

## **LONG-TERM MONITORING IN NPS SIERRA NEVADA NETWORK PARKS (4C)**

**Alice L. Chung-MacCoubrey and Linda S. Mutch, National Park Service- Sierra Nevada Network**

The National Park Service (NPS) established the Inventory and Monitoring (I&M) Program in the late 1990s to perform baseline inventories of natural resources and monitor a modest set of indicators of ecosystem condition, a.k.a “vital signs” (Fancy et al. 2008). As one of 32 I&M networks, the Sierra Nevada Network (SIEN) was created to address these goals at Yosemite National Park, Sequoia and Kings Canyon National Parks, and Devils Postpile National Monument (Figure 1). Having worked closely with park staff and cooperators to select vital signs and develop methods, SIEN will follow six detailed protocols to monitor status and long-term trends in 10 physical and biological vital signs, ranging from lake water chemistry to bird communities and high-elevation forest dynamics. Our results will be used to determine the condition of these resources, identify the natural range of variation, provide early warning of abnormal conditions, and help managers make better-informed decisions. Another key element of the I&M program is proper stewardship of collected information - so that it remains accessible to park managers, scientists, and public audiences over the long-term. By sharing expertise, methods, data, and results among SIEN parks and its partners, SIEN supports the development of regional resource management goals and evaluation of progress towards these goals over time. Here, we summarize the development of our program, our approach to monitoring protocol development and sampling design, and the ecological importance of vital signs selected.

Key words: long-term monitoring, protocol, status, trends