Table 1: Total number of projects completed before 2011 that met and did not meet requirements for consideration in the study sample.

Subject	Number of projects	Projects with refereed publication	Projects with outreach product or activity	Number of projects meeting requirements
Fire effects and fire ecology	73	49	57	47
Fuel treatments	46	27	44	26
Planning, risk	30	17	22	16
Fire regimes	25	14	19	14
Stabilization, rehabilitation, restoration	22	17	17	19
Invasive species	16	7	12	7
Wildlife	19	16	18	16
Total	231	147	189	145

Table 2: Questions asked in web surveys of boundary spanners of JFSP-sponsored projects.

Were you aware of the project described above?
- Yes
- No

How have you learned about the results and conclusions of this project?
- Webinar
- Personal communication with researcher
- Personal communication with manager
- Peer-reviewed publication
- Workshop/field trip/training
- Factsheet/report
- Website
- JFSP Science Exchange event/product
- Other (specify)

What best describes managers' level of awareness of this project in your region?
- Managers are generally not aware of this research
- Some managers have heard of this research
- Some managers are well versed in many aspects of this research
- Most managers have heard of this research
- Most managers are well versed in many aspects of this research
- I don't know

How has information from this project been used by managers?
- It has been cited in planning documents
- It has been used to develop treatment prescriptions
- It has been used in development of models/decision support tools
- It has been used to evaluate current practices
- It has informed policy
- I don't know

- Other (specify)

Have you encountered any of the general barriers below that prevented use of this research?
- Managers are not aware of the research
- The science is uncertain
- The science is not directly relevant to management
- The results aren't compatible with current management practices
- Managers don't have the resources/time to apply it
- Political/social barriers within my organization
- Political/social barriers outside my organization
- Other (specify)

Table 3: Questions asked in web survey of principle investigators of JFSP-sponsored projects

For this project, were managers involved in any of these aspects of project development?
- Development of research questions
- Development of research study design
- Analysis and/or interpretation of results
- Dissemination of results
- None of the above
- Other (specify)

While disseminating results and conclusions from this project, how often did you interact with managers who might apply findings from the project?
- Once a week
- Once a month
- Bimonthly
- Quarterly
- Yearly
- Never

What option below best describes the key findings from the project?
- The finding(s) provide new information on a subject that had never been studied before
- The finding(s) provides information on a subject that had been studied before and it supported conclusions from previous studies
- The finding(s) provides information on a subject that had been studied before and it contradicted conclusions from previous studies.
- The finding(s) provides information on a subject that had been studied before and it neither supported or contradicted conclusions from previous studies
- Other (specify)

What best describes managers' level of awareness of your study?
- Managers are not aware of this project
- Some managers have heard of the project
- Some managers are well versed in most aspects of this project
- Most managers have heard of this project
- Most managers are well versed in most aspects of this study
- I don't know

Which of the following actions have you taken which may have contributed to manager awareness of your project?

- Direct communication with manager(s)
- Participation in workshop/field trip/training with manager(s)
- Webinar presentation
- Produced factsheet/report for managers
- Conference presentation
- Project website
- Collaboration with JFSP regional exchange
- None of the above
- Other (specify)

How has information from this project been used by managers to inform decisions or actions?
- It has been cited in planning documents
- It has been used to develop treatment prescriptions
- It has been used to develop models/decision support tools
- It has led to changes in policy
- It has been used to evaluate current practices
- I don't know
- Other (specify)

Is information from your project likely to be used by managers to inform decisions or actions in the future?
- Yes
- No
- I don't know

Have any of these general barriers prevented the use of information from your project in management?
- Political/social/economic barriers
- Uncertainty in the science
- Lack of manager awareness
- Complexity in the science
- The project is not directly applicable to management
- None of the above
- I don't know
- Other (specify)

Table 4: Questions asked during phone interviews of a subset of the boundary spanners who responded to the web survey.

In your position, can you describe you interactions with scientists? How often do you interact with them and in what context?

You stated in the survey that managers were (were not) aware of findings from X project. What factors have contributed to that awareness (lack of awareness)?

You stated that information from this project has been used by managers. Can you elaborate on how it has been used?

Do you foresee results from this project being used in the future?

In the context of this project, what were some of the important factors that facilitated use of the research?

Can you describe any specific barriers to the use of this research?

Are there common challenging aspects of managers' interactions with researchers?
Are there common beneficial aspects of managers' interactions with researchers?
Are there steps JFSP or researchers could take to maximize the extent to which research is used?
Are there steps managers can take to maximize the extent to which research is used?

Table 5: Response to the survey question, 'What best describes managers' level of awareness of this project?'.

	Number of projects according to boundary spanners	Number of projects according to PIs
Managers are not aware of research	5	0
Some managers have heard of the research	24	4
Some managers are well versed in many aspects of the research	16	11
Most managers have heard of the research	12	4
Most managers are well versed in many aspects of the research	1	2
I don't know	6	0

Table 6: Response to the survey question, 'To the best of your knowledge, how has information from this project been used by managers?'.

	Number of projects according to boundary spanners	Number of projects according to PIs
Cited in planning documents	23	15
Inform treatment prescriptions	22	14
In evaluation of current practices	20	12
In development of models/decision support tools	12	6
I don't know/no answer	8	3
Informed policy	5	5
Other	3	2

Table 7: Response to the survey question, 'What barriers prevent use of information from this project?'.

	Number of projects according to boundary spanners	Number of projects according to PIs
Managers are not aware of research	28	8
Managers don't have time/resources	19	N/A
The science is uncertain	9	8
Political/social barriers outside my organization	8	7

Political/social barriers within my organization	8	N/A
The science is not relevant to management	7	0
Other	6	1
Science not compatible with current management	5	N/A
None	N/A	2

Table 8: Response to the survey questions, 'How have you learned about the results and conclusions of this project?' (boundary spanner) and 'Which of the following actions have you taken which may have contributed to manager awareness of your project?' (PI).

	Number of projects according to boundary spanner	Number of projects according to PIs
Peer-reviewed publication	30	N/A
Personal communication between researcher and manager	25	20
Factsheet/report	16	12
JFSP Science Exchange event/product	16	10
Personal communication between managers	16	N/A
Workshop/field trip/training	13	20
Website	10	5
Other	9	
Webinar	3	2
		5
Professional conference	N/A	20
None	N/A	0

Table 9: Results from boundary spanner interviews regarding whether or not information from JFSP-sponsored projects have been utilized in fire and fuels management actions or decisions.

	Number of projects
Used interviewee	14
Used by other management units	3
Will be used by interviewee	2
Not used	6

Table 10: Results from boundary spanner interviews regarding how information from JFSP-sponsored projects have been used in fire and fuels management.

	Number of projects
Informed planning processes	12
Led to changes in treatment prescriptions	8
Supported treatment prescriptions	5
Used in models/decision support tools	2
Led to new lines of research	2

Informed monitoring protocols	1

Table 11: Results from boundary spanner interviews regarding factors that facilitated use of information from JFSP-sponsored projects.

	Number of projects
Project information was relevant to managers	12
There was good outreach to managers	11
Researcher interacted with managers	7
Managers communicated science to peers	5
Boundary spanners facilitated information exchange	4
Study was specific to a given locality	3
Little previous work had been done on the subject	2
Managers were involved in the research	1
Research conducted by outside/independent group	1

Table12: Results from boundary spanner interviews regarding factors that were barriers to use of information from JFSP-sponsored projects that have not been applied.

	Number of projects
Lack of resources/time, logistical barriers	3
Other studies/sources of information are used	3
Institutional/bureaucratic barriers	2
Lack of trust among managers and researchers	2
Research not relevant to managers	2
Lack of manager awareness of research	1
Lack of outreach/products for managers	1
More research is needed	1
Lack of synthesis	1

Appendix A: Full list of project examined in this study.

Development of a computer model for management of fuels, human-fire interactions, and wildland fires in the boreal forest of Alaska (project #01-1-1-02)

Reconstructing fire regimes in tundra ecosystems to inform a management-oriented ecosystem model (project #06-3-1-23)

Post-fire studies supporting computer-assisted management of fire and fuels during a regime of changing climate in the Alaska boreal forest (project #05-2-1-07)

Managing fire with fire in Alaskan black spruce forests: Implications of fire severity on successional trajectory and future forest flammability (project #05-1-2-06)

Fire regimes of the Southern Appalachian Mountains: Temporal and spatial variability over multiple scales and implications for ecosystem management (project #06-3-1-05)

A national study of the consequences of fire and fire surrogate treatments – Southern Piedmont site (project #99-S-01)

An integrated assessment of the historical and contemporary uses of prescribed fire in Southern Appalachian ecosystems (project #01C-3-3-01)

Low-intensity fires may be adequate for stand replacement of Table Mountain Pine in the Southern Appalachian Mountains (project #06-4-1-01)

Pre-fire fuel manipulation impacts on alien plant invasions of wildlands (project #01B-3-2-08)

Rapid response to the 2003 fires in southern California: Impact of fuel age on fire behavior (project #04-1-2-01)

Fire effects on rare flora and fauna in southern California national forests (project #01B-3-3-28)

Multi-century reconstruction of chaparral fire history using fire-scarred bigcone Douglas fir in three southern California national forests (project #06-3-1-07)

Identifying reference conditions for prescribed fire management of mixed conifer forests in Yosemite National Park, California (project #01-3-3-12)

A national study of the consequences of fire and fire surrogate treatments – Southern Sierra Nevada site (project #99-S-01)

Fuel reduction effects on a key Sierra Nevada food web (project #01B3-3-05)

Post-fire treatment impacts on fine fuels in westside Sierra Nevada forests (project #06-3-4-10)

Using cattle as fuel reduction agents and perennial grass stands in northern Nevada (project #04-2-1-77)

Effects of fire and rehabilitation seeding on sage grouse habitat in the pinyon-juniper zone (project #01B-3-3-01)

Management of fuel loading in the shrub-steppe (project #01B-3-2-07)

Changing fire regimes, increased fuel loads, and invasive species: Effects on sagebrush steppe and pinyon-juniper ecosystems (project #00-1-1-03)

Patch burning on grasslands: Effects on fuels, fire behavior, and fire spread (project #03-1-4-09)

Prescribed fire for fuel reduction in northern mixed grass prairie: Influence on habitat and population dynamics of indigenous wildlife (project #01-3-2-09)

Restoration-based fuel reduction recommendations for mixed pine forests in upper Michigan (project #05-2-1-86)

Managing fuels and forest structure in the southern boreal forest on Minnesota's national forest (project #00-2-23)

Characterizing historic and contemporary fire regimes in the Lake States (project #98-1-5-03)

A national study of the consequences of fire and fire surrogate treatments – Northern Rockies site (project #99-S-01)

Reciprocal interactions between bark beetles and wildfire in subalpine forests: landscape patterns and the risk of high severity fire (project #06-2-1-20)

Understanding the influence of local and landscape conditions on the occurrence and abundance of black-backed woodpeckers in burned forest patches (project #04-2-1-106)

Treatments that enhance the decomposition of forest fuels for use in partially harvested stands in the moist forests of the Northern Rocky Mountains (project #00-2-20)

A national study of the consequences of fire and fire surrogate – Blue Mountains site (project #99-S-01)

The effects of grass seeding and salvage logging on fuel loads, potential fire behavior, and the biological diversity of severely burned low elevation southern Oregon forests (project #03-1-4-11)

Invasive species response to fire and post-fire rehabilitation following the 2005 School Fire, Umatilla National Forest (project #06-1-2-03)

Productivity and habitat use of spotted owl in relation to fire severity in southwestern Oregon: Can prescribed burns be used to reduce fire hazards in spotted owl habitat? (project #04-2-1-52)

Integrating fuel and forest management: Developing prescriptions for the central hardwood region (project #00-2-04)

Fuel reduction and restoration of pine/hardwood ecosystems severely impacted by the recent southern pine beetle (Dendroctonus frontalis) epidemic in the Southern Appalachians (project #05-2-1-29)

Fire and oak regeneration in the Southern Appalachian (project #01-3-3-14)

Effects of prescribed grazing and burning treatments on fire regimes in grass-dominated wildland-urban interface areas, leeward Hawaii (project #01-3-2-14)

Relationship of an alien plant, fuel dynamics, fire weather, and unprecedented wildfires in Hawaiian rain forests: Implications for fire management at Hawaii Volcanoes National Park (project #03-3-3-15)

A national study of the consequences of fire and fire surrogate treatments – Gulf Coast Plain site (project #99-S-01)

The impacts of prescribed fire and season of burn on amphibian and reptile biodiversity patterns in northern longleaf ecosystem restoration (project #05-2-1-22)

Duff consumption and southern pine mortality (project #01-1-3-11)

Mechanical midstory reduction treatment: An alternative to prescribed fire (project #99-1-3-06)

A regional assessment of the ecological consequences of chipping and mastication fuels reduction and forest restoration treatments (project #06-3-2-26)

Effects of fuels treatments and wildfire on understory species and fuels in the ponderosa pine zone of the Colorado Front Range (project #04-2-1-118)

Effects of blowdown, beetle outbreak, and fire history on the behavior and effects of the 2002 fires in western Colorado (project #03-2-2-01)

Effectiveness of litter removal in preventing mortality of yellow barked ponderosa pine in northern Arizona (project #04-2-1-112)

Fire use over a southwestern elevational gradient: Effects of the 2003 fires (project #04-1-2-04)

Prescribed fire strategies to restore wildlife habitat in ponderosa pine forests of the Intermountain West (project #01-1-3-25)

Table 1: Requirements included having research findings in the JFSP research results database, producing at least one peer-reviewed publication, and producing at least one product intended for managers. This analysis was done only for the seven mostly populated subject categories.

Table 3: The description of the project of interest was given at the start of each series of questions. The boundary spanners were asked the same series of questions for up to four projects.

Table 4: Principle investigators were asked to respond to questions regarding the project for which they served as principle investigator.

Table 4: Interviews were semi-structured, meaning the script was loosely followed and follow-up questions were asked if clarification was needed.

Table 5: The results show the number of projects in which at least one survey respondent selected the given answer. Respondents to the boundary spanner survey (47) gave information on 37 of the projects in the sample. Respondents to the PI survey (21) gave information on 21 of the projects in the sample.

Table 6: The results show the number of projects in which at least one survey respondent selected the given answer. Respondents to the boundary spanner survey (47) gave information on 37 of the projects in the sample. Respondents to the PI survey (21) gave information on 21 of the projects in the sample. For this question survey respondents could select more than one answer.

Table 7: The results show the number of projects in which at least one survey respondent selected the given answer. Respondents to the boundary spanner survey (47) gave information on 37 of the projects in the sample. Respondents to the PI survey (21) gave information on 21 of the projects in the sample. For this question survey respondents could select more than one answer.

Table 8: The results show the number of projects in which at least one survey respondent selected the given answer. Respondents to the boundary spanner survey (47) gave information on 37 of the projects in the sample. Respondents to the PI survey (21) gave information on 21 of the projects in the sample. For this question survey respondents could select more than one answer.

Table 9: Results show the number of projects in which a boundary spanner implied a given subcategory in response to questions in recorded interviews. Through 10 interviews, 25 projects in the sample were discussed.

Table 10: Results show the number of projects in which a boundary spanner implied a given subcategory in response to questions in recorded interviews. Results highlight information from 19 projects in which interviewees (10) expressed some level of use or expected use.

Table 11: Results show the number of projects in which a boundary spanner implied a given subcategory in response to questions in recorded interviews. Results highlight information from 19 projects in which interviewees (10) expressed some level of use or expected use.

Table 12: Results show the number of projects in which a boundary spanner implied a given subcategory in response to questions in recorded interviews. Results highlight information from 6 projects in which interviewees (10) expressed that projects had not been used.