

SSGIC

Fire Managers and Fuels Specialists

October 30, 2002

Sequoia National Forest Headquarters – Porterville, CA

SSGIC Meeting Participants, 10/03/2002

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Overview

The Southern Sierra Geographic Information Cooperative (SSGIC) is an interagency cooperative with five primary stakeholder agencies, Bakersfield BLM, CDF-Tulare unit, Kern Co. Fire Dept., Sequoia National Forest, and Sequoia & Kings Canyon National Parks. The project's primary goal is to develop a landscape scale framework for interagency fire management planning. With data development and preliminary analysis essentially complete, focus has shifted to integrating analysis results into a process to collaboratively identify high priority fuels treatment areas. A two-phase process was developed at the October 2, 2002 meeting of fire managers and the first phase implemented. This meeting implemented phase two of the process. Since the three-year Joint Fire Sciences Program (JFSP) grant funding ends in December 2002, the group discussed how to report on the SSGIC process, its accomplishments, and its future. **Bold** text indicates an action item.

Goals

- Develop and implement phase two of the process to collaboratively identify high priority fuels treatment areas.
- Plan the format of a ½ day workshop the SSGIC will present at the 2002 Fire Conference in San Diego.
- Identify participants and a schedule to report on the SSGIC process, its accomplishments, and determine its future after JFSP funding expires.

Phase Two of the Final Integration Process

Phase one of the process to integrate fire analyses outputs to identify high priority fuels treatment areas was completed at the October 2, 2002 meeting. Ten scenarios were developed based on the following seven data layers (see meeting notes from October 2, 2002):

- ✓ Fire Occurrence Analysis (FOA) – Ignition density from all fire causes derived from 20 years of ignition data.
- ✓ Fire Return Interval Departure (FRID) – Measure of the ecological benefit of fire based on the deviation from historic fire regimes.
- ✓ FRID Confidence Level – Measure of the level confidence in the assignment of historic fire return intervals.
- ✓ Threatened Wildland Urban Interface (WUI) – Federally identified WUI cities buffered by hazard potential.
- ✓ Firefighter Safety (FFS) – Measure of hazardous conditions for firefighters based on topography, fuels, and road access.
- ✓ Flame Length (FL) – FLAMMAP output describing fire behavior as flame length at the fire front.
- ✓ Crown Fire Activity (CFR) – FLAMMAP output describing predicted crown fire behavior.

The table below defines the 10 scenarios and the weights applied to each dataset. The Asset Analyzer ArcView extension developed by SSGIC as a decision making tool was used to calculate the weighted sum for each scenario. Output values are ordinated values between 0 and 100, with 100 representing the highest weighted sum of the source datasets. Outputs were then grouped into five classes for display.

Scenario Number	1	2	3	4	5	6	7	8	9	10
Dataset	Assigned Weights									
FOA	14	17	17	20						
FRID	14	17	17	20	25	20	12	25	52	12
FRID Confidence	14	13						25		
WUI	14	17	17	20	25	20	52	25	12	12
FFS	14		17			20	12		12	52
FL – Extreme Weather	14	17	17	20	25	20	12	25	12	12
CFA – Extreme. Weather	15	18	17	20	25	20	12		12	12

Phase two of the process began by evaluating the 10 scenarios. There was agreement that a good range of alternatives was presented. The scenario selected to implement phase two was Scenario #2 (Fig. 1). Factors contributing to its selection include:

- ✓ Good distribution of values across the analysis area.
- ✓ Exclusion of firefighter safety as a source dataset recognizes that safety is an overall driving issue.
- ✓ Source datasets include measures of Risk, Hazard, and Value (Ecological and Social/Economic), the three primary elements of the SSGIC analysis process.

- FRID – Ecological Value
- FOA – Risk
- WUI – Social/Economic Value
- Flame Length – Hazard
- Crown Fire Activity – Hazard

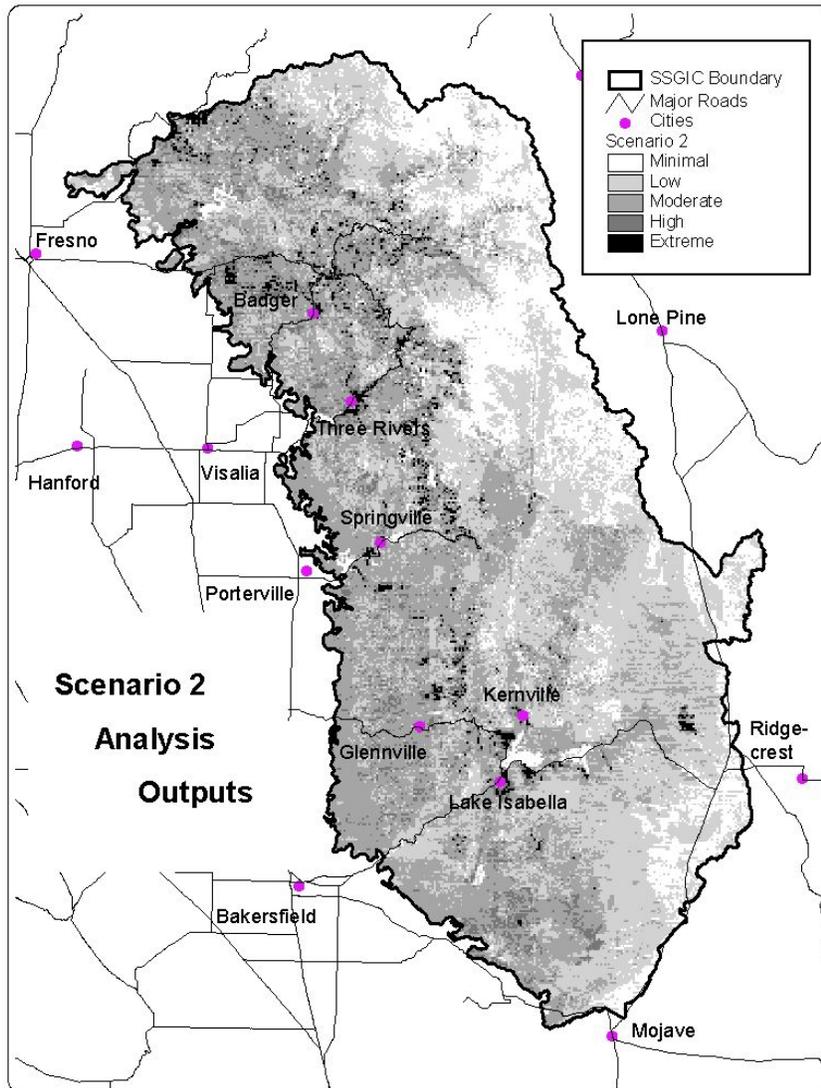


Figure 1

Five fire management strategy zones were collaboratively identified from the Scenario #2 analysis (Fig. 2). These areas were identified as best candidates for collaborative interagency fuel treatment areas.

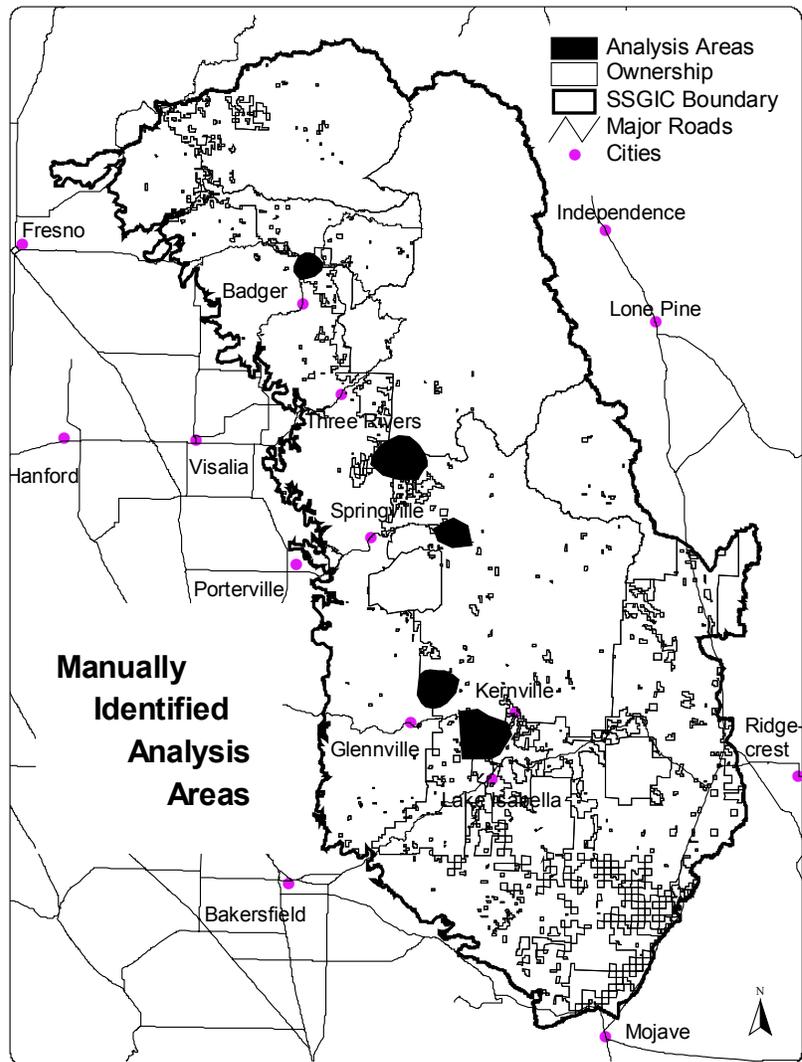


Figure 2

Table 1 and Figure 3 describe the composition of the target areas in relationship to the entire SSGIC analysis area. The total acreage of the target areas represents 1.92 % of the total analysis area. The distribution of acreage between the six classes identified in Scenario #2 demonstrates that the target areas are shifted significantly towards the high-end classes.

Area (Acres) & Percent of Cells in each Category				
	Entire SSGIC		Target Areas	
Class	Acres	Percent	Acres	Percent
Class 0	194,811	4.1	17	0.0
Class 1	608,250	12.7	3,821	4.2
Class 2	1,728,987	36.2	20,165	22.0
Class 3	1,743,528	36.5	40,992	44.6
Class 4	471,182	9.9	23,046	25.1
Class 5	32,715	0.7	3,837	4.2
Sum	4,779,473	100.0	91,878	100.0

Table 1

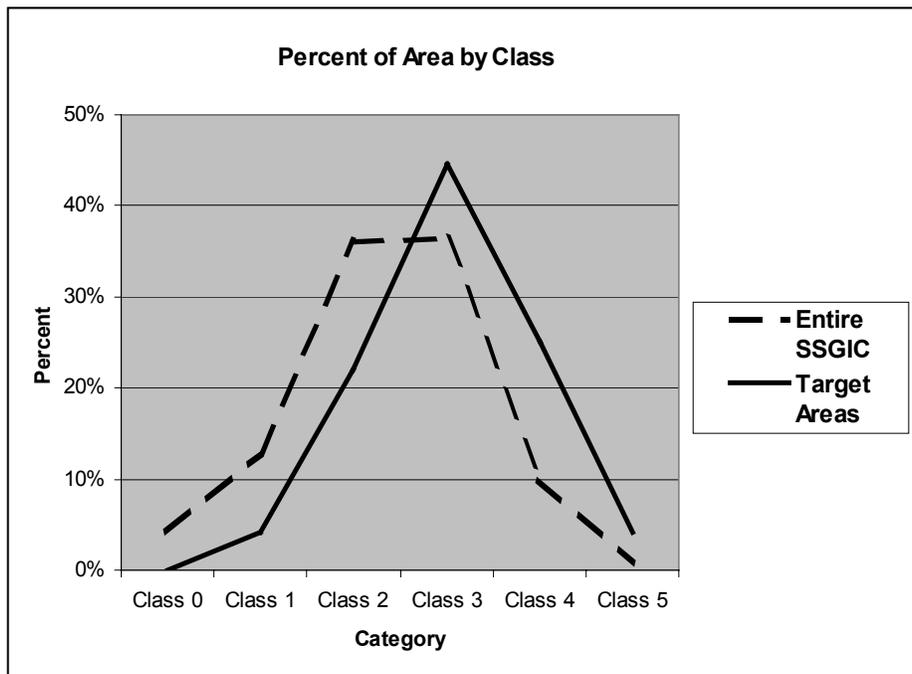


Figure 3

Following the manual identification of analysis areas, the group developed a set of “expert rules” that had been effectively applied to identify these five areas. These rules can be used to automate the process (develop a model) to identify optimal treatment area locations. The rules included:

Focus on areas within one mile of agency boundaries, or a two-mile total buffer zone. Deficiencies in the current one-mile buffer will need to be corrected. For example, county boundaries should be treated as different agencies. The Bakersfield and Ridgecrest BLM boundaries as well as each of the three National Forest boundaries should also be treated as different agencies. **Anne Birkholz will correct and update this dataset.**

- Remove areas of fuel types not generally treated with fuels reductions such as grass, and Blue Oak woodlands.
- Focus on areas with multiple agencies represented supporting SSGIC interagency collaboration goals. A diversity analyses can be completed to identify complex agency management areas. This analysis will be completed if time permits.
- Focus on areas where fuels reduction is an effective fire management strategy. In some areas, suppression or prevention will be more effective than fuels treatment.
- Focus on areas with a high probability for successful planning; this correlates with a limited number of landowners or landowners owning large land tracts in a fuels treatment area. It may be easier to plan fuel treatments for a few large landowners versus many landowners owning smaller parcels.
- Cost effectiveness and feasibility of carrying out the treatments and the availability and proximity of the workforce.
- Define analysis boundaries as ecological units rather than arbitrarily drawn polygons. We will attempt to use CalWater sub-watersheds to “clean-up” the original five “hot spot” fuels treatment areas. **Anne will complete this task .**
- Consider required planning documents and other constraints.
- Review analytical outputs in questionable areas. Evaluate the quality of source data and review the analytical process to modify interpretations. Example: The high values calculated for the Giant Forest area were driven by outdated WUI data. The extensive developments in Giant Forest were relocated several years ago.
- Professional judgement is an essential part of the analysis process that cannot be “modeled”.

If the modeling effort described above proves feasible, the remaining high priority areas from the above model that are not included in the five fire strategy management zones will be lumped into another high priority category.

To provide a level of validity testing to the Scenario #2 output, a correlation analysis between local agency fire treatment zones and Scenario #2 analysis will be completed. **Tony Sarzotti and Brent Skaggs will get management zone boundaries to Anne Birkholz to complete the correlation analysis.**

2002 Fire Conference Workshop

The SSGIC will present a ½ day workshop at the 2002 Fire Conference in San Diego on Dec. 4, 2002. The following is a schedule of presentations:

SSGIC Program Management (1 hour)

- a) *Management Perspectives on Collaboration (Jeff Manley)*
- b) *SSGIC Project Overview (Pat Lineback)*

Technical Implementation (1- 1 1/2 hours)

- a) *Fuels Data Management (Brent Skaggs)*
- b) *Analysis framework (Anne Birkholz)*
- c) *Serving Dynamic Maps and Data using the Internet (Pat Lineback)*

Feedback/Futuring (1 hour)

Project Evaluation and Future (Bill Kaage and Aaron Gelobter)

The first two time periods will be equally divided between presenters, while the third session will be co-presented by Bill Kaage and Aaron Gelobter as an interactive session. Each presenter should allow 5-10 minutes for questions. Note cards will be provided for written questions throughout and these will be addressed during the final session. Overall organization of the workshop was discussed to define the topics to cover in each presentation. Several templates for PowerPoint slides were evaluated and **Anne will make several modifications to the selected template and distribute it.**

SSGIC Presentations to Stakeholder Agencies

Pat Lineback distributed a draft agenda and participant list for the December 11, 2002 meeting scheduled to present the SSGIC program, accomplishments, and determine its future. The need to schedule two meetings was identified. The December 11, 2002 meeting will present the SSGIC program to the local user community in the morning and the afternoon session will focus on SSGIC strategic planning and its future. A second meeting on January 27, 2003, will present the program to local agency chiefs, regional and state representatives, and other outside interests. Both of these meetings will be held in Bakersfield at the Kern County Fire Department in Classroom B. Each will begin with the ½ day workshop presented at the 2002 Fire Ecology Conference in San Diego.

In the morning session on December 11, 2002 participants will include local fire staffs. In addition to presenting the SSGIC program and demonstrating its potential, we hope to obtain useful feedback. **Anne will provide a template letter of invitation to the fire managers and they will forward it to appropriate employees.**

The afternoon agenda will be a SSGIC strategic planning meeting to:

- Review business models for developing, managing, and delivering fire and fuels related information and decide who (local, state, regional, or Federal agencies, SSGIC, contractor, etc.) should be responsible for each facet.
- Discuss the resources necessary to accomplish the identified program including funding, staffing, and organizational strategies.

The second meeting is scheduled for January 27, 2003. **This is the date when local agency chiefs were all available.** The purpose of this meeting will be to demonstrate the SSGIC program, accomplishments and generate support. SSGIC will make recommendations to continue providing fire management and fuels support to the region. Pat's draft list of invitees was reviewed and additional names added to the list. **Jeff Manley will add names to this list after he reports for duty at the National Interagency Fire Center in Boise.**

Upcoming Meetings

The following activities are scheduled for the SSGIC in the upcoming months.

- December 2-5, 2002 – 2002 Fire Conference in San Diego. The SSGIC will be presenting a ½ day workshop on the morning of December 4.
- December 11, 2002 – Presentation of the SSGIC program to stakeholder agency personnel; acquire feedback on future role and function of the SSGIC
- January 27, 2003 – Presentation of the SSGIC program to local agency chiefs and other outside interests; an afternoon workshop will focus on gathering feedback on the future role and function of the SSGIC.