



DATA SHARING AND PUBLICATION GUIDELINES

PURPOSE

The Sagebrush Steppe Treatment Evaluation Project (SageSTEP) is a collaborative effort among scientists representing 10 research institutions in the western United States, and management personnel representing the BLM, Forest Service, US Fish and Wildlife Service, Bureau of Reclamation, and The Nature Conservancy. The primary strength of SageSTEP is that the same set of treatments will be evaluated by measuring an integrated suite of variables at many sites across the range of Wyoming Big Sagebrush in the Interior West. SageSTEP is thus both multi-disciplinary and multi-site, and full analysis will require the efforts of a well-trained, well integrated team of researchers. We anticipate that several types of analyses will be performed by various members of the analysis team (Figure 1). These include: 1) uni-variate and bivariate analyses of one or a few variables on individual sites; 2) multi-variate analyses such as ordination and structural equation modeling at individual sites in which sets of interrelated variables may be analyzed; 3) multi-site analyses such as meta-analysis, in which one to a few variables may be analyzed across various sites in the SageSTEP network; and 4) synthetic analyses, such as structural equation and simulation modeling, in which sets of interrelated variables may be analyzed across various sites in the network. The complexity of the analysis challenge makes it difficult to predict who will conduct each of the various types of analysis. In most cases, it is likely that members of the SageSTEP science team itself will conduct key analyses, but it is also possible that collaborators from outside our team will be involved as well. Furthermore, analysis is just one step in the technology transfer process. Results will still need to be interpreted, written up, and published in the appropriate journals, before more management-oriented technology transfer products can be produced. Obviously, in order to proceed with a data analysis and publication process that offers full disclosure to all SageSTEP science team members, it is important that the SageSTEP science team agree upon a set of guidelines for data sharing and publication. This document sets down these formal guidelines, as agreed-upon by all members of the SageSTEP science team (Table 1).

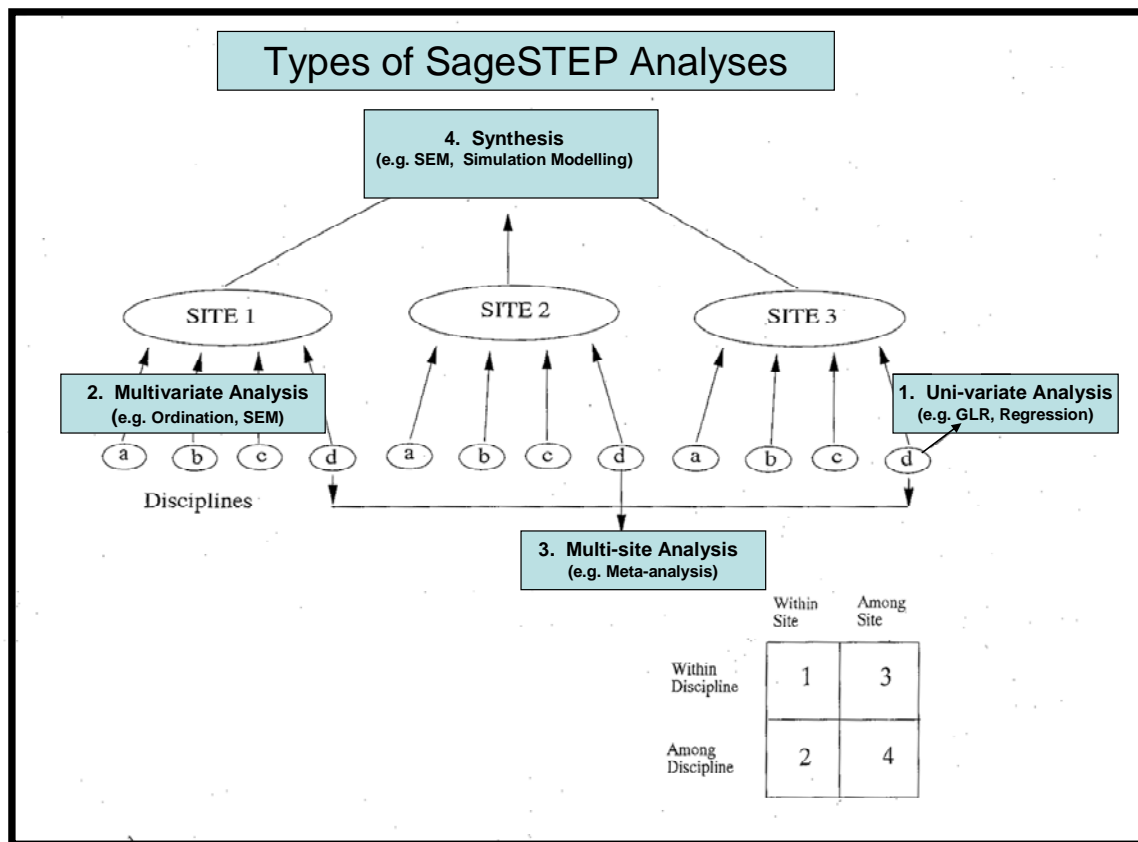


Table 1. Current members of the SageSTEP **Science Team** (as of October 8, 2008). The 'Technical Committee' is composed of those members who were primarily responsible for design of the study, and who are charged with making technical decisions on how the study proceeds. In particular, this group has agreed to accept these guidelines for data sharing and publication. Other members of the SageSTEP science team are largely responsible for carrying out the principle work associated with data collection, data analysis, and technology transfer, among other things. Numbers in parentheses behind names refer to: 1) vegetation/fuels; 2) soils; 3) hydrology; 4) wildlife; 5) insects; 6) socio-political; 7) economics; 8) analysis; 9) management liaison; and 10) technology transfer; letters in parentheses behind names refer to: A) western juniper woodland; B) pinyon-juniper woodland; C) juniper-pinyon woodland; D) eastern sage/cheat; and E) western sage/cheat.

Technical Committee

- | | | | |
|---------------------|-------------------|---------------------|------------------|
| Mark Brunson (6,10) | Steve Bunting (1) | Jeanne Chambers (B) | Nora Devoe (9) |
| Paul Doescher (E) | Dale Johnson (2) | Steve Knick (4) | James McIver (5) |
| Rick Miller (A) | Mike Pellant (9) | Fred Pierson (3) | David Pyke (E) |
| Kim Rollins (7) | Bruce Roundy (C) | Eugene Schupp (D) | Robin Tausch (B) |
| Dave Turner (8) | Jim Grace (8) | | |

Other Members of the SageSTEP Science Team

- | | | |
|-------------------|--------------------|---------------------|
| Paul Blom (5) | Jeff Burnham (D) | Karen Erickson (5) |
| April Hulet (C) | Patrick Kormos (3) | Matthias Leu (4) |
| Summer Olsen (10) | Scott Schaff (E) | Jaime Ratchford (A) |
| Neil Rimbej (7) | Bruce Shindler (6) | John Tanaka (7) |
| | | Travis Miller (C) |
| | | Benjamin Rau (2) |
| | | Jason Williams (3) |

DATA SHARING GUIDELINES

Over the past few years, the SageSTEP science team has discussed procedures that address data propriety, data sharing, and the timing of when data for core variables will be available to all who wish to use it for analysis. This section has been written to define how this will be done. We anticipate that the great majority of data sharing will occur internally, among members of the SageSTEP Science Team. Thus most of this section will describe the data sharing process with respect to 'internal use'. Ultimately however, the following guidelines will apply to all data users, including individuals from outside the SageSTEP Science Team.

Members of the SageSTEP Technical Committee (and their associates within the Science Team) (Table 1) can be distinguished from all other potential data users in that most of these individuals have already been given the responsibility to analyze particular portions of SageSTEP data, identified either by region, or by discipline. To make this clear, a review of the internal SageSTEP organization is needed. The SageSTEP Technical Committee represents 10 fairly distinct component areas, including: 1) vegetation/fuels; 2) soils; 3) hydrology; 4) wildlife; 5) insects; 6) socio-political; 7) economics; 8) analysis; 9) management liaison; and 10) technology transfer, and five distinct regions: A) western juniper woodland; B) pinyon-juniper woodland; C) juniper-pinyon woodland; D) eastern sage/cheat; and E) western sage/cheat. Members of the Technical Committee represent either a site (Region PIs), a discipline (Discipline Leaders), or are involved in the project as analysts, management liaisons, or technology transfer personnel. Data are collected and managed only by Technical Committee members engaged as Region PIs or as Discipline Leaders. Part of the responsibility of a Region PI is that the SageSTEP experimental design is implemented and data are analyzed properly at each site. Part of the responsibility of a discipline leader is that the SageSTEP design is implemented properly for a given discipline. Accordingly, it is expected that each Region PI and his/her technical assistants and associates will analyze data for their region (e.g. Rick Miller and Jaime Ratchford will analyze data for the western juniper region). Similarly, it is expected that each discipline leader will analyze data for their discipline (e.g. Fred Pierson, Patrick Kormos, and Jason Williams will analyze hydrology data taken from the three hydrology sites). Therefore, it is not necessary for these individuals to seek permission to analyze data from their responsible sites and/or disciplines. Rather, the guidelines described below apply to the case where a technical committee member desires to use data outside of his or her principle area of responsibility. For example, if a Region PI wishes to use data from another region, the Region PI would use this prescribed process. In some cases, there may be rather fine distinctions on whether or not a member of the Technical Committee needs to follow this process and ask permission. For example, if a member of the wildlife discipline wishes to use *extensive* plot vegetation/fuels data from a given site, no permission would be required, since the wildlife team has responsibility to help collect, submit, and validate these data. If however, a member of the wildlife team wishes to use vegetation data from the *core* plots, for which that individual does not have direct responsibility, then permission would be required.

It should be noted that for the most part, only vegetation/fuels and soils data will generally be useful to other disciplines within the study. Thus, while data from hydrology, wildlife, socio-political, and economics will be archived in the SageSTEP network database, these data will likely only be used by members of the respective discipline teams, and not by other scientists within the SageSTEP project. The following guidelines for internal users are therefore primarily meant to cover use of vegetation/fuels and soils data within the SageSTEP project:

- 1) Any internal user who wishes to use data outside of her/his disciplinary or site area must submit a 'Data Request Form' to the SageSTEP Project Coordinator, which will then be sent out and reviewed**

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by the SageSTEP Technical Committee. The Data Request Form will require the person requesting data to specify the discipline(s) and site(s) from which data are needed, as well as how the data will be used. All members of the Technical Committee must approve the data request before permission will be granted. If permission to use data is granted, the SageSTEP Project Coordinator will instruct the database manager to provide access to the relevant data.

- 2) Persons outside of the SageSTEP Science Team (External Users) will be required to follow the same process of data request as Science Team members who request data outside of their area of responsibility.**
- 3) If two or more people or groups of people propose similar analyses using SageSTEP data, the Technical Committee will negotiate with the parties to see if a mutually beneficial decision is possible. If this cannot be done a vote from the Technical Committee will decide the issue. Generally, preference will be given to members of the SageSTEP Science Team, over external users.**
- 4) As we gain experience with this process, it is understood that the Technical Committee may modify any provision of this process, if it becomes necessary.**

PUBLICATION GUIDELINES

The SageSTEP study will likely produce a large body of knowledge that will be reported in dozens, if not hundreds of publications. Individual research projects will provide valuable information but the most important contribution of the SageSTEP will likely be the corporate body of knowledge provided by this large network of related projects. The Technical Committee has established the following guidelines to ensure that each publication contributes to the overall objectives of the integrated study, is identified as a component of the SageSTEP, and acknowledges funding from the Joint Fire Sciences Program. *These guidelines are not intended to replace the review procedures of the senior author's employer or those of the publisher.*

Types of Publications

These guidelines apply to all types of publications that use data collected from SageSTEP study plots and that are of sufficient length to include an acknowledgement statement. Examples include journal articles, research notes, technical reports, proceedings papers, books, or portions of books. All authors (site leaders, discipline leaders, and cooperators) of these types of manuscripts agree to comply with the guidelines described below for authorship, acknowledgements, technical and statistical review. Abstracts would not fall under these guidelines unless the publisher normally includes an acknowledgement statement. Authors of posters and oral presentations should follow the guidelines for authorship and acknowledgements. Students writing theses and dissertations should follow the guidelines for acknowledgements.

Authorship

Authorship of papers in this multi-discipline, multi-site, and multi-investigator study has the potential to become controversial. Therefore, the Technical Committee has established the following guidelines:

Authorship will be determined by the contribution(s) of each person to each individual paper. Ideally, those contributions and the order of authorship would be determined before a paper is drafted.

To be included as an author, an individual must make significant intellectual contributions (as a part of conception, design, data collection, data analysis, or interpretation) and make significant contributions to preparation of the manuscript (write, review, or edit). Typically, a person would only be included as an

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author if he/she is willing to be held responsible for both the interpretation of the data and the conclusions as presented (paraphrased from Patton-Mallory and others, 2000).

Participation in the actual work, such as plot establishment or data collection, does not by itself earn authorship when the individual is following a set of protocols established by another individual.

Authorship will not be granted on the basis of funding alone. Many cooperators provide funding and intellectual support but some provide only funding. Members of the Technical Committee agree that funding alone should not guarantee co-authorship (paraphrased from Altmann, 1994).

The order of authorship is determined by the relative degree of contribution from each individual to each individual paper. Normally, the senior author will draft the manuscript and assign co-authorship based on those contributions. Agreement on the order of authorship before the manuscript is drafted is highly encouraged.

Strict interpretation of the above guidelines would suggest that all Technical Committee members should be listed authors because all provided significant input to the design and protocols of the national study. However, the Technical Committee members agree that this procedure would be impractical. Technical Committee members will not be listed as authors unless they provide significant intellectual input to the individual paper at the local level.

Acknowledgements

Each manuscript must have the proper acknowledgement so that it can be identified as a component of the larger body of knowledge provided by the SageSTEP. Acknowledgement of funding sources is not only a courtesy but should be considered mandatory for future funding. Members of the Technical Committee developed the acknowledgement statements listed below to be used for various situations:

For work directly supported by SAGESTEP funds:

"This is Contribution Number XX of the Sagebrush Steppe Treatment Evaluation Project (SageSTEP), funded by the U.S. Joint Fire Science Program."

For other work that uses the SageSTEP sites/treatments but does not get direct funding:

"This is Contribution Number XX of the Sagebrush Steppe Treatment Evaluation Project (SageSTEP). Although the authors received no funding from the SageSTEP, this research could not have been accomplished without the support of the SageSTEP by the U.S. Joint Fire Science Program."

For any publication in which data that have been collected by site-level personnel are being used, but in which these personnel are not co-authors, they should be acknowledged.

A list of SageSTEP publications will be maintained by the SageSTEP Coordinator. Contact Jim McIver (james.mciver@oregonstate.edu) to receive a publication number. The number should be obtained after the manuscript has been accepted for publication.

Review by the Technical Committee

Proposed Paper Form. Most scientific papers begin with a concept, a story that the author would like to tell. For most SageSTEP scientific papers, this amounts to an idea on what kinds of data would be used, from what sites the data would be drawn, and whether or not the analyses would include both pre-treatment and post-treatment data. To insure that SageSTEP scientists communicate effectively amongst

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one another on their plans to write and publish papers, it is agreed that all potential senior authors will fill out and send to the Network Coordinator a 'Proposed Paper Form'. This form calls for a title, anticipated authors, a short description of the concept of the paper, data sets to be used, the planned outlet (journal, proceedings, etc.), and the anticipated submission date. The Network Coordinator will then circulate the Form to the Technical Committee and any comments and concerns will be discussed among all relevant parties. After resolution of any issues, the paper will be approved, and the Form posted on the private section of the SageSTEP website. Note that this Form need only be filled out by members of the SageSTEP Science Team. This is because it's primary intent is to make sure that such members are cognizant of all publishing activities underway within the Science Team, so that each member can potentially be involved in any activity, if he or she has relevant data, interest, or experience to offer to the effort.

Methods Review. Members of the Technical Committee recognize the importance of using a uniform description of methods across all papers from the SageSTEP. To avoid confusion when a reader is studying several SageSTEP papers, each of those papers should describe the methods outlined by SageSTEP protocols and explain any differences that may have been necessary at the local level. For example, papers presenting results from alternate treatments (e.g. bullhog) should describe those treatments as not part of the standard protocol. Region PIs (or site managers) and discipline leaders (if necessary) will review methods described in each paper before any other reviews (internal or external) are initiated. The Region PI will determine if the paper follows SageSTEP guidelines for authorship and acknowledgements. The Region PI will also determine if the paper adequately describes national SageSTEP protocols for study design and treatments (SageSTEP final proposal) or identifies any alterations to SageSTEP protocols that were required at the local level. If the Region PI is not qualified to review the methods of a particular discipline, or if the paper is multi-site, he/she will work with the appropriate discipline leader(s) for that review. Region PIs will work with the senior author to ensure that each paper receives additional internal review according to the procedures established by the employer of the senior author.

Reviews by Region PIs and discipline leaders represent an extra step in the publication process that is recognized as worthwhile by all Technical Committee members. However, this review is not a complete technical or statistical review; it is only to ensure an adequate description of SageSTEP protocols. Therefore, Region PIs and discipline leaders should be able to provide a rapid return of all papers. The more important technical and statistical reviews will be those provided by journals or other publication outlets.

Literature Cited

Altmann, S. 1994. The problem of multiple authorship. *Animal Behavior Society Newsletter* 39:5-6.
Patton-Mallory, M., K. Franzreb, C. Carll, and R. Cline. 2000. Ethical conduct for research: a code of scientific ethics. *Journal of Forestry*. July:32-33.

Written by James McIver

June 2007; amended October 2008

Approved by SageSTEP Technical Committee: _____

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Data Request Form.



Data Request Form

This form should be filled out and emailed to the SageSTEP project coordinator for any analysis project for which SageSTEP data are to be used.

www.sagestep.org/collaborative_projects/data_request.doc

Data requests will be reviewed by the SageSTEP Technical Committee, and approval of all members is necessary for data to be released. The approved form will be posted in the private section of the project website. Information from this form will be used to keep track of all data use, and to insure that all authors are aware of SageSTEP 'Data Sharing and Publication Guidelines'. **Please send all completed forms to james.mciver@oregonstate.edu.**

Date of Request Form Submission:

Contact Information (PI, and other principle researchers):

Title of Analysis Project:

Brief Description of Paper (2 paragraphs providing information on methods, hypotheses, timeline):

**SageSTEP Data Requested : Sites --
Disciplines --**

Proposed Paper Form.



Proposed Paper Form

This form should be filled out and sent to the SageSTEP project coordinator for any planned publication for which SageSTEP funds, sites, or data have been used. This includes papers and other documents written by project team members, graduate students, and project collaborators. This document is available at www.sagestep.org/collaborative_projects/prop_paper.doc

The completed form will be shared with all SageSTEP team members, and posted in the private section of the project website. Information from this form will be used to keep track of all publications at various stages of completion, and to insure that all authors are aware of SageSTEP 'Data Sharing and Publication Guidelines'. **Please send all completed forms to james.mciver@oregonstate.edu.**

Publication Title:

Brief Description of Paper (2 or 3 sentences):

Anticipated Authors (please provide contact information of any individuals who are not already part of the SageSTEP research team):

SageSTEP Data Sets to be Used:

Planned Outlet:

Anticipated Submission Date: