purchase campaigns spearheaded by the MCL were not carried out without conflict, as some Monteverde area residents resented internationally-funded conservation organizations buying land and restricting the activities of local farmers.⁴² The Peñas Blancas "squatter emergency" that gave rise to the MCL's land purchase campaign was a strong reason for conservationists to gain the support of agriculturalists.

Thus, the MCL began outreach programs with farmers in the mid 1980s, the most visible and successful of which has been the windbreak project for area dairy farmers. The heavy winds that arrive during the dry season in the Monteverde zone negatively affect

⁴⁰ Burlingame, "Conservation in the Monteverde Zone" cit.

⁴¹ Vivanco, "Environmentalism, Democracy and the Cultural Politics" cit., pp. 215-236.

⁴² See *ibid.*, for a more detailed discussion of the conflicts stemming from the land purchase campaigns.

milk production by stressing cattle and pasture grasses, so there was already a strong desire amongst farmers to plant tree windbreaks which would increase their yields. The MCL capitalized on this desire and provided free tree seedlings and technical assistance to farmers in exchange for their labor in planting and caring for the trees. By 1994 over 500,000 native and exotic trees had been planted by 263 farmers in 320 windbreak projects.⁴³ Biologists have documented how the windbreaks act as biological corridors for many bird species, justifying their conservation value.⁴⁴ Originally, fast-growing exotic species such as cypress and casuarina were planted, but the MCL began to research and encourage the use of native tree species. Consequently, natives and naturalized exotics including Colpachi and Tubú became favored windbreak trees. Many area farmers have emphasized how the windbreak program has directly benefited their production, provided an important source of wood on their property and increased their support for forest conservation.⁴⁵

A more holistic and inclusive vision of conservation that seeks to benefit local farmers represents a broadening of conservation goals of earlier decades. While the creation of the Monteverde Cloud Forest Preserve in 1972 was an effort to protect endangered species against rapid agricultural development, the conservation campaigns of the 1980s and 90s reflected an increased awareness of the need to involve local agriculturalists in conservation efforts.

Tourism in Monteverde

Today, any visitor to Monteverde will be struck by the ubiquity of tourist attractions in the region. Forest canopy walkways, zip lines, butterfly gardens, and reptile and amphibian zoos all compete for the

⁴³ Burlingame, "Conservation in the Monteverde Zone" cit.

⁴⁴ K. Neilsen, D. DeRosier, "Windbreaks as Corridors for Birds", in Nadkarni, Wheelright, *Monteverde: Ecology and Conservation* cit., pp. 448-450.

⁴⁵ G. Leiton, interview with author, San Luís, July 21, 2006; G. Lobo, interview with author, San Luís, July 21, 2006; O. Salazar, interview with author, San Luís, July 21, 2006.

attention of the 180,000 tourists who are reported to visit Monteverde each year.⁴⁶ Tourism has engendered a fundamental shift in economics, conservation, and protected area use in the Monteverde zone.

The growth of tourism in Monteverde reflects the larger development of the industry in Costa Rica. As recently as the early 1980s, Costa Rica was not particularly visible on the international tourism circuit, surpassed by traditional destinations such as the Galapagos and the game preserves of East Africa. However, in the past 25 years, Costa Rica's small size, biodiversity, relative political stability, and welcoming attitude towards foreigners have pushed it into the forefront of the tourism industry. In 1992, tourism became Costa Rica's largest earner of foreign capital, eclipsing its traditional agricultural exports, bananas and coffee.⁴⁷ Tourism in Costa Rica has benefited enormously from the presence of the national park system and private reserves such as those found in Monteverde. In 2001, 58.4% of all US visitors to Costa Rica had visited a national park, nature reserve, or wildlife refuge.⁴⁸ Nature tourism has grown to the point that it has become part of Costa Rica's national consciousness and has helped create the self-image that many Costa Ricans have of their place in the world.⁴⁹

Monteverde tourism emerged from modest beginnings. From the 1920s to the 1970s, the region was not very visible either in Costa Rica or internationally. Visitors came to Monteverde starting in the 1950s, but at this stage most were guests of the Quakers, and all had to be motivated enough to make the trek up the frequently impassable dirt road from the Pan-American Highway. A small pension was built in 1952 and a field station at the Cloud Forest Preserve provided for students and scientists beginning in the 1970s.⁵⁰ In 1974,

⁴⁶ Monteverde Tourism Council, *Estimación del Número de Turistas Según Región Visitada 2002-2005*, San José, Costa Rica 2005.

⁴⁷ S. Wearing, J. Neil, *Ecotourism: Impacts, potentials, and possibilities*, Butterworth-Heinemann, Oxford 1999, pp. 86-93.

⁴⁸ ICT (Instituto Costarricense de Turismo), *Low season tourism survey, US, 2001*, accessed 1/16/07 from <http://www.visitcostarica.com/ict/paginas/estadistica.asp>.

⁴⁹ Honey, *Ecotourism and sustainable development* cit., p. 132.

⁵⁰ *Ibid*, p. 154.

when the MCFP was first opened to the public, it welcomed 471 guests. Visitors, mostly research scientists, had to accept relatively primitive conditions at the field station or in the town's only hotel.

As word of the Cloud Forest Preserve slowly filtered out to the wider world, a small but dedicated group of serious birders and naturalists began to make the journey to Monteverde in search of species such as the Resplendent Quetzal. Monteverde became better known to the general public through positive magazine articles and a BBC documentary film aired in 1978. The number of tourists visiting Monteverde began to grow very rapidly starting in the late 1980s, and by 1992, the number of visitors reached 50,000 per year.⁵¹

Until the 1990s, the Monteverde Cloud Forest Preserve was the only tourist attraction in the area. As the MCFP was established for biodiversity protection and research, the Tropical Science Center (TSC) had to suddenly build a functioning tourism infrastructure where there had been none before. The organization hired and trained naturalist guides, demarcated and reinforced a "visitor-friendly" area of trails near the reserve entrance, and opened an information center and gift shop. TSC also began to collect entrance fees. The entrance fees at the MCFP, \$2.75 per person in the 1980s, have been raised to \$27 per person (a foreigner, with a guided tour) today. The MCFP's income grew from \$10,000 in 1983 to \$850,000 in 1994 – more income than from all of Costa Rica's national parks combined in the same year.⁵² TSC reinvests most of the revenue into administration, park maintenance and other services at the MCFP.⁵³

The huge increase in tourist numbers has been a mixed blessing. The TSC released its "Master Plan for Monteverde Cloud Forest Preserve" in 1991, forecasting an increase to 135,000 visitors per year by the late 1990s. The general reaction of the Monteverde community to the plan was strongly negative; many were deeply concerned that

⁵¹ Ibid.

⁵² Honey, *Ecotourism and sustainable development* cit., p 153.

⁵³ B. Aylward, K. Allen, J. Echeverría, J. Tosi, "Sustainable Tourism in Costa Rica: The Monteverde Cloud Forest Preserve" in *Biodiversity and Conservation*, 5, 1996, pp. 315-343.

such levels of tourism would have a detrimental impact on quality of life in the Monteverde zone.⁵⁴ The TSC subsequently agreed to a more modest increase in visitation and instituted a cap of 100 visitors at a time in the reserve (later increased to 120). For several years tourist numbers held steady at around 50,000 per year, but, recently visitation has crept upward, reaching almost 77,000 in 2005.⁵⁵

The post-1990 tourism boom brought increasingly large numbers of visitors to the area on package trips in which Monteverde was only a short stop on a countrywide bus tour. As the number of tourists grew, tourist expectations also changed. Some Monteverde residents speak of a shift in the “profile” of the typical tourist: whereas earlier visitors came to Monteverde with a strong natural history orientation and a willingness to embrace the rural nature of Monteverde life, recent visitors spend only a short time in the area and tend to demand more amenities such as luxury hotel rooms, restaurants, and entertainment venues.⁵⁶

Area entrepreneurs, impressed by the influx of visitors, created attractions to cater to the interests of the new breed of tourist. Within a span of a few years, the Cloud Forest Preserve was surrounded by an array of zip lines, canopy tours, insect museums, and horseback rides. The new tourism paradigm is only loosely tied to a first-hand experience of the local ecology in the protected areas. As Monteverde tourism has increasingly followed an “adventure” model, the unique character that attracted visitors to the area in the first place has lost significance. Tourists may be increasingly less willing to visit Monteverde when similar adventure tourism experiences can be had for less expense and with less logistical difficulties elsewhere.

⁵⁴ D. Lee, “A Critique of the ‘Master Plan for Monteverde Cloud Forest Preserve’ as a Planning Document”, Toronto, Canada, 1991 (unpublished document).

⁵⁵ Centro Científico Tropical. 2006. Total de visitantes, Reserva Biológica Bosque Nuboso Monteverde, Resumen 1998 a 2006.

⁵⁶ M. Hilgado, interview with author, Monteverde, June 16, 2006.

Tourism, Conservation, and Community

Amongst residents, there is a general, but tempered, recognition that tourism has fostered local support for conservation and the protected areas. Clearly, the situation is much changed from the era when settlers, both Costa Rican and Quaker, saw standing forest as little more than an impediment to development. The changed economic landscape provided by tourism has eased much of the pressures that in the past drove the conversion from forest to pasture, as non-consumptive land use has gradually replaced consumptive land use within the Monteverde zone.⁵⁷ The relative prosperity of Monteverde, stemming from the dairy plant and tourism, has allowed conservation organizations to focus on land protection rather than facing local residents who cannot afford to support conservation efforts.

However, many residents share the perspective that support for conservation in the Monteverde zone is relatively shallow. Some community members contend that the support for conservation is only as viable as the continued flow of money and jobs through tourism; the implication is that if Monteverde tourism drops off, so too will local support for conservation.⁵⁸

While tourism has brought in a higher standard of living and provided at least some local support for conservation, Monteverde has experienced growing pains as development has taxed the local infrastructure. Vehicle traffic has increased dramatically on a road network that cannot expand due to constraints of the mountainous topography. Water pollution is also a major concern. The demand for water use has grown faster than the supply, and sewage systems are frequently not up to the task of treating water used by the mushrooming resident and tourist populations. In 2005, a crisis developed when it came to light that a small group of local entrepreneurs had acquired government concessions to appropriate large quantities of water from two Monteverde streams. Studies revealed that the quantity of water allowed by

⁵⁷ J. Wolfe, interview with author, Monteverde, June 12, 2006.

⁵⁸ Ibid.

the permits could cause one of the streams to run dry during the dry season. Biologists were especially concerned about the effect of the concessions on local ecology because the streams pass through land in the protected area network.⁵⁹ Although the business owners insisted that they planned to use the water for agricultural use, which is allowed under the government permits, many residents suspected that the owners planned to use the water only to enrich their own tourism businesses. In January 2005, protests erupted as residents stood in front of backhoes and filled ditches that were to be the final link in the water project.

Attempts at long-term planning have been initiated, notably with the “Monteverde 2020” program. This program, launched in 1990, aimed to foster coordination amongst Monteverde organizations working on issues including conservation, roads, and tourism. After funding from the Interamerican Foundation ran out, the program languished due to internal tensions and other factors.⁶⁰ Many residents cite the lack of central planning as a serious impediment to quality of life and sustainability in the area, but recognize that with its economic and community resources, Monteverde’s planning situation is actually better than that of most regions of Costa Rica.⁶¹

From the perspective of some residents, a fundamental shift has occurred with the transition from a dairy farming to a tourism economy. The strong sense of community that accompanied the need for farmers to work together has been largely replaced by a more competitive mentality that the transition to a tourism economy has fostered.⁶² The close-knit community structure and social institutions that were instituted by the Quaker settlers continue, but in a social environment drastically changed by the influx of competitive businesses.

⁵⁹ K. Masters, interview with author, Monteverde, July 5, 2006.

⁶⁰ L.J. Burlingame, “Monteverde 2020”, in Nadkarni, Wheelright, *Monteverde: Ecology and Conservation* cit., pp. 378-379.

⁶¹ G. Vargas, interview with author, Monteverde, June 16, 2006; M. Hildago, interview with author, Monteverde, June 16, 2006; J. Stuckey, interview with author, Monteverde, June 28, 2006.

⁶² J. Stuckey, interview with author, Monteverde, June 28, 2006.

Other social changes have arrived as well, including sharp economic inequalities between those benefiting from tourism and those who do not. In part because of the land purchase campaigns of the conservation organizations, land prices have skyrocketed to an average of over \$15-\$20/square meter, comparable with prices in San José.⁶³ These prices mean that buying a home in or near Monteverde is out of the reach of many ordinary Costa Ricans.⁶⁴ Additionally, the tourism money flowing through Monteverde has contributed to rare outbreaks of violence. In a shocking episode during March 2005, armed men attempted to rob the National Bank in Santa Elena, a town near Monteverde. Bank customers were held hostage for three tense days. In an ensuing police raid, nine people were killed. While it is simplistic to only blame tourism money for the robbery, it is evident that a large amount of cash from tourist dollars and inadequate security made the bank a tempting target for criminals. While hopefully an aberration, the event has driven home the fact that Monteverde is no longer an isolated community. Tourism has pushed Monteverde into the global spotlight, with all the benefits and drawbacks that come with international recognition.

Viewpoints on Conservation and Development

Monteverde's unique community structure harbors a wide diversity of viewpoints about conservation, tourism, and development that mirrors the variety of uses of the local protected areas. Possibly the clearest distinction becomes apparent when residents talk about what "conservation" means. Several foreign-born biological scientists in Monteverde speak of conservation primarily as an activity to protect biodiversity: local flora and fauna. Other residents, mostly native Costa Ricans, speak of conservation in humanist terms: the continuance of agricultural livelihoods, healthy families, and educa-

⁶³ F. Chamberlain, "Pros and Cons of Ecotourism", in Nadkarni, Wheelright, *Monteverde: Ecology and Conservation* cit., p. 376.

⁶⁴ E. Vargas, interview with author, Monteverde, June 21, 2006.

tion.⁶⁵ On the one hand, some scientists are frustrated that sometimes residents do not recognize that their economic security depends on the protection of the biodiversity that brings tourists to Monteverde.⁶⁶ On the other hand, local agriculturalists sometimes accuse scientists of not being concerned about farmers and their livelihoods.⁶⁷ These differences among Monteverde residents lend an undercurrent of tension to Monteverde's conservation victories.

The development of the Monteverde Conservation League captures some of the diversity of viewpoints of how residents understand conservation. The League's land purchase campaigns are resented by some residents who sold land to the organization in the 1980s when land prices were low, only to discover that the land has sharply increased in value since the tourism boom. Some farmers do not see themselves benefiting from land that is protected for conservation and tourism, and regard the ownership of the protected areas by conservation organizations as essentially undemocratic as it limits the rights of farmers to live on the land.⁶⁸ In contrast, the League's windbreak campaign is still highly regarded by area farmers and has garnered their backing for conservation programs that work with farmers and benefit agriculture.⁶⁹

The director of the Santa Elena Coffee Coop, Guillermo Vargas, speaks about conservation as the maintenance of agricultural livelihoods in the face of the rapid expansion of the tourism industry. Vargas describes a small conflict over the League's environmental education program that was introduced in local schools in the mid 1980s. Some Monteverde biologists felt that the program should focus on teaching the ecology of the cloud forests, while others such as Vargas thought that the program should emphasize reforestation on

⁶⁵ M. Brenes, interview with author, San Luís, July 7, 2006; G. Vargas, interview with author, Monteverde, June 16, 2006.

⁶⁶ K. Masters, interview with author, Monteverde, July 5, 2006.

⁶⁷ G. Lobo, interview with author, San Luís, July 21, 2006.

⁶⁸ Vivanco, "Environmentalism, Democracy and the Cultural Politics" cit., pp. 215-236.

⁶⁹ G. Lobo, interview with author, San Luís, July 21, 2006.

farms and sustainable agricultural livelihoods. The conflict was eventually resolved with the recognition that environmental education could teach about both ecology and agriculture.⁷⁰ Vargas also promotes both environmental and social health through the activities of Café Monteverde, a coffee grower's cooperative. The coop obtains higher prices for its brand through collective selling efforts and certification to uphold equitable labor practices. Vargas does not see a contradiction between the goals of social equity and environmental sustainability. Although the conflict between the two conceptions of conservation continues today, it has lessened in intensity due to a common concern that too heavy a reliance on tourism has the potential to threaten both biological and economic diversity.

Even tourism has begun to reflect the cultural diversity of the Monteverde zone. Several area farmers have been experimenting with “agrotourism”, in which tourists visit farms to learn about coffee production, dairy cattle, and reforestation. In nearby San Luís, tourists and educational groups are taught about sustainable agriculture at Finca la Bella, a 50 hectare community of 24 families. The residents of Finca la Bella are not allowed to cut down forests or to sell their land without permission from the community. The goal is to provide land to formerly landless farmers, and to keep the land in the hands of locals who want to practice small-scale sustainable agriculture. Visitors, mostly from educational programs, stay at farm residences and help to provide income to the resident families. In a sense, agricultural projects such as Finca La Bella are creating “protected areas” in which traditional livelihoods are sheltered from economic takeover and land purchase by foreigners.⁷¹ As the Monteverde economy has embraced a model that caters towards the demands of foreign tourists, these projects help maintain the health of local communities, in part using resources that tourism brings to the

⁷⁰ G. Vargas, interview with author, Monteverde, June 16, 2006.

⁷¹ J. Brown, N. Mitchell, “Culture and Nature in the Protection of Andean Landscapes”, in *Mountain Research and Development*, 3, 2, 2000, pp. 208-213 (see article for a discussion of cultural protected areas).

area. It is the hope of many residents that agrotourism can contribute to the protection of agricultural livelihoods just as ecotourism can contribute to the protection of biodiversity.⁷²

Monteverde as Model?

Monteverde holds a privileged place in discussions about conservation and tourism. Even though Monteverde's privately owned and managed protected areas present a somewhat different framework than most public protected areas, many scholars look favorably at Monteverde's experience with land conservation and improving standards of living through tourism.⁷³ Many residents agree that Monteverde has been uniquely successful in protecting forest that would otherwise have been lost and in creating a vibrant local community. However, residents tend to temper their appreciation of the area's success with recognition of the negative consequences of rapid growth and development. Some observers note that other regions that have looked to Monteverde as a model have only considered the positive aspects, disregarding negatives such as increased crime, pollution, "undemocratic" land-purchase campaigns, and wide income disparities amongst area residents. Additionally, some have emphasized a fundamental conflict between tourism operators who strive to increase visitor numbers at the expense of conservation initiatives.⁷⁴

Long-time residents are also aware that Monteverde's unique history has given rise to its successes. The slow development of the protected area network that was initiated with the Quakers and contin-

⁷² O. Salazar, interview with author, San Lu s, July 21, 2006.

⁷³ B. Aylward, K. Allen, J. Echeverr a, J. Tosi, "Sustainable tourism in Costa Rica: the Monteverde Cloud Forest Preserve", in *Biodiversity and Conservation*, 5, 1996, pp. 315-343; T. Budowski, "Ecotourism Costa Rican style", in *Toward a Green Central America: Integrating Conservation and Development*, V. Barzetti, Y. Rovinski (eds), Kumarian Press, West Hartford 1992, pp. 48-62; M. Honey, "Costa Rica: On the Beaten Path" cit., pp. 131-181.

⁷⁴ R. Bola os, interview with author, San Jos , June 8, 2006.

ued through the efforts of dedicated individuals and organizations cannot be reproduced on a short time scale. Residents point out that Monteverde's isolation and tradition of forming local organizations to confront problems have given rise to a community resilience and strength that has encouraged success.⁷⁵ The tight-knit community structure and biologist influx are historical factors that are unique to Monteverde and are unlikely to be repeated in other locations.

Due to these factors, Monteverde cannot be simply replicated as a "model" for conservation or sustainable development. However, perhaps more general lessons can be drawn from Monteverde: While not without its share of conflicts, a protected area complex that has arisen through local needs and community action has proven flexible enough to provide diverse benefits including watershed protection, biodiversity conservation, and economic development. Park planners can take inspiration from Monteverde's long history of protected area conservation and recognize that foresighted investment in protected area conservation can pay environmental, community, and economic benefits well into the future. Conservationists can also learn from Monteverde's planning woes and challenges in crafting other protected areas and promoting tourism.

⁷⁵ J. Stuckey, interview with author, Monteverde, June 28 2006.