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FINAL STUDY PLAN: INVENTORY AND MONITORING PROGRAM EXPERTISE USE AND USER STUDY

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55 Railroad Row
White River Junction, VT 05001
802.295.4999
www.rsginc.com

PREPARED FOR:
NATIONAL PARK SERVICE INVENTORY AND MONITORING
PROGRAM

SUBMITTED BY:
RSG

IN COOPERATION WITH:
UVM



FINAL STUDY PLAN: INVENTORY AND MONITORING PROGRAM DATA AND EXPERTISE USE AND USER STUDY

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1.0 INTRODUCTION

The National Park Service (NPS) Inventory and Monitoring (I&M) Program is meant to provide park managers with a broad-based understanding of the status and trends of natural resources in national park units to be used in management decision-making, working with other agencies, and communicating with the public. The utility of I&M data is currently known to be widespread, and previous literature has demonstrated that an understanding of the status and trends of park resources is vital for science-based management of the National Park System (Fancy et al. 2009). The I&M Program conducts natural resource inventory and monitoring activities across 32 ecoregional networks made up of over 270 national park units. Each network has implemented a long-term extensive monitoring program specific to its parks and their unique ecosystems and needs.

The goal of this study is to deliver an empirical understanding of the uses of I&M data and services, the dimensions of data use, and an evaluation of these program provisions. This document describes the study plan for the initial phase of this study, to be conducted by RSG and the University of Vermont (UVM), with the support of the NPS Social Science Program (SSP) and I&M Program. Phase I of this study will engage internal NPS personnel in qualitative inquiry to provide insight into the uses and users within the NPS of I&M program data and expertise and to inform later phases of the study.



2.0 RESEARCH QUESTIONS

A series of research questions were developed to allow for an assessment of the characteristics of internal (NPS) I&M data users, the variety of uses of I&M data and expertise by NPS staff, and the values associated with the availability and utility of I&M data and expertise. I&M data and expertise includes information, analyses, reports, technical expertise, administrative support, and other products and services provided. The following research questions will guide qualitative inquiry for this study:

1. Who uses I&M data and expertise?
2. How do the users of I&M data and expertise access these data and expertise, and for what purpose?
3. Do these uses accurately reflect I&M program goals, with the ultimate goal being the use of I&M data to support park management?
4. What value do users place on I&M data and expertise?
5. How are I&M data and expertise being used to support park management?

3.0 TOPIC AREAS

A series of topic areas were developed in collaboration between RSG, UVM, and NPS to address the research questions for this project. The following topic areas will be developed into interview questions and/or a discussion guide to be used during the qualitative inquiry process:

1. Introduction/demographics
 - a. Job duties and park/program
 - b. History of employment for NPS (tenure, locations)
2. Users of I&M data and expertise
 - a. Familiarity with I&M program, data, and expertise
 - b. Characterizing self-involvement with I&M program
 - i. Why do you personally use I&M data and expertise?
 - c. Characterizing other NPS users of I&M data and expertise
3. Current uses of I&M data and expertise
 - a. Employee's historic use of I&M data and expertise internally -- especially for planning, management, and decision-making
 - b. Employee's historic use of I&M data externally
 - i. Extent to which staff are using data outside of NPS – to develop partnerships, share successes, etc.
 - c. Perceived success of these uses
 - d. Observed uses of I&M data and expertise by others in NPS
 - e. Assessment of the depth and breadth of the use of I&M data and expertise
 - f. Additional employee-identified uses for I&M data and expertise, including specific opportunities for future use
4. Perceived value of I&M data and expertise
 - a. Satisfaction with availability of I&M data and expertise
 - b. Satisfaction with quality of I&M data and expertise
 - i. Thoughts on data accessibility and format
 - c. Satisfaction with utility (relevance, application, and usability) of I&M data and expertise
 - d. Overall satisfaction with I&M data and expertise
 - i. Aspects of I&M data and expertise that are and are not working for park staff
 - ii. Factors that would increase the utility and value of I&M data and expertise
 - e. Valuation of access to these data and expertise in your position



- i. How would your position change if you did not have access to these data and expertise from the I&M program?
 - ii. Is the I&M program helping you achieve your position goals? Your career goals? The goals of your park/program?
 - f. Identification of any user-end needs
 - g. Ideal vision of I&M data and expertise for you/your park/NPS as a whole
5. Identification of internal and external participants that should be included in future phases of the study

4.0 METHODS

4.1 | QUALITATIVE INQUIRY METHOD

This initial phase of the study will use qualitative inquiry to generate discourse from various internal end users of I&M data. As Phase I of this project is qualitative and is intended to inform quantitative inquiry in later phases, we are not seeking to produce a statistically representative sample across the I&M user base. Instead, the goal is to achieve saturation with respect to themes and constructs by thoroughly exploring perspectives across the I&M user base, including perspectives from senior leaders, management, and operational/field positions. The scope of work for this study allows for an approximate maximum of 100 participants, comprised of up to 30 phone interview participants, up to approximately 35 in-person focus group participants (a maximum of four groups, assuming 8-10 participants per focus group), and up to approximately 35 web-based panel participants (4 groups, assuming 8-10 participants per web-based panel).

The phone interviews will be no longer than one and a half hours per interview and are targeted to occur in April/May, 2018 to precede the late spring and summer inventory and monitoring season that occurs in many park units. The maximum of four in-person focus groups would last no longer than two hours per focus group, and would be conducted at a single location on consecutive days during a single trip targeted for April/May, 2018. Ideally, this trip would correspond with one or more of the annual meetings/forums of the different aggregations of NPS staff. The maximum of four web-based panels would last no longer than two hours per meeting and be targeted to occur in April/May, 2018.

4.2 | PARTICIPANT SELECTION

Based on project-related conference calls with NPS, key criteria were identified to be used to guide the selection of potential participants for the first phase of the I&M Data Study. These criteria focus on two categories, “place” and “people,” and provide a basis for NPS to ensure that coverage is achieved in the participant selection for this study across park size, park type, and division/duty within NPS.

SELECTION CRITERIA: PLACE

Based on scoping calls with NPS, the parks included in the I&M were classified based on park natural resource staff size (small, medium, large, or very large) and park type (Nature, Historic, or Recreation). The classification scheme for park natural resource staff size was determined by NPS to correspond to I&M networks’ estimates of permanent and term natural resource (NR) staff in each park. Parks estimated to have zero to two NR staff were classified as “small,” parks estimated to have three to five NR staff were classified as “medium,” parks estimated to have six to 15 NR staff were classified as “large,” and parks estimated to have over 15 NR staff were classified as “very large.” Parks that share NR staff, receive NR staff support from other parks, or are jointly administered are identified in the table using footnotes. Out of the parks that are jointly administered, only the “lead” parks, as identified by NPS, are included in the matrix. Park type was determined using the SEM classification spreadsheet provided by RSG.

Table 1 is a reference matrix that organizes the parks in the I&M Program into the two selection criteria that focus on “place”: park natural resource staff size and park type. After I&M networks returned their estimates of NR staff for their parks, RSG and UVM populated the below matrix with the names of the parks that fit in



each cell of the matrix. This matrix will then be referenced by NPS as a tool for identifying study participants in a manner that provides coverage across the different sizes and types of park units in the I&M Program.

TABLE 1. REFERENCE MATRIX (PLACE)

	NATURE		HISTORIC					RECREATION	NO SEM CLASS
SMALL	AGFO	HOSP	ABLI	EFMO	HAFE	MONO	SARI	BOHA	ALKA
	ALAG ¹	ISRO	ALFL	ELMO ¹	HEHO	MORR	SHIL	CALO	NACE ³
	ANIA ¹	JECA	ALPO ¹	FOBO ¹	HOBE	MORU	SITK	CANA	ROVA ³
	APPA	JODA	ANTI	FODA	HOCU	NAVA ¹	STRI	CATO	TUSK
	ARCH ²	JODR ²	APCO	FODO	HOFU	OCMU	THST	CHIC	
	BELA	KOVA	ARPO	FOLA	HOME	PAAL	TONT	GWMP	
	BRCA	LACL	AZRU ¹	FOLS	HOVE ²	PECO	TUMA	LAMR	
	CAKR	MEVE ¹	BAND	FONE ¹	HUTR ¹	PERI	TUZI ¹	LARO	
	CAVO ¹	MUWO ²	BEOL ¹	FOPU	JOFL ¹	PETE	VAFO	NIOB	
	CEBR ²	NABR ²	BIHO ²	FOSU ³	JOMU ³	PETR	VICK	OBRI ¹	
	CHIR ¹	NOAT	BOWA	FOUN	KEMO	PISP	WABA	PIRO	
	CIRO	ORCA	CACH ¹	FOUS	KLGO	PUHE	WACA ¹	PRWI	
	COLM	PIPE	CAGR	FOVA	KNRI	RICH	WEFA	UPDE	
	CONG	SCBL	CARL	FRHI ¹	LIBI	RUCA ³	WHMI ²		
	DEPO	SUCR ¹	CHCH	FRSP	LIBO	SAAN	WICR		
	DETO	TAPR	CHCU ¹	GEWA	LYJO	SAGA	WOTR		
	DRTO	THRO	CHOH	GICL	MABI	SAHI	WUPA ¹		
	ELMA ¹	TICA	COLO	GOSP	MANA	SAIR	YUHO ¹		
	FLFO	TIMU ³	CORO ¹	GRKO	MANZ	SAJH			
	FOBU	WHSA	COWP ³	GRPO	MIMA	SAND			
	GUMO	WRST	CUGA	GUCO	MOCA ¹	SAPU			
	HAFO ²		EBLA	GWCA	MOCR	SARA			

¹ This park shares NR staff with one or more other individual park units.

² This park receives NR support from one or more larger parks.

³ This park is jointly administered with one or more other parks. Only “lead parks” are included in the reference matrix and were determined by NPS.



	NATURE	HISTORIC	RECREATION	NO SEM CLASS
MEDIUM	BADL BIBE ³ BITH BUIS CARE CAVE CRMO CUVA DINO GAAR GRSA KATM KEFJ LABE LAVO MACA ORPI PEFO VIIS VOYA YUCH	CABR GETT ³ JELA KAHO LEWI NEPE ² PUHO WAPA ³	APIS BICA BLRI BLUE ¹ BUFF CHAT CUIS ³ DEWA FIIS GARI ¹ GATE GLCA ³ GUIS MISS MNRR NATR NERI ¹ OZAR PAIS ROCR SACN SLBE WHIS	PARA

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	NATURE		HISTORIC	RECREATION	NO SEM CLASS
LARGE	ACAD	JOTR	KALA	ASIS	--
	BICY	MOJA		CACO	
	BISC	MORA		CAHA ³	
	BLCA ³	NOCA		INDU	
	CANY ²	NPSA		LAKE	
	CHIS	PINN		PORE	
	CRLA	REDW		SAMO	
	DENA	ROMO			
	DEVA	SAGU			
	GLAC	SHEN			
	GLBA	WICA			
	GRBA	ZION			
	GRTE				
VERY LARGE	EVER	OLYM	--	BISO ¹	--
	GRCA	SEKI ³		GOGA ³	
	GRSM	YELL			
	HALE	YOSE			
	HAVO				



SELECTION CRITERIA: PEOPLE

Based on scoping calls with NPS, potential participants will be considered and selected by NPS with respect to coverage across the following six general divisions/duties within NPS park units:

1. Natural Resource Management
2. Superintendents (includes deputies and possibly leadership team)
3. Planning
4. Cultural Resource Management (includes regional arch centers, cultural landscapes, and TEK)
5. Maintenance (including facilities and operations)
6. Law enforcement (including S&R)

Based on scoping calls with NPS, potential participants will also be included in the qualitative inquiry from the following divisions/duties: Exotic plant management team, Fire (fire effects and fire monitoring), and I&M. These divisions/duties are not based in one particular park and serve a variety of different park sizes and park types. The qualitative inquiry for these three divisions/duties will be conducted jointly by NPS I&M, RSG, and UVM by way of web-based panels that would focus on the same topic areas and use the same discussion guide as that for the focus group participants.

4.3 | SELECTION MATRIX AND IMPLEMENTATION

Table 2 is a comprehensive selection matrix that will be used by NPS to identify and purposefully select individuals for participation in the qualitative data collection phase of this project (as outlined in Table 1).

Again, the goal of Phase I of this study is to achieve saturation with respect to themes and constructs by thoroughly exploring perspectives across the I&M user base, including perspectives from senior leaders, management, and operational/field positions. It is likely that theme saturation could be achieved without having to recruit a participant from each of the cells of the below selection matrix, which would help to minimize overall burden on NPS staff. Coverage across the cells can be assessed; themes may well be adequately addressed without including an individual from every cell in the study. For example, it may not be necessary or desirable to have a participant from each division/duty from each park size/park type combination. After selection, however, an additional check should be made to ensure that at least one park from each region is represented in the selection matrix. And, while the Exotic plant management team, Fire, and I&M divisions are not included in Table 2, potential participants from these divisions should also be considered and selected with respect to coverage. This participant selection process will be completed by NPS by March 23, 2018 (3/23/18), and should include email and phone contact information for each participant.

	Small/ Nature	Medium/ Nature	Large/ Nature	Very Large/ Nature	Small/ Historic	Medium/ Historic	Large/ Historic	Very Large/ Historic	Small/ Recreation	Medium/ Recreation	Large/ Recreation	Very Large/ Recreation
Natural Resource Management												
Superintendents												
Planning												
Cultural Resource Management												
Maintenance												
Law Enforcement												

TABLE 2. SELECTION MATRIX (PLACE AND PEOPLE)



4.4 | RECRUITMENT PROCESS

Once a finalized list of study participants is completed by 3/23/18, NPS SSP and I&M program staff will recruit these individuals for the qualitative data collections, which may include phone interviews, in-person focus groups, and/or web-based panels.

RECRUITMENT EMAIL

NPS will use the following email text to recruit potential participants for this study:

Dear _____,

The NPS Inventory and Monitoring (I&M) Program and Social Science Program of the National Park Service are currently working with independent research consulting firm, RSG, and the University of Vermont (UVM), on a project to evaluate the I&M program. We would like to hear about your experiences using I&M data so that we can better understand how these data are currently being used and how I&M data could better support park staff and management.

We would like to invite you to participate in a (insert interview, focus group, or web-panel depending on participant) on (insert date or date range depending on interview, web-panel, or focus group, and location). Your input is very important to us.

If you'd like more information before you commit to an interview or focus group, please direct them to _____.

Please let us know by _____ if you are interested in participating. IF INTERVIEW: If you are interested, an individual from RSG or UVM will be in contact soon to set up an interview time that will work with your schedule.

Many thanks,

4.5 | NEXT STEPS: DATA COLLECTION

After NPS initial contact, NPS will schedule and organize any group-based data collection efforts, including in-person focus groups or web-based panels. RSG/UVM will coordinate with study participants to schedule all phone interviews based on participant availability. During all qualitative inquiry, RSG/UVM will take detailed synthesis notes for documentation to the extent possible and at the approval of the participants. These notes will then be summarized into a technical memo to highlight themes and theme saturation, potential survey topics and questions for a quantitative inquiry phase, and potential external stakeholders for potential subsequent phases of the study regarding external users and uses of I&M data and services. The information collected in this study could thus be used to refine the priorities of the I&M Division and bolster support for strategic program decision-making.

5.0 WORKS CITED

Fancy, S. G., Gross, J. E., S. L. Carter. (2009.) Monitoring the condition of natural resources in US national parks. *Environmental Monitoring and Assessment*. 151: 161-174.