

Writing Syntheses for Managers: Lessons from the Rainbow Series and Fire Effects Information System

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Scientific knowledge is essential for sound wildland management, but this knowledge is a complex, ever-expanding resource. Managers often request syntheses or reviews of available knowledge, and scientists have responded with an increasing number of syntheses for managers. Unfortunately, little guidance is available for this kind of writing. While most scientists have experience writing literature reviews for other scientists, a synthesis for managers must address land management professionals working in diverse ecosystems. These managers, sometimes trained in science and sometimes not, must integrate scientific knowledge with other information to make management decisions—often within a relatively short time. A manager-focused synthesis has two purposes: first, to identify patterns and knowledge gaps (as in scientist-focused reviews) and second, to provide enough information that readers can assess its relevance to their particular management questions.

As editors and writers of numerous manager-focused literature reviews in the “Wildland Fire in Ecosystems” series of reports (General Technical Reports RMRS-GTR-42, volumes 1, 2, and 6) and the Fire Effects Information System (www.fs.fed.us/database/feis), we have developed guidelines for writing knowledge syntheses for managers. Content should be organized and written to answer the following questions:

1. Exactly how much homework have you done in this synthesis? What is the scope of the synthesis and type of knowledge included?
2. In a nutshell, what have you learned? What are the patterns, inconsistencies, and knowledge gaps?
3. How reliable is this information, and does it apply to me? What is the scope of inference of the research cited?
4. What are your suggestions/conclusions/“management implications”, and what is their scope of inference?

To be useful to managers, a synthesis must describe both knowledge and the limitations of that knowledge. When scientific knowledge is applied in the field, the needs for monitoring and adaptive management generally increase as certainty about its applicability decreases.

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