

Demographic and geographic approaches to predicting public acceptance of fuel management at the wildland-urban interface

A summary and status report for FY 2000
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at

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Premise

- Increasing fuel treatment activity at WUI → increasing likelihood of barriers to implementation
- National groups part of debate, but local opinion most likely to drive fuel treatment outcome
- Knowing reactions in advance could → better chance of formulating plan which can be implemented
- Intuition useful, but formal input solicitation could → better plans, identification of resistance and support, and a starting point for efficient outreach



Justification

- Predicting acceptance requires anticipating negative impacts
- Attitudes towards nature and experience with fire may play a role
- Potential for negative impacts may drive non-acceptance
- Multi-factor modeling approach



What we don't know

- Perception of fuel management by homeowners, forest & park users, other publics
- Related to
 - understanding of ecosystem mgt?
 - beliefs about role of humans?
 - type of fuel treatment, proximity of application, treatment objectives, perceived efficacy
- How do knowledge and perception vary geographically and by demographic attributes



Objectives

- Design and test survey instrument
- Develop and test a model of causal factors for acceptability
- Design a computer-assisted method for assessing and mapping the spatial distribution of causal factors
- Refine, standardize & automate survey procedures to facilitate manager-directed surveys



Approach

Conceptual model
Focus groups
Survey design and testing
Model building

Conceptual model

Public acceptance of fuel treatment strategies =

f(Attitude toward fuel treatment,
Fuel treatment outcome beliefs,
Forests value orientation (biocentric -
anthropocentric),
Personal relevance,
Fuel treatment knowledge,
Demographic & geographic variables)



Focus Groups (phase 1)

- Identify issues, inventory language
- Separate sessions for fire managers and residents
- Four sites adjacent to public lands
 - differing by fire regime, habitation pattern, values at risk and cultural connection to fire
 - Sonora, CA (Yosemite NP/Stanslaus NF)
 - Marin Co., CA (Golden Gate NRA/Mt. Tamalpais SP)
 - Mio, MI (Huron-Manistee NF)
 - AL/FL (Conecuh NF, Blackwater SF, Eglin AFB) [tentative]
- FG → Refinement of conceptual model



Community surveys (phase 2)

- Survey test in two communities TBD
- Geo-referenced sampling frame
- Random sample of 500 responses per community
- Spatially derived independent variables
- Develop and test predictive models



Geostatistical/spatial analysis (phase 3)

- Exploratory spatial analysis via
 - spatial outlier, trend surface, semi-variograms to detect
 - discontinuities and hot spots
 - which will be explored via GIS overlay
- Development of indicator maps
- Comparison of geo-spatial and demographic aggregation
- Sample selection automation



Status

Status as of end of FY 00

- Slow start due to PI move & bureaucratic delays
- Conceptual model developed
- Three of four focus group interview sets completed (3 manager FGs, 9 resident FGs)
- December completion goal for Phase 1
- Survey development to begin after the new year
- Several community survey sites now under evaluation, and some GIS data in hand



Preliminary Sonora FG observations

- Wide range of knowledge
- Broad support for mechanical treatments, prescribed fire and combinations of these
- More confidence in agency staff in local field offices



Preliminary Marin FG observations

- Relatively less expertise in natural resource issues
- Predominantly biocentric stance
- Distrust of profit motives
- Leaned towards prescribed fire over mechanical if no expense spared in keeping activity safe
- Residents felt ill-informed about land mgt activities related to fire
- Most sought more information, education and consultation prior to important agency decisions



Preliminary Mio FG observations

- Reluctant to support prescribed burning
 - Mack Lake (1980) and Los Alamos (2000)
- Nearby “No Pablo” fire burned 5200 ac. jack pine
 - ignited by campfire
 - rumor that really management ignited Rx fire
- Residents felt ill-informed about land mgt activities related to fire
- Most sought more information, education and consultation prior to important agency decisions
- Anthropocentric focus



The road from here: FY 01

- Conduct last set of focus groups by year end
- Analyze focus group transcripts to refine conceptual model and develop survey
- Finalize selection of communities for survey and prepare geographically referenced sample frame
- Administer survey
- Analyze survey results, test models



The road from here: FY 02

- Exploratory spatial analysis
- Indicator maps
- Sample selection automation
- Production of a turnkey survey system for managers
- Preparation of reports and manuscripts

