Syllabus for the PUP/UM Study Abroad Course

Evolution of Protected Areas and Wildlife Management Seen through Costa Rica

PUP Global Heritage Consortium

in collaboration with

UNIVERSITY OF MONTANA

Mistico Park demonstrates *the power of private sector conservation.*

January 3-14
2024

Contact

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Open to all qualifying undergraduate and graduate students from any university

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Manuel Antonio National Park *suffered the consequences of having allowed visitors feed wildlife.*

INTRODUCTION

Throughout the ages from ancient Indian sacred forests to European royal hunting grounds to contemporary landscape-based, distributed and consensus decision-making, protected area management has evolved through waves of emerging values along with the rest of society. When seen through a holistic, Integral lens, we can discern patterns, such as worldviews, previously invisible and underappreciated and can project where protected area and wildlife management may evolve.

There may be no better place than Costa Rica to both glimpse protected area evolution throughout the world as well as hold a foreign study abroad program (FSP) on this topic given the variety of protected area management regimes in such a small, easily accessible, tourist-friendly country with a storied history in protected area management and conservation. Even more the PUP Global Heritage Consortium offers an expert local team including the author of *The Future Has Other Plans: Planning Holistically to Conserve Natural and Cultural History* which provides the evolutionary holistic framework of this FSP as well as a staff that formerly operated the semester-long FSP of the Associated Colleges of the Midwest (ACM) which closed prior to the pandemic after 60 years in residence. The program also adds the experience of the University of Montana´s Parks, Tourism, & Recreation Management Program within the W.A. Franke College of Forestry and Conservation.

This course is open to all qualifying graduate and undergraduate students from any university and offers transferable credits.

COURSE DESCRIPTION

PURPOSE

The study abroad course in Costa Rica provides students with unique space to study the global evolution of protected area and wildlife management and conservation models within a holistic management framework offered by a highly qualified local team and seen through Costa Rica's examples. This approach contributes to students becoming much more rounded than conventional park management curricula typically allow and better prepared to participate in the culturally dynamic and quickly evolving protected area global context.

OBJECTIVES

1. Appreciate not only the diversity of protected area and wildlife management models in the world but also the evolutionary emergence of new values and worldviews that leads to new ways of thinking about such models
2. Provoke thought about different management paradigms from ancient times to modern day, with a holistic focus
3. Understand different ecosystems and habitats around Costa Rica
4. Have an enjoyable and engaging experience that students will never forget

SPECIFIC LEARNING OBJECTIVES

1. Understand that protected areas management has evolved throughout history according to emerging societal values and global change
2. Reflect on universal forces that have driven the emergence of new protected area management paradigms especially from the colonial era to postmodernity as seen through multiple management models in Costa Rica
3. Apply an Integral Theory perspective to the practice and theory of heritage management

ASSIGNMENTS

4. Maintain a journal about how the daily lessons can be applied to their chosen protected area
5. Develop projections of future natural heritage management based on the understanding of holistic management paradigms and current societal trends
6. Apply knowledge of holistic management and a diversity of management models to a protected area of the student's choice in their home country by means of a final presentation and a final paper delivered several weeks after students return from the course

STAFF

COORDINATOR and PUP CO-LEADER
Jon Kohl Director, PUP Global Heritage Consortium

UM CO-LEADER
Dr. Jennifer Thomsen Assistant Professor, University of Montana

NATURALIST
César Sánchez Freelance naturalist and bird guide

ADVISOR
Marco Castro Project manager and experiential learning facilitator

LECTURERS
Stanley Arguedas Consultant, protected areas
Marisol Mayorga Professor, University of Costa Rica

Each course site will also have its own representative authority who will speak to students. The above lecturers do not participate in all PUP courses.

LOGISTICS

- 15 students + staff
- 12 days in Costa Rica, 3-14 January 2024
- Price includes lodging, in-country transportation, food, travel insurance, and entrance fees and guides at all visited course sites
- Does not include source country transportation, airfare, required book, COVID testing, or personal items
- Legal and financial operations handled through PUP/USA (501(c)3 non-profit incorporated in the State of Colorado) in collaboration with the Global Engagement Office and the Parks, Tourism, and Recreation Management Program of the University of Montana
- Official course number-title: PTRM 491: Costa Rican Protected Areas
- See course policies and Emergency Prevention and Response Plan

Register

TEACHING METHODOLOGY

The course unfolds approximately and chronologically along a central narrative. It first introduces Costa Rica´s biogeography, Integral Theory and evolution of consciousness, and then passes from the earliest manifestations of protected areas in the world and their corresponding worldview values in society to the most leading edge. At each step, we either visit or reference protected area regimes in Costa Rica (and as necessary, abroad). At each site students will participate in a local tour and lecture facilitated by an important stakeholder with relevant readings (which ideally students have read before arriving in country), all of which allow faculty and students to dialogue about how the site fits into the overriding arc of protected area and wildlife management evolution and its implications for future management. Throughout the trip, invited speakers will share complementary insights about ecosystems and other aspects of protected area management. Students will be encouraged to analyze sites in an evolutionary paradigm management context from their own experience.

To conclude the trip, students will carry out a final presentation that applies new knowledge to a site of their choice anywhere in the world and present it to students, faculty, and guests. Students will be required to convert their presentation into a final paper to be delivered three weeks after returning home. The co-directors will evaluate these papers. Graduates students will be expected to take a leading role in dialogues and will be held to higher requirements for the final paper.

Course Credits

Activity	Hours	Running Total	Notes
Prior to arrival in Costa Rica			
Orientation Meeting	1	1	Held remotely by course staff
Reading for course	10	11	
While in Costa Rica			
In class work	88	99	Traveling, lectures, facuty-led student activities.
Out of class work	11	110	Journaling, review for quiz, projects. Average 1 hour/ day
After return from Costa Rica			
Paper	10	120	Contact hours: 60
Total Student Credit Units		**4**	

EVALUATION

The course issues a letter grade based on the following requirements for course credit fulfillment.

1. Participation in dialogues* 20%
2. 2 reading quizzes 20%
   a. First quiz verifies students have read assigned readings.
   b. Second quiz centers on several papers for which students need to identify the dominant worldview and explain how they made their choice.
3. Final presentation 20%
4. Final paper* 30%
5. Overall engagement 5%
6. Journal

*Graduate students will be expected to play a leading role in dialogues and their final paper should be at least 10 pages.

Students will adhere to the University of Montana code of conduct throughout this trip. See course policies for more information.

Final presentation

Prior to arrival, students will identify and research a protected area of interest to them. It could be a natural or cultural heritage protected area at any level of governance, anywhere in the world. They must characterize its history and management regime and practices. Ideally, they will download materials as reference for the development of their final presentation. They should have to the degree possible photos that illustrate important heritage, management practices, and if possible social context in which the protected area is embedded.

Students will apply what they have learned to characterize the history of a site in the context of value and worldview development. They will also show any signs of where the site management may be evolving as well as offer recommendations on how to change the management, interaction with community, policies and laws, and general cultural beliefs needed for the site to evolve to the next level. Thus, they will draw on all four Integral Theory quadrants to inform their results. Through this application, they will demonstrate their understanding of the concepts and illustrations presented during this FSP.

Final paper

The final paper will share the same objective as the oral presentation. It should cite literature to demonstrate the evolution of the site, past, present, and future. It should also include interviews with key stakeholders so that the investigation is mixed methods and draws on all four quadrants (first-, second-, and third-person perspectives). They will be provided with a table that breaks down research methods by quadrant as well as different validity claims for each quadrant. The paper is recommended to be 5–7 pages long for undergraduates and due after three weeks after course conclusion. Graduate students will write a final paper of at least 10 pages.

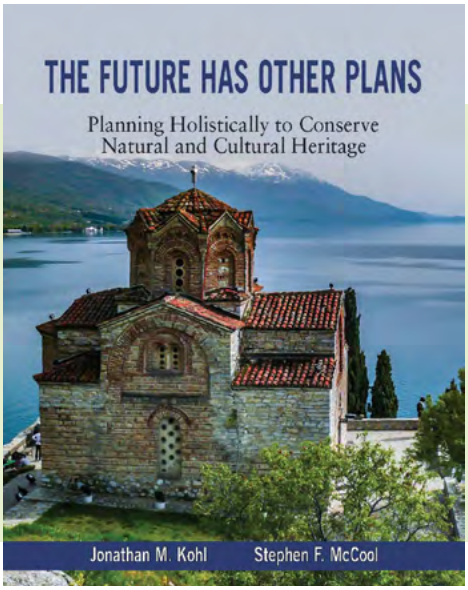
Journal

As students have chosen a park to study from their experience prior to arrival in Costa Rica, they will be required to keep a journal in which they will answer a couple of questions each day based on the day's corresponding lessons. These thoughts will contribute greatly to the development of their final presentation and paper thereafter.

View of the *Chorotega Model Forest landscape.*

Course Materials

Aside from an equipment and travel materials list which will be provided long before student departure for Costa Rica, academically students will be required to read one book and one electronic pack of materials. The required reading is *The Future Has Other Plans: Planning Holistically to Conserve Natural and Cultural Heritage* by Jon Kohl and Stephen McCool (Fulcrum, 2016). See *references in the appendix* for possible articles in the packet. While articles may be read during the trip, students are expected to have read the book prior to arrival, given the lack of opportunity during the trip for extensive reading.



A controlled burn at *Santa Rosa National Park and World Heritage Site.*

Course Itinerary

Jan.	Site	Movement, Housing	Activities
3	Airport SJO EcoGuardianes	Arrival in Costa Rica Travel 1 hr to Finca EcoGuardianes for night	Afternoon Students arrive at airport Night Orientation, dinner, warm up activities, agenda, staff presentations (Jon, Jenn, César)
4	Tirimbina Biological Reserve	EcoGuardianes to Tirimbina Biological Reserve 1 hour. Night in Tirimbina, PUP organization member	Morning Breakfast at EcoGuardianes. Tirimbina hike with Mariela García, director of education Afternoon Lunch, biogeography and ecosystems of Costa Rica (César); Talk with Tirimbina director, Pedro González Night Talk History of PA management paradigms (Jon, Jenn), dinner
5	Mistico Park (hanging bridges) Costa Rica Wellness Park	Tirimbina to Mistico Park 2 hrs Spend night at Finca Educativa Don Juan, La Fortuna	Morning Breakfast at Tirimbina. Guided hike at Mistico Park Afternoon Experience Wellness Park, lunch, and talk with CEO Johnny Castillo on private tourism and conservation. PUP member. Late afternoon Talk Introduction to Integral Theory (Jon) Night Dinner at restaurant and free time in La Fortuna center
6	Monteverde Cloud Forest Reserve	La Fortuna to Monteverde Cloud Forest (PUP member) 2 hrs. Night in Monteverde's La Casona Lodge	Morning Breakfast at Finca Educativa Don Juan, talk by Juan Afternoon Lunch at Monteverde, hike, talk with dir. Carlos Hernández Late afternoon Talk History of PA paradigms in Costa Rica (Jon) Night Dinner and guided night hike
7	Monteverde Reserva El Toledo (Hojancha)	Visit Ecopaz Monteverde to Hojancha 2.5 hrs. Night at El Toledo	Morning Breakfast at Monteverde. Play in Ecopaz or hike in Monteverde Afternoon Drive and then lunch at El Toledo Reserve, snacks on the way Night Free
8	Punta Islita Wild Macaw Reserve Carrillo Beach	Spend night in Toledo Reserve. 1.5 hrs to Macaw Reserve.	Morning Breakfast in Toledo. Wild Macaw Reserve tour, Macaw Recovery Network. Talk on wildlife management (César, Jenn). Brown bag lunch. Afternoon Visit Carrillo Beach. Night Dinner at Toledo. Talk on values (Jon, Jenn)
9	Chorotega Model Forest	Hojancha to Liberia 2 hours Spend night in Santa Rosa National Park researcher quarters	Morning Breakfast at Toledo. Hike with Emel Rodriguez (integrated landscape management and history of the model forest) Afternoon Travel, lunch on the road. Brown bag lunch. Night Talk rational comprehensive planning (Jon). Dinner at park.
10	Santa Rosa National Park	Spend night in park	Morning Breakfast in park. Hike through forest (César) and visit la Casona National Monument Afternoon Talk Director Alejandro Masis (Conservation area, Biological Education Program, innovation and History). Lunch at park. Night Dinner at park. Free
11	Santa Rosa National Park	Spend night in park	Morning Breakfast at park. Talk holistic management and planning (Jon) Afternoon Lunch at park. Workshop about final project (Jon) Night Dinner at park. Work on assignment
12	Rincón de la Vieja National Park	Spend night in a Liberia hotel	Morning Breakfast in Santa Rosa. Hike in Rincón de la Vieja (César) Afternoon Lunch in Liberia. World Café about protected area management models @ hotel (Jon, Jenn) Night Dinner in Liberia. Studens work on their final presentations
13	Liberia	Liberia to San José 4 hours Spend night at Finca EcoGuardianes	Morning Breakfast at hotel. Students give presentations Afternoon Lunch in Liberia. Return trip. Marco joins course. Night Finish up any presentations, dinner
14	SJO Airport	Depart Costa Rica	Morning Early breakfast at EcoGuardianes, travel to airport. 2 trips depending on departure time


Nicaragua
Caribbean Sea
Costa Rica
COSTA RICA
Caribbean Sea
Pacific Ocean
Guanacaste Conservation Area
Rincón de la Vieja National Park
Santa Rosa National Park
Liberia
Nuevo Arenal
Wellness Park
Mistico Park
Arenal Lake
La Fortuna
Finca Educativa Don Juan
Tirimbina Biological Reserve
Reserve Monteverde Cloud Forest
Hojancha
Pacific Ocean
El Toledo Reserve
Chorotega Model Forest
Finca EcoGuardianes
Punta Islita Wild Macaw Reserve
Puerto Carrillo
San Jose Airport (SJO)
San José
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Program of Studies

Jan	Topic, Presenter, Location	Summary	Readings
4	Ecosystems and biogeography of Costa Rica (César Sánchez) Tirimbina Biological Reserve  	Education Coordinator Mariela García guides us through Tirimbina and its history. Later Reserve Director Pedro González tells about how Tirimbina is managed. In order to contextualize any discussion on protected area management in Costa Rica, students need to understand the diversity of ecosystems and biogeography of this small country. From its central mountain range that slopes down to the Atlantic and Pacific coasts, as well as its marine areas, the country offers refuge to a wide variety of ecological niches and habitats in a mere 51,000 km^2 of land and 590,000 km^2 of ocean. **Dialogue point** (use iNaturalist to learn about biogeography): What role has a diverse biogeography played in the development of Costa Rica's tourism and protected area efforts?	• Bagley and Johnson (2014). Phylogeography of lower Central America • Kricher (2017). Classic book about neotropical ecology and natural history. Optional
	History of management paradigms in protected areas globally (Jon Kohl and Jenn Thomsen)	La Selva Research Station and OTS have played a unique role in Costa Rica and in neotropical forest research. Its American enclave nature and science-first approach has greatly reinforced and supported a modernist scientific mindset to knowledge generation, placing it and its fellow research stations strategically among protected areas in Costa Rica. Nevertheless, social forces have obligated it to evolve. Neighboring Tirimbina shares some commonalties and differences, but both reflect how biologists who bought properties started conservation in CR. There have been several widely cited paradigms in protected area and conservation management such as Fortress Conservation, Integrated Conservation and Development, IUCN's protected areas categories, and sacred indigenous spaces. But these to date have not been framed within a worldview-value perspective which may offer more explanatory power when seen from a societal point of view and not just the more limited scope of protected areas. **Dialogue point in breakout groups:** How have protected areas evolved in response to societal and social pressures? How many paradigms do La Selva and Tirimbina represent? Which and why?	• Kohl (1993). La Selva and its evolution • Chapter 1. Kohl and McCool (2016). Problems of conventional site planning • Kohl (2004). Optional. History of zoos • Sillitoe (2015). Optional. Indigenous people involvement • Bawa et al. (2004). • Redford et al. (2003). Optional. Approaches. Royal Forest, Wikipedia • Turrell (2020). Feng shui forests • Curry (2016). Oldest cemetery in the world • Humphreys and Clark (2020). Optional. History of MPAs
5	Introduction to Integral Theory (Jon Kohl) Wellness Park   	CEO of the Wellness Park and former Mistico Park General Manager, Johnny Castillo, talks about the values of private for-profit conservation while touring the Wellness Park and emerging values. Integral Theory is a philosophical meta-framework that integrates all other frameworks, wisdom traditions, spirituality, as well as cutting edge theoretical science. It is based on the premise of evolution and is highly influenced by the evolution of consciousness, or worldviews. In this initial presentation, we trace the entire arc of universal evolution and the four quadrants of the Integral Map, necessary to understand evolving values in society that influence protected area management paradigms. We very briefly look at how different research methodology families track across quadrants. **Dialogue point with floor cards we map out values behind big events in the news:** How might we interpret contemporary political issues from an Integral point of view? How does the expression of values in society reflect across protected area management?	Reading Quiz 1 at the Wellness Park • Chapter 4. Kohl and McCool (2016). Introduction to Integral Theory • Borrie et al. (2020) Optional. Private protected areas

6	History of protected area paradigms in Costa Rica (Jon Kohl) Monteverde Cloud Forest 	At breakfast, Juan talks about his educational organic farm. Reserve director Carlos Hernández offers overview of Monteverde's innovative management strategies and techniques. Costa Rica was a forerunner in the developing world for the establishment of protected areas. Its system has evolved from the early 70s until today, though it exhibits a variety of management regimes disproportionate to its humble size. We place special emphasis on the role of Monteverde in this evolution. **Dialogue point** (protected area posters around wall and people place corresponding characteristics): Can we see different evolutionary stages throughout Costa Rica? Are there gaps?	• Valverde Sánchez (2018). History of Costa Rica PAs • Davis (2009). History of PAs in Monteverde • Schoon (2011). History of transboundary PAs • Palomo et al. (2014). Incorporation of socio-ecological approach in PAs • Phillips (2003). New PA paradigm • Ormsby and Bhagwat (2010). Sacred forests of India. Ormsby. (2021) optional, urban sacred forests • Wallace (1992). History of Costa Rican PAs. Optional
7	No class sessions today	Founding director Sergio Araya will explain the concept behind the community park of Ecopaz while students enjoy its offerings.	• SINAC. (n.d.). Optional. Governance models in Costa Rica (3 paragraphs)
8	Wildlife Management Paradigms (César, Jenn) Values (Jon Kohl, Jenn Thomsen) Punta Islita Wild Macaw Reserve El Toledo Reserve	At the Wild Macaw Reserve, we study a contemporary wildlife management paradigm and compare it with others, past and present. There are multiple emerging taxonomies of values for example Integral Theory but also that of PIRC. Values expressed in protected area management are not independent of larger values manifesting and competing in society. The better we understand values, the better we can understand the emergence and competition of protected area paradigms. **Dialogue point** (value mapping and use of superheroes to represent different values): Which values have we seen expressed in protected areas so far in Costa Rica? Where do we see them evolving or with potential to evolve as well? **Dialogue point:** Consider a protected area that you know well anywhere in the world. Which values have been or are currently being expressed in its management?	• Gale and Ednie (2019). Values in PA conflict resolution • Crichton (2006), starting on p. 19. • Holmes et al. (2011). Values
9	Rational comprehensive planning (Jon Kohl) Chorotega Model Forest 	Emel Rodriguez will present the Chorotega Model Forest landscape approach while giving a tour to students. RCP based on modernist technical rationality is the paradigm that still grips much of protected area planning today. It is technical, methodical, scientific, and antipolitical. It creates master plans that never get implemented. **Dialogue point** (paradigm game followed by a roleplay): How have you studied or seen examples of RCP in your other courses? Describe a scenario marked by RCP in which you have participated.	• Chapter 2. Kohl and McCool (2016). Rational comprehensive planning • Locke and Dearden (2005). Rethinking PA categories • Carr et al. (2019) Optional. Evolution of science and policy in MPAs

10	Guanacaste Conservation Area World Heritage Site Santa Rosa National Park	César leads a hike in Santa Rosa National Park, showing major ecological concepts as well as the La Casona National Monument. Director of the Guanacaste Conservation Area (ACG), Alejandro Masis, presents the Guanacaste Conservation Area, its component protected areas, its World Heritage Site status, and its unique and innovative history among Costa Rican protected areas.	Reading Quiz 2 • Janzen and Hallwachs (2019). History of ACG • Allen (2001) Optional. Book on history of ACG • Bengtsson et al. (2003), Evolution of ecology in PAs. Read only abstract and conclusions
11	Holistic management and planning (Jon Kohl) Santa Rosa National Park	Holistic management involves far more than the production of documents. Rather a holistic process builds on postmodern and integral values and seeks to build social capital and cohesion of the stakeholder community so that they co-create, co-own, and co-implement not just the plan, but a continuous, adaptive planning process. **Dialogue point** (design a mini planning process): What would a holistic planning process look like in your selected park? Who would participate? How would they be strengthened as a community? What ideas and practices would have to be discarded to move towards a holistic evolving process? This workshop presents the requirements for the final presentation and suggestions about how to develop it given the limited time available on this trip. Where a final paper is required, the connection between the presentation and paper will be covered. Students will begin development of this presentation in this moment. Faculty are available for consultation.	• Chapter 9. Kohl and McCool (2016). Conclusion to book. • Gale et al. (2019). Worldviews and PA planning.
12	Rincón de la Vieja National Park	César leads a hike in Rincón de la Vieja National Park. **World Café on Protected Area Management Models**: Given Costa Rica's coffee fame, we will facilitate a World Café discussion in which students will rotate among different tables to answer key questions about what they have learned in this course so far (for example, which ministry should preside over the future of protected areas). Faculty will serve as table facilitators and will synthesize learnings from each table question for the plenary, including the categorization of different management regimes to different worldview sets of values. A final synthesis of all lessons and implications for the rest of student studies and future careers will be explored. Of course, they will drink café de Costa Rica as they progress!	
13	Final Presentations Liberia	Students give presentations in the morning which we may finish up if necessary at night in EcoGuardianes.	

A child feels a cacao fruit at *Tirimbina Biological Reserve.*

Register

Appendix

Site Descriptions

This list contains sites both visited and discussed.

Site	Description	Notes
Tirimbina Biological Reserve	Private non-profit conservation, education and research, financed completely through its ecotourism program. One of oldest private protected areas in Costa Rica.	Member organization of the PUP Global Heritage Consortium.
Estación Biológica La Selva	Owned by international non-profit organization that consists of over 50 universities mostly in the US but also the University of Costa Rica. Most storied tropical biology research station in Latin America. Classic conservation model that caters more to international researchers than the local community. Important role in Costa Rican conservation history.	Must see for biologists. Science management may be the most classic example in Costa Rica, although not fortress conservation. Its audience tends to be elite international scientists and students.
Finca Educativa Don Juan	Private organic farm designed for education.	Offers great food and lodging.
Mistico Park	Private for-profit, family operated protected area.	Highly developed tourist offerings that operates with a conservation focus. Has the country's best hanging bridges with a direct view of Arenal Volcano.
Wellness Park	Innovative combination of conservation and spiritual and healthful wellbeing, embodying postmodern values. Private for profit and family owned.	Variety of offerings from nature hikes, meditation, forest bathing, and healthful eating. Wellness tourism. It is an organizational member of PUP.
Reserva Biológica Bosque Nuboso Monteverde	Private non-profit conservation and management. Oldest protected area in Costa Rica, celebrating 50 years in 2022 owned by the oldest conservation organization, the Tropical Science Center.	World famous ecotourist site, important history in Costa Rica's conservation field. Innovative protected area management. PUP member with PUP projects.
Parque Ecopaz	Community non-profit recreation park established since most of tourism in Monteverde caters to outside and international tourists, not locals.	In Monteverde with a radical community-based model for a fun, short visit.
Chorotega Model Forest	Landscape-level community conservation and development model, composed of multiple governmental and non-governmental organizations.	Internationally recognized model which may be more integrated than the conservation area model.
El Toledo Reserve	The El Toledo Agroecological Reserve Foundation is a community-based organization that manages this 2.4-acre agroecological farm part of the Chorotega Model Forest.	Our lodging is located in this reserve. SINAC provides some support for its management.
Punta Islita Wild Macaw Reserve	A tropical dry forest on the Pacific slope of Nicoya Peninsula. Owned and managed by the Macaw Recovery Network to recover endangered parrot populations. Has a breeding center closed to the public, though tours are offered in the reserve.	The Network's Bird Program Manager is our own naturalist and ornithologist César Sánchez.
Santa Rosa and Rincón de la Vieja National Parks	Public national park with natural and cultural heritage. Part of Guanacaste Conservation Area.	Any park would represent the state model similar to the American model in which communities do not exist within parks.
Guanacaste Conservation Area	A landscape and decentralized public management model which replaced the old national park system model, also UNESCO World Natural World Heritage	This particular conservation area has an especially innovative history and a well-known and long-standing biology education program

Protected Areas Seen through the Worldview Lens

1. Indigenous sacred space (oldest), spiritual, magical, exclusionary, management through rites and traditions, essential component of community. Sacred forests. (Tribal to Traditional worldview)
2. Fortress Conservation (classic), exclusionary, colonial, elitist, economic, command and control, hard borders (fences, guards), island-based, very few economic benefits and trophies. Today this may best be seen in zoos and private, hunting reserves. (Traditional worldview)
3. State- or single-institution controlled, possibly exclusionary, top-down, centrally controlled, in the public good, semi-hard borders (political, social), island to network-based protected areas, greater number of economic and functional benefits such as ecosystem services. Manage for ecological equilibrium. This level also includes Integrated Conservation and Development. Best seen in national parks. (Modernist worldview)
4. Participatory, inclusive, power-sharing, more diverse understanding of public good, soft borders, landscape-focused, adaptive management, often blending into surrounding communities, postmodernist, co-management. Intangible individual and collective benefits such as mental health. Best seen in co-managed sites. (Postmodern worldview)
5. Citizen-controlled, culture that integrates heritage into community values, community-controlled institutions, sense of ownership by locals, locals have skills to manage, no borders or just cultural norms such as a cemetery. Collective and multidimensional benefits and greater integration into society. (Postmodern worldview)

Typical view at *the Monteverde Cloud Forest Reserve.*

Staff

Jon Kohl, Coordinator and Co-Leader

Jon is founding executive director of the PUP Global Heritage Consortium. He has worked in protected area management for nearly 30 years starting as a Massachusetts Audubon Society naturalist, then an environmental education Peace Corps Volunteer at Costa Rica´s National Zoo, an ecotourism developer at RARE Center for Tropical Conservation in Honduras, Guatemala, Mexico and Indonesia, as a public use planning manager with UNESCO´s Sustainable Tourism Programme working with World Heritage Sites around the world. His specialty is planning, public use or visitor management, and heritage interpretation. Over the years Jon has framed protected area management increasingly in holistic terms, culminating in his book co-authored with Dr. Stephen McCool called *The Future Has Other Plans: Planning Holistically to Conserve Natural and Cultural History* (Fulcrum 2016). He also has two books on heritage interpretation and scores of articles in trade, popular, and academic journals such as *Parks, Journal of Interpretation Research, Applied Environmental Education and Communication, International Journal of Wilderness, Journal of Park and Recreation Administration, Parks Stewardship Forum, Parks & Recreation, World Heritage, Oceanus*, and contributions to IUCN´s *Protected Area Governance and Management* (2015). He also has reviewed articles for the first three as well as the *Journal of Sustainable Tourism*. He has offered lectures on protected area planning at Yale, Kansas State, Clemson, Dartmouth, and other universities as well as has taught courses at the University of Costa Rica and the Latin American Protected Areas School. He also was trip leader for a tour in Costa Rica based on the same theme as this FSP. Jon earned his bachelors in biology/political science at Dartmouth College and his Masters from the Yale University School of the Environment. He has dual nationality in the USA and Costa Rica and lives in Costa Rica with his family.

CV

Dr. Jennifer Thomsen, Co-Leader

Jenn Thomsen is an Associate Professor in the Department of Society and Conservation at the University of Montana and serves as the Director of the Parks, Tourism, and Rec-re¬ation Management Program. Her main areas of research focus on protected area manage¬ment, sustainable tourism, outdoor recreation, and large landscape conservation. Jenn has worked on numerous projects in the Crown of the Continent including visitor use man¬agement for Glacier National Park, Flathead River System, and Pacific Northwest National Scenic Trail. She has also worked on protected area management and sustainable tourism in international settings including Brazil, Botswana, Namibia, and India.

CV

César Sánchez, Naturalist

Costa Rican ornithologist and birdwatcher. For the last 25 years, César has been observing and conducting field work across the Americas. César is interested the ecology and evolution of neotropical birds, which he shares as a professor or facilitator in citizen science projects such eBird or iNaturalist. Nowadays, he combines his days by leading the Costa Rican Ornithologist's Union. Previously he worked as Bird Program Manager for the Macaw Recovery Network, a leading macaw and parrot conservation organization.

CV

Marco Castro, Advisor

Marco has more than 20 years of experience in multicultural leadership, organizational development, project management, and interdisciplinary teams. Also, he provides leadership, management, and support for international organizations in social and academic sectors. He has been part of several educational, social, and environmental programs/projects in Costa Rica and Central America in complex, culturally diverse contexts, and multi-stakeholder environments. He has multidisciplinary education in NGO-responsible management, international development, social psychology, sustainable development, and corporate social responsibility. A former Fulbright-CAMPUS grantee and Ford Motor Fellow, Marco has published two short story books in Costa Rica.

CV

Marisol Mayorga, Lecturer

Marisol, native of Costa Rica, has a bachelor's in biology and a licentiate in education from universities in Costa Rica, a master's in environmental education and interpretation from University of Wisconsin-Stevens Point, and a Ph.D. related to the Park Management, Heritage Interpretation, and Conservation Program from Kansas State University. Her background and experience have taken her and her family to live and work in different countries in Latin America and the United States. Currently, she is a professor of ecotourism at the University of Costa Rica, where she works with her students to provide tourism education and heritage interpretation opportunities to surrounding communities, consonant with the United Nations Sustainable Development Goals. She is first author of a Spanish-language university textbook about heritage interpretation, tourism, and conservation published in 2021 in Costa Rica.

CV

Stanley Arguedas, Lecturer

Costa Rican, with 33 years of experience in protected areas management, Stanley began his work as a volunteer in the National Park Service of Costa Rica, where he founded the Association of Volunteers for Service in Protected Areas. He worked for 10 years in the National System of Conservation Areas, as administrator of three protected areas and as head of several conservation programs, and then became a promoter and co-founder of the Latin American School of Protected Areas at the University for International Cooperation in Costa Rica. There he worked for 16 years as Technical and Academic Coordinator, designing, coordinating, developing and offering a large number of courses on various conservation topics. He has developed and participated in many academic activities, seminars, workshops, congresses, and technical consultancies in Latin America, acquiring a broad knowledge of the regional reality. He has participated in more than 30 technical publications and in the development of diverse methodologies, as well as advisories to diverse countries of the Latin America in protected area management.

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Annotated Bibliography

Allen, William. (2001). *Green Phoenix: Restoring the Tropical Forests of Guanacaste, Costa Rica.* Oxford University Press. Early history of the Guanacaste Conservation Area. Optional.

Bagley, Justin C. and Johnson, Jerald B. (2014). Phylogeography and biogeography of the lower Central American Neotropics: diversification between two continents and between two seas. *Biological Reviews 89: 769–790.*

Bawa, Kamaljit, Seidler, Reinmar, and Ravem, Peter H. (2004). Reconciling Conservation Paradigms. Conservation Biology 18(4):859–860. Different paradigms in conservation.

Bengtsson, Janne, Angelstam, Per, Elmqvist, Thomas, Emanuelsson, Urban, Folke, Carl, Ihse, Margareta, Moberg, Fredrik, and Nyström, Magnus. (2003). Reserves, Resilience and Dynamic Landscapes. *Ambio* 32(5)389–396. This article illustrates the evolution from modern to postmodern notions of ecological function, from equilibrium to dynamic processes. While it does not consider the social aspects of landscape management, it does consider the ecological aspects in a quickly changing world. To get the idea, read at least the abstract and conclusions.

Borrie, William Thomas, Gale, Trace, and Bosak, Keith. (2020). Privately protected areas in increasingly turbulent social contexts: strategic roles, extent, and governance. *Journal of Sustainable Tourism.* https://doi.org/10.1080/09669582.2020.1845709 This article describes the challenges of private protected areas. Optional.

Brockington, Dan D. (2002). *Fortress Conservation: The Preservation of the Mkomazi Game Reserve, Tanzania* (African Issues). Indiana University Press. For a deep dive into a famous example of African fortress conservation, this book is an important read. Optional.

Carr, Mark H., White, J. Wilson, Saarman, Emily, Lubchenco, Jane, Milligan, Kristen, and Casselle, Jennifer E. (2019). Marine Protected Areas Exemplify the Evolution of Science and Policy. Oceanography 32(3): 94–103. This paper largely shows the evolution of science from within modernism. Optional.

Chapin, Mac. (2004). A Challenge to Conservationists. *WorldWatch.* November/December. This is a classic paper that critiques the Integrated Conservation and Development model, based in modernist conservationism.

Crichton, Michael. (2006). Fear, Complexity, & Environmental Management in the 21st Century. Speech given to the Washington Center for Complexity and Public Policy. Washington, DC. November 6. While the entire essay is powerful, discussion specifically of wildlife mangement in Yellowstone National Park begins on p. 19. Crichton was a famous SF writer.

Curry, Andrew. (2016). Mysterious Graves Discovered at Ancient European Cemetery. National Geographic. Free source. While this article does not talk about its protected status, and this oldest known cemetery in the world may have had none, but the point is that ancient cemeteries were often protected formally and spiritually. One famous cemetery in Sweden, though contemporary, not only protects a forest but is a World Heritage Site exemplifies the point.

Davis, Jason. (2009). The Creation and Management of Protected Areas in Monteverde, Costa Rica. *Global Environment* 3. Pp. 96–119. Based on his Master´s thesis, it offers a good early history. Optional.

Gale, Trace and Ednie, Andrea. (2019). Can intrinsic, instrumental, and relational value assignments inform more integrative methods of protected area conflict resolution? Exploratory findings from Aysén, Chile. *Journal of Tourism and Cultural Change* 18(4):1–21.

Gale, Trace, Beeftink, Karen, and Ednie, Andrea. (2019). Worldviews, Levels of Consciousness, and the Evolution of Planning Paradigms in Protected Areas. *Journal of Sustainable Tourism* 27(2):1609–1633. Content analysis of 2 public use plans that analyzed their discourse in terms of worldview values expressed.

Holmes, Tim, Blackmore, Elena, Hawkins, Richard, and Wakeford, Tom. (2011). The Common Cause Handbook: A Guide to Values and Frames for Campaigners, Community Organisers, Civil Servants, Fundraisers, Educators, Social Entrepreneurs, Activists, Fundraisers, Educators, Funders, Politicians, and everyone in between. Public Interest Research Centre (PIRC).

Humphreys, John and Clark, Robert W.E. (2020). Chapter 1 — A critical history of marine protected areas. *In Marine Protected Areas: Science, Policy and Management,* edited by John Humphreys and Robert W.E.Clark. Elsevier. A good overview of the history of marine protected areas. Optional.

Huntley, Brian J. (2014). Good news from the South: Biodiversity mainstreaming — A paradigm shift in conservation? *South African Journal of Science* 110(9/10):1–4. A good paper for students to identify which worldview does mainstreaming represent and why.

Janzen, Daniel H. and Hallwachs, Winnie. (2020). Área de Conservación Guanacaste, northwestern Costa Rica: Converting a tropical national park to Conservation via biodivelopment. *Biotropica* 52(6):1017–1029. Special issue on the Guanacaste Conservation Area.

Kircher, John. (2017). *The New Neotropical Companion.* Princeton University Press. This new edition of a classic book is great for anyone more than superficially interested in Neotropical natural history and ecology. There is a Spanish version of the original edition. Optional for non-biology university programs.

Kohl, Jon and McCool, Stephen. (2016). *The Future Has Other Plans: Planning Holistically to Conserve Natural and Cultural Heritage.* (Fulcrum Books). The foundational book for this FSP.

Kohl, Jon. (2004). Zoos Behind the Wild Façade. *International Journal of Wilderness* 10(2):23–27. The history of zoos runs parallel to in situ protected areas and this article gives a good overview. Optional.

Kohl, Jon. (1993). No Reserve Is an Island: A biology student learns that conservation is as much a social science as a natural one.

Wildlife Conservation. October. This is both a first person account of the author´s undergrad experience at La Selva and a researched article on La Selva and how it was forced to evolve.

Locke, Harvey and Dearden, Philip. (2005). *Rethinking protected area categories and the new paradigm.* *Environmental Conservation* 32(1):1–10. Interesting case of culture wars over the definition of protected areas. Here authors defend the modernist notion of PAs against postmodern attempts to expand the value set that they should represent.

Ormsby, Alison. (2021). Diverse values and benefits of urban sacred natural sites. *Trees, Forests and People* 6 100136. Discusses the role, importance, and need for further research of such sites around the world. See also Ormsby and Bhagwat 2010. Optional.

Ormsby, Alison and Bhagwat, Shonil A. (2010). Sacred forests of India: a strong tradition of community-based natural resource management. *Environmental Conservation* 37(3):320–326. The article discusses the dynamics and character of this centuries-old practice in India and beyond.

Palomo, Ignacio, Montes, Carlos, Martín-López, Beta, González, José A., García-Llorente, Marina, Alcorlo, Paloma, and García Mora, María Rosario. (2014). Incorporating the Social-Ecological Approach in Protected Areas in the Anthropocene. BioScience 64(3):181-191.

Phillips, Adrian. (2003). Turning Ideas on Their Head: The New Paradigm for Protected Areas. The *George Wright Forum* 20(2):8–32. History of the modern national park concept and protected areas, what he calls the "classic model" which includes fortress conservation. He shows how over the course of four world park congresses, postmodern ideas crept into the global agenda. Phillips offers several tables that track the evolution of ideas between the 1960s and 1990s. He however calls modern "classic" and postmodern "modern", underscoring the need for a better classification of emerging value sets.

Redford, Kent H., Coppolillo, Peter, Sanderson, Eric W., et al. (2003). Mapping the Conservation Landscape. Conservation Biology 17(1): 116–131. Optional. Review of 21 conservation strategies.

Schoon, Michael. (2011). Brief history of Transboundary Protected Areas. Global Transboundary Conservation Network. IUCN. Very short.

Sillitoe, Paul. (2015). Book review of *Indigenous Peoples, National Parks, and Protected Areas: A New Paradigm Linking Conservation, Culture, and Rights*, edited by Stan Stevens, Arizona University Press, 2014. Mountain Research and Development 35(3): 311–312. This review briefly covers changing approaches to managing or involving indigenous peoples in protected areas. Optional.

SINAC. (n.d.). Modelos de gobernanza. Super short description of four governance models in Costa Rica, in Spanish. Optional.

Turrell, Claire. (2020). The tiny forests designed by feng shui. BBC Travel. A nice read about how China can use these ancient village forests to capture carbon.

Valverde Sández, Ricardo. (2018). Conservation Strategies, Protected Areas, and Ecotourism in Costa Rica. *Journal of Park and Recreation Administration* 36: 115–138. Gives a good history of protected areas and ecotourism in Costa Rica.

Wallace, David Rains. (1992). The Quetzal and the Macaw: The Story of Costa Rica´s National Parks. Sierra Club Books. For anyone interested in the details of the story through the 1980s. Optional.

Worboys, Graeme L., Lockwood, Michael, Kothari, Ashish, and Pulsford, Ian (editors). (2015). *Protected Area Governance and Management.* IUCN. Perhaps the most important general reference on protected area management. Australian National University Press. *Spanish* and *French* versions.