



Southern Rockies *Landscape Conservation Cooperative*

Science Needs for 2012

Identifying Science Needs for FY2012

Prior to the September 2011 Steering Committee meeting, Steering Committee members provided input on priority resources and science needs through their responses to an e-mail survey and facilitator interviews.

At the September 2011 Steering Committee Meeting, Steering Committee members participated in an exercise to identify and prioritize resources, building on the survey and interview responses. Five priority resources were identified: forests, riparian obligate species, water, endangered species, and riverine systems. The Steering Committee and LCC staff then grouped the science needs under one or more of the five priority resources. The subsequent list of priority resources and the associated science needs were forwarded to the Science Working Group (SWG). The Steering Committee asked the SWG to develop the science needs and identify types of projects that would deliver applied science meeting the needs of resource managers.

The Science Working Group established criteria for prioritizing science needs for FY2012 under the five priority resources. This was done via conference calls in December, 2011. The Science Working Group, at its January 24-25, 2012 meeting, made significant progress in identifying 2012 science needs and project types. Their recommendations were forwarded to the Steering Committee.

At their February 28, 2012 meeting, the Steering Committee identified FY2012 priority Science Needs and associated project types. The Science Needs serve the purpose of guiding and organizing the LCC's science delivery efforts related to priority resource management issues.

Priority Science Needs and Project Types for funding in FY2012

Science Need 1: *Development of models to inform management decisions related to habitat protection/preservation for desired population numbers of riparian obligate and wetland species*

1. Finish digitizing the National Wetlands Inventory maps for the Southern Rockies LCC portion of Colorado and Utah

Science Need 2: *Assessment of the vulnerability of species and habitats to reduction in habitat size*

2. Synthesize existing data and efforts associated with vulnerability assessments and develop a work plan that identifies how vulnerability assessments are used to inform adaptive management

Science Need 3: *Assessment of species or population vulnerability through identification of migration and connectivity corridors, and identification of adaptation strategies that mitigate vulnerability*

3. Synthesize existing data & efforts to assess habitat condition and develop a strategic work plan for conducting an LCC-wide, landscape-scale habitat condition assessment

Science Need 4: *Identification of changes in source-water runoff, and resultant changes to surface/groundwater interaction, resulting from climate change and other stressors*

4. Help water managers better understand how variability in significant meteorological events (e.g., monsoons, atmospheric river events) affects runoff, allowing them to better manage water resources
5. Quantify risks to watershed hydrology due to catastrophic wildfires
6. Examine how stormwater runoff has changed with urbanization
7. Improve dust production models to support climate change impact studies
8. Improve streamflow forecasts
9. Identify locations to supplement the existing network of stream gages

Science Need 5: *Incorporation of climate change projections and ecological flow needs into hydrological models in order to develop water supply scenarios that would inform decisions about water allocation to meet human and ecological needs*

10. Develop a decision support tool allowing water managers to estimate future water needs more accurately & in a more timely fashion

Science Need 6: *Data cataloging and acquisition of spatial data to aid in identification of LCC focal resources and associated needs*

11. Developing seamless digital maps (i.e., wetland vegetation, land use, water utilization) that span across the entire SRLCC, suitable for geospatial analysis

Additional Coordination Needs

The Steering Committee also identified the following project types needing additional SRLCC coordination:

Coordination Need 1: *Development of models to inform management decisions related to habitat protection/preservation for desired population numbers of riparian obligate and wetland species*

1. Determine the effect of tamarisk beetle on riparian ecosystems and monitor expansion of tamarisk beetle

Coordination Need 4: *Identification of changes in source-water runoff, and resultant changes to surface/groundwater interaction, resulting from climate change and other stressors*

2. Provide a framework for quantifying uncertainty in studies of climate change on water resources
3. Examine the use of ground water by vegetation in alluvial basins

Coordination Need 5: *Incorporation of climate change projections and ecological flow needs into hydrological models in order to develop water supply scenarios that would inform decisions about water allocation to meet human and ecological needs*

4. Calibrate hydrologic models in order to provide results applicable for ecological flow assessments

For Further Information, contact:

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