From:	Davis, Dawn
To:	Carol Schuler
Subject:	Re: Latest Draft of Section 7bviii
Date:	Tuesday, March 17, 2015 8:26:25 AM
Attachments:	SO Action Plan.7bviii.v4 - DMDedits.docx

Hi Carol,

Just a few additional comments. I had hoped to get some additional input from our Science Applications folks but didn't receive any additional feedback.

Thanks for pulling this together!

On Thu, Mar 12, 2015 at 7:56 PM, Carol Schuler <cschuler@usgs.gov> wrote:

> We're coming down to the wire. Thanks everyone for your input to this last draft. I think this version is getting much stronger and clearer.
>
> I hope you can find a bit more time to review this version. You can share this version with selected others within your agency, but please keep this pretty narrow. I do not want to pre-empt the Department on the input they will provide us which could lead to significant changes, nor what they will send out for a full review of the complete document. All agencies will get opportunities for a full review of the document.
>
> Please get your comments back to me by **March 17**. For those folks that are getting a couple other reviews from your agency, I would appreciate them back in one document in track changes. Thanks to all of you to continuing to stay engaged. Talk to you tomorrow.
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> Carol
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Section 7(b) viii. – Commit to multi-year investments in science and research~~.Integrated Response Plans~~

Issue Description/Overview

~~*Commit to multi-year investments in science and research.*~~

To develop an enhanced rangeland fire prevention, suppression, and restoration strategy, scientific information will be needed that focuses on the highest priority management needs and adapts as new knowledge is gained or management needs shift. Although a large body of research has been completed for the Great Basin, key gaps in knowledge still exist. In some cases, gaps can be addressed through synthesizing existing research to develop an understanding of how to apply the cumulative body of science. In other instances, the information is available, but not readily accessible or useable by the management community. Addressing priority science gaps, synthesizing scientific information, and ensuring full and easy access to science can only be achieved with a unified focus on the highest priorities and with a long-term commitment of financial resources.

A comprehensive science action plan will be developed that identifies science gaps~~,~~ and priority research and monitoring needs to ensure the protection, conservation, and restoration of sage-steppe ecosystems, and in particular greater sage-grouse habitat. The action plan will take into consideration the need for science syntheses, along with new research endeavors and science delivery. The action plan will be used to direct regular and recurring investments in scientific research and information delivery. The proposed action plan will expand collaboration between management practitioners and the science community, and ensure focus on the highest priority research needs for greater sage-grouse habitat.

Methodology

The lead agency for developing actions associated with this sub-section of the Order is the USGS. USGS worked with the BLM, FWS, NPS, GBLCC, USFS, and NRCS to develop the proposed actions outlined below. Additional coordination with states and Tribes will occur through specific actions identified below. Completed science strategies, such as the Sage-grouse National Research Strategy, and other efforts described under the Actions Underway section below, provide the foundation for development of a science action plan for the Order. These existing and ongoing efforts included identification of science needs for rangeland fire, controlling cheatgrass and other invasive grasses, restoring sagebrush landscapes and, in particular, greater sage-grouse habitat, and will provide an expedited process for identifying priority science needs in the Great Basin.

Actions Underway

In the past two years, federal and state agencies have made considerable strides in identifying and prioritizing science needs for suppressing rangeland fire, controlling invasive plants, and for the benefit of greater sage-grouse. Some of these efforts span a much larger range than the Great Basin and address broader issues than fire and invasive species. However, they include broad discussions and thinking across federal and state agencies, and provide the best starting place to identify priority needs. These completed and ongoing efforts will provide the foundation for developing a science action plan for the Order. The following paragraphs describe completed and ongoing science and research prioritization efforts.

- *Greater Sage-grouse National Research Strategy* - USGS led the development of the Greater Sage-Grouse National Research Strategy at the request of the Western Association of Fish and Wildlife Agencies (WAFWA). The Strategy, published in 2013, documents information gaps and identifies priority research needs to inform future planning and management activities. Research needs were prioritized by an interagency team of federal and state experts.
- *Gap Report* – The WAFWA Gap Report identifies and summarizes the policy, fiscal, and science challenges that land managers encounter related to the control and reduction of the invasive plant/fire complex, especially as it relates to the status of the greater sage-grouse. The Gap Report identifies the top 5 gaps, and 17 additional gaps that should be evaluated by both federal and state agencies as a means to help ameliorate the wildfire/invasive threat in the West.
- *BLM/USGS sagebrush restoration/rehabilitation research needs* - The BLM and USGS organized a workshop in July 2014 that brought together federal and state agencies to identify management questions and related science needs regarding risks to, and improvement of, sagebrush habitat for the benefit of greater sage-grouse in the Great Basin. An interagency team is in the process of refining the science needs and seeking input on prioritization of these needs.
- *BLM Implementation Strategy* – The BLM developed an Implementation Strategy to further advance science in the BLM's everyday work. Recognizing the increasing importance of science-informed decisions, BLM undertook an internal assessment of scientific activities and opportunities from 2012-2014. The resulting Science Implementation Strategy framework will be used by BLM to guide all science conducted and used to inform management decisions.
- *USFS Sage-grouse Conservation Science Strategy* – USFS prepared a 2015 science strategy to summarize USFS strengths, capabilities, partners, past and current research, and potential future priority areas for sagebrush ecosystems and greater sage-grouse conservation. The strategy identifies research goals and actions, facilities and locations,

science-based needs of the National Forest System, and the unique niche of USFS science relative to plans and strategies of other agencies and organizations.

- *USGS Research Plan* – USGS is developing a greater sage-grouse and sage-steppe ecosystem research plan. This effort will outline the research capabilities within the agency and help focus research commitments over the next 5 years. The research plan will be a guiding document to help address the priority science needs contained in the National Research Strategy and identified at the BLM/USGS restoration workshop. It will provide a framework to help USGS identify and address emerging science needs while remaining responsive to the ongoing needs of DOI partners.
- *WAFWA Wildfire and Invasive Species Initiative* – The WAFWA Wildfire and Invasive Species Initiative Working Group recently produced two documents: Fire and Fuels Management Contributions to Sage-Grouse Conservation, and Invasive Plant Management and Greater Sage-grouse Conservation. The first summarizes the current state of Fire Operations and Fuels management functions, and presents a series of recommendations to inform future policy and allocation decisions. The second report identifies key challenges which significantly affect our ability to effectively manage invasive plants.
- *NRCS Sage Grouse Initiative (SGI)* – The SGI science team has identified several key areas to prioritize research as part of their conservation effects assessment work and to aid in successful targeting of conservation dollars.
- *Bromus ReeNet* (Research, Education, and Extension Network) – "Exotic Brome Grasses in Arid and Semi-Arid Ecosystems of the Western US: Causes, Consequences, and Management Implications", a new book to be published in 2015, will provide a comprehensive synthesis of information on the exotic invasive annual grasses in the Western U.S. The book includes a thorough summary of research needs for invasive brome grass biology, geography, pathology, ecology, sociology, and economics.

Proposed Actions

During 2015 and 2016

Action Item #1

Commitments for research in 2015 and planned for 2016. In order to have a better understanding of ongoing research commitments and to multi-year investments in science and research for rangeland fire, invasive plants, greater sage-grouse conservation, and sagebrush management, a request will be sent to all federal agencies inquiring about research funded in 2015 and any planned funding commitments for 2016. Information that will be requested will include research title, management questions, lead agency, Principal Investigator, collaborators, description of the project, funding commitment, and completion date.

Responsible Parties: USGS, BLM, FWS, NPS, USFS, NRCS

Target: July 30, 2015

Action Item #2

Cross-walk existing research prioritization and strategy efforts to identify science needs for the Great Basin. As identified in the Actions Underway section, several research needs and strategy analyses have been completed. A cross-walk of these efforts will be carried out to extract common priority issues that are focused on fire and invasive species science needs in the Great Basin. This process will result in a unified set of research priorities for use by the management and research community in guiding future funding decisions. Specific actions necessary to complete this task include:

- Identify all recent and relevant research needs and strategy documents.
- Conduct a literature review to identify science needs relevant to fire and invasive plants in the Great Basin.
- Crosswalk individual needs across all documents to identify common topics and subject areas.
- Organize the range of science needs into themes that align with management needs.

Responsible Parties: USGS lead in collaboration with appropriate federal agencies

Target: September 30, 2015

Action Item #3

Develop an actionable science plan of prioritized research needs. Building on the crosswalk developed in Action #2, a science action plan will be developed following these steps:

- An initial prioritization of research needs based on management needs will be completed by a focus group of inter-agencies representatives from state and federal agencies.
- Additional input on the initial prioritization will be sought through a survey tool shared with state and federal agencies and tribes in the Great Basin.
- Final prioritization will be accomplished based on input through the survey tool and input from DOI and Bureau leadership.
- Using the final prioritization, an action plan will be developed that identifies specific science and research efforts to address the highest priority needs.
- A budget plan will be formulated on how to complete the priorities that takes into consideration funding needs, sources, projected timelines, and needed outcomes.

Comment [DMD1]: And other partners and stakeholders?

Responsible Parties: USGS lead with an interagency team of appropriate federal, state, and tribal representatives

Target: February 30, 2016

Action Item #4

Develop or identify a single online science delivery system to allow easier access to published science products and other science information. The Great Basin Fire Science Exchange (GB Exchange), funded by the Joint Fire Science Program, was created to facilitate the use of science in land management applications. The GB Exchange is currently engaged in sharing information on habitat restoration, fuels treatments, ~~post~~ post-fire management, and landscape assessment and prioritization. The GB Exchange provides a forum where Great Basin land managers can identify technical needs with respect to fire, fuels, and post-fire vegetation management; develops and synthesizes necessary information and technical tools to meet these needs; provides the necessary information and tools through venues most preferred by field staff, field office managers, and higher administrative levels; and develops direct lines of communication between managers and scientists. The GB Exchange has an existing website (http://www.gbfiresci.org) archiving bibliographies, webinar presentations, discussion forums, models and tools as well as a calendar of upcoming events.

Since the GB Exchange is already meeting some of the needs for a science delivery system, it is in the best position to be expanded to meet needs of the Order. There are a number of other excellent sources of science and management information specifically relating to greater sage-grouse and greater sage-grouse habitat. The Great Basin Landscape Conservation Cooperative and the Great Basin Initiative are two examples of science delivery efforts that are currently serving land managers. These and others will need to be actively linked through the GB Exchange to develop a single source of science and land management information. Additional actions to expand the GB Exchange include:

- Identify existing gaps in currently archived information about fire, invasive plants, greater sage-grouse, and the management of sage-brush habitats.
- Identify other information sources and provide active links (e.g., GBLCC, GBRMP), so as to assure managers complete access to relevant science and land management information.
- Enhance existing processes to facilitate transfer of relevant research products from applicable agencies and organizations through the GB Exchange.
- Adapt the current website structure to provide a discrete section supporting the Order and to facilitate delivery of relevant research on greater sage-grouse and sagebrush.
- Develop tools and services beyond on-line science delivery, including education and training targeted at land managers and the science community.

Responsible Parties: Joint Fire Science Program – GB Exchange in collaboration with other affected federal and state agencies.

Target: September 30, 2015

Action Item #5

Define a process for executive leadership engagement in supporting prioritized science needs. Executive leadership engagement and support will be necessary to maintain long-term commitments to science research and delivery. This can be accomplished with existing senior leadership groups or by a newly created group for the Great Basin and the Order. An alternative considered recently is to establish a Great Basin interagency team through the Western Governors Association (WGA) Sage-Grouse Task Force or the National Sage-grouse Executive Oversight Committee (EOC) to serve as a forum for executive leadership engagement in science needs and commitments for the Great Basin. This group could serve in a larger role for Great Basin leadership (i.e., Great Basin EOC), but also addresses the need for senior leadership engagement in science commitments. Components of this action may include:

- Determine whether a longer-term leadership group will be created for the Order or whether pursuing development of a Great Basin EOC will fill the need.
- If the latter, a proposal to create a Great Basin EOC and Technical Team will be prepared and presented to the range-wide EOC and/or the WGA Sage-grouse Task Force. This proposal will need to consider:
    - Assembling an interagency technical team to provide technical support to the policy team, including identifying research and monitoring needs in direct support of resource management issues.
    - Assembling an interagency policy team (EOC) with senior leaders from the federal (FWS, BLM, USGS, NRCS, and USFS) and state agencies from the Great Basin states to target funding to address priority needs with a goal to support cross agency funding collaborations and commit to multi-year investments in science and research.

Responsible Parties: USGS, BLM, FWS, USFS, NRCS, and in collaboration with state agency administrators.

Target: January 30, 2016

Action Item #6

Identify funding sources to support the action plan, and develop a plan for a funding initiative in 2017. As part of a comprehensive science action plan, the Department and bureaus will need to plan for its' implementation through a commitment to long-term budgeted activities. In ensuring the durability of the action plan, the following steps will be taken.

- Building on Action Item #1, the federal agencies will develop a working, unofficial budget crosscut of all ongoing research activities in the Great Basin. This effort can be conducted in parallel with tasks identified in Section 7b(vi).

- Activities identified in the action plan should be cross-walked with closely related programs identified in the crosscut to help best determine where future science activities could be most efficiently and effectively located and funded.
- Using the budget plan, DOI agencies and other federal collaborators will determine funding sources for the priority needs in the action plan, opportunities for cost-sharing across agencies, and what priorities cannot be supported with existing resources.
- An annual unified (cross bureau) budget request will be developed that identifies gaps in funding needed to support the action plan. The budget request should identify: 1) funded projects set to expire; 2) existing project funding that should be rolled-over and budgeted in new fiscal years; and 3) any needs for new funding to implement the plan. The budget request should be provided to appropriate bureaus in a timely manner for consideration in bureau budget formulation prior to submission to the Department.
- Bureau Science Advisors, the DOI Science Coordinator, and other senior level policy leads will be engaged, as appropriate, to convey budget needs in implementing the plan.

Responsible Parties: USGS in collaboration with DOI Bureaus and DOI Science Coordinator

Target: April 1 for initial actions to support the budget plan, ? for out-year budget requests

Actions Beyond 2016

Longer term actions:

Monitor treatment effectiveness and landscape change – Policies and funding are needed to ensure that (1) long-term monitoring is conducted to assess treatment effectiveness and landscape changes due to development, land use, and climate change; (2) appropriate data management, assessment and reporting occurs; and (3) an adaptive management framework is used.

Climate change – Define and utilize a process for regularly accessing and translating the most recent advances in climate science. Involve the USGS Climate Science Centers, Landscape Conservation Cooperatives, and USFS Climate Science Hubs in applying these advances to the findings and interpretation of the science and monitoring initiated from the proposed action plan.

Science Synthesizes – Develop synthesizes on fire and invasive plants, and how they relate to greater sage-grouse and sagebrush to assist managers with the integration of science and land and species management applications.

Action Plan Updates – To stay current, the action plan will need to be reviewed and updated every five years. This update should take the form of reviewing priorities to identify emerging science and to determine if new technological innovations have arisen and if management priorities have changed.

DOI Peer Review/Science Integrity Policy – Develop a Departmental peer review policy and complete Bureau scientific integrity guidance to facilitate consistency across Bureaus.

Comment [DMD2]: 7(b)vi Action describes Item #6 as GRSG Lek monitoring/mapping of total life history with a note that this action is probably captured in 7(b)viii). Do we need a link between the two sections?

For example, Monitoring sage-grouse populations and their habitat is crucial to understanding how effective or ineffective planned management actions are in stopping the decline of sage-grouse. While the monitoring strategy is primarily focused on habitat monitoring, effective monitoring of populations (which is a State lead) is needed to understand how populations are responding to changes in land management. There is general consensus among scientists that monitoring sage-grouse populations in spatially consistent, statistically robust, and unbiased manner is challenging. Several solutions have been proposed (e.g., Garton et al. 2011; pp. 372-373), but to date, have not been implemented.

Comment [DMD3]: This is a cross-cutting action item with 7b(vi) Action Item #1 and 7(b)iv Action Item #6.

Comment [DMD4]: From WAFWA Invasives Report recommendations: "The many existing climate programs (e.g., DOI Climate Science Centers and Landscape Conservation Cooperatives, the USDA Climate Hubs, NOAA Climate Centers and Regionally Integrated Science Assessments) should work collaboratively to provide scenarios of fine enough scale to provide realistic adaptation strategies for prevention and management of invasive plants which can be implemented through applicable federal agency land and resource management plans (guided by the National Environmental Policy Act – NEPA)."