

Editorial: A Scientifically Rigorous and User-Friendly *Rangeland ecology & Management*

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Editorial: A Scientifically Rigorous and User-Friendly *Rangeland Ecology & Management* [☆]



Rangeland Ecology & Management (REM) is the premier journal for communication of science-based knowledge and for fostering both innovation and rigor in our stewardship of the world's rangelands. REM is critical to the mission of the Society for Range Management and has had increasing scientific impact and management relevance in recent years. We identified several new goals for REM to maintain momentum for continued improvements in both the scientific quality and professional value of the journal into the future. Through discussions with REM and non-REM authors, current and new editorial staff, and others, three new initiatives have been identified. First, the position of Associate Editor (AE) has been strengthened to provide a more active role in managing a respectful and constructive discussion between blind reviewers and authors. The review will continue to promote the highest possible scientific rigor but will also provide targeted assistance in manuscript development to maximize potential contributions to the literature. Second, we propose to revise and extend guidelines for authors, AEs, and reviewers to reduce uncertainty in the format and level of scientific rigor expected for different types of manuscripts and to ensure that authors can expect consistent outcomes from similar submissions. The third emphasis area is to encourage and expand official recognition of those authors, AEs, and reviewers who make exceptional contributions to rangeland ecology and management through scientific rigor and impact, as well as the facilitation and mentoring of effective communication of science through the editorial and review process.

Rangelands, including arid, semiarid, and dry-subhumid ecosystems, cover nearly one-half of the earth's land surface and provide life-sustaining goods and services to one-third of the global population (Millennium Ecosystem Assessment, 2005). Rangelands store about 45% of the global terrestrial carbon, provide critical wildlife habitat worldwide, and encompass a third of the global diversity hotspots (Allen-Diaz et al., 1996; Myers et al., 2000). Low and variable rainfall combined with often infertile soil make the world's rangelands highly susceptible to degradation, invasion, and global climate change (Millennium Ecosystem Assessment, 2005). The mission of REM is to foster innovation and communication of science-based knowledge aimed at promoting sustainable stewardship of the world's rangelands. The content of our journal both defines and reflects our professional accomplishments, and success of the journal is directly linked to the contributions of our profession to society. REM's contribution and impact to science and management has improved significantly in the past 12 years, and the journal's impact factor has been consistent or slightly increased over the past few decades as a result of citations in other highly respected journals of ecology and resource management.

Publication of REM is critical to the mission of the Society for Range Management. We should be very proud of the contribution it has made to the general society by advancing rangeland science and management. This contribution is an extension of the innovative thinking, novel research, and profound ideas of authors who contribute to REM. Authors are the essential core of REM, and future operational procedures will focus on making the entire publication process more timely, useful, and constructive for them. Over the next few years, the editorial board will be working to continue to streamline the process of conveying authors' important work to end users. To that end, REM has teamed with Elsevier, a world-class publishing company. Elsevier and our editorial board are dedicated to working with authors and reviewers to improve the review process and help make each manuscript the best possible presentation of concepts, ideas, and applied research. Overall, we hope to improve the experience and value to authors, reviewers and readers when working with REM.

With the help of authors, our editorial board, and reviewers, REM will continue to be the premier mechanism for communication among rangeland scientists and managers well into the future. Periodically, it is worthwhile to assess opportunities for improving the refereed peer review process and adjust the system to encourage authors to submit their highest-quality manuscripts to REM. Over the past few months, the SRM editorial board has been actively identifying opportunities for improvement and methods that might foster a more user-friendly process and higher-quality product at publication. The objectives of this editorial are to 1) solidify the case for publishing in REM, 2) set goals for the future operations of the refereed peer review process, 3) clarify the kinds of manuscripts that are desirable in REM and provide some guidelines for their assessment, and 4) discuss new methods for recognizing key participants for their outstanding contributions in the form of manuscripts and the refereed peer review process.

Why Publish in REM?

Most authors want their research and ideas to have the highest possible impact, and the "impact factor" represents a portion of REM's importance to society (Falagas and Alexiou, 2008). "Impact factor" is the average number of times each article is cited after publication during the past 2 years. REM has gradually and slightly increased its "impact factor" over the past decade. Complementing REM's "impact factor" is the fact that it is read worldwide by practitioners, managers, and policy makers interested in using the most up-to-date knowledge in their decision-making process. REM is often cited in the development of Environment Assessments and Environmental Impact Statements, as well as used in regulatory determinations associated with rangeland management. Because of its worldwide readership and the value to

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readers who use the material to make decisions, the importance of publishing in REM transcends its “impact factor.”

REM Goals

We have identified multiple goals that provide targets for REM to maintain a scientifically rigorous and user-friendly journal. They include enhancing the scientific quality and journal impact; fostering a positive author experience; and expanding and broadening authorship and readership. These goals are highly interconnected, and a plan cannot categorically address each goal individually, so we will describe three key initiatives that REM will pursue going forward. Designing and implementing activities aimed at reaching these general goals will be a continuous and iterative process.

Operational Plans for REM

The basis for achieving our goals is to produce the highest-quality scientific journal that represents our profession well and documents the advances it makes to rangelands and society. A primary consideration of our plan is to increase the authors' level of their interaction with the AEs who moderate and direct the interaction between authors and reviewers. In most cases, the Editor-in-Chief (EIC) will conduct an initial review of each manuscript to assess the general degree to which each manuscript fits the scope of the journal, appears relevant to the literature and/or managers, and has used a scientifically sound experimental design. Papers found to be unsuitable for REM or that contain significant and obvious flaws in presentation, format, or scientific rigor will be returned to the authors as soon as possible with a clear indication of potential areas of concern. Authors will be encouraged to contact the EIC to discuss any concerns and evaluate the best course for potential resubmission and review.

Manuscripts that pass the initial EIC review will be forwarded to the AE most knowledgeable in the subject matter. REM has an international editorial board that represents the general diversity of disciplines that frequently publish in our journal. AEs will be expected to take an active role in the review of manuscripts in addition to acting as an impartial referee between blind reviewers and authors. AE and reviewer guidance will emphasize assisting the author in producing the most relevant and meaningful contribution to the literature. It is imperative that each review be rigorous and entirely constructive. AEs are responsible for managing the review of the author's manuscript, but they are equally responsible for evaluating the rigor and relevance of reviewer comments. Additional guidance will be developed to inform AE expectations for the review process and to expand the AE toolbox for making recommendations for acceptance or rejection, but especially for assisting the author in the revision process.

An important aspect of the review process is to work toward consistency in the expectations for new manuscript submissions. We have drafted new guidelines describing the type of manuscripts that REM intends to publish and the scientific rigor required for publication. It is our intention to be broad in scope, geographic range, and types of manuscripts that are published.

Types of Manuscripts Considered by REM

Rangelands are complex functioning ecosystems, and REM will continue to publish manuscripts relevant to a wide range of biological, ecological, and geophysical disciplines. Rangeland management involves integrating diverse knowledge from multiple sources into effective strategies that influence the trajectory of dynamic ecosystems. REM is dedicated to publishing high-quality manuscripts that advance our knowledge within discrete disciplines, but our journal is also a unique venue for highly integrated, interdisciplinary research in subject matter areas of applied ecology, restoration, invasive plant management, socioeconomics, and policy. REM will also strive to be the leader in publishing

timely manuscripts on rapidly emerging topics critical to rangeland science and management.

Synthesis Papers

The purpose of synthesis papers is to make insightful connections among linked research that lead to the development of new perspectives or theories relevant to rangeland ecosystems and their management. Authors should strive to identify the problem, describe the relevance and breadth of the issue, and review the pertinent literature in a logical progression toward the development of a new perspective or theory. Synthesis papers that attempt to develop a theory into a principle for management are also welcome. REM encourages submission of papers on high-profile and emerging topics relevant to contemporary rangeland ecology and management.

Forum Papers

Well-developed ideas aimed at stimulating debate pertinent to rangeland science and management are welcome. They should be relatively short contributions offering conceptual advances, policy advice, or identification of gaps in knowledge. Forum papers must be based on scientific knowledge and logically/systematically flow from a problem statement to a proposed solution. Topics must be highly relevant and broadly applicable to a large and variable audience.

Hypothesis Testing Studies

REM publishes original articles reporting cutting-edge ecological research of broad relevance that has clear implications for conservation or direct application to the management of natural rangeland systems. These studies must include 1) a sound literature review leading to well-developed and meaningful hypotheses, 2) an experimental design that appropriately tests those hypotheses and has enough statistical power to detect differences at biologically important levels, 3) an unbiased presentation of the results, and 4) a discussion that connects the results to the hypotheses, shows how the topic has been advanced, and relates the advancement back to the literature outlined in the introduction. Implications for conservation and management must be clearly described.

Growth Chamber/Laboratory/Greenhouse Studies

Growth chamber, laboratory, and greenhouse studies are publishable in REM if they elucidate specific ecological or physiological processes that cannot be addressed with field experimentation. Controlled environment studies that test novel ecological theories, provide insight into more complex field processes, or stimulate a new direction for additional field application are also valuable. Studies should be sufficiently replicated to possess enough statistical power to make solid preliminary tests and conclusions, and inferences should be limited to those justified by the experimental design.

Observational Papers

Hypothesis generation and predictive modeling are considered appropriate for publication in REM. Observational and modeling studies must address major ecological issues that have implications for future rangeland management within or across major ecological systems. These are data-driven manuscripts that carefully integrate current literature with large datasets gathered across space and time to yield powerful analytics and consistent responses. Hypothesis-generating studies must avoid terminology that suggests cause and effect and should instead focus on developing important novel hypotheses about rangeland ecosystems. Predictive models should include consideration of the probabilistic nature of rangeland response to management

treatments and disturbance and should be validated or calibrated with measured environmental response data.

Landscape Studies

REM invites landscape studies that integrate biogeophysical and analytical approaches for quantifying ecologic and sociological processes across various scales and under heterogeneous environmental conditions. Evaluation of remote sensing tools and GIS information, large-scale case studies using spatial statistics to quantify land use and land cover change, identification and quantification of scaling issues, and assessments of landscape patterns, ecological processes, and landscape conservation and sustainability are desired. Landscape scale studies should also be validated and calibrated with ground truth measurements.

Research and Technical Notes

Research notes are considered for publication when limited data from well-designed experiments offer valuable insights, or point to a new research direction, but have inference limitations that do not justify a full-blown manuscript. Often, these smaller studies serve as an incubator for elaboration of new lines of research. Research notes must advance an intelligible and solid argument in favor of a particular theory, study, or methodology and should bring new thoughts and ideas to the attention of the journal's readers. Technical notes are brief descriptions of new processes or methodologies that improve the accuracy of data collection or increase the efficiency of implementing research or management.

Recognizing Key Participants for Outstanding Contributions

Achieving these renewed goals will require high performance by editors, authors, and reviewers. It is critical to provide recognition to those who voluntarily and consistently provide exceptional contributions to the publishing process. REM will create several new awards to recognize superior accomplishments. For each volume, the EIC will select one or two manuscripts as the "Editor's Choice." Selection of these papers will be based on the overall contribution to rangeland ecology and management, and they will be highlighted in both the journal and external promotional materials. Each year a committee will select an "outstanding paper of the year" from among those papers receiving the "Editor's Choice," and the authors will be recognized at the awards session during the Society for Range Management annual meeting. Two outstanding AEs will be selected each year on the basis of the guidance they provide to authors that substantially improves manuscripts published in REM. In addition, several outstanding reviewers will be selected on the basis of AE nominations and awarded "reviewer of the year."

The editorial staff is pleased to serve its readers, authors, and the Society for Range Management and will vigorously promote a scientifically rigorous and user-friendly REM. We conclude with a quote by Dr. Timothy Fulbright (personal communication, 2015):

"The quality of our journal defines our profession, and success of the journal is the harbinger of the ultimate contribution of our profession to society."

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