The Ecotourism Equation:
Measuring the Impacts

JOSEPH A. MILLER, BULLETIN EDITOR
ELIZABETH MALEK-ZADEH, VOLUME EDITOR
The Yale School of Forestry and Environmental Studies Bulletin Series, begun in 1912, issues faculty and student monographs, symposia and workshop proceedings, and other reports on an occasional basis. To order copies of this or other Yale F&ES Bulletins, contact:

Publications
Yale School of Forestry and Environmental Studies
Sage Hall
205 Prospect Street
New Haven CT 06511
USA

http://www.yale.edu/forestry/publications

Bulletin Editor  Joseph A. Miller
Volume Editor  Elizabeth Malek-Zadeh
Director of Communications  Jane Coppock
Design  R. Richard Solaski
Cover  The Shameless Monkeys in the Cornfield, by Luz Rios Duarte of Corazones Valientes
Production  Russell Shaddox, Yale University RIS Publishing
Paper  Mohawk Superfine, Softwhite recycled, 24 lb. writing, smooth, acid free

Bulletin Number 99
ISSN 0361-4425
CODEN BYSSDM
©1996 Yale University
Permission is granted to reproduce this volume without prior written consent.
# Contents

ACKNOWLEDGMENTS 5

INTRODUCTION 6

KEYNOTE ADDRESS
- Developing a National Sustainable Tourism Strategy: Going Beyond Ecotourism to Protect the Planet’s Resources 10
  James MacGregor

SECTION I: WHAT ARE THE IMPACTS OF ECOTOURISM AND HOW ARE THEY MEASURED? 27

OPENING ADDRESS
- The Bottom Line: Getting Biodiversity Conservation Back into Ecotourism 28
  Katrina Brandon and Richard Margoluis

- Development through Ecotourism in the Interior of Suriname 39
  Jerry Ricardo A-Kum

- Nature Travel and Rainforests 43
  Gene Cope

- Measuring the Impacts of Ecotourism on Animal Populations: A Case Study of Tikal National Park, Guatemala 49
  Lori A. Hidinger

- Ecotourism Impact on Independently Owned Nature Reserves in Latin America and Sub-Saharan Africa 60
  Jeff Langholz

- Tourism and the Environment—Out on a Limb and Sawing 72
  Vivian Newman and Samuel Sage

- Ecotourism's Identity Crisis: How Green is My Vacation? 81
  Robert Rattner

- Sustainable Ecotourism: The Galapagos Balance 89
  Marsha Sitnik

- Emerging Participatory Monitoring and Evaluation Programs in Two Ecotourism Projects in Petén, Guatemala 95
  Bill Talbot and Kevin Gould

- Ecotourism: Change, Impacts, and Opportunities 108
  Geoffrey Wall
SECTION II: WHAT ARE THE PARAMETERS OF ECOTOURISM SUCCESS?

OPENING ADDRESS

Toward a Principled Evaluation of Ecotourism Ventures
George N. Wallace

Evaluating Ecotourism Lodgings in The New Key to Costa Rica
Beatrice Blake, Anne Becher, Jane Segleau Earle

The Use of Client Evaluations in the Ecotourism Process: An Example from Costa Rica
Carol Holtzman Cespedes

Five Parameters of Ecotourism
Huuub Gaymans

Rainforest Expeditions: Combining Tourism, Education, and Research in Southeastern Amazonian Peru
Eduardo Nycander and Kurt Holle

Trial Runs as a Tool for Responsible Ecotourism Development
Francois J. Odendaal

Regulating Ecotourism: Legal Frameworks and Market Guidelines
Françoise Simon

The Ecotourism Operation Was a Success, But the Patient Died: A Case Study from Western Samoa
Lumaava Sosaemalelagi, Steve Brown, Francois Martel, and Reevan Dolgoy

The Green Evaluation Program: Preliminary Results from a Pilot Ecotourism Monitoring Program for Nature Tour Operators
Megan Epler Wood, William Norman, Eric Frauman, and Lorin Toepper

SECTION III: HOW CAN ECOTOURISM PROJECTS BE SUCCESSFULLY DESIGNED AND IMPLEMENTED? POLICY AND MANAGEMENT PERSPECTIVES

OPENING ADDRESS

Community-Based Ecotourism Development: Identifying Partners in the Process
Keith W. Sproule

To Ecotour or not to Ecotour: Unpacking the Impacts and Business Realities of Tourism Development in Sana and Tariquia Reserves of Tarija, Bolivia
Kirtland M. Barker

Ecotourism: A Tool for Sustainable Development in an Era of International Integration?
David Barkin

Maho Bay, Harmony, Estate Concordia, and the Concordia Eco-Tents, St. John, U.S. Virgin Islands
Stanley Selengut

Ecotourism and Cultural Heritage Tourism: Forging Stronger Links
Sharr Steele-Prohaska

Participatory Planning for Ecotourism Development in the Peruvian Highlands
Miriam Torres

Making Ecotourism an Ally in Biodiversity Protection
Douglas B. Trent
Acknowledgments

Enormous initiative and inspiration were involved in organizing the 1996 ISTF Conference, *The Ecotourism Equation: Measuring the Impacts*, held at Yale University on April 12-14. This was a powerful example of the effectiveness of community-based efforts.

Most of the work was done by graduate students from the Yale School of Forestry and Environmental Studies. Valuable assistance came from the University of New Haven, which provided significant support during the conference weekend. The conference was a success from many, many points of view, not the least indicator of which was that on Sunday afternoon, as the conference was drawing to a close, the room was filled with as many enthusiastic participants as it had been at the opening sessions several days earlier.

Special thanks are due the following individuals for their extensive involvement in the conference or the production of the conference proceedings. Neither would have happened without their skill, hard work, and generosity: Joseph Miller, Robin Sears, Alexandra Grinshpun, Kelly Keefe, Christina Cromley, Alison Ormsby, Michele Dash, Sharr Steele-Prohaska, Eva Mossberg, Vicki Hornbostel, Eva Garen, Diane Palmeri, Richard Solaski, Russell Shaddox, Joseph Guse, Jane Coppock, Alexander Evans, and Jim Bryan.

Sponsor
Jared Cohon, Dean, Yale School of Forestry & Environmental Studies

Donors & Benefactors
Thomas Appelquist, Dean of Graduate Studies, Yale Graduate School; Holiday Inn; Yale F&ES Student Advisory Council; Yale School of Forestry & Environmental Studies; Focus Tours, Inc.; Galahost Tours, S.A.; Tread Lightly, Ltd.; Air Jamaica; Hart Colby Miller; Moveable Feasts Catering; Corazones Valientes; Sharr Prohaska, University of New Haven; Organization for Responsible Business; Yale School of Management; Surinam Airways; Yale Tropical Resources Institute; University of New Haven Travel and Tourism Department.

Conference Support
Ghazali Ahmad, Saleem Ali, Sue Ask, Peter Bryant, Ron Cherry, Lori Cricco, Derek Denniston, Tori Derr, Alex Finkral, Kevin Fitzgerald, Patricia Garffer, Julie Greenberg, Kasia Grisso, Dogan Gursoy, Sharon Hausam, Derek Halberg, Sharon Katz, Praveen Khilnani, Jon Kohl, Roger Landivar, Andrea Lee, Laura Lic, Wendy Maldonado, Eric McKenziey, Jai Mehta, Astrid Palmieri, Cathryn Poff, Shigeo Sakai, Lilian Sakai, Ted Schwartz, Anne St. John, Bill Stanley, Diana Starr, Sue Tygielski, Huma Ulgen, Kamil Unur, Constanza van der Pahlen, Richard Wallace, Suzanne Wapner, Rhonda Williams, Peter Wilshusen.

Administrative Support
Ying Huang, Carol Kinzler, Denise Schlener, Lisa O’Brien, Ada Foley, Carol Delsole, Ron Ward.
Introduction

To truly understand what ecotourism means, you must listen to those who define and shape its direction each day. A goal of the conference The Ecotourism Equation: Measuring the Impacts (April 12-14, 1996, Yale University) was to avoid circular and unproductive discussions about what ecotourism is supposed to mean. Instead, we focused on understanding the reality dealt with daily by those defining ecotourism through their work. Many perspectives were represented at the conference and are present in this volume. Tour operators, professors, government officials, lodge owners, researchers, non-profit organizations, and local people are all found here. Each provides insight into the complex issues of ecotourism.

At the conference, we hoped discussions would address three main questions. Each of these questions generated diverse responses from speakers and participants. Following is a description of each question along with a review of the topics discussed in the working groups.

1. What are the impacts of ecotourism and how are they measured?

Speakers were asked to address economic, socio-cultural, or ecological impacts. Both positive and negative impacts that result from ecotourism were requested. In addition, the implications of these impacts were to be analyzed. Methods for arriving at conclusions were to be addressed. Finally, ways in which future measurement and analysis could be improved or made easier were to be considered.

Little data currently exists on the impacts of ecotourism. Vivian Newman pointed out that the definition of ecotourism is value-laden. Gene Cope emphasized the positive impacts of marketing power gained by countries hosting ecotourism and developing new jobs. New data on the specific impacts on wildlife was presented by Lori Hidinger. Jeff Langholz and Bill Talbot documented impacts on protected area management. The importance of channeling research to appropriate decision-makers was stressed by Marsha Sitnik. Jerry A-Kum suggested that ecotourism can minimize the impacts of tourism itself. James MacGregor also considered the capacity of ecotourism to raise personal awareness. And Geoffrey Wall carefully defined the need for descriptive and predictive measurement and indicators. Overall, there was agreement that more data will need to be collected, and that a common definition of ecotourism will be necessary to achieving comparative analysis.
2. What are the parameters of ecotourism success?

We were interested in considering the essential elements that constitute a successful ecotourism project, and on the specific techniques for evaluating projects. Information was drawn from field studies, experience, and research.

Most speakers stressed the often overlooked need for profitability to accompany resource conservation. The need for regulatory frameworks through international and governmental institutions was emphasized by Françoise Simon. Carol Holtzman Cespedes spoke of getting feedback from tourists, tour operators, and local communities in order to ensure markets for specific sites. In the working group of Megan Epler Wood, it was suggested that tourist education be a parameter for ecotourism success. The determination of parameters and of ratings must be a continual process, as was emphasized by Beatrice Blake. Most were in agreement that ecotourism must not become the principal aspect of local area management, but must be part of a diverse combination of economic and ecological initiatives.

3. How can ecotourism projects be successfully designed and implemented? Policy and management perspectives.

Based on information about the impacts of ecotourism and analysis of the parameters for success, this question asked speakers to propose possible solutions and suggestions for improvement of ecotourism project implementation.

Specific ideas came from speakers who have been experimenting with new techniques for effective management. According to Silvio Magalhaes Barros, Secretary of Tourism, Parana, Brazil, there must be financial and legal incentives for responsible ecotourism. Job creation was stressed by James MacGregor as important for generating political interest. David Barkin suggested that ecotourism should play a role in subsidizing food production and supporting traditional community economics. Keith Sproule spoke of the importance of establishing criteria for how much tour money goes to a community and allowing communities to collectively decide how to spend their profits. The use of Cultural Brokers or Intermediaries in assisting ecotourism development was suggested by Sharr Prohaska. Miriam Torres spoke of the importance of ensuring that baseline research and ongoing monitoring be incorporated in management plans. According to Stanley Selengut, the internationalization of appropriate technology is making it more affordable to be ecologically responsible. And Douglas Trent stressed that it is the consumers who are the impor-
tant link to creating a demand for an ecologically responsible market.

Outside of the structured questions of the conference, some underlying themes emerged. The first common theme was the questioning of former assumptions. Some of the questions considered:

- the significance of ecotourism to traditional development. Is ecotourism a concept which can be isolated from the intertwining influences of everyday civilization (Newman and Sage)?
- commonly quoted numbers about the magnitude of ecotourism (MacGregor).
- the principles of ecotourism behind the regulations, guide lines, or codes (Wallace)?
- the definition of ecotourism used when quantifying the impacts of ecotourism (Brandon, Rattner).
- the ability of the travel industry to appreciate and act on advice generated by conservation institutions and community development organizations (Trent).
- the assumption that the impacts on communities and environments is unidirectional (Wall).

Although data on impacts is not abundant, we have much to learn from former experience. Examples of efforts to work with park management and other governmental and non-governmental organizations were provided by Torres, Sproule, Talbot, and Odendaal. Each provides valuable advice and insight to others embarking on similar efforts to coordinate inter-institutional efforts.

Quantifying and analyzing impacts can be extremely difficult and frustrating. Yet working within the current definitional and logistical difficulties, bold and informative efforts were made by Hidinger, Langholz, Odendaal, and Holtzman Cespedes towards increasing the data and information analysis available.

The ambiguity surrounding ecotourism must be accepted and dealt with. With all its vagueness, the concept of ecotourism still holds the potential to instigate positive change. The papers of A-Kum, Sooaemalelagi, Holle and Nycander reflect the hope that exists in many countries. Whether this hope can ever be fully realized within existing political structures is unclear. But the economic power of the travel industry, the capacity of travel to introduce new ideas and different people world-wide, the urgency of ecologically responsible behavior, all affirm the potential of ecotourism to affect the well-being of future generations.

A second theme at the conference was recognition of the unique nature of individual ecotourism sites. Most situations will demand
creative new approaches relevant to their own specific political and ecological situations.

A third common theme was the need for greater understanding of incentives. The economic benefits of ecotourism are now thought to be the main incentive for local people to preserve their environment. But as tourist demands increase and the business of ecotourism grows, environmental objectives may be sacrificed. Speakers at the conference referred again and again to other values and desires like the quality of life, pride of place, and meaningful existence, as goals which may ensure protection and long-term stability. The kinds of questions falling under the heading of “alternative incentives” might include:

- Besides ecotourism revenue, what other reasons cause local people to conserve their local environmental resources?
- What leads tour companies or governments to involve local people in their ecotourism efforts?
- What are the specific benefits which drive governments to encourage partnerships among different sectors influencing ecotourism?
- What could lead tourists to do background research into the ecological policies of various tour groups?
- What reasons do tour companies have for educating tourists about things which tourists may not have an immediate interest in learning about?

Adventurousness may explain the successes of some leaders who spoke at the conference. The papers of Holtzman Cespedes, Selengut, Blake, Becher, and Segleau Earle each provide examples of entrepreneurs who profited by providing a quality product and from following responsible inclinations. They make clear that there are economic benefits which follow from this sort of pioneering energy.

As in all conferences, we found that there wasn’t enough time to get the full benefit of the ideas and experiences contributed by the people who came to this weekend event. We hope this collection of papers will make available many of the issues and ideas discussed.

But it also seems clear that ecotourism cannot proceed without thoughtful planning, realistic expectations, business savvy, cultural sensitivity, and above all, respect for the natural environment.

Elizabeth Malek-Zadeh, Volume Editor