

National Park System Advisory Board

ADVANCING ECONOMIC VALUATION OF THE NPS MISSION

May 21, 2014

This first-ever, truly comprehensive economic valuation of national parks *and* programs quantifies the wide range of public benefits that flow from the modern NPS as it approaches its second century. To accomplish that, this study will: (1) measure the Total Economic Values (TEV) of national parks and programs, (2) illustrate those values using case studies of specific parks and programs, and (3) develop research analyses of those values suitable for peer review and publication.¹ A privately-funded and -managed academic team, led by Professor Bilmes of Harvard University and Dr. Loomis of Colorado State University designed this study to accomplish the three goals stated above.

Pilot Survey -- To accomplish the first goal, a survey questionnaire has been developed and refined based on input from ten focus groups, including those conducted in Boston, Denver, and San Francisco. Additionally, the study design has been peer reviewed. The mail/internet questionnaire was pilot tested on a sample of 300 US households in late 2013 to refine survey administration procedures and fine tune a few elements in the survey design (e.g., the range of the dollar amounts individuals were asked to pay). While the results of this small sample cannot be generalized to the U.S., we did find:

- Education: Over 90% viewed Parks as a place to bring children to learn about nature.
- Existence Value: Over 90% of the sample thought it was important to protect Parks and historic sites for current and future generations even if the respondent did not personally visit them.
- NP Units: About 50% would pay increased taxes for 10 years to prevent any cuts to National Park Units (NP, NM, NRA, Battlefields, Historic Sites, etc.).
 - Households Total Economic Value (their willingness to pay) was of similar size for nature focused Park Units as for history focused Park Units.
- NPS Programs inside and outside the Parks: About 30 percent would pay increased taxes for 10 years to prevent any cuts to NPS programs conducted inside and outside the National Park Units.
 - Households total economic values for educational programs/materials and NPS assistance in protection of natural features important to local communities were similar in magnitude.

Case Studies -- Concurrent with the work to estimate economic values, the research team has been conducting case studies of specific national parks and programs to illustrate those values. The first case study, at Joshua Tree National Park, has been completed and is available at the web site given below. Harvard students have now conducted five additional case studies applying the TEV framework developed by prior students Choi and Marlowe (2012) and focusing on environmental, cultural, educational and intellectual property value creation in the units.

- *Santa Monica National Recreation Area*: Documenting more than 3000 movies and television shows, including numerous blockbusters that have been filmed in national parks (including studios within the SMNRA itself). These have produced billions of dollars of export revenues to the US for which the film studios have paid pennies in permit fees. For example the Star Wars series alone (filmed partially in Death Valley) generated \$5 billion in revenues. Interviews are currently being conducted to understand the economics of site locations in the film industry. The study has also documented the role that NPS plays in integrating numerous stakeholders in the region and the impact on botanical and animal species. It is currently comparing the SMNRA to a counterfactual of mixed use development.
- *Everglades*: Study of carbon offsets suggests that Everglades' grasses offset from 30-60% of carbon emissions from the Greater Miami region, due largely to NPS management of botanical species. The rigorous carbon offset framework methodology has also been applied to the Saguaro Park in Tucson and can be used to estimate carbon offset impacts in any NPS unit. The study also documents the economic benefits compared to a counterfactual of mixed-use development.
- *Golden Gate National Recreation Area*: Documentation of the number of students who have participated in education programs in the GGNRA; teachers who have used curriculum materials based of GGNRA research; links with schools, school systems and wider educational development in STEM (Science, Technology, Engineering and Math) are based on work underway in the park area. The study notes direct usage (visitation by students and teachers and for recreational purposes); indirect usage (teachers using their site visits to develop curriculum for STEM classes for students who do not visit); and wider use of the GGNRA for research at universities and elsewhere. The study looks in detail at the funding of GGNRA which is a public-private partnership involving substantial private funding, as a model to understand the potential for NPS educational efforts if a national endowment were to be created.
- *Ellis Island*: There is a significant multiplier effect from the work performed to "curate" the records at Ellis Island, which provide ancestry archives for millions of Americans. The case study has focused on understanding the usage of this Ellis Island database by a variety of users, ranging from the Mormon Church to Ancestry.com, and how the materials are used in teaching of US history and development of history curriculum. The students conducted numerous interviews to understand the personal value of an individual being able to trace their ancestry, including an interview with Harvard Professor Henry Louis Gates Jr, who said that: "It is not possible to teach American history without the National Parks Service."
- *Saguaro*: Study has focused on the recreation and health benefits to the urban population of Tucson, Arizona; the value of protecting the iconic saguaro cactus (which is used by native American tribes and as a logo for several trademark-protected commercial products and companies); and assessing the environmental benefits of the park compared to a mixed use urban sprawl that would have spread throughout the region in the absence of the park. The study has also tested the carbon offset methodology designed in the Everglades to understand the direct impact of carbon sequestration and value-added of maintenance of native species.

Next Steps

- Acquiring sufficient funding to implement the Park Unit and NPS Programs total economic valuation survey with large samples throughout the U.S.

- Finishing the case studies
- A communications plans will be developed to effectively convey these findings to Congress and the public as part of the National Park Service's Centennial
- Publication of the results of the surveys and case studies in different journals
- Presentation of results at professional meetings to inform resource professionals

ⁱ To find the study blueprint and Joshua Tree National Park case study go to:

<http://www.nps.gov/resources/upload/Task-4-Joshua-Tree-Case-Study-The-Value-of-America-s-Greatest-Idea-Choice-and-Marlowe-2012.pdf>

For a complete discussion of the project (background, methodology and literature review) please see the Phase IA and Phase IB Reports: <http://webdoc.agsci.colostate.edu/DARE/Loomis/NPSPhase1A.pdf> and <http://webdoc.agsci.colostate.edu/DARE/Loomis/NPSPhase1B.pdf>