



The Monitor

A Quarterly Newsletter of the National Capital Region's Inventory and Monitoring Program

Who Are Those People???

The Inventory and Monitoring (I&M) program is running at full speed, and as summer approaches, you will likely see many of our cooperators hard at work. The I&M program currently has five cooperative agreements established to complete inventories of amphibians and reptiles, bats, fish and vascular plants. Although you may have seen some of these cooperators during 2002, this summer will have the most concurrent inventories in progress since the inception of the I&M program.

Inventories of amphibians and reptiles is just one of two ongoing inventories initiated in 2002. Dr. Tom Pauley, a professor at Marshall University, has been overseeing the amphibian and reptile surveys at Catoctin Mountain Park (CATO), Chesapeake and Ohio Canal National Historical Park (CHOH), George Washington Memorial Parkway (GWMP), Harper's Ferry National Historical Park (HAFE), Manassas National Battlefield (MANA), Monocacy National Battlefield (MONO), and Wolf Trap National Park for the Performing Arts (WOTR). A large crew of highly trained herpetologists, Drs. George Middendorf, Robin Jung, Tom Akre, Mark Watson, and Joe Mitchell, assists Dr. Pauley.

An inventory of fish within our parks is the second ongoing project from 2002. Dr. Rich Raesly, a professor at Frostburg State University, is heading up a team that will be conducting surveys at Antietam National Battlefield (ANTI), CHOH, GWMP, HAFE, MONO, and



Hey, Researcher!
What are you
doing?

WOTR. Dr. Raesly is assisted by Dr. Bob Hilderbrand, from the Appalachian Laboratory, University of Maryland Center for Environmental Science, Paul Kazyak, from the Maryland DNR, and numerous students and technicians.

This summer the region will have its first inventory of bat communities within our parks. Dr. Ed Gates, a professor at the Appalachian Laboratory, University of Maryland Center for Environmental Science, and his research assistant, Josh Johnson, will begin surveys at 11 of our parks: ANTI, CATO, CHOH, GWMP, HAFE, MANA, MONO, National Capital Parks - East and Central, Rock Creek Park, and WOTR.

Vascular plant inventories will also begin for the first time this summer. Dr. Ted Bradley, a professor at George Mason University, and his assistant John Dodge will be conducting plant surveys at Prince William Forest Park. Also, Dr. Katia Engelhardt, a professor at the Appalachian Laboratory, University of Maryland Center for Environmental Science, will oversee the vascular plant inventories at ANTI, MONO, and WOTR. Dr. Engelhardt will be assisted by Dr. Chris Frye, Maryland DNR, Linda Lyon, Frostburg State University, as well as summer interns.

The I&M program is lucky to be working with such a knowledgeable group of scientists, and we all look forward to the information they will be providing in the coming months. If you see these researchers working in the field, stop and talk to them. They would be happy to discuss their research.

Coordinator's Corner

By Dr. Jim Sherald
Chief, Natural Resources and Science

As you are well aware, the National Park Service is implementing a nationwide Inventory and Monitoring (I&M) Program at over 270 parks. These parks have been grouped based on ecological and regional similarities, and the National Capital Region Network is just one of 32 nationwide networks. Every year, staff from each network, the servicewide I&M program, and others gather for an annual I&M meeting. This year, the National Capital Region Network is proud to host the "Meeting of the Networks," August 18-21, at the National Conference Center, Lansdowne, VA.

This year's meeting will focus on the Inventory and Monitoring Program's past and future direction. The meeting will have overview presentations and breakout sessions concerning biological inventories, long-term monitoring, and data management. Of particular interest for those new or unfamiliar to the program will be the introductory sessions on the first day. These sessions are designed to bring those new to the program up to speed, from the program's inception to its current status.

The Inventory and Monitoring Program is an important part of our parks' and region's natural resource management. I encourage you to attend the "Meeting of the Networks." Your attendance will not only show your support for the conservation of the region's natural resources, but will provide a unique opportunity to see the relationships amongst the networks and the various approaches other networks are utilizing in establishing their programs.

The Inventory and Monitoring Program has generously offered to help make your attendance possible. Please contact them or go to:

www.nature.nps.gov/im/monitor/wdc.htm
for more information on the "Meeting of the Networks."

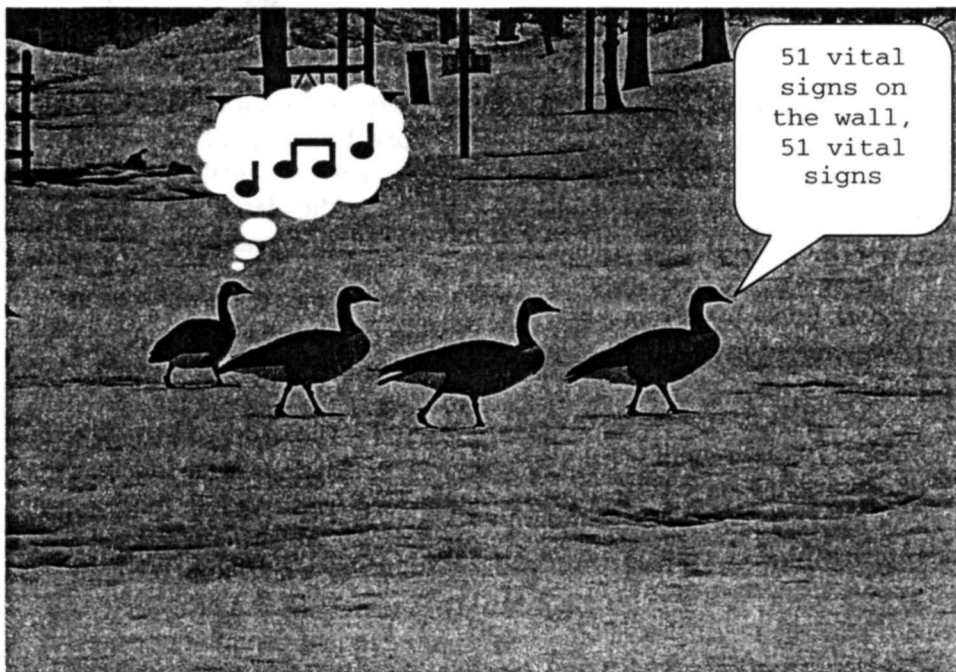
Whistle While You Work: 51 Vital Signs on the Wall

Well, summer is here again. The sun, the surf, extended periods of time in a hot car with the family or co-workers. What? Can't wait for winter? Do not fret! We have the answer to your summertime problems - a new song, "51 Vital Signs on the Wall." The best part of the song is that while humming along everyone will be thinking about how to best monitor the National Capital Region's natural resources.

Last July, the Inventory and Monitoring (I&M) program hosted a monitoring workshop. During the workshop, participants identified 51 vital signs that, when monitored, could provide an early warning of an environmental change within the parks' natural resources. However, we (the I&M team) knew that it would not be possible to monitor every vital sign, and, therefore, a prioritization must occur. We reviewed the 51 vital signs and determined that seven were already being monitored, one was eliminated because of a lack of supporting scientific evidence, and one because it was more research related. We determined that the remaining vital signs

could be grouped into seven general monitoring methods. Therefore, developing several general monitoring protocols would address numerous vital signs.

So, what is the next step? The I&M program likes to consider it the next challenge, as nothing is easy while establishing a new program, but it is to develop scientific protocols. Each of the monitoring methods identified needs a protocol to provide a roadmap of how to conduct the monitoring. Protocols will include the methodology for the selection of study sites and data analysis, along with other items. Furthermore, the protocols will provide the I&M program with a better idea of how extensive the surveys will need to be and will provide an estimate of the costs associated with implementing each protocol. Once this more detailed information is available, we can re-approach the prioritization and try to determine how to get the most bang for the buck. So here we are, 51 vital signs down to seven, but there are still a few more choruses to sing.



Bats Are Not Birds, But

Can you remember back to when you identified your first bird species by its song? Perhaps it was the black-capped chickadee, northern cardinal, or bobwhite quail. These species have very distinct songs and are readily identifiable by sound. Bird songs have long been used to identify the presence of a species when visual documentation is limited. Now, with advances in technology, similar concepts to identify bats by sound are being used and will be used this summer in the National Capital Region's bat inventory.

Some bats emit a sound that is undetectable by the human ear. This is because humans typically hear sounds below 5 kilohertz (a measurement used for sound), while bats often emit sounds well above 10 kilohertz. Bats use these high ultrasonic sounds to help them locate objects, including food, while in flight. Bats send out these sounds and listen for the returning echo. Based on the echo's returning frequency and time

delay, the bat can determine what is surrounding them and at what distance; this process is called echolocation.

Advances in technology have provided humans with the ability to hear bats. With the use of a "bat detector," the ultrasonic sounds emitted by bats can be recorded by a microphone and played back through a speaker at human-detectable frequencies. It is now possible to sit outside on a summer night and hear the high-



frequency chirps of the red bat, the high-frequency ticks of a little brown bat, or the lower-frequency chirps of the hoary bat. Furthermore, recording these species calls and analyzing the sounds with computer software can provide a more definitive determination of species than the human ear can decipher.

Although technology has come a long way in helping us hear and identify bats by sound, the methods are not foolproof. For example, some bats do not use echolocation, some species sound like one another, and, interestingly, just as human dialects differ by location so do those of bats. Despite some of the limitations with the use of sound to detect bat species, the technology does provide researchers with another sampling technique, and many species can be identified by their sounds. Furthermore, with the use of computer software, species can be distinguished that are too similar for human ears to differentiate.

NPSpecies Data Certification Do You Care? You Should!

Have you heard of the National Park Service database NPSpecies? I am sure many of you have, but for those who have not, NPSpecies will serve as your "one-stop shopping" for park-specific species information. Since the inception of NPSpecies, the Inventory and Monitoring (I&M) program and park staff have been entering species related information into the database. Once completed, the data will be reviewed to ensure accuracy, and then much of the data will be available to the public via the World Wide Web. Certain information, including data concerning species of special concern, will be provided on a password protected basis. The data review and identification of sensitive information is where the data certification begins.

So, what do we mean by certification? Certification is the quality control and assurance of the data, and simply means the data has been reviewed and is correct to the best of our knowledge. The certification process was developed to ensure the high quality of data in NPSpecies prior to public release and to satisfy one of the programmatic goals of the I&M program. Data will be reviewed by scientists knowledgeable in a particular taxonomic category (i.e., birds, mammals, plants, reptiles, etc.) and park, and each park will designate the person responsible for certifying their data. This person will review the species found on the park list, the source of the information, and species specific information, including

residency, nativity, abundance, species of concern, etc. Upon completion of the certification process, NPSpecies data will be ready for use in the publicly accessible version of the database.

The National Capital Region I&M program will begin the certification process with the region's bird related data during a two-day workshop in August. The workshop will begin with a review of the NPSpecies data fields and value definitions which will help ensure that participants define categories in a like manner. The certification of other taxonomic categories will occur overtime, but all data is expected to be certified within one year of completing the last biological inventory (2006). So, keep reading "The Monitor" for updates on our region's first publicly accessible data. We expect it by year's end!!!



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EXPERIENCE YOUR AMERICA

"The Monitor" is a quarterly newsletter of the National Capital Region's Inventory and Monitoring Program.

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INVENTORY AND MONITORING WORD SEARCH

Instructions:

Identify the Inventory and Monitoring related word(s) from the clues below and then find the word within the Word Search grid to the right.

Hint: All clues and related words can be found in the newsletter's articles.

C	D	V	E	R	T	E	D	R	A	B	C	B	E	N	E	F
T	R	I	L	R	A	B	R	U	I	N	S	G	N	A	C	P
U	A	T	I	E	F	I	S	H	B	I	O	O	T	I	A	
O	G	A	M	P	H	I	B	I	A	N	N	O	M	I	V	R
R	O	L	A	T	E	Y	E	T	P	E	G	R	L	O	R	K
T	N	S	E	I	R	O	T	N	E	V	N	I	A	N	E	S
T	F	I	N	L	D	S	F	C	W	I	Y	O	S	A	S	N
A	L	G	R	E	H	U	H	E	E	X	A	L	R	L	B	O
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T	D	A	S	F	D	O	S	V	K	T	E	J	C	H	T	R
U	A	P	R	O	T	O	C	O	L	S	B	A	A	P	A	E
C	O	E	T	E	P	L	O	T	S	I	P	D	L	O	L	E
I	T	G	R	U	J	S	I	R	E	N	S	E	B	G	U	D

CLUES: 1. Fifty-one ____ were identified at the monitoring workshop. 2. Marshall University is conducting surveys for ____ (s) and ____ (s). 3. ____ (s) are not ____ (s), but... 4. Inventories will begin in 2003 for vascular _____. 5. The ____ is the quarterly newsletter of the National Capital Region I&M program. 6. ____ provide a road map of how to conduct the monitoring. 7. The I&M program utilizes cooperative agreements to complete its _____. 8. Bats emit high-frequency sounds and then listen for the _____. 9. The ____ inventory is an ongoing project from 2002. 10. The National Capital Region will be hosting the meeting of the _____.