

BLM'S WESTERN RIVERS AND STREAMS ASSESSMENT

Background

Under the Federal Land Policy Management Act BLM is to manage the National System of Public Lands for multiple use and sustained yield. Sustained yield is to be assessed through periodic and systematic inventory of renewable resource condition and trend (Section 201 (a) 43 U.S.C. 1711(a) of FLPMA)). Under the AIM strategy the Western Rivers and Streams Assessment (WRSA) is being implemented to provide the Bureau with a first ever, unbiased assessment of the condition and trend of BLM streams and rivers throughout the contiguous U.S.

Management objectives

The WRSA is designed to answer three fundamental questions:

1. What percentage of BLM's streams and rivers have minimal, moderate, or major biological departure from reference condition?
2. What is the linear extent of streams and rivers experiencing stressors such as nutrient, salinity and fine sediment loading and invasive invertebrates?
3. What is the risk posed by the observed stressors to biological condition?

Implementation

- The WRSA was designed to speak to the condition and trend of the BLM's smallest headwater streams to the large rivers of the western U.S. such as the Colorado, Green, and Snake Rivers.
- Over 300 randomly located sites were sampled between 2013 and 2015 by trained youth field crews.

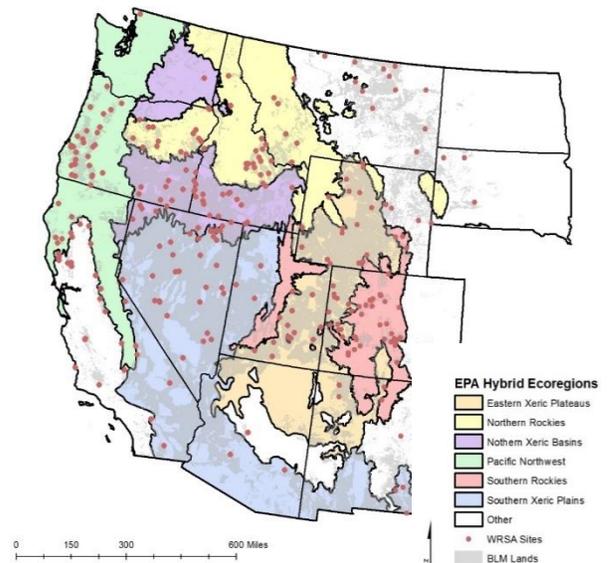


Figure 1. Spatial distribution of the more than 300 sites sampled between 2013 and 2015 under the first round of the WRSA. Point distribution and reporting is by seven hybrid level III ecoregions.



Implementation Cont.

- Crews measured AIM aquatic core and contingent indicators representing the Bureau's Land health Standards for water quality, instream channel form and habitat, and riparian condition
- Chemical, physical, and biological conditions were determined by comparing quantitative values from sampled sites to values observed at minimally impacted reference sites.

Results and Management Implications

- BLM streams and rivers in mesic regions (Northern and Southern Rockies, Pacific Northwest) are in better condition than those in arid regions (Eastern and Southern xeric plains).
- Nearly half of BLM streams and rivers experience excessive nutrient and salt (i.e., conductivity) loading.
- Water quality impacts and reduced instream habitat complexity are among the most pervasive stressors and most detrimental to biological condition.
- **Given the observed water quality impacts, collaborative, multi-agency approaches will be critical to diagnosing and restoring BLM**

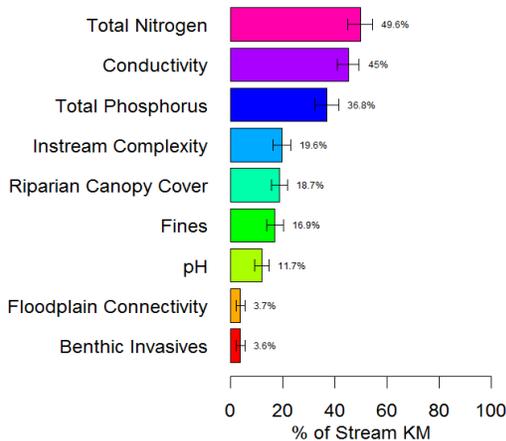


Figure 3. Spatial extent of BLM stream kilometers experiencing chemical, physical or biological stressor.

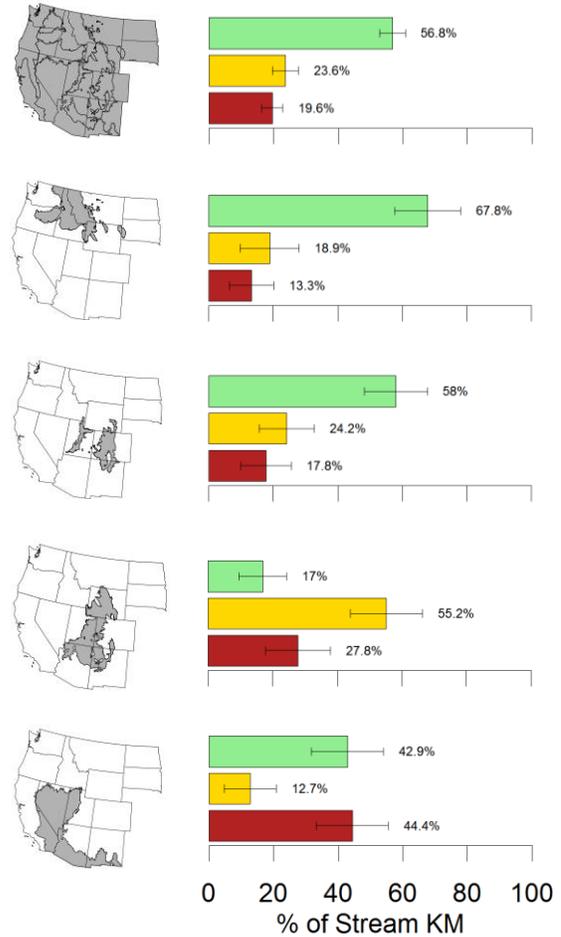


Figure 2. Canopy cover condition classes compared among three example ecoregions and for the western U.S. Condition classes are: minimal (green), moderate (yellow), and major (red) departure from reference.

streams and rivers.

Next Steps

- BLM is working at the field office level in collaboration with state and federal partners to determine the causes of degraded stream and river conditions.
- BLM will repeat the WRSA from 2019 to 2021 to assess trends in the chemical, physical, and biological condition of stream and river systems.
- BLM is collaborating with the EPA and other state and federal agencies to identify efficiencies in stream and river monitoring.