



Social Science Program

Expedited Approval for NPS-Sponsored Public Surveys

1.	Project Title: Creating Stewardship Through Discovery at Saguaro National Park (SAGU -BIOBLITZ)	Submission Date	9/13/2011
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2. **Abstract:** The purpose of this investigation is to provide insight on antecedents and outcomes of park visitors' participation in the National Geographic Society/National Park Service's Bioblitz at Saguaro National Park. The study will investigate: 1) reasons why visitors participate in the Bioblitz at the park, 2) visitors' thoughts and feelings about Saguaro NP and the natural world, and 3) visitors' sense of stewardship toward national park resources and nature. Data will be collected from participants during the October 2011 Saguaro NP Bioblitz, via a short onsite survey with a follow-up mail back or online survey. The collected data will provide insight on why participants chose to volunteer for the Saguaro Bioblitz and the outcomes that are associated with their participation.
(not to exceed 150 words)

3. **Principal Investigator Contact Information**

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Project Information

5. **Park(s) For Which Research is to be Conducted:** Saguaro National Park

6. **Survey Dates:** 10/20/2011 (mm/dd/yyyy) to 1/31/2012 (mm/dd/yyyy)

7. **Type of Information Collection Instrument (Check ALL that Apply)**

- Mail-Back Questionnaire On-Site Questionnaire Face-to-Face Interview Telephone Survey Focus Groups
- Other (explain) Optional internet version

8. **Survey Justification:** *Social science research in support of park planning and management is mandated in the NPS Management Policies 2006 (Section 8.11.1, "Social Science Studies"). The NPS pursues a policy that facilitates social science studies in support of the NPS mission to protect resources and enhance the enjoyment of present and future generations (National Park Service Act of 1916, 38 Stat 535, 16 USC 1, et seq.). NPS policy mandates that social science research will be used to provide an understanding of park visitors, the non-visiting public, gateway communities and regions, and human interactions with park resources. Such studies are needed to provide a scientific basis for park planning, development.*

A Bioblitz is a special type of field study where NPS and other scientists lead members of the public in an intensive 24-hour (or 48-hour) biological inventory. These field studies attempt to identify and record all species of living organisms in a given area. The term "Bioblitz" was coined by NPS naturalist Susan Rudy while assisting with the first Bioblitz at Kenilworth Aquatic Gardens in Washington D.C. in 1996. Approximately 1000 species were identified at that event.

In recent years, National Geographic has partnered with the NPS to organize and promote Bioblitzes in national parks across the country. In 2010, the Biscayne National Park Bioblitz attracted over 2,500 visitors to the park over the 24 hour period. In 2009, the Indiana Dunes National Lakeshore Bioblitz attracted over 2,000 visitors. In 2008, a Bioblitz at Santa Monica Mountains National Recreation Area near Los Angeles attracted approximately 4,000 participants from among visitors and residents of nearby communities. A 2007 Bioblitz at Rock Creek Park in Washington, DC attracted over 2,000 participants, including park users and nearby residents. NPS staff at Saguaro NP anticipates approximately 2,500 participants in 2011. As with past years, the National Geographic Society has established a website for the Saguaro Bioblitz to help promote the program and inform the public (<http://www.nationalgeographic.com/field/projects/bioblitz.html>). The Park will also release public announcements through local media outlets leading up to the event. Participation in this event is completely voluntary.. Although Bioblitzes have been conducted in national parks for over a decade,

little is known about the reasons why park visitors or nearby residents participate in them. Nor has much research been conducted of the outcomes of this engagement for participants. This investigation extends earlier pilot work conducted by the investigators at the Biscayne National Park Bioblitz in 2010. Its findings will provide the NPS with valuable information on how to conduct Bioblitzes in the future to benefit parks, visitors, and residents of nearby communities.

In addition to collecting taxonomic data, there appears to be important secondary benefits gained by visitors who have taken part in previous Bioblitzes. A 2009 study found that Bioblitz participants in Texas felt an increased sense of stewardship, a connection to the host park, and a better understanding about the species of concern after their Bioblitz experience.

9. Survey Methodology:
(Use as much space as needed; if necessary include additional explanation on a separate page.)

(a) Respondent Universe:

Participants in the October 2011 Saguaro NP Bioblitz in Arizona who are 18 years of age or older

(b) Sampling Plan/Procedures:

Face-to-face interviews will be conducted with Bioblitz volunteers while on board the NPS shuttle used to transport participants between a dedicated parking lot and the park. A team of five researchers will select every second individual/group boarding the shuttle. The selected individual will be invited to participate in the interview. For groups, the person with the next birthday and who is 18 or older will be invited to participate. The interviews are designed to last no longer than 5 minutes. At the conclusion of the interview, respondents will be invited to participate in a longer survey examining their motives for participating in the Bioblitz. Those who agree will be given the option of receiving the survey via mail or online.

(c) Instrument Administration:

Face-to-face interviews: The face-to-face interviews will be conducted by trained interviewers from Texas A&M University on board the shuttle bus transporting Bioblitz participants to Saguaro NP. The interview will take 5 minutes. A log will be maintained by interviewers to record the disposition of each contact.

Mail back survey & online survey: At the conclusion of each face-to-face interview, the respondents will be asked to participate in a more extensive survey examining their Bioblitz experience. Those who agree will be given the option to receive a hard copy of the survey via mail or online. If wanting a hard copy, we will record their name and postal address. If preferring to take the online survey, we will request an email address and send them the web link that will take them to the online survey.

The mail back survey will be sent out one week following the onsite contact. It will take about 30 minutes to complete. We will follow protocols outlined by Dillman (2009a). The survey packet will include a cover letter explaining the purpose of the study and the investigator's contact information. It will also

contain a self-addressed, postage paid return envelope. A week following the initial mailing, a reminder/thank you postcard will be sent to all respondents. Finally, a replacement survey packet will be sent to non-respondents two weeks following the initial mailing.

For those preferring to take the online survey, an email with the web link will be sent to respondents one week following the onsite contact. We will follow protocols outlined by Dillman (2009a). Reminder emails with the web link will be sent each week for three weeks following the initial face-to-face interview.

(d) Expected Response Rate/Confidence Levels:

Face-to-face interviews: We expect response rates for the face-to-face interviews to be 90%. This is due to the brevity of the initial onsite contact and the fact that all interviews will be conducted while visitors wait to board shuttles transporting Bioblitz participants to Saguaro NP. We expect to contact approximately 500 groups or individuals with an expectation that 450 will agree to complete the initial onsite interview. .

Mail back/online surveys: Based on our previous work, we expect a response rate of approximately 63% to the mail back and online surveys (Kyle et al., 2003; Kyle et al., 2004; Tseng et al., 2009). This will yield a final sample of approximately 285 returned surveys. This is a conservative estimate, as there is some evidence to indicate that mixed-mode designs, such as those we plan to implement here, increase response rates (Dillman et al., 2009b; Dillman et al., 2009a; Kaplowitz et al., 2004). Assuming 285 completed interviews and a finite population of 2,500 participants, the 95% confidence interval for means and proportions will be +/-5.2%.

	Number of Initial Contacts	Expected Response Rate	Expected Number of Responses	Margin of Error +/- %
Onsite Interviews	500	90%	450	
Mail back	315	63%	199	5.2
Online	135	63%	86	5.2

(e) Strategies for dealing with potential non-response bias:

Detection of non-response bias will utilize the following protocols:

For face-to-face interviews, observable information (e.g., gender of respondent, size of group) of every party contacted will be recorded by the interviewers on the survey log. In addition, interviewers will ask one question from the onsite interview to all those who initially refuse to participate. This question is,

“Have you participated in Bioblitzes at other national parks?”

A comparison of the responses between those agreeing and refusing to participate in the full onsite interview will be made.

For visitors choosing to participate in the face-to-face interviews, but not the

mail back/online surveys, comparisons will be made between respondents and non-respondents using all data collected onsite through the face-to-face interviews. Finally, an additional comparison of the responses to the mail back questionnaire will be made between those choosing to take the survey online vs. those choosing the hard copy format.

Non-response bias (if any) will be reported and implications for interpretation of results will be reported in any concluding documents or presentations. Characteristics of respondents and non-respondents will be compared using available data and weighted accordingly (Fisher, 1996).

(f) Description of any pre-testing and peer review of the methods and/or instrument (recommended):

The measures used in the survey instrument were developed from:

1. Work published in peer-reviewed outlets:
 - a. Place attachment - Kyle et al., 2005;
 - b. Enduring involvement - Kyle et al., 2007;
 - c. Motivation - Manfreda et al., 1996; and
 - d. Environmental values - Dunlap et al., 2000
2. In-depth interviews with participants in previous Bioblitzes - Kyle & Eccles, 2009.
3. Pretesting of the current survey instrument was conducted at Biscayne National Park (N=100). All scales and items performed consistently with past research.
4. Peer review of the survey design and content was provided by the following - Staff from Saguaro NP; the NPS Human Dimensions of Biological Resources Program in Fort Collins, CO; the Resources and Science Division at Yosemite National Park; and faculty at Texas A&M University. Their critiques and suggestions have been integrated into the current draft of the instrument and study design.

10 Burden Estimates: With an anticipated response rate of 63%, we plan to approach 500 individuals. We expect that the initial contact time will be at least five minutes per person (500 x 5 minutes = 42 hours). We expect that 50 (10%) people will refuse to participate in the onsite interview, for those individuals we will record their reason for refusal and ask them to answer 3 questions that will be used for the non-response check. This is estimated to take no more than 2 minutes (50 x 2 = 2 hours) to complete each session.

For those who agree to participate (n=450) we expect that 285 will complete and return the survey, with that, an additional 30 minutes will be required to complete the follow through (285 response x 30 minutes = 142 hours). Based on previous experiences with a similar collection, we expect that one-third of the respondent will use the internet to respond to the survey (n=99) and remaining (n=199) will use the mail back option. The burden for this collection is estimated to be 188 hours.

Total Number of Initial Contact and onsite interviews	500	Estimated Time (mins.) to Complete Initial Contact	5	Estimated Burden Hours	42
Estimated number of refusals	50	On-site Refusal/nonresponse	2	Estimated Burden Hours	2
Expected number of responses mail and internet	285	Time to complete and return surveys	30	Estimated Burden Hours	142
				Total Burden	186

11. Reporting Plan: A final technical report will be delivered to the park and it will contain a description of the study purpose and key findings. Frequencies, means and/or proportions will be presented for each question. A comparison of those responding online vs. by mail also will be reported. A final copy of the report will be transmitted to the NPS Social Science Division for archiving in the Social Science Studies Collection.

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