



SCPN News

The Field Crew: Backbone of the I&M Network

On a beautiful, breezy spring morning this past April, I shouldered my backpack and struggled to stand, staggering a bit under the weight as I followed my companions down the first switchbacks on Hermit Trail at Grand Canyon National Park. Stacy Stumpf, crew leader for the SCPN water resources field crew and Kelly Lawrence, crew member, were hiking down to Hermit Creek camp to monitor the creek's water quality and aquatic macroinvertebrate population. Grand Canyon NP hydrologist Steve Rice accompanied us on this trip. I was along because they were short a crew member and needed help with monitoring and carrying the equipment. Seven and a half miles, 3,600 feet down, and ten hours later I stumbled into Hermit Camp, hours behind the rest of the group.

We spent the next day on Hermit Creek, laying out transects, taking measurements and collecting samples. A heavy downpour interrupted our work in the afternoon and forced us to hurriedly prepare dinner and then retire to the shelter of our mummy-sized tents. In the morning, Stacy and Kelly completed the monitoring work, while I got an hour and a half headstart on the trail. They later passed me along the way and were there at the end of the trail to encourage me up those last couple hundred feet.

Many of us who sit at our desks all day, most every day (like me), often think enviously of the field crews, who we imagine traipsing through all the beautiful places in our national parks. It's



(left to right) Steve Rice, GRCA hydrologist, Kelly Lawrence and Stacy Stumpf monitoring aquatic macroinvertebrates in Hermit Creek at Grand Canyon National Park.

true—they do go to beautiful places. But these knowledgeable, skilled, and hardworking men and women also (1) lug equipment for miles, often to the most inaccessible places; (2) painstakingly take and record measurements, make detailed observations, and collect samples; (3) do their work in most any weather and often under the most primitive of conditions; and finally, (4) spend days on end away from their families and homes during the field season. The information they collect is at the core of the work of the I&M networks. This issue of the SCPN newsletter is dedicated to our field crews. Thanks for all you do!

Jean Palumbo, editor

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Introducing... the Upland Vegetation Field Crew

Karen Weber is a new SCPN crew member this field season. She came to Arizona from New York State, where she attended the State University of New York and earned a B.S. in environmental and forest biology. She expects to finish her Master of Forestry at N.A.U. this summer. Karen has worked on a variety of research projects throughout the west, from salmon inventory in Alaska, to working with a USFS forest demography crew in Sequoia National park, to researching the control of cheat grass (*Bromus tectorum*) after fire at Zion National Park

The Integrated Upland Vegetation field crew monitors soil stability, as well as vegetation composition, in order to detect changes in ecosystem condition in the semi-arid uplands of the Colorado Plateau.

Natalie Melaschenko, another new crew member, hails from Ontario Canada. She earned her B.S. in biology from Queen's University in Kingston, Ontario, and a M.S. in biology from the University of British Columbia Okanagan. Natalie's research interests are focused on deserts and arid regions. She has conducted research on the effects of fire and human disturbance on small mammals and plant communities in the Sonoran Desert and studied the impacts of cheatgrass on small mammals in the Great Basin. She is also interested in pursuing the more artistic side of science by making scientific films.

Ryan Meszaros, new Upland Vegetation crew member, earned a B.S. in Field Botany with a minor in Zoology from



Integrated Upland Field Crew (l to r): Natalie Melaschenko, Lara Dickson, Karen Weber, Ryan Meszaros, Megan Swan, botanist, and Jim DeCoster, plant ecologist.

Humboldt University in Arcata, California. He has worked as a seasonal botanist at Great Sand Dunes National Park, and worked on the Grand Canyon National Park Vegetation Mapping project for two years.

Lara Dickson returns this season as the crew leader for the Integrated Upland Vegetation field crew. Lara earned a B.S. in biology from the University of Utah, and a M.S. in biology from Northern Arizona University. She has worked extensively with the National Park Service— at Grand Canyon National Park, Organ Pipe National Monument, and the Southern Colorado Plateau Inventory and Monitoring Network—and with the U.S. Forest Service at the Rocky Mountain Research Station in Flagstaff. Her work experience includes bird inventorying and monitoring, small mammal population studies and vegetation mapping.

Steve Till, a native Arizonan, born and raised in Sierra Vista, earned a B.S. in Botany from Northern Arizona University. Since then, he has worked primarily in the Grand Canyon and surrounding four corners region. Steve has twelve years of field experience, from trail crew to exotic

species removal to botanical surveys, and research projects. He now divides his time between working with SCPN, the Grand Canyon Trust, Grand Canyon National Park and botanical consulting.

At 30 years old, he continues to be happy living out of his car with his loyal dog Pepper, with whom he shares many memorable hiking and boating experiences. Though Flagstaff, AZ is his home base, Steve overwinters in Monterey, CA, where his girlfriend Bonnie is pursuing an international environmental policy masters degree. His free time is spent playing mandolin, travelling regionally, bowling with his manfriends, and making jams and beers!

2011 Upland Vegetation Field Season

The upland field crew has plans to work at the following parks this field season: BAND, GLCA, GRCA, MEVE, PEFO and WUPA. For more information about the field season schedule for 2010, please contact Jim Decoster (jim_decoster@nps.gov) or Megan Swan (megan_swan@nps.gov).

...and the Water Resources Field Crew

Ellen Soles is a Senior Research Specialist for Northern Arizona University (NAU) and has worked on the Water Resources Field Crew of the Southern Colorado Plateau Network for 5 years. She has a Master's degree in Rural Geography from NAU, with an emphasis on hydrology of semi-arid regions. Projects that she has worked on over the past 15 years have focused on the contribution of shallow alluvial groundwater to the resilience of stream systems throughout the southwestern U.S., particularly in the White Mountains of Arizona and the Gila River region of southwestern New Mexico.

Long-term aquatic macroinvertebrate monitoring will complement water quality assessment methods, thus providing a more complete evaluation of overall stream health.

Kelly Lawrence, now in her second year on the water resources field crew, hails from Boulder, CO. She attended the University of Northern Colorado, where she earned a Bachelor of Science in Environmental Earth Sciences with a minor in Environmental Policy. In her junior year, Kelly attended the University of Alaska SE as an exchange student. While there, she monitored water quality in the urban streams around Juneau, and studied the effects of rain and snow on the melting of glaciers.

Kelly first worked for the National Park Service doing water quality monitoring for the Northern Colorado Plateau Network in Moab. She currently monitors aquatic macroinvertebrates in SCPN parks and hopes for an opportunity to study coastal wetlands in the future.

Clay Bliss is also in his second year as a water resources crew. He earned his M.S. in biological psychology from Western Washington University in 2002 and went to work as a volunteer intern for the Student Conservation Association, as a revegetation crew member and a volunteer crew supervisor. He also spent 4 months in Japan as a volunteer conversational English teacher, and farmhand.

After working for two years as a biological science technician for the Northern Colorado Plateau Network, Clay came to work as a hydrological technician for SCPN in 2009.

"My work (on the water resources field crew) inspires me because I am helping to build a body of baseline water quality data, which I think is fundamental to informing other SCPN vital signs research. On a more basic level, I'm inspired even more by the uniquely beautiful landscapes, flora and fauna to which I am exposed during field work."

2011 Water Resources Field Season

The water resources field crew monitors the following vital signs for aquatic and riparian ecosystems: aquatic macroinvertebrate communities in streams, stream water quality, spring ecosystems, channel morphology, stream flow and depth to groundwater, and riparian vegetation.

The water resources field crew has plans to work at the following parks this field season: BAND, CACH, CHCU, ELMA, ELMO, GLCA, GRCA, HUTR, MEVE, SAPU, and WACA. For more information about the 2010 water resources field season, please contact Steve Monroe (Stephen_monroe@nps.gov) or Stacy Stumpf (stacy_stumpf@nps.gov).



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Melissa Dyer, hydrologic technician, of the SCPN Water Resources Crew.

Focus on Melissa Dyer

Melissa Dyer joined the SCPN water resources crew as hydrologic technician in June. She grew up in the San Francisco Bay area in California and attended the University of California at Davis, where she earned a Bachelor of Science degree in Environmental Toxicology.

Since graduating from college, Melissa has worked on natural resource issues on both sides of the country. She conducted water quality work in California's Central Valley, and in South Lake Tahoe, she was an AmeriCorps volunteer with the U.S. Forest Service, working to identify forest sites in need of restoration in the Wildland Urban Interface and leading field crews. She also worked on raptor inventory and monitoring projects for the Forest Service.

For the last four years, however, Melissa has lived in northern Vermont and worked as a science coordinator for a nonprofit environmental education organization conducting geomorphic assessments of rivers, writing river corridor management plans, monitoring water quality of rivers and streams, and helping to inventory and monitor the wildlife and vegetation of the region. She also implemented outreach to the public, leading naturalist walks and talking to people and private landowners about the importance of conservation and restoration for the health of riparian ecosystems.

Melissa, and her husband of less than a year, Tim Sullivan, are happy to be returning to the west. "I missed the diversity and grandness of western landscapes," she told me.

Natural Resource Condition Assessment on the Colorado Plateau

The National Park Service developed the Natural Resource Condition Assessment (NRCA) program to provide parks with current information on the status of some of their most important natural resources. Utilizing existing data, observational information, and expert opinion, NRCA determine the ecological condition of resources in relation to established or developed reference conditions, as well as identify critical data gaps. NRCA are park-specific, and are intended to provide managers with information to support natural resource management activities and planning. Here in the Intermountain Region, the I&M networks are assisting the effort to complete NRCA for IMR parks. Using NRCA funding, the SCPN and NCPN

have jointly hired an ecologist to coordinate the NRCA for both networks. The networks and the region are also providing funding for a dedicated GIS specialist for the project.

In the SCPN, the first parks to begin work on the NRCA will be Bandelier National Monument (BAND) and Petroglyph National Monument (PETR), both in New Mexico. Preliminary planning meetings will be held at these parks in July 2010 to determine which natural resources or ecological or physical processes are of highest priority. Because the NRCA do not support the collection of new data, many approaches and existing sources of information will have to be utilized to assess current resource condi-

tions, including inventory and monitoring data, published research and other NPS data sources.

Park staff and the NRCA ecologist will synthesize the available data and information on the highest priority topics. For many parks, the complexity of high priority or highly impacted resources may require collaboration with outside cooperators and additional NRCA funding is available to support these efforts. For more information, visit the website at http://www.nature.nps.gov/water/NRCondition_Assessment_Program/NRCA_Projects.cfm, or contact Cathy Schwemm, NCPN/SCPN NRCA Ecologist (cathy_schwemm@nps.gov; 928-523-8619).



Cathy Schwemm, NRCA Coordinator

Cathy Schwemm, ecologist, coordinates the Natural Resource Condition Assessment (NRCA) program for the Northern and Southern Colorado Plateau Networks. Cathy earned a M.S. in biology from California State University, Northridge and went on to work in the terrestrial I&M program at Channel Islands National Park as a wildlife biologist and GIS specialist from 1993 – 2006. In 2003 she began work on a Ph.D. in ecology at the University of California Santa Barbara. Her dissertation research focused on the impact of seed predators on native plant community recovery

from grazing disturbance on San Miguel Island in Channel Islands National Park. Whenever possible, Cathy returns home to Ventura, California where she lives with her husband, a biologist with NPS, and her two daughters. Another daughter lives in Washington, D.C.



Staff Notes from Lisa Thomas, SCPN Program Manager

Over the last year, it's been great to see a new emphasis on climate change emerge within the Department of Interior in general, and particularly within NPS and the Inventory and Monitoring Program. And with that comes the need to articulate how our long-term monitoring data will address climate-related resource changes and to begin thinking strategically, along with parks and potential research partners, about how we would compliment what we're doing now, if additional climate change funding became available.

It's also been my intention to rehire the SCPN Quantitative Ecologist position for quite some time. A few months ago, it finally dawned on me that Dr. Jodi Norris is both well-qualified to perform the quantitative ecologist duties, and through her paleo-ecological background, a perfect candidate to think about how our data can be integrated with other regional efforts to inform park managers about climate change. Last month Jodi agreed to accept a detail into the Quantitative Ecologist position.

With Jodi detailing into a different job, I've asked Kristin Straka to accept a detail into the GIS Specialist position. As most of you know, Kristin has a GIS background and worked in that capacity for the FLAG parks before coming to work for us as the Assistant Data Manager. We'll be temporarily hiring a half-time NAU employee to backfill behind Kristin in the Assistant Data Manager position.

Jodi and Kristin have just begun their respective details. Please join me in welcoming them to these temporary assignments.