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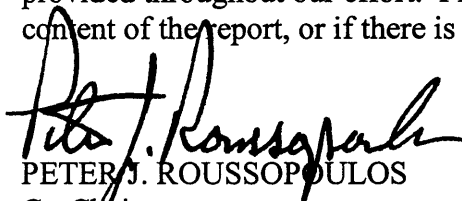
Subject: JFSP Final Report


To: Susan Conard, Chair, JFSP

We are pleased to enclose the Joint Fire Science Program Review Team's Final Report. As chartered by the Joint Fire Science Program Governing Board, our review was designed to determine how well the program is meeting the intent of Congress and the needs of agencies and other stakeholders. We were also asked to recommend ways to improve the program's effectiveness in the future.

Overall, the Review Team's findings were highly complimentary, and we believe our substantive recommendations for improvement will help the program further leverage its investments to get the very most benefit possible from the science products now being delivered.

We, the co-chairs of the Review Team, wish to compliment the Governing Board for its wisdom in selecting the members of the team. It was a joy to work with such a fine group of dedicated and talented people. Thanks, also, to Bob Clark and his staff in Boise for the tireless support provided throughout our effort. Please contact either of us with questions or comments on the content of the report, or if there is a way we may be helpful in follow-up activities.


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ENC.



Joint Fire Science Program

Five-Year
Program Review Report
August 2002

ACKNOWLEDGEMENTS

The Joint Fire Sciences Review Team would like to especially acknowledge contributions of the JFSP Program Manager—Bob Clark, and the Program Office Staff—Becky Jenison and EvyAnn Neff, for the high quality and thorough review materials provided and the excellent overview of the program. We appreciate the time and thoughtful responses of the 30-40 fire managers, line officers, members of the JFSP Governing Board, cooperators, and researchers who responded to a questionnaire about the program. Their input was invaluable. We also thank Sue Barro who helped to write and edit the report.

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EXECUTIVE SUMMARY

The Joint Fire Science Program (JFSP) was initiated in 1998 by direction of Congress to supplement existing fire research capabilities. Through this program Congress encouraged the Forest Service within the U.S. Department of Agriculture and five bureaus within the U.S. Department of the Interior to work together in providing a scientific basis and rationale for fuels management activities. The program is focused on identifying information and technical support needs for a national interagency fuels management program, establishing and managing a process for awarding contracts to meet these needs, and monitoring progress toward achieving stated goals.

The JFSP Implementation Plan identified a program evaluation schedule that included an extramural evaluation of the program in 2002. In early 2002, the JFSP Governing Board selected a team of 12 individuals from a breadth of governmental and non-governmental organizations and geographic regions to serve on the Joint Fire Sciences Review Team. The team was chartered to review the progress to date of the Joint Fire Science Program including organization, structure, roles, and responsibilities. This is a report of the findings and recommendations of the review team.

Highlights of Key Findings

- Overview - During the five years it has been in operation the JFSP, with a total budget of \$56 million, has issued 11 Requests for Proposals, received almost 500 research proposals, and funded 164 research projects.
- Program Direction - Research funded through the JFSP is being conducted on a good distribution of topics, consistent with the original direction of Congress. Processes are in place to respond to emerging issues. The program has had difficulty, however, in soliciting for "rapid-response" proposals.
- Technology Transfer - Methods used by researchers to do technology transfer of research results to managers varied widely. The program relies heavily on the JFSP web page to transfer information to stakeholders. External clients such as fire managers had limited awareness of the JFSP program and research products/deliverables.
- Stakeholders and Partnerships - The JFSP has a broad range of stakeholders and partners including 45 universities, 9 non-governmental organizations, 10 state/local governments, 4 private companies, 6 federal JFSP partner agencies, 5 other federal agencies, and several tribal governments. Steps are being taken to better coordinate with other fire research funding organizations.
- Program Administration - The JFSP staff and Governing Board have done an excellent job of implementing the program within existing structures and at an absolute minimum of program management cost.

Highlights of Key Recommendations

- Program Direction - The JFSP needs to take a more proactive approach for soliciting rapid-response projects.
- Technology Transfer - The review team recommends that the JFSP develop a technology transfer plan to more systematically publicize, release, and announce Requests for Proposals and research products.
- Stakeholders and Partnerships - The JFSP should continue to encourage and support efforts to coordinate across fire research organizations to make the best use of scarce research dollars.
- Program Administration - Real costs of program administration need to be reflected by showing in-kind and other contributions.

Overview

Under the direction of a 10-person JFSP Governing Board, with advice from a Stakeholder Advisory Group, and management by a Program Manager and two-person staff, the JFSP has been in operation for five years. In that time 11 Requests for Proposals (RFPs) have been made and 499 proposals for research have been received. Panels of reviewers assembled by the JFSP Program Manager have reviewed the proposals and made recommendations to the Governing Board. To date 164 research projects have been funded. Total funding level for the program over this period was \$56 million.

Stakeholders involved with funded projects include: 45 universities, 9 non-governmental organizations, 10 state/local governments, 4 private companies, JFSP partners (U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, Bureau of Indian Affairs, Bureau of Land Management, U.S. Geological Survey), other federal agencies (Agricultural Research Service, Department of Defense, Department of Energy, NASA, Natural Resource Conservation Service), and several tribal organizations. Projects or sites have been funded in 40 states, plus Washington, DC and Puerto Rico.

The review team evaluated the JFSP on the following four key dimensions: Program Direction, Technology Transfer, Stakeholders and Partnerships, and Program Administration. Their findings and recommendations are based on their knowledge of the program, background materials provided by JFSP staff, and discussions with the Governing Board, the JFSP Program Manager, program staff, and Stakeholder Advisory Group members. Responses of managers, line officers, cooperators, and researchers to a short survey were also used in program evaluation.

Program Direction

Overall, the review team found the program was running well. Processes for soliciting and funding proposals were sound. There was a good distribution of research on topics identified in the original direction from Congress. A process was in place to identify and respond to emerging issues through interactions with the Stakeholder Advisory Group, Congressional direction, and funds available for rapid-response projects. The review team recommended a more active approach to gathering information from stakeholders on emerging issues and soliciting for rapid-response projects.

Technology Transfer

The program addresses the need for technology transfer of research results by requiring a plan for technology transfer in the proposals submitted in response to Requests for Proposals (RFPs). The methodology for technology transfer used by Principal Investigators was found to vary widely. External clients such as fire managers and line officers had limited awareness of both the JFSP and research products/deliverables resulting from the program. This is likely a function of the fact that projects are just now producing deliverables. The program relies heavily on its web page to transfer information to stakeholders, but as more deliverables become available, this approach may be too passive to alert stakeholders of RFPs and new products. The review team

recommended the development of a technology transfer plan to more systematically publicize, release, and announce RFPs and products.

Stakeholders and Partnerships

It is evident that the JFSP has put emphasis on the active involvement of its many stakeholders and partners. Those involved with the JFSP span a wide range and include the Governing Board, the Stakeholder Advisory Group, proposal applicants and peer reviewers, end-users, and other fire research programs. The review team found the range of individuals submitting proposals was appropriate although certain geographic areas (i.e. the Northeast, Great Basin, and Great Plains) and some fuel types (e.g., non-forested fuel types) seemed to be underrepresented. Upon examination of funding recipients, the review team concluded that there was an unbiased distribution among stakeholders receiving awards with decisions based on merit of the proposed projects. As intended by Congress, the JFSP is focusing on wildlands administered by JFSP partner agencies and other federally administered lands. At this time, there are no measures of whether/how much state and private landowners are using the products of the funded research, but this could be addressed through the Stakeholder Advisory Group. The review team found the JFSP beginning to take steps to coordinate with other fire research funding organizations, specifically with Forest Service research funded by the National Fire Plan, through development of a joint database and reporting mechanism.

Program Administration

The staff and Governing Board have done an excellent job of implementing the program within existing structures and an absolute minimum of program management cost. Many services such as office space, utilities, and administrative support are provided for free or at minimal cost from the National Interagency Fire Center (NIFC) partners. Much of the time and costs of the Governing Board and those serving on proposal review panels are provided at no cost to the JFSP. Proposal reviews are conducted in a timely manner, and Principal Investigators are generally pleased with the administration of the funded projects. The JFSP Operating Guidelines are excellent, giving clear and concise direction for program administration. Non-performance issues for individual research projects are dealt with through established procedures. The Governing Board has not developed performance measures for the JFSP.

Overall Conclusion

The JFSP is off to an outstanding start and research results are beginning to be implemented. It was apparent to the review team that the JFSP administrators have focused their energy where it was needed in the first five years of operation. Indications are good that a review conducted after five more years will clearly show the differences being made on the ground through the information, products, and tools generated through this program. With only minor adjustments and modifications, the JFSP will become an excellent model for how other interagency government functions can operate successfully.

INTRODUCTION

Purpose of the Joint Fire Science Program

In 1998, Congress directed five bureaus of the Department of the Interior (the Bureau of Land Management, Bureau of Indian Affairs, National Park Service, U. S. Fish and Wildlife Service, and U.S. Geological Survey) and the Forest Service within the Department of Agriculture to establish a Joint Fire Science Program to supplement existing fire research capabilities. The involved agencies were directed to work together under this program to provide a scientific basis and rationale for implementing fuels management activities, with a focus on activities that would lead to development and application of tools for managers.

At the heart of the JFSP are the objectives of identifying information and technical support needs for a national interagency fuels management program, establishing and managing a process for awarding contracts to meet these needs, and monitoring progress toward achieving stated goals and delivering products to the field.

Oversight and Direction of the Joint Fire Science Program

A 10-person Governing Board manages the JFSP. The Board is composed of five members from the Forest Service and five members from the Department of the Interior (one from each of five bureaus) each appointed to a 5-year renewable term. The Board sets program priorities and direction, maintains budget oversight, approves all plans and reports, issues RFPs, selects and awards successful proposals, and oversees day-to-day operations that are conducted at the program management office. Currently, a Program Manager and a staff of two comprise the JFSP program management office located at the National Interagency Fire Center in Boise, Idaho.

The Joint Fire Science Plan identified the need for a formal Stakeholder Advisory Group to be chartered under the Federal Advisory Committee Act (FACA) by the Secretaries of Agriculture and the Interior. The purpose of the group is to assist and advise the Secretaries, through the JFSP Governing Board, on priorities and strategies for completing wildland fire and fuels research and implementing research findings, and oversight of the JFSP. The Stakeholder Advisory Group is in its second year of operation. The reasons for the delay in establishing the group were outside the control of the JFSP. As designated in the JFSP Stakeholder Advisory Group charter, the membership is comprised of 50% federal representatives and 50% non-federal. The non-federal members are chosen to offer their expertise in designated fields.

Initially, the JFSP was directed by Congress to focus on four well defined principal purposes related to wildland fuels: 1) fuels inventory and mapping, 2) evaluation of fuels treatments, 3) scheduling of fuels treatments, and 4) monitoring and evaluating fuels treatments. While these purposes establish general program priorities, the Governing Board felt it was necessary to document needs within these priorities in greater detail. The Board identified 19 program priorities that fall under the four principal purposes (Appendix 1). In 2001 Congress provided additional direction to the JFSP to accelerate and expand research emphasis to include "increased rapid-response projects to ensure

necessary resources are available for testing and evaluation of post-fire rehabilitation, assessment of post-fire and fire behavior effects, use of aircraft-based remote sensing operation, implementation of protocols for evaluating post-fire stabilization and rehabilitation, and the development of effective means for collecting and disseminating information about treatment techniques.” The importance of addressing locally and regionally important science and technology needs was also emphasized.

Purpose of the Review

This review of the Joint Fire Science Program has two primary objectives: to determine if the JFSP is meeting the intent of Congress, and to make recommendations for moving forward with the JFSP in the future given its stated mandate. The review was focused on the following four key areas:

- Program Direction– Are current processes resulting in the funding of high priority and quality science? Is there good balance in the range, funding allocations, types of research and responses to managers’ needs? Is there a process in place that identifies and addresses emerging issues? Is the funded research compatible with and complimentary to other projects?
- Technology Transfer – Are deliverables useful and available to managers? Are new technologies being implemented in the field?
- Stakeholders and Partnerships – Is there an appropriate mix of stakeholders, including governmental agencies, universities and other interests? What is the relationship with other efforts such as the National Fire Plan (NFP)?
- Program Administration – Are the tools and structures utilized by the JFSP providing adequate support for priority setting, administrative operations, and project accountability?

Methodology for the Review

The review process began in early 2002 with the JFSP Governing Board developing a draft charter for the JFSP review team and identifying 12 individuals to compose the review team. Members of the review team were selected to represent a breadth of agencies involved in JFSP, scientists and managers, representatives from government and non-governmental organizations (NGOs), and to encompass a geographic range across the United States. Once established, the team refined the draft review team charter and submitted it for Governing Board approval (Appendix 2).

Each review team member received a notebook prepared by the JFSP staff containing information on the JFSP including its initial implementation, operating guidelines, copies of RFPs, annual reports, information on the Stakeholder Advisory Group, and other miscellaneous information. Most of the review team members met with the JFSP Governing Board on March 11, 2002 to discuss expectations for the program review, go over the review team charter, and develop a schedule and timeline. In addition, the review team composed a short survey to be administered to selected fire managers, line

officials, cooperators, and researchers. Each review team member was assigned specific people on this list to contact. The team met in Boise, Idaho May 13-17, 2002 to report on responses to the survey, review all the material and information gathered, and prepare the draft review report. Further interviews were conducted with members of the Governing Board and the Stakeholder Advisory Group subsequent to the May meeting.

OVERVIEW OF CURRENT PROGRAM STATUS

Budget Basics and Relationship to the National Fire Plan

In 1998, 1999, and 2000, the JFSP received \$8 million dollars per year—\$4 million from the Forest Service within the Department of Agriculture and \$4 million from the Department of the Interior. In August 2000, following a record fire year, the President directed the Secretaries of Agriculture and the Interior to develop a plan to respond to severe wildland fires, reduce the impact of wildfires on communities, and ensure sufficient firefighting capacity in the future. The resulting National Fire Plan, initiated in 2001, led to a doubling of the funding level for the JFSP to \$16 million dollars per year with each Department continuing to contribute half.

The main distinction between the JFSP and the NFP lies in their stated missions. At the heart of the JFSP are the objectives of identifying information and technical support needs for a national interagency fuels management program, establishing and managing a process for awarding contracts to meet these needs, and monitoring progress toward achieving stated goals and delivering products to the field. The NFP is an interagency plan directing the Forest Service and the Department of the Interior to step up, coordinate, and concentrate activity on reducing fire risks. Research and development efforts under the National Fire Plan are targeted at the most pressing fire and fire-related research information needs in the following four key areas: firefighting capacity, rehabilitation and restoration, hazardous fuels reduction, and community assistance.

Requests for Proposals

The Joint Fire Science Program RFP and funding process is open and competitive to ensure a high standard of quality. RFPs are developed and issued as specific task statements are identified and funding is available. Eleven RFPs have been issued over the past five years. Normally, at least one RFP is issued each year, pending approval of annual funding for this purpose. Task statements are developed, based on research progress and remaining needs, from the program priorities identified in the Implementation Plan. In making decisions about what projects to fund, input from the Stakeholder Advisory Group, agency administrators, and agency fire directors is considered. Emerging issues, new technology, and agency needs are also taken into account. RFPs are announced on the JFSP web site and distributed by Governing Board members and JFSP partners through their networks. RFPs generally remain open for 60 days.

Number of JFSP Proposals Received and Funded 1998 – 2002¹

| RFP Year | RFP No. | Proposals received in response to RFPs | Proposals funded through the RFP process | Additional Projects Funded ³ |
|--------------------|---------|--|--|---|
| 1998 | 1 | 72 | 22 | 6 |
| 1999 | 1 | 50 | 20 | |
| 2000 | 1 | 36 | 11 | 1 |
| 2000 | 2 | 36 | 18 | |
| 2001 | 1 | 128 | 38 | 10 |
| 2001 | 2 | 2 | 0 | |
| 2001 | 3 | 58 | 19 | |
| 2001B ² | 2 | 2 | 1 | |
| 2001B ² | 3 | 54 | 21 | |
| 2001C ² | 2 | 9 | 2 | |
| 2001C ² | 3 | 52 | 12 | |
| Total | | 499 | 164 | 17 |

¹ From 1998-2000 JFSP funding was \$8,000,000 each year. For 2001-2002 funding was \$16,000,000 each year.

² Proposals selected under this RFP were funded during fiscal year 2002.

³ “Additional projects” are those not solicited through the RFP process. It includes those solicited directly by the JFSP in response to a particular event (e.g. the bad fire year in Florida in 1998) and “research related” projects (i.e. conferences, proceedings, and workshops).

PROGRAM REVIEW AREAS— FINDINGS AND RECOMMENDATIONS

The Joint Fire Sciences Review Team has provided findings and recommendations in the following four key areas:

1. Program Direction
2. Technology Transfer
3. Stakeholders and Partnerships
4. Program Administration

The review team was guided by questions outlined in the review team charter (Appendix 2) in the information gathering process. The findings and recommendations offered in these four areas are based on team members’ knowledge of the program, background materials provided by JFSP staff, discussions with the Governing Board, Stakeholder Advisory Group members, JFSP Program Manager and Program Staff, and survey responses by managers, line officers, cooperators, and researchers.

Key Area: Program Direction

Findings and recommendations related to JFSP Program Direction are summarized in this section. Information gathering in this key area was guided by the following four questions:

- Are current processes resulting in the funding of high-priority and quality science?
- Is there good balance in the range, funding allocations, types of research and responses to managers' needs?
- Is there a process in place that identifies and addresses emerging issues?
- Is the funded research compatible with and complimentary to other projects?

Findings Related to Processes for funding High-Priority and Quality Science

Finding—In interviews with a range of stakeholders and partners, the review team heard acknowledgement for the excellent processes used by JFSP in this area. The peer review process is a good approach to identifying quality proposals and ensuring quality products.

Finding—The review revealed no set process for evaluating quality of delivered products, although evaluation of some research projects occurs through publication in peer-reviewed journals.

Findings Related to Balance in the Range of Projects, Funding Allocations, Types of Research and Response to Managers' Needs

Finding—The Program Manager and staff have tried repeatedly to categorize funded projects into the 4 principal purposes and 19 program priorities as a means of accounting for the JFSP, but without success. The reason is that virtually none of the funded projects fits cleanly into one category. Many individual projects are multi-faceted and address two, three, or four of the purposes.

Finding—There is a good distribution of research on topics identified in the original direction from Congress. The program is also responding to the additional direction given by Congress in 2001.

Finding—Funded research is limited in several areas, including social science, economics, urban-interface, and landscape-level fire ecology. This is a reflection of the number, type, and quality of proposals received.

Finding—Although the JFSP asked for proposals specifically targeted to “obtain, document, and evaluate critical, time-sensitive information or data during or following wildland fire incidents or post-fire land treatments,” in their February 22, 2001 RFP the number of rapid-response proposals received has been extremely limited.

Finding—Managers find demonstration projects especially valuable and relevant to land management needs.

Findings Related to Adequacy of Process in Identifying and Addressing Emerging Issues

Finding—Processes for identifying and addressing emerging issues are in place on several different levels including input received from the Stakeholder Advisory Group, evolving Congressional direction, and rapid-response funds.

Finding—Funded research is consistent with previously established priorities, but it is unclear if emerging issues are being adequately addressed. Emerging issues identified by fire managers, line officials, cooperators, and researchers in the course of this review (Appendix 4) need to be considered in developing future RFPs to assure that needs are being addressed.

Finding—The program adequately addresses short-term, reactive issues. Because the program is funded for a limited tenure, it currently cannot address the identified need for long-term studies.

Findings Related to Compatibility of JFSP Research with Other Research Projects

Finding—There is currently no systematic review of fire science research proposals between funding agencies (i.e., National Fire Plan, Base Fire Science Research within the Forest Service) to allow for comparison and compatibility of projects.

Finding—Linkages between JFSP-funded projects seem to depend primarily on presentations at the annual PI meeting and communication between Principal Investigators.

Recommendations for Program Direction:

Recommendation—The JFSP needs to conduct a survey (“market research”) of the intended end-users to determine if this program is addressing their needs, to monitor the usefulness of products, and to identify emerging issues. The Stakeholder Advisory Group could be more proactive in gathering information from stakeholders on emerging issues and managers’ needs to make better recommendations to the Board on selection of funded projects. An ad-hoc team may be needed to perform this function.

Recommendation—The program should be more pro-active in soliciting rapid-response proposals. Creative and innovative approaches may be needed to accomplish this. Broadening the outreach about funding for rapid-response projects to include more researchers, universities, and managers is a first step.

Recommendation—Survey results included suggestions by managers, line officers and researchers for additional research areas (Appendix 4). These suggestions need to be considered for possible incorporation into future RFPs.

Recommendation—In submitting proposals to JFSP, researchers need to articulate their plans for having users field test (beta-test) any new research products (i.e., models,

databases, and methods) to make sure these products work before putting them into field operation. Costs for this testing should be included in the proposal budget. Peer reviewers of proposals should make recommendations on the need for beta testing, with the final decision on the need for testing being made by the Governing Board.

Recommendation—Information from JFSP Principal Investigator meetings should be more widely distributed through such efforts as making project summaries available on-line, encouraging attendance by managers at these meetings, and providing access to PI meetings via live Internet downloads.

Key Area #2: Technology Transfer

Findings and recommendations about JFSP Technology Transfer are summarized in this section. Information gathering in this key area was guided by the following two questions:

- Are deliverables useful and available to managers?
- Are new technologies being implemented in the field?

Findings and Recommendations Related to Technology Transfer

Finding—RFPs currently require technology transfer to be addressed as a component of proposals, but technology transfer methodology varies considerably among Principal Investigators.

Finding—There is a limited level of awareness by fire managers and line officers of both the Joint Fire Science Program itself and the research products/deliverables being generated through the Program. This may in part be a function of the fact that many JFSP research projects are just now producing deliverables.

Finding—The program currently relies heavily on its web page to transfer information to stakeholders. This approach may not be sufficient to alert stakeholders of RFP announcements, new research projects funded, or deliverables produced. The program does not gather statistical information on the usage of the web page.

Finding—Although outside the scope of this review, the team noted that in some cases there may be insufficient skills, information systems technology, mechanisms, or equipment at the field/unit level to implement the new products resulting from JFSP research.

Recommendation—The JFSP should develop a technology transfer plan, coordinating with field units and appropriate training and technology specialists, to promote full implementation of research products and tools at the field level. The plan should provide for a continuous feedback loop between researchers and end-users. Those developing the plan should refer to the suggestions by survey respondents, included in Appendix 4.

Recommendation—The program should strongly consider the value of increasing its capability in technology transfer, either through contracting or staffing. Funds for this capacity should not count against or be taken from administrative funds.

Recommendation—The program needs to develop a systematic approach to publicize, distribute, and announce the release of RFPs and research products to targeted stakeholders. This could include electronic notification of product availability, electronic accessibility to products and publications, summaries and syntheses, technology transfer coordination, and courses and training sessions. Developing a “one-stop shopping” venue for researchers and managers to easily access RFPs and products of JFSP research projects would facilitate information flow.

Recommendation—The JFSP Operating Guidelines should provide for shared responsibility for technology transfer among program staff, the Stakeholder Advisory Group, the Governing Board, and PIs. Expectations of the JFSP for Principal Investigators related to technology transfer of research results need to be more clearly stated in all RFPs so that proposals include specific information on how technology transfer will be carried out. A JFSP performance measure related to technology transfer needs to be developed.

Key Area #3: Stakeholders and Partnerships

Findings and recommendations about JFSP Stakeholders and Partnerships are summarized in this section. Information gathering in this area was guided by the following two questions:

- Is there an appropriate mix of stakeholders, including governmental agencies, universities, and other interests?
- What is the relationship with other efforts such as the National Fire Plan?

In the following subsections, the review team summarizes findings and recommendations related to the following stakeholders and partners: the Governing Board, the Stakeholder Advisory Group, proposal applicants, proposal peer reviewers, funded projects, intended end-users, and other research efforts.

Findings and Recommendations on the Governing Board

Finding—The JFSP supports research in many different disciplines that need to be reflected in the expertise of Governing Board members.

Finding—The members of the Governing Board report that they have not established performance measures for the JFSP.

Recommendation—The Governing Board should continue to pay attention to selecting Board members who bring expertise in a breadth of disciplines across the biological, physical, and social sciences.

Recommendation—The Governing Board needs to develop performance measures that assess the effectiveness of the program. These measures should focus on outcomes of the funded research, rather than the number of deliverables or outputs. This will require that there be effective and efficient channels for technology transfer from the researchers to the land managers. The Board may want to look at performance measures used by the Missoula Technology and Development Center and the San Dimas Technology and Development Center as models for the JFSP.

Findings and Recommendation on Stakeholder Advisory Group

Finding—The Stakeholder Advisory Group is serving in the role intended by the Secretaries of Agriculture and the Interior, and meets the requirements of the Federal Advisory Committee Act. The group has had two meetings, and corresponds as needed via an electronic list-serve. Because the group has only existed for one year, it is difficult to judge its efficacy, but indications are that it is serving a valuable role.

Finding—The Stakeholder Advisory Group includes an appropriate mix of stakeholders in terms of geographic representation, fields of expertise, and agencies or institutions. The Governing Board and Program Manager have made an effort to solicit nominations from diverse stakeholder groups and the Secretarial appointments reflect that diversity.

Recommendation—The JFSP Stakeholder Advisory Group should be renewed with continued emphasis on membership diversity in geographic representation and fields of expertise.

Findings and Recommendations on Proposal Applicants, Peer Reviewers, and Funded Projects

Finding--With some exceptions, the range of individuals submitting proposals is appropriate. About 50% of proposals come from USDA Forest Service researchers, but this may be a reflection of research capacity.

Finding—The number of proposals appear to be limited in a few notable areas, such as certain geographic areas (the Northeast, Great Basin, and Great Plains), certain disciplines (economics and social science), and some fuel types (non-forested fuel types).

Finding—There are some gaps in funded projects in certain geographic areas or disciplines, but this seems to be a result of a small number of proposals received.

Finding—At present, there is limited announcement of new RFPs. Researchers learn of new RFPs through communication with the Governing Board and Stakeholder Advisory Group members, announcements made to currently funded Principal Investigators, the JFSP web site, or word-of-mouth.

Finding—The task of reviewing proposals is significant and that makes it difficult to find an adequate number of reviewers in specialized fields. There is no set protocol to choose

reviewers. It is unclear if the review process is adequate to ensure consistently high quality projects are funded.

Finding—An examination of funding recipients indicates an unbiased distribution among stakeholders receiving awards. Approval for funding is based on the merits of the proposed project, within funding constraints.

Finding—Approximately 70% of JFSP principal investigators are affiliated with the U.S. Forest Service. This is partly a function of a requirement for a “Federal cooperator” on all proposals, the strong ties between Forest Service scientists and many universities, and the fact that the Forest Service has a very active research branch. However, these projects also involve numerous partners. Stakeholders involved with funded projects include: 45 universities, 9 non-governmental organizations, 10 state/local governments, 4 private companies, JFSP partners (U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, Bureau of Indian Affairs, Bureau of Land Management, U.S. Geological Survey), other federal agencies (Agricultural Research Service, Department of Defense, Department of Energy, NASA, Natural Resource Conservation Service), and tribal organizations. Projects or sites have been funded in 40 states, Washington, DC and Puerto Rico.

Recommendation—The Program Manager and Governing Board should be more proactive in advertising new RFPs, especially in subject or geographic areas that are typically under-represented in the proposal process. This may take the form of contacting targeted universities, departments, research stations, professional societies, or publications.

Recommendation—There should be a protocol established for selection of peer reviewers for proposals to ensure appropriate reviews of all submissions by recognized subject-matter experts. The JFSP needs to consider development of incentives to increase the pool of reviewers.

Recommendation—The Governing Board should continue to select projects to fund using their current protocol.

Findings and Recommendation on Intended End-users

Finding—Consistent with Congressional guidelines, the JFSP is focusing on federally administered wildlands. This intent is met, in part, by the requirement for a federal land management agency to be included in all projects.

Finding—Congress also intended that, to the extent possible, the information and tools developed by the funded research benefit all wildlands. Although there is ample opportunity for state and private landowners to participate in the JFSP Program and provide advice through the Stakeholder Advisory Group, there has been no systematic attempt to determine if this secondary intent is being met.

Recommendation—At some future time when more deliverables are available, the JFSP needs to conduct a survey of stakeholders from all ownerships to determine the applicability of products on lands of diverse ownership. This survey could be combined with the survey of end-users mentioned under recommendations for program direction.

Finding and Recommendations Related to Other Research Efforts

Finding—The review team found no systematic effort to coordinate with other relevant research programs until recently. However, three recent steps show progress being made in this area: 1) the USFS NFP Research and Development 2001 Business Summary includes a list of projects with linkages to the JFSP, 2) a database is under construction that will include details of projects funded by JFSP and NFP, and 3) the JFSP is continuing to be involved in the newly-formed Fire Research Coordination Council.

Recommendation—The JFSP Governing Board and Program Manager should continue to support and participate in the developing Fire Research Coordination Council and its mission to better coordinate research to make the best use of research dollars. In addition, the review team endorses the ongoing activity of the JFSP working with NFP research managers to construct a common database for the two programs. The review team believes the Fire Research Coordination Council is well positioned to develop a formalized system for coordinating research proposals and on-going research between the different agencies and programs.

Recommendation—The JFSP should require that individuals submitting proposals identify sources of contributed funding, especially NFP funds (in-hand or proposed).

Recommendation—Individuals serving on JFSP proposal review panels are selected to represent a mix of scientists, managers, and technical specialists. The review team suggests that familiarity with fire and fire-related research projects supported through other funding mechanisms also be a consideration in selecting proposal review panel members.

Recommendation—The JFSP should schedule annual briefings with other science funding organizations such as the National Science Foundation, National Academy of Sciences, and National Research Initiative to ensure that they are aware of JFSP and its ongoing work.

Recommendation—The review team recommends that the JFSP annual report and the NFP Research and Development annual report be combined.

Key Area 4: Program Administration

Findings and recommendations about Program Administration are summarized in this section. Information gathering in this key area was guided by the following question:

- Are the tools and structures utilized by the JFSP providing adequate support for priority setting, administrative operations, and project accountability?

Findings and Recommendations Related to Program Administration:

Finding—The program staff and Governing Board have done an excellent job of implementing the program within existing structures and with a minimum of program management cost. In the five years of the program, with a total budget of \$56 million, over 164 research projects have been funded. The staff receives as many as 200 proposals in response to an RFP. Each proposal requires peer review, and proposals selected for funding require evaluation, agreements, and performance tracking. In addition, the program staff has annual performance reporting requirements, must prepare Congressional testimony, and meet regularly with a multiplicity of publics, both internal and external, and two Boards (the JFSP Governing Board and the FACA Board).

Finding—The efficiency of the program is in part due to a cooperative relationship with the National Interagency Fire Center. (This may reflect recognition by NIFC of the importance of this program.) NIFC provides many services, such as office space and utilities, for free. Support for contracting, grants and agreements, and other administrative services is done at minimal cost to the program. This situation makes it difficult to get a true picture of the cost of program administration. Even when including the donated services, the cost of program administration is extremely low considering the program's size.

Finding—Proposal reviews are being conducted in a timely manner so that decisions can be finalized within three months of when the RFP closes and proposals are due. Principal Investigators are generally pleased with the administration of the funded projects.

Finding—Although a matching contribution on the part of the funded research organization is a criterion for proposal evaluation, it is not clearly explained in the RFP or on the JFSP web site.

Recommendation—In the JFSP budget, real costs of program administration need to be displayed by showing in-kind and other contributions by agencies.

Recommendation—The JFSP needs to make all criteria used in evaluating proposals clear in the RFP announcements. This includes an evaluation of matching contributions by the funded organization.

Findings and Recommendations Related to Project or PI Accountability:

Finding—The JFSP Operating Guidelines are very clear and have very specific requirements to document researchers' performance and accomplishments. The

Operating Guidelines give more than adequate direction for program administration. Non-performance issues are dealt with through established procedures. The process to request extensions for time and additional funding are clearly outlined in the Guidelines. To date, approximately 10% of the projects have requested no-cost extensions.

Finding—The JFSP annual reports are very well written and contain information on each of the ongoing projects. However, completion dates for the projects are not included, which does not allow the end-user to anticipate the availability of the project deliverables. The annual reports also do not contain the funding given to each project.

Recommendation—The JFSP annual reports need to include information on anticipated completion dates and funding amounts for each project as part of the project description.

SYNTHESIS OF RECOMMENDATIONS

Program Direction

Key recommendations to the JFSP on Program Direction are as follows:

- Conduct assessments/surveys of how well the program is meeting end-user needs to include monitoring the usefulness of products,
- Encourage more pro-active identification of emerging issues by the Stakeholder Advisory Group,
- Be more pro-active and creative in soliciting rapid-response proposals—broaden outreach to researchers and managers,
- Consider emerging issues identified by managers, line officers and researchers (Appendix 4) for possible incorporation into future RFPs,
- Require researchers to include plans for having users field testing research products prior to putting products into operation, and
- Facilitate wider distribution of and access to information from PI meetings by making project summaries available on-line, encouraging attendance by managers, and using live Internet downloads.

Technology Transfer

Key recommendations to the JFSP on Technology Transfer are as follows:

- Increase capability in technology transfer, either through contracting or staffing,
- Modify the JFSP Operating Guidelines to give clearer direction to PIs, program staff, Stakeholder Advisory Group members, and the Governing Board on their roles in technology transfer,
- Develop a technology transfer plan that outlines a systematic approach to publicize, distribute, and announce the release of RFPs and products targeted to stakeholders, and
- Develop a “one-stop shopping” or other similar venue for researchers and managers to easily access results of JFSP results and products.

Stakeholders and Partnerships

Key recommendations to the JFSP on Stakeholders and Partnerships are as follows:

- Broaden the expertise and viewpoints on proposal review panels by seeking out a breadth of subject matter experts as peer reviewers,
- Continue to pay attention to selecting Governing Board members who bring expertise in a breadth of disciplines across the biological, physical, and social sciences and include individuals from other institutions that fund fire research,
- Continue to emphasize a diverse geographic and subject matter representation on the Stakeholder Advisory Group and renew their charter,
- Be more pro-active in advertising new RFPs, especially in subject or geographic areas that are typically under-represented in the proposal process,
- Continue to select projects to fund using the current protocol,
- Conduct a survey of stakeholders from all land ownership groups to determine applicability of products on lands of diverse ownership,
- Develop performance measures to assess the effectiveness of the program that focus on outcomes of the funded research, rather than the number of deliverables or outputs, and
- Continue to encourage and support efforts to coordinate across fire research organizations to prevent unproductive redundancies and make the best use of research dollars. This would include:
 - Continuing participation in the Fire Research Coordination Council,
 - Developing a formalized system for coordinating research proposals and on-going research with other fire research programs,
 - Requiring that proposals identify other sources of funding, especially National Fire Plan funds (in-hand, or proposed),
 - Combining the JFSP annual report with the NFP Research and Development annual report, and
 - Scheduling annual briefings with National Science Foundation, National Academy of Sciences, and National Research Initiative.

Program Administration

Key recommendations to the JFSP on Program Administration are as follows:

- Display real costs of the program by showing in-kind and other contributions by agencies.
- Include completion dates and funding amounts along with project descriptions in the JFSP annual report.

CONCLUSIONS

Key findings and recommendations coming out of this review of the Joint Fire Science Program revolve around a relatively small number of themes:

- Building strong linkages and facilitating communication—between managers and researchers and among fire research programs,
- Encouraging diverse viewpoints and expertise—in the proposal review process and on the Governing Board,
- Developing products and providing information that make a difference on the ground.

The JFSP is making progress on all three fronts. Indications are good that a review conducted after five more years will clearly show the differences being made on the ground through the information, products, and tools generated through this valuable program. With only minor modifications, the JFSP will become an excellent model for how other interagency government functions can operate successfully.

Appendices

APPENDIX 1. JFSP 19 Program Priorities¹

Develop methods for fuel characterization and classification (fuel load, structure, composition/vegetation type)(PP 1,3,4).

Develop and/or modify protocols for efficient monitoring of fuel characteristics on a local/project/site level, including methods and tools for local fuel inventory and mapping (PP 1,3,4).

Develop/improve methods for mapping burned areas and determining fuel consumption and fire severity to link to emission/succession models and update fuel mapping (PP 1,2,3,4).

Develop methods for integration/aggregation of data across spatial scales and ownerships, including remote sensing applications (PP 1,3,4).

Develop methods for efficient monitoring of temporal and spatial trends in fuels and fuel condition (both structural and seasonal changes such as fuel moisture content), including remote sensing applications (PP 1,4).

Develop data standards and standardized sets of common data elements so that data can be analyzed and used across agency jurisdictions (PP 1,3,4).

Develop/improve linkages between fuels data and fire behavior models for landscape/project and geographic area modeling of fire behavior and emissions. Test and validate fire behavior models on landscape scale (PP 1,4).

Develop replicated studies to evaluate long- and short-term impacts of different fuels treatments, including effects of no treatment, timing, sequence, and combinations of treatments, ecosystem and environmental effects, and temporal development of fuels/vegetation (PP 2).

Design standard protocols for rigorous scientific evaluation of effects of fuels treatments (PP 2).

Evaluate/develop tools to evaluate social understanding/acceptability of fuel management treatments/programs, and communication or other tools for effecting social responses, attitudes, actions (PP 2).

Develop/improve a suite of compatible models that will enable development of local, national and geographic area data for fuel consumption, emissions and smoke production and dispersal (PP 2).

¹ Numbers in parentheses following each program priority indicate which JFSP principal purpose the priority falls under.

Evaluate/develop tools to model cumulative effects of wildland/prescribed fire on air quality and regional haze (PP 2).

Analyze wildland fire/prescribed fire/alternate fuel treatment tradeoffs, including wildland/urban interface, smoke, economics, and environmental considerations; and feasibility of developing markets for harvested fuels (e.g., small-diameter fuel utilization) (PP 2,4).

Develop/assess techniques for assessing economic effects for non-commodity values, including ecological values, such as clean water, as related to fuel management activities (PP 2).

Develop/use demonstration sites for testing, public education, validation, extension of results at intensive sites (PP 2).

Develop, synthesize information on historic fire regimes for "important" vegetation complexes/fuel types (PP 2).

Develop risk assessment and decision models to aid managers in making decisions (PP 3).

Develop/assess landscape scale modeling of treatment effects and costs (across ownerships, boundaries, fuel types) (PP 3).

Develop process for analysis and interpretation of monitoring results to determine if fuel management and other project objectives are met at project to national level scales. Integrate with other monitoring programs (PP 3,4)

Develop data standards and standardized sets of common data elements so that data can be analyzed and used across agency jurisdictions (PP 1,3,4).

**Joint Fire Sciences Program Governing Board Charter
Joint Fire Sciences Review Team**

The Joint Fire Science Program (JFSP) was established pursuant to direction by the Appropriations Committees in the fiscal year 1998 appropriations for the Department of the Interior and U.S. Forest Service (FS) to develop a scientific basis and rationale for implementing fuels management activities, with a focus on actions that will lead to development and application of tools for managers. The Committees identified four principle issues for consideration by the JFSP: (1) The need to develop and implement consistent interagency fuels mapping and inventories with common classifications and resolution within ecosystem; (2) The need to evaluate and compare fuels treatment practices and techniques, including prescribed fire, thinning and other mechanical methods, increased utilization of biomass, and no treatment; (3) The need to develop treatment schedules, determine the frequency of subsequent treatment, and coordinate treatment schedules among agencies; and (4) The need to establish compatible interagency processes and procedures for monitoring, evaluating and reporting fuels treatments. The JFSP was directed to establish the process and program oversight structure to identify and meet fire information and technological support needs for a national interagency fuels management program.

In addition, FY 2001 Congressional direction stated that there would be an acceleration of research activities and expanded emphasis to include "increased rapid response projects to ensure necessary resources are available for testing and evaluation of post-fire rehabilitation, assessment of post-fire and fire behavior effects, use of aircraft-based remote sensing operation, implementation of protocols for evaluating post-fire stabilization and rehabilitation, and the development of effective means for collecting and disseminating information about treatment techniques."

The projects are expected to "address locally and regionally important science and technology needs associated with fire management and suppression, fuels management, and post-fire rehabilitation. The managers further expect the Departments to assure that these programs are implemented within existing structures with a minimum of new program management or other overhead activities that might reduce the direct benefit of funds provided."

The Joint Fire Science Plan committed the program to conduct a review after five years. We have chartered the following team to review the progress to date of the Joint Fire Sciences Program, including the existing organization, structure, roles and responsibilities.

Team Members:

Pete Roussopoulos, Co-chair; USFS Southern Research Station Director
Bob Abbey, Co-chair; BLM Nevada State Director
Mark Beighley; USFS, Washington Office
Tim Sexton; NPS, National Interagency Fire Center
Scott Vail; USFS, El Dorado NF
Jeff Whitney; USF&W Service, Southwest Region
Marsha Kearney; USFS, National Forests in Florida
Jim Youtz; BIA, Fort Apache
Marilyn Walker; USFS, Pacific Northwest Research Station
Larry Hartmann; NPS, Great Smoky Mountains National Park
Paula Seamon; The Nature Conservancy
Jim Stubbendieck; University of Nebraska

Review Objectives:

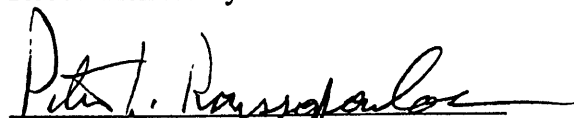
The main objective of the review is to determine if the JFSP is meeting the intent of the Congress, which is to meet agencies' needs. The review team will also make recommendations for moving forward in the future, recognizing that the JFSP was established to fund the development of information and tools to assist land managers who are working on wildland fire issues. The review will focus on key areas:

- **Program Direction** – Are current processes resulting in the funding of high priority and quality science? Is there good balance in the range, funding allocations, types of research and responses to managers needs? Is there a process in place that identifies and addresses emerging issues? Is the funded research compatible and complimentary to other projects?
- **Technology Transfer** – Are deliverables useful and available to managers? Are new technologies being implemented in the field?
- **Partnerships** – Is there an appropriate mix of stakeholders, including governmental agencies, universities and other interests? What is the relationship with other efforts such as the NFP?
- **Program Administration** – Are the tools and structures utilized by the JFSP providing adequate support for priority setting, administrative operations, and project accountability?

Timeline:

Team meet with Governing Board, March 11, 2002
Team assemble in Boise, May 13-17, 2002
Team brief SHAG on preliminary findings, June 10-11, 2002
Team brief Governing Board, June 24-28, 2002
Team complete final report in 60 days, August 31, 2002
Governing Board transmit report to Congress and stakeholders

Recommended by:



PETE ROUSSOPOULOS

Co-Chair

Joint Fire Sciences Review Team

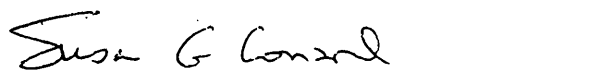


BOB ABBEY

Co-Chair

Joint Fire Sciences Review Team

Concurrence by:



SUSAN CONARD

Joint Fire Science Program Governing Board

APPENDIX 3. List of Survey Questions

For Fire Managers and Line Officials:

1. Are you aware of the Joint Fire Science Program and its purpose?
2. Have you read any of the research products that have been funded through this Program? Is this research responding to your needs?
3. Many of the research products have been released recently. What would be the best mechanism for making products available to you?
4. What are the emerging science and technical issues that will influence implementation of the National Fire Plan?
5. Do you have any suggestions for improvement of the Joint Fire Science Program?

For Scientists/Researchers:

1. Are you aware of the Joint Fire Science Program and its purpose?
2. Are you aware of objectives for proposed research and how to apply for funding?
3. If you have received Joint Fire Science Program funding, describe your experience with the administration of the grant, both through the Program and your local sponsoring agency. How could administration of the Program be improved?
4. Are there any fire-related research topics that are important, but not funded through this program?
5. What actions do you take, or products do you develop, that get results of your research out to fire managers?
6. Have you seen the results of your research put into practice?
7. Do you have any suggestions for improvement of the Joint Fire Science Program?

APPENDIX 4. Summary of Survey Responses

Fire Managers/Line Officials' Responses

1. Are you aware of the JFSP and its purpose?

- Generally, fuels management and fire ecology personnel were aware, but within federal agencies, line officers and those more involved in suppression were not as informed. It may be possible to engage managers through the proposal review process.
- For some, general awareness is there, but not sure of the specific purpose of the program.
- There was much confusion between research funded by the National Fire Plan, the JFSP, and other federal agencies.

2. Have you read any of the research products that have been funded through this Program? Is the research responding to your needs?

- 60-75% of the fire managers and line officials surveyed had read/used a product. The Rainbow series was the product most often cited. Other products mentioned were coarse-scale spatial data and Phil Omi's fuel treatment study. It is the review team's belief that more products may in fact be used, but the users may be unaware that they are JFSP-funded products.
- Among other responses were that "more research in social/institutional areas" is needed and that "JFSP should take a lead role in developing public information tools to gain social acceptance of fuels treatment."
- In response to needs being met at least one person suggested that the JFSP was "too western focused, and too-federally focused"
- The review team was concerned that responses to this question may reflect manager's lack of knowledge/ familiarity with the JFSP products.

3. Many of the research products have been released recently. What would be the best mechanism for making products available to you?

Two overarching themes came up in responses to this question. One was a general lack of awareness of products. The second issue was related to application and use of new products. Suggestions for improving notification about products and making them accessible to fire managers and line officials follow.

- Electronic Notification of product availability, including:
 - An “alert system” when products become available,
 - Pop-up ads on web sites advertising new products, and
 - A monthly electronic newsletter people could subscribe to and get updates on JFSP products.

- Electronic Accessibility including:
 - Direct access to products via Internet, with full publication available,
 - An electronic quarterly newsletter/bulletin,
 - An electronic encyclopedia that pulls information together, and
 - Make PI meetings available via live Internet downloads.

- Summaries/Syntheses/Lists/Encyclopedias including:
 - One page summaries of each product (hard copy and electronic),
 - Executive summary of research and how it can be used,
 - A hard copy quarterly newsletter/bulletin, and
 - Lists of publications and abstracts searchable by keywords.

- Courses and training to include:
 - New products/information in appropriate National Wildfire Coordinating Group (NWCG) courses,
 - Training packages for models, and
 - Coordination with NIFC training officers/NWCG Training Working Team to find appropriate avenues for information transfer.

- Technology Transfer (TT) Coordination and Adoption of Proven TT models:
 - Tie in with technology transfer staff at FS Research Stations, and
 - Model JFSP technology transfer models after other successful efforts such as: Material Command U.S. Air Force, Starkey Experiment Station, Blue Mountain Natural Resource Institute (tech transfer staff), FS Technology and Development Centers (Missoula and San Dimas).

- Other:
 - Continue to make products available through traditional avenues such as the forestry library in Fort Collins, Colorado,
 - Provide information on JFSP products in the NIFC Daily Situation Report (to specifically target Fire Management Officers).

4. What are the emerging science and technical issues that will influence implementation of the National Fire Plan?

- Fuel reduction treatments
 - Mechanical/chemical treatment in low-value habitats,
 - Research on long-term effects of no fuel treatment,
 - Effectiveness of treatments in reducing wildfire spread,

- Efficacy of landscape treatments (SPLAT)/landscape-level effects of fuels treatment,
 - Alternatives to fire use in areas where fire cannot be used effectively in restoration,
 - Long-term effects of vegetation management on other related processes such as air, water, and soils, and
 - Conflicts between fuels treatment and other land management priorities/regulations, such as Clean Air Act, Endangered Species Act (cross-fire between legal mandates)
- Social science/economics/education
 - Education of landowner/homeowner,
 - Social understanding of ecological processes,
 - Social acceptability of mechanical treatments,
 - Public desire (or lack of desire) for defensible space,
 - Variation in tolerance of smoke,
 - Economic impacts on communities from fires, and
 - Economic tradeoffs between prescribed fire, mechanical treatment, and wildfire.
- Mapping/Models/Predictions
 - Smoke impacts,
 - Reliable remote fuels inventory,
 - Smoke and fog prediction models,
 - Fine-scale fuels condition and risk mapping, and
 - Need for automated tools for Incident Command teams to use in field to model and predict fire spread and consequence, given various management options.
- Utilization
 - Developments of markets for small diameter wood,
 - Utilization of biomass, and
 - Availability of vendors to do the (biomass reduction) work.
- Rehabilitation and Invasive Species
 - Rehabilitating highly degraded sites (How do we deal with sites that may be ecologically “unredeemable?”),
 - Level of (how much) analysis is sufficient to proceed with fuels treatment or burned-area rehab decisions, and
 - Long-term assessment of trends of fuels treatment and invasive species.
- Basic biology/ecology
 - Sensitive plant maintenance and protection,
 - Fire effects on old-growth, and
 - Historical range of variation in biological systems.

- Wildland-urban interface
 - Research on the planning and effectiveness of various WUI fuels treatments, and
 - What is the relationship between Wildland-Urban Interface and the landscapes in protecting the communities?
- Other
 - Monitoring methods,
 - Risk definition analysis – both human and ecological, and
 - Develop WFSAs that were consistent across agencies and incidents.

5. Do you have any suggestions for improvement of the JFSP?

- Products/Outreach
 - Make products more available,
 - JFSP needs to reach homeowners,
 - Have specific person designated for technology transfer,
 - Improve marketing of products; put products in people's faces more often,
 - Need for system to synthesize conclusions and recommendations of research, and an electronic distribution list for these, and
 - Need for higher-quality Annual Report, photos, highlights and conclusions from studies, examples of how products have been applied and made a difference (something like the NFP report).
- Coordination
 - Clarify differences between JFSP and NFP,
 - Research on models is duplicative – should be more coordination to avoid redundancy, and
 - JFSP should coordinate with National Science Foundation and National Academy of Sciences.
- Accountability
 - Improve accountability for on-time delivery,
 - Establish monitoring system for program effectiveness, and
 - Need to ensure the JFSP targets weaknesses identified by the GAO audits and is keyed in to the 10-year Cohesive Strategy Implementation Plan.
- Scope
 - Increase awareness of the program and how it works, and
 - Broaden the program to encourage more effective partnership between managers and researchers in the research process.

- Administration
 - Is there a way to encourage more realistic budgets and time-frames in proposals, and
 - Need to shorten the time between proposals and the deliverables.

Fire Researchers' Responses

1. Are you aware of the JFSP and its purpose?

- Generally speaking, the survey showed researchers are aware of the JFSP. One individual was unaware, perhaps because of his area of research (archeology).

2. Are you aware of objectives for proposed research and how to apply for funding?

- Awareness of JFSP objectives and application protocols was lower than the general awareness about the program and its purpose.
- Some had concerns about the proposal review process and outcomes, including the following:
 - Why would a proposal receiving high ranking by reviewers not receive funding? Is this result a function of politics on the Governing Board?
 - If funding criteria exist, criteria should be strictly enforced and the criteria need to be made clear to applicants
 - Is the caliber of reviewers consistently high?

3. If you have received Joint Fire Science Program funding, describe your experience with the administration of the grant, both through the Program and your local sponsoring agency. How could administration of the Program be improved?

In general, grant recipients feel the administration of funds are reasonable/acceptable. A number of responses to this question centered on overhead rates including the following:

- Transferring funds through federal partners to university or non-federal organizations leads to additional overhead, and time lags to develop Memorandums of Understanding (MOUs).
- Overhead charges differ between agencies and units. Should it be consistent or realistic?
- 15% overhead is "robbing Peter to pay Paul." Overhead funds come from some other program. Should JFSP overhead be more realistic?
- Does 15% really provide for the cost of administering the program, or are costs "subsidized" by other funds?

4. Are there fire-related research topics that are important, but not funded through the Program?

- The following topics were suggested as areas where more JFSP funding should be spent:
 - Economic analyses of fuels management, especially tradeoffs between fuels treatment and wildfire suppression/rehabilitation,
 - Rapid risk analysis and subsequent hazard reduction techniques,
 - Spatial modeling at multiple geographic scales,
 - Global impacts of fire management decisions,
 - Social sciences, especially social acceptability of fuels treatments and impact of fire on cultural resources,
 - Restoring whole ecosystems, as opposed to treating fuels i.e. interactions between biological systems and fire regimes, and
 - Should a small amount of funding be set aside for basic fire research questions, including ethics, world politics, demographics, etc.?

- Some respondents expressed concerns about duplication, efficiency, and program focus.
 - Projects need to be integrated to avoid duplication, and derive the greatest benefit from the investment.
 - Program is “silly” because “all the research has already been done.”
 - What is the percentage of funds spent on models, and how useful are they in terms of the investment?
 - Funded topics are too oriented toward western issues.

5. What actions do you take, or products do you develop, that get the results of your research out to fire managers?

- Researchers mentioned the following methods of delivering results to managers:
 - Web pages and the Internet (multiple responses),
 - Publications such as technical bulletins, brochures, and peer-reviewed journal articles,
 - Presentations at meetings, conferences, and NWCG courses,
 - Workshops for community based groups and continuing education workshops,
 - Visits/meetings with on-the-ground product users,
 - Posters, tours and videos,
 - State extension service involvement,
 - Reviewing management plans (esp. for cultural resource impacts).

- One researcher mentioned that what should be done is to prepare a 3-ring binder with short briefing papers

6. Have you seen the results of your research put into practice?

- Generally, yes, although several researchers indicated it was too soon to expect implementation of their products.

7. Do you have any suggestions for improvement of the JFSP?

- PI meetings should be more broadly attended, e.g. by land managers, or other intended users of the products. Perhaps hold concurrently with another meeting. Develop multiple mechanisms for getting researchers and managers together, perhaps in regional workshops. The 2nd Fire Congress may serve this purpose nationally.
- Get user input early in development of projects so that the outcome will be useful, and to enhance tech transfer.
- Increase in funding.

APPENDIX 5. Additional Resources for Information on the Joint Fire Science Program

Joint Fire Science Program Office
3833 S. Development Avenue
Boise, Idaho 83705

Phone: 208-387-5349

FAX: 208-387-5960

JFSP Website

http://www.nifc.gov/joint_fire_sci/jointfiresci.html