

## 1 Executive Summary

This inventory and monitoring (I&M) analysis is being conducted to assist the BLM in overcoming the steadily increasing challenges in meeting the growing requirements for I&M activities. The findings of this study indicate the level of effort required to conduct past commitment monitoring (i.e., monitoring that field offices (FO) are committed to by regulation, permit, court order, biological decision, or associated RMP) will not decrease in the foreseeable future, and new demands for compliance monitoring to meet the needs of wind farms, solar farms, and oil and gas pads are rapidly increasing to the point that FO's are struggling or unable to keep up. Additional challenges are found in hiring and retaining qualified personnel, the fundamental resource for any monitoring program, without whom I&M requirements will never be met. Many field offices report an inability to hire qualified personnel to fill specialist positions or geographic information systems (GIS) administrator positions due to funding constraints, general lack of qualified personnel in the workforce as potential new hires, or challenges stemming from remote locations where some field offices are located. A dramatic increase in funding to meet the increase in I&M requirements is not likely. Accordingly, the BLM will have to find smarter, more efficient ways to conduct I&M to successfully complete the I&M mission.

This analysis was conducted using techniques designed to generate recommendations to assist in creating more efficient I&M operations throughout the Bureau. A workload survey was completed by a random sample of personnel who conduct I&M activities. The workload survey was followed by telephone interviews with selected I&M specialists to verify and expand on information gathered via the workload surveys. On-site visits were conducted to field and district offices throughout the BLM states to meet face-to-face with both management and I&M specialists to gather input on initial findings and hear directly from those who conduct I&M daily. The overall analysis was guided by an Oversight Team representing BLM states, the National Operations Center (NOC), and the Washington Office (WO). Senior management was informed on progress at each step of the analysis process.

The following recommendations were developed based on the results of the analysis process. They are designed to enhance both the productivity and quality of I&M activities as conducted by BLM. Recommendations and discussion are provided in more depth in section 10 of this report.

- **Recommendation 1:** Consider adopting over the longer term a full cost recovery system for permits and monitoring of permitted activity. Landscape monitoring is what is needed but very often field offices and/or states cannot afford to go to a landscape-based monitoring program. Part of the overall cost recovery scheme could very well have an option to have other parties do the monitoring required during the permitting process.
- **Recommendation 2:** Update existing guidance for I&M activities to ensure the guidance is grounded in a cross-program understanding of the basic components for a successful I&M program. Use existing capabilities found on the BLM intranet as a central, web-

based repository for storing this information such that is easily available to all who require access.

**Recommendation 3:** BLM adopt USDA Forest Service I&M guidance for forestry inventory & monitoring work, with modifications as needed to meet BLM requirements.

**Recommendation 4:** Develop a standardized training program to provide currency training to specialists in all disciplines. Additionally, stress mentorship of specialists to enhance their career development.

**Recommendation 5:** Standardize I&M data collection and storage across the BLM. Aggressively pursue the ongoing efforts of the National AIM Strategy and the MEDS subcommittee to achieve improved data management capabilities. Establish a policy and guidelines for dealing with legacy data.

**Recommendation 6:**

- Employ digital imagery and 'SamplePoint' software (developed and owned by the federal government) as tools to increase the quantity, reliability, and usability of rangeland and reclamation monitoring data, while dramatically reducing costs.
- Develop a system for the storage and management of the large volume of data generated by aerial and land-based digital imagery monitoring methods.

**Recommendation 7:** Place a high priority on remedying the shortage of soils expertise at field locations by:

- Providing formal training in soils to at least one scientist in each district or field office.
- Highlighting and targeting the shortage of soils scientists in the BLM recruitment strategy.

**Recommendation 8:** Develop a planning process that facilitates the ability of field offices to manage resources on a landscape/watershed basis and that leads to an informed decision on what I&M work needs to be accomplished and how it can be integrated with other activities required within the landscape/watershed. In concert with this, increase the effectiveness of interdisciplinary (ID) teams consistent with current guidance and regulations.

**Recommendation 9:** Pursue all means to increase efficiency when conducting I&M activities to include increased use of partnerships, cooperative and interagency agreements, and memoranda of understanding (MOU) and focusing on development of more efficient contracting procedures to enhance the use of contracting opportunities. Have contracting vehicles, such as indefinite delivery indefinite quantity (IDIQ) and basic ordering agreements (BOA), in place for field offices to access immediately. ●

**Recommendation 10:** Develop a dedicated and institutionalized "SWAT" Team that focuses on promotion of best ideas and rapid removal of barriers that prevent efficient I&M efforts. ●

**Recommendation 11:** Explore the concept of creating monitoring centers for multiple program areas, e.g. Rangeland management, Forests/Woodlands, Air/Climatic conditions, and Invasive Species. Institutionalize the existing National Aquatic Monitoring Center.

