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**NATIONAL ACADEMY OF
PUBLIC ADMINISTRATION**

*for the United States Congress and the Departments of
Agriculture and the Interior*

December 2003

**CONTAINING WILDLAND FIRE COSTS:
UTILIZING LOCAL FIREFIGHTING FORCES**

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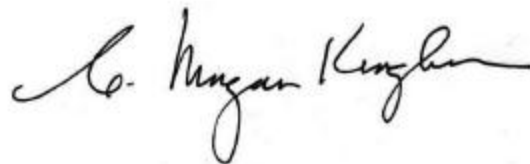
FOREWORD

Congress and the Administration are very concerned about the escalating costs of wildfire suppression, which exceeded \$1 billion in 2000 and 2002. In 2002, the Academy's Wildfire Panel concluded that one of the best opportunities to reduce suppression costs is to make better use of local firefighting resources for initial and extended attack, for mop-up and rehabilitation, and for smoother transitions between management teams. The Panel believes that the costs of wildfire suppression could be reduced if wildfire-prone communities had dedicated, locally available firefighting teams qualified for these purposes.

Local fire departments—paid and unpaid, urban and rural—are a huge potential resource for wildfire suppression. While federal agencies employ only 16,000 full-time and seasonal firefighters, the nation's local fire departments have over one million, nearly three-quarters of whom are volunteers. These local firefighters are needed to staff dedicated local teams, but barriers to wildfire training and qualification often prevent them from being used to fight wildfires. Not using local firefighters raises suppression costs by forcing federal agencies to use more costly resources that must be moved over long distances, causing additional expense and delay. In this report, the Panel recommends specific steps that the Wildland Fire Leadership Council and others can take to increase the availability of local forces to fight wildfires and improve suppression response.

This report is the fifth of six wildfire reports prepared by the Academy between August 2000-January 2004. Those published previously have made findings and recommendations to help improve wildfire risk assessments, interagency coordination, containment of wildfire suppression costs, and the efficiency of contracting for wildland fire equipment and services. The final report of the series will recommend improvements in reducing wildfire hazards in wildlands as well as communities at risk.

The Academy is pleased to present this report to the Congress, the Department of the Interior, and the USDA Forest Service. It thanks the federal agencies for their support of this study and their cooperation in preparing it. Formal comments received from the agencies have been incorporated. The Academy Panel directing this study and the project staff are to be commended for their outstanding job in developing the cost-saving strategies recommended. We believe these recommendations are practical, effective, and consistent with the President's Management Agenda.



C. Morgan Kinghorn, Jr.
President
National Academy of Public Administration

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ACRONYMS

DOI	Department of the Interior
FEMA	Federal Emergency Management Agency
FS	USDA Forest Service
IAFC	International Association of Fire Chiefs
ICS	Incident Command System
IMT	Incident Management Team
NASF	National Association of State Foresters
NFPA	National Fire Protection Association
NWCG	National Wildfire Coordinating Group
RFA	Rural Fire Assistance
VFA	Volunteer Fire Assistance
WFLC	Wildland Fire Leadership Council

EXECUTIVE SUMMARY

After examining all the factors influencing the costs of wildfire suppression in its September 2002 report, *Wildfire Suppression: Strategies for Containing Costs*, the Academy's Wildfire Panel found that one of the few opportunities to reduce suppression costs during a fire was to make better use of local firefighters. When properly trained, these forces can be used more fully for initial action and extended attack, for mop-up and emergency rehabilitation, and for smoothing transitions between management teams.

Yet the 2002 study revealed that, in more cases than not, local resources were not being effectively used to fight wildfires when they came under federal control. It also showed that firefighting could be organized more effectively and efficiently. All too often, local firefighters were not federally qualified or recognized, so Type 1 and Type 2 Incident Management Teams used on large fires rejected them. Some local forces were not willing to participate in unified commands. Local dispatch centers were not always linked to state and federal dispatch centers, and communications were not interoperable.

The result was increased suppression costs.

When local forces were federally trained and qualified, as well as willing and able to operate with and as part of unified commands, wildfire suppression activities were more effective and efficient.

The result was decreased suppression costs.

The Panel believes that developing dedicated Type 3 teams and using local firefighters more extensively could reduce costs in a variety of ways:

- They can prevent wildfires from spreading to state or federal jurisdictions through an effective initial attack.
- Type 3 teams can take command; coordinate an effective initial attack; order necessary resources; and provide for safety through increased supervision, command, and control during the initial action. This makes the wildfire more manageable for Type 1 and/or 2 teams, if they must be sent to fight the wildfire, by facilitating finance and check-in, establishing an effective firefighting strategy, and minimizing delays in resource acquisition—ultimately reducing the costs of fire suppression.
- By using local forces and equipment, federal agencies do not have to bring in more costly outside resources, and federal engines do not have to be moved long distances.
- Local forces can provide wildfire protection services to small federal land units that do not have dedicated federal firefighting resources

In recognition of these potential cost savings, and their ability to increase the safety of fire personnel and affected communities, the Panel developed a proposal this year to encourage:

- Fully qualified and recognized local firefighting forces to operate under the National Incident Management System's unified command for large wildfires
- Development of at least one fully qualified Type 3 Incident Management Team in each wildfire-prone community area committed to being available to manage local fires even during periods of maximum draw-down of national resources
- Development of a local interagency fire operations plan in each wildfire-prone community to ensure fully coordinated fire prevention, fire training, exercises, dispatching, initial action and extended attack, mutual aid, cost sharing, and other activities.

To receive feedback on this proposal, the Panel held day-and-a-half workshops in the spring and summer of 2003 in four communities: Flagstaff, Arizona; Boulder, Colorado; Bend, Oregon; and Palm Coast, Florida. Based on the workshop findings and additional background research, the Panel makes the following findings and recommendations on ways to increase the availability of local firefighting forces for wildfires, integrate local firefighting resources into wildfire suppression activities, and facilitate federal aid to local fire departments.

As the Panel completed its workshops, a National Association of State Foresters (NASF) Steering Group¹ submitted a report to Congress, *The Changing Role of Local, Rural, and Volunteer Fire Departments in the Wildland-Urban Interface: Recommended Actions for Implementing the 10-Year Comprehensive Strategy*. The Panel believes that its vision and recommendations are consistent with the NASF Steering Group report.

Increase Availability of Local Firefighting Forces for Wildfires

The Panel believes that developing local Type 3 Incident Management Teams in wildfire-prone communities not only would enhance firefighting preparedness and response, but would also reduce the costs of suppressing large wildfires. In addition, qualifying local firefighters to serve in crew and other capacities under Type 1 and 2 federal teams would have similar benefits. However, a significant amount of local resources will be necessary to establish these Type 3 teams and qualify local firefighters for use on federally administered fires, and these resources are currently unavailable in many places. Local firefighters are often unable to qualify because they do not have access to wildfire training and are unable to meet standards established by the National Wildfire Coordinating Group (NWCG). The nation needs a better way of tapping these local resources without, of course, compromising firefighter safety or effectiveness.

The urgency of taking such action was highlighted in the fall of 2003 when 125 ignitions caused nine massive wildfires in Southern California as the Panel was nearing completion of this report.

¹ The NASF Steering Group consisted of the International Association of Fire Chiefs, the National Volunteer Fire Council, the U.S. Fire Administration, the National Fire Protection Association, the National Association of State Foresters, the National Association of Counties, the USDA Forest Service, and the Department of the Interior.

Those fires caused the loss of 22 lives, over 3,500 buildings, and other properties. No place in the United States illustrates the introduction of human development into wildfire-prone landscapes more than Southern California. But this is a growing challenge throughout the West and in other parts of the nation.

Action to reduce wildfire hazards are addressed in another report by this Panel, to be released in January 2004, but actions to more fully utilize local firefighting resources to control wildfires is equally urgent.

In order to increase the availability of local firefighting forces, the Panel recommends that the Wildland Fire Leadership Council (WFLC):

- **Establish an intergovernmental task force representing the National Wildfire Coordinating Group, National Association of State Foresters (NASF), the International Association of Fire Chiefs, International Association of Firefighters, National Volunteer Fire Council, and National Fire Protection Association (NFPA) to make specific proposals on how to more fully qualify and utilize local resources.**

The task force should:

- Determine how local firefighters could receive “transfer credit” for the overlap between the fire curriculums of NWCG and NFPA
- Recommend ways to make training more easily and inexpensively available to paid and volunteer local firefighters through such options as community colleges, Internet courses, video conferencing, evening and weekend training options, repackaging NWCG courses into three- and four-hour blocks, and hands-on training and field exercises
- Develop a strategy for identifying and developing instructors at the state and local level who could provide wildland fire training
- Recommend national standards that allow more local resources to be used on Type 3 teams and in support of wildfires led by federal teams, perhaps through some variant of NFPA standards, such as the recognition of NFPA 1051 Standard positions as equivalent to NWCG wildland fire positions
- Incorporate the information gathered by the Wildland Fire Lessons Learned Center regarding past firefighter deaths, injuries, and close calls in order to ensure that firefighter safety is fully protected
- Recommend a section to the Interagency Standards for Fire and Aviation Operations (ISFAO) and the Bureau of Indian Affairs’ ISFAO that (1) addresses the use of local fire departments for mutual aid and large fire support and (2) clarifies qualification, fitness, and medical standards

- **Work through the budget and appropriations processes to ensure that adequate resources are provided for supporting wildfire training for local firefighters.** The Panel believes that a relatively small investment in training—sustained from year to year—would yield immense returns in containing wildfire suppression costs.
- **Work with appropriate officials at the Department of Homeland Security to ensure that money available for upgrading communications technologies for first responders includes all federal, state and local firefighters responsible for suppressing wildfires.** The Panel urges that these funds be used to purchase equipment that allows wildland firefighters to fully communicate with one another and other first responders through interoperable systems.

In addition, the Panel recommends that elected officials and senior administrators in local governments be actively engaged in increasing training opportunities and promoting the development of local Type 3 teams. Without strong local leadership at these high levels, the needed utilization of local forces will be much less likely to occur.

Integrate Local Firefighting Forces into Wildfire Response

Making greater use of properly trained and equipped local fire departments can save money. An effective local department should be prepared to act alone and in cooperation with others to suppress fires before they spread to state or federal jurisdictions; attack and contain fires on adjacent state and federal land, often before state and federal forces arrive; and provide much needed assistance on large state and federal wildfires. Too often, local fire engines sit idle—because of lack of training, qualification, and coordination—while federal agencies bring in more costly resources such as contract engines and crews, firefighters from other states and nations, National Guard resources, and active duty military battalions. At the same time, federal engines are frequently moved long distances—with considerable delays and costs—when local engines could respond much faster and less expensively. Even utilizing the more costly resources mentioned above, the nation has a critical shortage of resources during severe fire seasons.

In order to integrate local forces into wildfire fighting more fully, the Panel recommends that the Wildland Fire Leadership Council establish specific guidance for more fully utilizing local firefighting resources. The guidance should address local, state, and federal mutual-aid agreements to obtain as much consistency as statutory requirements allow; provide sample annual operating plans that are comprehensive and complete; resolve the pay issues currently causing problems in the field; establish equitable cost-share arrangements that share suppression costs proportionately based on jurisdictional responsibilities and values protected; require federal fire managers in the field to fully coordinate with state and local fire departments on all phases of wildland fire suppression; and establish a schedule for sponsoring at least one workshop on federal-local cooperation each year in each of the 11 Geographic Area Coordinating Group areas.

In addition, the Panel recommends that the Council develop a comprehensive strategy to provide incentives for local firefighters to become qualified to participate in federally

managed wildfires. The Panel believes that increasing access to wildland fire training by reducing current barriers, as recommended in this report, would provide a significant incentive.

Facilitate Federal Aid to Local Wildfire Response Forces

Federal fire grants have been a vital source of support for local fire departments, but significant difficulties have arisen with grant administration. The level of federal aid they receive is unpredictable from year to year; small departments are especially hard-pressed to access and utilize the grant system; and program guidance is often too rigid, resulting in a lack of flexibility for grant recipients.

The Panel believes that the current federal-aid system supporting wildfire programs—not just grants to local fire departments, but all the grants available for fuels reduction, fire planning, communities-at-risk, training, equipment, and so on—needs significant improvement in order to become more accessible and helpful to states and communities. The Panel's recommendation to respond to those needs will be published in the January 2004 report, *Containing Wildland Fire Costs: Enhancing Hazard Mitigation Capacity*. Among other things, the strategy will promote the development of one-stop shops and wide use of electronic grants, while still permitting access by low-income rural communities. At the same time, provisions will be included for alternative means of access to federal aid by applicants unable to use electronic means.

ENHANCING LOCAL FIREFIGHTING CAPACITY

ORIGIN, PURPOSE, AND SCOPE OF THE REPORT

After examining all the factors influencing the costs of wildfire suppression in its report of September 2002, *Wildfire Suppression: Strategies for Containing Costs*, the Academy's Wildfire Panel found that one of the few opportunities to reduce suppression costs during a fire was to make better use of local firefighting resources for initial and extended attack, for mop-up and emergency rehabilitation, and for smoothing transitions between management teams.

This report provides additional information to assist the agencies in implementing Recommendation 8 from the September 2002 report. As a way to improve large-fire suppression response and to help contain suppression costs, this recommendation urged the land management agencies to develop a national budgeting methodology to analyze the cost, benefit, number, composition, location, mobility, productivity, and seasonality of each type of large-fire suppression resource.² To help implement this recommendation, the Panel recommended that land units assess whether additional local Type 3 Incident Management Teams (IMTs) would be beneficial. These teams would consist of federal, state, and local firefighters who are not committed to serving on Type 1 or 2 teams that may be assigned to fires far away. In addition, it recommended that agencies optimize the use of local resources and upgrade the performance of certain firefighting crews.

Federal and most state wildfires that escape initial attack are managed by Type 1, 2, and/or 3 teams. The type of team required is determined by the complexity of the fire. Factors include fire behavior, number of firefighters required, resources threatened (natural resources, urban interface, and endangered species), firefighter and public safety issues, and number of jurisdictions involved. Table 1 below shows the differences among these teams.

The largest, most complex fires are managed by Type 1 teams; fires of moderate complexity are managed by Type 2 Teams; fires that have escaped initial attack, but not become large or complex enough to require a Type 1 or Type 2 team, are managed by Type 3 Teams. As a fire grows more complex, its management may transition to a more capable team. Conversely, once suppression objectives have been achieved on a large fire, management may be passed back to a lower-level team. With a dedicated Type 3 IMT, a wildfire-prone community is not only able to provide a more effective local response, which should reduce the number of fires that become large and reduce the need for more expensive Type 1 and 2 teams. It should also help these communities regain jurisdiction over the fire more quickly and efficiently when it no longer requires Type 1 or 2 management. This established local leadership can also be the catalyst to organize, train, and exercise locally stationed firefighters of all jurisdictions (federal, state, local, tribal, and volunteer) to work together as a unified force when necessary. In many cases, the ability to accept personnel for limited local commitments also facilitates recruitment.

² National Academy of Public Administration. *Wildfire Suppression: Strategies for Containing Costs*, September 2002. p. 43.

Table 1. TEAM COMPARISON CHART

Team Details	Type 1	Type 2	Type 3
Team Composition	Formal	Formal	Formal/as needed
Number of Team Members	27 +/-	21 +/-	3-10
Dispatch Level	National	Geographic Area	Local
Fire Complexity	Most Complex	Moderately Complex	Fires that Escape Initial Attack
Number of Firefighting Personnel on Assignment	500-2,500	100-500	20-100

IMTs are comprised primarily of state and federal employees along with an occasional local fire department member. These employees have regular jobs—as senior administrators, fire managers, engineers, and the like—with their respective agencies. As a result, they are often unable to complete much of their regular work during heavy wildfire years.

This report

- Identifies the major cost-related lessons learned from its case studies of large wildfires
- Discusses the importance of local fire departments in initial and extended attack, mop-up, and rehabilitation
- Summarizes the advice of participants in Academy-sponsored firefighting breakout sessions regarding Type 3 teams, wildfire training, firefighting agreements and authorizations, and federal aid
- Presents Panel conclusions and recommendations in three areas: (1) increasing the availability of local firefighting forces for wildfires; (2) integrating local firefighting forces into wildfire response; and (3) facilitating access to federal aid for local wildfire response forces.

LESSONS FROM LARGE WILDFIRES

The Panel based its 2002 recommendations on case studies of six large wildfires in western states in 2001: (1) the Arthur Fire in Wyoming; (2) Green Knoll Fire in Wyoming; (3) Moose Fire in Montana; (4) Sheep Fire in Nevada; (5) Star Fire in California; (6) Virginia Lake Fire Complex in Washington. Three were USDA Forest Service forests, and three were Interior Department fires. The principal cost-related findings from these cases follow.

The *Arthur Fire* was started by lightning on July 28, 2001, near the top of a ridge at 9,000 feet in Yellowstone National Park, Wyoming. The fire took two weeks to contain. It burned 2,800

acres of mostly forested land and cost an estimated \$6.3 million to suppress, or \$2,142 an acre. From this fire, we learned that:

- Regardless of its level of preparedness, a land unit may not be capable of containing a fire when it is still small. Arthur Fire conditions prohibited an initial attack effort and predisposed it to be a costly fire from the outset, requiring a large quantity of costly aviation resources.
- Having a Type 3 IMT on the land unit can result in more efficient extended attack; may facilitate containment of the fire; and will result, if necessary, in smoother transitions between to Type 1, 2, and 3 teams.
- Yellowstone fire management staff's extensive experience with large wildland fires, and its ability to concentrate on this fire without being called away to other fires, greatly enhanced their ability to manage the fire.

The *Green Knoll Fire* started when a campfire escaped on July 22, 2001. The fire took 17 days to contain. It burned 4,470 acres of forest within the Bridger-Teton National Forest and adjacent private lands near Jackson, Wyoming. It cost \$13.3 million to suppress, or approximately \$2,975 an acre. From this fire, we learned that:

- Cooperative working relationships among federal, state, and local agencies can contribute significantly to effective and efficient fire suppression operations. Especially significant in this case were the joint emergency action plans and joint exercises developed in advance by local firefighters and the federal agencies.
- Releasing costly Type 1 and 2 resources in a timely manner can be accomplished without endangering firefighter or public safety.
- Previously established written guidelines on administrative, budget, and finance practices provided useful guidance to local staff, as well as to incident management teams.

The *Moose Fire* was started by a lightning storm in northwestern Montana's Flathead National Forest on August 14, 2001. It later spread into Glacier National Park, a state forest, and private lands. The fire took over seven weeks to control and \$20 million to suppress—approximately \$275 an acre. From this fire, we learned that:

- Opportunities to contain the fire during the initial attack and early development may have been lost due to delays in air support and use of inexperienced personnel.
- Difficult and complex interaction among the national forest land unit, the state, IMTs, and Flathead County officials illustrate the challenges of making full use of local resources in fire suppression and conducting the landscape-scale planning called for by national fire management policies and plans when good relationships have not been established before the fire starts.

The *Sheep Fire* started on August 9, 2001, 20 miles north of Battle Mountain, Nevada. The fire took five days to control. It burned 83,673 acres, mostly rangeland, and cost \$2.2 million to suppress—approximately \$26 an acre. From this fire, we learned that:

- Local landowners' ability to create pressures that significantly influence strategy and tactics—to increase the costs of a fire—illustrate the need for a cooperative approach to fire management planning and suppression operations before the fire starts.

The *Star Fire* started on August 25, 2001 on private lands within the Eldorado National Forest east of Sacramento. Although never confirmed, it was assumed to be human-caused. The fire burned almost 17,500 acres of public and private land on two national forests (Eldorado and Tahoe). It cost \$28.2 million to suppress—approximately \$1,611 per acre. From this fire, we learned that:

- No matter how prepared a federal land unit is, a few fires—such as Star—will escape initial and extended attack, especially where heavy fuels, steep inaccessible terrain, and extreme burning conditions exist.
- Availability of key resources is critical to a successful initial attack.

The *Virginia Lake Complex Fire* was produced when two lightning strike fires on the Colville Indian Reservation escaped initial attack and joined together. Four more fires later merged into the complex. All told, the six fires burned over 74,000 acres in eastern Washington and cost \$25.2 million to suppress—approximately \$339 per acre. From this fire, we learned that:

- Difficult relationships between IMTs and local cooperators can divert the IMT's time and energy away from the primary task of suppressing the fire and can cause them to underutilize local knowledge and experience.
- Agency personnel need better guidance for negotiating and preparing cost-share agreements.

As these case studies were being conducted, a large fire started in the Denver area. Two Academy staff were nearby, and they prepared a mini-case study on it as well. This fire, the Hayman Fire, ignited on June 8, 2002 on the Pike National Forest, about 40 miles south of Denver. It became the largest fire in Colorado history, burning over 137,000 acres. The fire burned 133 residences, one commercial building, and 466 outbuildings. In addition to numerous communities, it threatened significant infrastructure (including a major watershed for Denver) and recreation areas.

This fire was considerably larger, more expensive, and more complex than any of the six 2001 case study fires. Still, it also showed how difficult it is to control costs and to provide a smooth transition between IMTs. The Hayman Fire faced several of the same issues found on the six case study fires:

- The Incident Commander indicated that this was probably the most complex fire he had ever fought.
- The large community interface presence limited the team’s options for developing alternative strategies on this fire.
- A complicating factor in the development of suppression strategies was the large number of local cooperators. When the IMT arrived at the fire, there still was a lot of suppression activity that was not tied into the IMT, so the IMT had to bring the other cooperators into its fire organization and planning.
- Some local dispatch centers were not adequately linked with state and federal centers.
- According to newspaper accounts written at the time of the fire, local firefighters were extremely distressed about not having been used properly by the national IMT.
- Although the Finance Section officials had problems with the computerized record-keeping system, problems associated with people—not the system—were a greater concern. A large number of volunteer fire department resources had not provided Finance with the documentation required to be paid. Finance was not able to capture these costs.

LOCAL FIRE DEPARTMENTS ARE CRITICAL RESOURCES

With over one million active firefighters nationwide, local fire departments³ are important resources in wildland firefighting, both for initial and extended attack. Nationally, there are over 24,000 rural fire departments and 658,000 volunteer firefighters. Only 16,000 full-time and seasonal firefighters are employed by the federal agencies. Although local fire departments are often perceived as only providing structural fire protection, the *Needs Assessment of the U.S. Fire Service*, prepared jointly by the U.S. Fire Administration and the National Fire Protection Association, found that some level of wildland fire protection is provided by 84 percent of local fire departments.⁴

In recognition of the importance of local fire departments, the Department of the Interior recently signed an agreement with the International Association of Fire Chiefs (IAFC), as shown in Box 1.

³ A “local” fire department works under the jurisdiction of a town, city, county, or other level of local government. It can be paid or volunteer, urban, or rural.

⁴ National Association of State Foresters Steering Group. *The Changing Role and Needs of Local, Rural, and Volunteer Fire Departments in the Wildland-Urban Interface* (Washington, DC: June 30, 2003).

Box 1. AGREEMENT BETWEEN THE INTERIOR DEPARTMENT AND THE INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

On September 25, 2003, Interior and the International Association of Fire Chiefs signed a cooperative agreement that recognized the critical role played by local fire departments as first responders and the need for them to work with the federal agencies in firefighting, fire preparation, and mitigation activities.

The parties agreed to:

- Support the 10-Year Comprehensive Strategy for the National Fire Plan at the local level through fire departments.
- Enhance the ability of local fire departments to operate safely in cooperation with state and federal agencies in wildland firefighting.
- Coordinate and communicate with cooperative partners and agencies in order to identify issues, problems, and possible solutions.
- Establish IAFC as a key collaborator for seven of the tasks necessary to implement the 10-Year Comprehensive Strategy.
- Conduct at least four Local Area Leadership Workshops to bring regional representatives of local, state, and federal agencies together to discuss challenges in protecting communities and the environment from unwanted wildland fires.
- Participate in an interagency team assessment of the impact of career transitions in the federal wildland agencies and assist in developing solutions to ensure that essential fire management positions are staffed appropriately.

Despite the importance of these local resources, the Academy's case studies indicate that they often are not integrated into wildland firefighting as fully and effectively as they could be. Two examples illustrate this best:

- During the Moose Fire, Flathead County's fire and emergency services provided structural fire protection on private lands, but the county refused to participate in delegations of authority or a formal unified command. Instead, it responded to the wildfire by establishing and maintaining a separate incident action plan, incident command post, and organizational structure; conducting a separate planning process; and managing a separate method for ordering resources and implementing tactics. The county later filed a claim against the USDA Forest Service for reimbursement of its expenses, which was rejected because the county had not been part of the overall effort.
- During the Virginia Lake Complex fire, the relationship between firefighters from Okanogan Fire Protection District 8 and IMT personnel was strained, and the atmosphere was tense from the outset. District firefighters desperately fought to avoid additional losses and to protect the community's natural resource base. The district did not clearly

understand and acquiesce to the command structure for suppression operations, and the IMTs did not establish clear procedures that outlined each party's responsibility. The final cost-share agreement also seemed unusually heavily weighted toward federal payment.

Another major barrier to coordination between federal, state, and local fire departments is communications capability for initial attack and emergencies. The *Needs Assessment of the U.S. Fire Service* found that, although approximately 50 percent of the emergency responders assigned to incidents from rural fire departments had radios, fewer than 50 percent of these departments are able to communicate with most of their interagency partners. This problem occurs because emergency responders use a variety of different frequency types and strengths, and they have had problems with frequency interference and interoperability. Frequency interference results when disturbances within the system cause additional, unwanted signals. The lack of interoperability results when emergency responders are unable to communicate with one another because they are using different technologies. Although converting all volunteer and rural fire departments to narrow band radios would be a major financial and technical undertaking, it may be possible to meet this need through a coordinated effort by federal, state, and local governments. This effort could be supported by the Department of Homeland Security's funds for upgrading the communications technologies of first responders

Ultimately, the Panel envisions a system of seamless wildland firefighting where all qualified resources are used appropriately in initial and extended attack, mop-up, and rehabilitation. When fighting a wildland fire, a smooth and effective transition from one type of team to another—and back again—can reduce hazards to firefighters, improve the effectiveness of suppression activities, and reduce the costs of large wildfires. This year, the Panel proposes additional steps to implement its 2002 recommendation. These would encourage the following:

- Fully qualified and recognized local firefighting forces capable of and willing to cooperate across organizational lines for initial and extended attack, in a fully integrated manner; operate within a unified command under the National Incident Management System for large fires; and establish maximum allowable draw-down levels for initial attack resources and fire managers
- Development of one or more fully qualified Type 3 IMTs in each wildfire-prone community area to be available to manage local fires;
- Development of a local interagency fire operations plan to ensure fully coordinated fire prevention, fire training, exercises, dispatching, initial and extended attack, mutual aid, cost sharing and other activities.

The Panel recognizes that, because IMTs must be used on a regular basis in order to maintain their qualifications and effective levels of preparedness, the “community areas” would have to be sufficiently large and wildfire-prone to satisfy this requirement. Out-of-area training assignments should be considered, as appropriate, to accelerate the experience needed to become qualified. In addition, these teams could be used in out-of-area firefighting assignments within

their state, consistent with the State Mutual Aid Plan, when they are not needed in their local geographic area.

Figure 1 presents the Panel’s vision for how local firefighting forces should be integrated into the Incident Command System (ICS).

Figure 1. USE OF LOCAL FIREFIGHTING FORCES

ENCOURAGE THIS	AVOID THIS
<ul style="list-style-type: none"> • Local forces federally trained/qualified for use on wildfires • Equipped for fighting wildfires • Willing and able to operate within unified commands • Effectively led by local Type 3 IMTs for initial and extended attack, mop-up and rehabilitation 	<ul style="list-style-type: none"> • Not federally qualified or recognized • Rejected for use by Type 1 and Type 2 IMTs • Local dispatch centers not linked to state and federal dispatch centers • Communications not interoperable • Local forces not willing to participate in unified commands

To receive feedback on this proposal, the Academy held day-and-a-half workshops in the spring and summer of 2003 in four communities: (1) Flagstaff, Arizona; (2) Boulder, Colorado; (3) Bend, Oregon; and (4) Palm Coast, Florida. Each workshop included a firefighting breakout session to receive feedback on the proposal and to discuss barriers to implementing it. The results of the breakout sessions are summarized in the next section.

As breakout participants discussed ways to enhance local interagency firefighting capabilities by making greater use of local resources during initial attack, one common theme was that this would not only reduce the costs of wildfire suppression, but would also improve firefighter safety and effectiveness. The communities represented have been working to make more use of local firefighting forces. Even these communities, however, recognize that they could make significant improvements in wildland firefighter training, participation of local firefighters on interagency teams, and mutual-aid agreements. In many other states and communities, coordination between the federal agencies and local departments is not as common.

Too often:

- Mutual-aid agreements are not in place.
- Local firefighters are not adequately trained, qualified for, and utilized in wildland firefighting procedures.
- Departments neither coordinate their activities nor have integrated command teams on multi-jurisdictional fires.
- Federal, state, and local fire-dispatch centers are not effectively linked.
- Communications systems still are not interoperable.

Furthermore, some fire departments with a wildland interface seem to believe that wildland fires are just brush and grass, so training standards and certification are not needed. Chief officers of many departments are not familiar with basic wildland firefighting principles, or how unified command works on a multi-jurisdictional incident.

Based on the breakout sessions and other background research, the Panel concludes that the nation still has a long way to go in improving local wildland firefighting capacity. Local fire departments represent a huge pool of potential firefighters that can be a vital resource when properly trained and integrated.

ADVICE FROM WORKSHOP PARTICIPANTS

Participants in the firefighting breakouts discussed several key issues and had many reactions to the current state of suppression-related efforts and the Academy's proposed additional steps. Their discussions centered on four themes: (1) Type 3 IMTs, (2) fire training, (3) the adequacy of agreements and authorizations, and (4) federal grants.

Developing Type 3 Incident Management Teams

Many local firefighters are not qualified to fight wildfires under current national standards. This is a major barrier to the development of local crews and Type 3 Incident Management Teams. By way of background, it is necessary to understand that two sets of standards have been developed for wildland fire:

- The National Wildfire Coordinating Group—representing the five federal land management agencies and the state foresters—has established national standards for approximately 103 wildland firefighting positions. This “Red-Card” System establishes certain qualification and certification standards for training, experience, and physical fitness that state and federal wildland firefighters must meet when suppressing a wildfire. Local firefighting personnel must meet these standards when they participate on federal

fires beyond mutual aid or are dispatched to support federal wildfires outside their local area.

- The National Fire Protection Association has established Wildland Firefighter Professional Requirements (NFPA Standards 1051) that describe minimum job performance requirements for four wildland fire positions. These standards are recommended for all departments that engage in wildland firefighting, but many local firefighters often do not meet NFPA wildland standards for a variety of reasons—including a high degree of personnel turnover, plus the time and expense it takes to qualify.

Although both sets of standards are performance-based and designed to provide for firefighter safety and increase firefighting effectiveness, some differences exist between them. NWCG relies on a prescribed curriculum of wildland fire courses, requires completion of a task book under field conditions, and mandates physical fitness levels that each government agency then determines how their personnel will meet (through, for example, a fitness test or medical exam or the like). NFPA, by contrast, does not rely on a prescribed curriculum. It uses performance evaluations—similar to the task book process, but not conducted under field conditions—and physical performance requirements developed by the local jurisdiction.

The differences between these two standards are compared in Table 2.

Table 2. COMPARISON OF NWCG AND NFPA WILDLAND FIREFIGHTER STANDARDS

Requirements	NWCG	NFPA
Formal Curriculum	Yes	No
Position Description	Yes	Yes
Physical Fitness	National and Agency Standards*	Local Standards
Task Book**	Yes	No
Performance Testing	No	Yes
Trainee Assignments	Yes	No
Certification Documentation	ICS Qualification Card	Local Documentation
Performance Evaluations	Yes	No

* Federal wildland fire agencies have adopted the NWCG Work Capacity Tests (WCT) as the approved method of assessing wildland firefighter fitness levels.

** During fire assignments, NWCG requires that trainees seeking advancement to the next level carry a task book. The trainee must successfully complete each task in the book, receiving the signature of his or her fire-line supervisor. NFPA relies on the local jurisdiction to certify that job performance objectives have been met.

The NFPA 1051 Standards for Wildland Fire Fighter Professional Qualifications was developed by the NFPA Technical Committee on Wildland Suppression Professional Qualifications. Chaired by a federal wildland fire manager, the committee consisted of six federal fire experts as well as NWCG and State Forester representatives. The NFPA standards are recommendations that are intended to apply to all agencies that respond to wildland fire.

Academy workshop participants agreed with the need for a Type 3 Team or equivalent resident in areas that have a significant amount of wildfire activity and committed to staying in that area. Many participants expressed concerns, however, that requiring firefighters to meet NWCG standards would exclude valuable local resources from both firefighting and fire leadership positions where they could contribute vital knowledge of the terrain and vegetation. These participants also believed that each community's firefighters should be required to meet at least their local standards, and Florida's wildfire committee is drafting a state requirement that firefighters working beyond a mutual-aid agreement would have to meet certain wildland fire standards (which are expected to be somewhat different from NWCG's). Other workshop participants, though, believed that requiring firefighters to meet NWCG requirements was necessary to protect their lives and their safety. Not mandating NWCG standards, they also said, could cause governments to be held legally liable for firefighter deaths or injuries.

This issue is also addressed in a June 2003, *The Changing Role and Needs of Local, Rural, and Volunteer Fire Departments in the Wildland-Urban Interface*, published by the National Association of State Foresters Steering Group:

Confusion continues to exist over who is responsible for protecting structures in the Wildland-Urban Interface and how and when to use local personnel for extended attack on a fire under state or federal jurisdiction. This uncertainty over authorities and jurisdiction can impede the initial response to a wildfire, lead to the inefficient use of all available suppression resources and, ultimately, place firefighter and public lives at risk. Much of this dangerous ambiguity is driven by concerns over qualifications, standards, and even personal liability.

Because the Red Card system was developed initially to serve federal needs, it does not effectively account for the equivalent training and experience of local firefighters. This creates tension during wildfire response. In general, it is the policy of federal wildland fire agencies—and some state agencies—to require that rural fire cooperators meet these standards if they wish to participate in fires under federal (or state) jurisdiction. As a result, federal or state fire managers may believe they are unable to use trained, local fire personnel. They therefore believe they must order 'qualified' firefighters from other—often distant—locations.

In Wildland-Urban Interface situations, a decision not to use local forces because of their lack of a Red Card is often erroneous. Furthermore, it can result in delayed action and considerable additional expense. Rural fire departments typically have the jurisdictional authority for structure protection. Thus, they have the legal right to be engaged in the surrounding wildfire suppression

actions—regardless of whether or not their personnel meet federal or state qualifications.

In court, the federal agencies have been held legally liable for the deaths or injuries of firefighters without red cards. For example, in *Buttram v. United States of America* (1999), the Bureau of Land Management (BLM) was found partially liable for the deaths of two firefighters in the Point Fire. Specifically, the U.S. District Court in Idaho found that BLM bore 35% of the liability, while Kuna Rural Fire Department (for whom the firefighters worked) was responsible for the remainder. According to the Court, BLM did not ensure that the firefighters were given duties commensurate with their capabilities and qualifications; did not fully instruct the volunteers about the nature of the fire, fuel conditions, weather information, safety reminders, command structure and radio use; did not ensure that all firefighters heard a red flag warning, and failed to brief the firefighters on safety issues related to it. Kuna Rural Fire Department did not provide the firefighters with the proper equipment; did not ensure that they were qualified to fight this fire; did not obtain weather forecasts; did not ensure that the firefighters received a briefing about the nature of the fire, fuel conditions, weather information, safety reminders, command structure, and radio use; and did not adequately train its volunteer firefighters to fight wildland fires in a safe and effective manner.

Because of questions about legal liability, Incident Commanders tend not to use otherwise qualified local resources, even though the Interagency Standards for Fire and Fire Aviation Operations provides them with some discretion to use local firefighters without red cards.⁵ As a result of this legal confusion, the NASF Steering Group recommended that federal and state agencies “establish a clear and consistent policy based on a nationally-recognized wildland fire standard for local agencies (such as NFPA 1051).” In addition, it urged national wildland fire agencies to clarify that “all wildland fire responders [must] accept each other’s qualifications” during initial attack, and added that employees of an organization with legal jurisdiction “have the legal right to remain on a fire—as long as they meet their own organization’s qualifications.”⁶

Since the NFPA standards were developed with significant federal fire input and are intended for use by all fire agencies, NWCG could easily recognize the NFPA equivalent positions identified in Table 3.

⁵ Specifically, the manual states the following: “Personnel from agencies who do not subscribe to the NWCG qualification standards may be used on agency-managed fires. However, agency fire managers must ensure these individuals are only assigned to duties commensurate with their abilities, agency qualifications, and equipment capabilities.”

⁶ NASF Steering Group, page 17.

Table 3. OVERLAP IN NWCG AND NFPA POSITIONS

NWCG Position	NFPA Position
Firefighter II	Wildland Firefighter I
Firefighter I	Wildland Firefighter II
Single Resource Boss	Wildland Firefighter III
Incident Commander, Type 3	Wildland Firefighter IV

Box 2 outlines the Federal Emergency Management Agency’s (FEMA) plan to develop all-hazard Type 3 IMTs.

Box 2. FEMA’S PLAN TO DEVELOP TYPE 3 ALL-HAZARD INCIDENT MANAGEMENT TEAMS

FEMA’s US Fire Administration recently signed a Memorandum of Understanding with the International Association of Fire Chiefs and the National Fire Protection Association. They have established a project to begin developing all-hazard Type 3 IMTs across the country for regional or state-level deployment. The strategic objectives of the project are to:

- Establish metropolitan area-IMT regional overhead teams based on the Forest Service’s models
- Develop IMT capabilities
- Develop and train IMTs to support command
- Provide mutual aid staff with unified command training and development
- Utilize Integrated Emergency System
- Develop and implement a nationwide credentialing criteria similar to the Red Card system.

Barriers to Developing Type 3 Teams

The workshop participants identified lack of both staff and funding as barriers to the development of Type 3 Teams. Many firefighters have multiple levels of certification (Type 1, 2, and 3) and often find themselves being dispatched as part of Type 1 and 2 teams. In many cases, then, Type 3 teams will not have the firefighters they need during peak fire season. Participants also noted that some firefighters—especially volunteers—have difficulty getting certified because they are only available for training on the weekends.

A new trend of using Type 1 and Type 2 teams frequently to manage non-fire incidents makes development of Type 3 teams more urgent. For example, Type 1 teams were deployed to New

York and Washington, DC, after the September 11th terrorist attacks; Type 1 and 2 teams were deployed to the Space Shuttle Columbia disaster and to several agricultural disease outbreaks in addition to hurricanes, floods, and earthquakes. This expanding mission is beginning to conflict with IMT members' regular jobs. Type 3 teams could alleviate some of these problems by lowering the wildfire demand for Type 1 and 2 teams, and helping to provide a larger supply of personnel with the experience to assume Type 1 and 2 leadership responsibilities.

Even as the total number of teams has been reduced significantly over the past several years, agencies are still having trouble staffing Type 1 and 2 teams. The reduction in teams, combined with year-long multiple-risk response assignments, has placed a growing burden on the land management agencies and individual team members. In some areas, retirements are also having a significant impact on IMTs.

Academy workshop participants worried that foreseeable human resource drains will be a major barrier to staffing all types of IMTs, including the goal of establishing local Type 3 teams. These trends, they said, make it increasingly necessary to take proactive steps to develop future leaders and to create local IMTs that remain in place during periods of heavy commitment to out-of-area fires.

Personnel issues can complicate the task of developing a coordinated firefighting process. For example, the Oregon State Mobilization Plan requires that local departments be reimbursed at administratively determined rates when a fire goes beyond mutual aid. Although these rates are tied to local labor scales and determined on a Geographic Area Coordinating Committee basis, they are a barrier to the development of Type 3 Teams for several reasons: (1) they rarely cover the full salary costs of paid firefighters; (2) they do not pay overtime at time-and-a-half; and (3) paid fire departments must replace the personnel assigned to a wildfire with off-duty firefighters at overtime rates.

Fire Training

The *Needs Assessment of the U.S. Fire Service* not only identified training as one of the biggest problems facing local fire departments, but also identified it as one of their top priorities for any federal funding received. Under NWCG standards, an introductory-level wildland firefighter is expected to understand basic wildland fire behavior, fuels, and fire weather; be familiar with strategies for attack and control of wildfires; be able to safely and effectively use firefighting hand tools and hoses; recognize life-threatening situations and know safety procedures; be able to communicate with others on the crew or in the immediate vicinity. But an estimated 41 percent of local fire department personnel involved in wildland firefighting lack formal training in these areas.⁷

The 2001 Academy Panel report addressed some of the problems with the current training structure by conducting an informal survey of federal wildland fire personnel at all levels. The Panel observed that class size and funding fluctuations from year to year limited the availability of training. Moreover, the physical separation of the nine training sites—operated through the

⁷ National Association of State Foresters Steering Group, page 14.

eleven Geographic Area Coordination Groups—has produced inconsistent levels of instructor quality and course delivery. Regarding the quality of courses, fire managers reported that the courses offered solid technical content, but that the way the information was delivered should be improved.⁸

According to workshop participants, the state wildfire academies and local training opportunities meet a crucial need, but neither meets all the needs. In Colorado, for example, hundreds of people were turned away from local training programs in 2002. Lack of funding for training is a major barrier. In addition, it is sometimes difficult to get instructors because state fire agencies are generally understaffed and federal agencies may be committed to other priorities such as prescribed burning. Moreover, volunteer fire departments are often unable to participate in training because doing so requires too much time.

In general, lower-level courses are offered locally, and these are accessible to local firefighters. The intermediate level courses are more difficult to obtain, as they are often only offered at state or regional levels. Some courses are rarely offered because no one is available to teach them. Workshop participants believed that the teaching requirements could be eased to allow more individuals to qualify as instructors without diminishing the quality of courses and that many NWCG courses could be shortened. They could also be made more widely available through the use, where appropriate, of Internet- and video-based distance learning, again without diminishing quality. Workshop participants supported the multi-agency cadre of instructors currently used by NWCG as an important way to ensure that students are exposed to the different terminologies, technologies, and policies of the various agencies involved in wildland firefighting.

Many workshop participants believed that NWCG and NFPA should recognize collateral courses because some of the training, such as ICS and leadership courses, is duplicative and frustrating to firefighters who must take both. It was also noted in Oregon and elsewhere that many local departments spend more time fighting wildfires than structural fires, yet their training is largely for structural fire rather than wildland fire. As one local fire chief stated, “my department is actually a wildland fire department thinly disguised as a structure fire department.” The Central Oregon Community College now teaches wildland firefighting to help improve the quality of contract crews, which have become a growing industry in the state.

In addition to recognizing crossover positions, as discussed in the section on qualifications above, it was believed that NWCG could also recognize National Fire Academy classes that correlate closely with National Interagency Incident Management System courses, particularly ICS and certain skill courses.

Many participants also said that NWCG should adopt performance-based training similar to NFPA’s. Although many experienced structural firefighters are not red-carded, they have management skills that could be very useful to Type 3 teams. Workshop participants thought it should not be so difficult for firefighters to qualify—they could be given credit for their experience, for example. Several workshop participants observed that it takes longer to become

⁸ National Academy of Public Administration, *Managing Wildland Fire: Enhancing Capacity to Implement the Federal Interagency Policy* (Washington, DC, 2001).

an Incident Commander than a brain surgeon, and, in their minds, this indicates that some streamlining of NWCG training could be achieved.

Many participants also supported increased federal funding for both wildfire and prescribed fire training because it is so expensive to provide. Currently, the state pays to organize the training sessions; the localities pay for firefighter replacements; and the firefighters pay a training fee. Some also felt it would be helpful to have funding to hire full-time instructors. As it stands now, most of the instructors are front-line supervisors who teach part-time; they must be compensated for serving as an instructor, and their positions must be back-filled.

The National Association of State Foresters (NASF) Steering Group's report to Congress, *The Changing Role of Local, Rural, and Volunteer Fire Departments in the Wildland-Urban Interface: Recommended Actions for Implementing the 10-Year Comprehensive Strategy*, also examined the barriers to wildland fire training. It is consistent with the Academy's workshop participants, concluding that "most local firefighters—particularly volunteer personnel—still find it difficult to accommodate the costs and time commitment associated with the current range of [training] programs." As a way to overcome the financial barriers, the NASF Steering Group report recommended that state and federal agencies: (1) consider paying a fair stipend to local government trainers to assist in delivering training packages; (2) consider compensating volunteer firefighters who agree to participate in wildland firefighting for the time they spend in training.

Box 3 discusses an innovative training project in Utah to enhance the safety and efficiency of local fire departments.

Box 3. UTAH WILDLAND ENGINE PROJECT

The Utah Division of Forestry, Fire, and State Lands is in the third year of a pilot program—financed by National Fire Plan funds—designed to enhance wildland firefighter safety and efficiency in local fire departments. Seventeen departments, with nearly 500 trained wildland firefighters, are in the program. All fire departments in Utah are eligible to receive wildland training, but departments selected for this program have agreed to:

- Staff one or more engines with firefighters that meet national standards for wildland firefighting.
- Develop a cadre of wildland firefighters to provide safe, effective attack on local fires and may provide engines to assist on other fires.

Adequacy of Agreements and Authorizations

Firefighting assistance among agencies is governed by various local, state, and federal statutes; master agreements; annual operating plans; mutual-aid agreements; and, in some cases, by a “gentlemen’s agreement” or a handshake.

In many states, states have master agreements with the federal fire agencies that cover issues such as authorities, pay, and reimbursements. These agreements are often supported by local operating plans that contain details on such issues as response maps, availability of forces, and contact lists. Concerns were expressed that many agreements and annual operating plans are unnecessarily restrictive and fail to cover all relevant issues thoroughly. Even when the agreements themselves are adequate, misunderstandings about authorities, jurisdictions, and pay issues continue.

Whether local fire departments are able to make agreements with federal agencies, and vice versa, depends on state laws—and these vary widely. States have taken two different approaches to mutual aid on wildfires. In states with master agreements, local fire departments are prohibited from making direct agreements with federal agencies or individual federal land units. Instead, the state foresters reach a mutual-aid agreement with the federal agencies, and the local fire departments are covered by this agreement. This arrangement is cumbersome, many participants said, because it makes it more difficult for local departments to coordinate effectively with federal officials on individual land units. Some other states allow local departments to make mutual-aid agreements directly with federal agencies, and most participants thought that this approach worked better.

Many mutual-aid agreements between local governments are informal, which can cause disagreements during and after a fire. Without formal agreements, it is unclear whether mutual aid is in effect; it is unclear for how long; and it is unclear whether reimbursement is required. Colorado participants said that their state has developed an effective system of cooperation between the federal and local governments because these issues are covered in each county’s mobilization plan. However, in both Arizona and Colorado, we were told that the state forestry agencies have difficulty coordinating the cooperative agreements because they are understaffed. Workshop participants urged additional funding and staff for this purpose.

Workshop participants in Colorado said they had not had a problem with the state’s all-hazards authorizations, but they believed other western states may have had difficulties getting wildfire into the broader all-hazards framework. FEMA, working through the emergency managers, requires joint planning and operations procedures for mitigation and responding to all hazards in the state. Wildfire is just one among several hazards that include floods, hurricanes, earthquakes, and others. States generally work through counties to operationalize these plans locally.

Florida participants reported that they have had problems with nationally assigned Type 1 and 2 teams not collaborating effectively with local agencies. This is troubling, they said, because Florida has very little federal land, so the Type 1 and 2 Teams are usually unfamiliar with Florida’s special conditions and practices. To deal with this issue, the Florida Division of Forestry adopted a policy after the 1998 wildfires that requires federal teams working on state or

private lands to use local officers in deputy IMT positions for operations, finance and incident command roles.

Federal Aid

Federal aid is important to many local fire departments, so we asked the Academy’s workshop participants to comment on their experiences with federal-aid programs. They may receive assistance through four major programs, identified in Table 4 and discussed in more detail below.

Table 4. FIRE ASSISTANCE GRANTS

Program (Agency)	Objective	Recipients	Match Requirement
Assistance to Firefighters (FEMA)	Direct assistance to fire departments of a State or Tribe for protecting the health and safety of the public and firefighting personnel against fire and fire-related hazards.	Local or tribal communities serviced by the fire department (including local businesses, homeowners and property owners)	Population of 50,000 or less —not less than 10% Population in excess of 50,000—not less than 30%
Federal Excess Personal Property (USDA Forest Service)	To provide equipment for wildland and rural fire community fire protection	State forestry programs and local volunteer fire service through the State Foresters.	None
Rural Fire Assistance (Interior)	Provide rural fire departments with wildland fire equipment, training, and/or prevention materials	Rural fire departments serving 10,000 people or less, adjacent to Interior lands or that assist Interior agency in fighting wildland fires.	10% in additional wildland equipment, \$ contribution, OR “in kind” services such as wildland urban interface education
Volunteer Fire Assistance (USDA Forest Service)	Funding and technical assistance to local and volunteer departments for organizing, training and equipment to enable them to effectively meet their structure and wildland protection responsibilities.	Through State Foresters, funds pass to rural and local fire service in communities with populations of 10,000 or less	50% in additional equipment, money, or in-kind contribution

- **Assistance to Firefighters** grant program is administered by the Federal Emergency Management Agency. Its purpose is to (1) protect the health and safety of both the public and firefighting personnel from fire hazards and (2) provide assistance for fire prevention programs. The grant is available to both rural and municipal departments. In FY 2002, FEMA awarded 5,319 grants totaling over \$335.5 million. The average amount awarded is \$51,000, but can be as high as \$700,000. The match requirement is 10% for communities with a population of 50,000 or less and 30% for larger

communities. This grant has been a significant source of funds for local training, equipment, and preparation for wildland fire response.

- **Federal Excess Personal Property** program is administered by the USDA Forest Service. It lends excess federal property (equipment, supplies, and tools) to state, county, and local governments for wildland and rural community fire protection. In FY 2002, this program provided \$50 million in equipment and \$20 million in miscellaneous supplies and materials. No match is required; but the recipients are responsible for any necessary refurbishment and must use the property responsibly. The National Association of State Foresters Steering Group has expressed concerns about a recent change in priorities which it says “has hindered the ability of state and local firefighting entities to acquire the most suitable equipment available.”⁹
- **Rural Fire Assistance** grant program is administered by the Department of the Interior (DOI). It provides rural fire departments that serve 10,000 people or less with wildland fire equipment, training, and prevention materials. In FY 2002, Congress appropriated \$10 million for the program, and the average award amount was \$6,341. The program has a flexible match requirement that is easy for rural fire departments to meet: recipients must provide 10% in additional wildfire equipment, in-kind services, or monetary contribution.
- **Volunteer Fire Assistance** grant program is administered by the USDA Forest Service (FS). It provides small local and volunteer departments with funds for organizing, training, and equipment in order to help them meet their structural and wildfire protection responsibilities. In FY 2002, Congress appropriated \$13.3 million for the program, and grant awards typically range from \$1,000 to \$5,000. The match requirement is 50%; in-kind matching is allowed.

Overall, the participants believed that federal aid has been very useful in providing support to state and local firefighters. However, they have had some difficulties dealing with the administrative aspects of these programs, both those that are direct federal aid and those administered through the state foresters. Based on their experience, the participants expressed the following concerns about federal grants:

- **Inconsistent levels of funding from year to year.** Many mitigation projects require multi-year funding, but the grants are usually allocated for just one-year at a time. This makes it difficult to plan strategically and to complete necessary projects. The agencies can choose to fund multi-year projects by establishing multi-year cooperative agreements with project recipients and obligating funds against this agreement. Cooperative agreements can be written for between one and five years. However, funds are seldom obligated this way because it reduces the number of fire departments that can be assisted in the current year. Some participants believed that project grants should be multi-year and have a larger dollar value, even if doing so reduced the total number of grants

⁹ NASF Steering Group, page 20.

awarded annually. This would help to reduce uncertainty about future funding and improve the ability to plan for achieving more ambitious goals.

- **Challenges facing small departments.** Despite their critical needs for equipment, training, and materials, many volunteer fire departments feel the federal grants process is geared toward larger fire departments. Most of the funds from FEMA's Assistance to Firefighters program, for example, are given to larger departments. And even though VFA and RFA are for small rural departments, they are often unable to apply and meet the match. The small staff in these departments often lack the time and expertise to write grant applications, and the departments cannot afford to hire a grant writer. FEMA has a useful grant-writing class, but some small fire departments reported that they have been unable to pay for the course, replace a firefighter for a week, and fund travel expenses. Some participants suggested that the state extension service could help these departments with the grant-writing process; others believed the federal land management agencies could do more to help.
- **Lack of flexibility.** The federal grant guidelines are often interpreted in rigid ways that deny communities access to the funds they need. For example, Jefferson County, Colorado, tried to obtain Volunteer Fire Assistance (VFA) and Rural Fire Assistance (RFA) funds for one of the rural areas within its jurisdiction, but was declared ineligible because the county itself has a population over 10,000. Other restrictions, such as prohibitions against acquiring land and buildings, keep some recipients from getting federal grants for what they believe to be their highest priorities. In addition, participants felt more flexibility should be given on the in-kind match.
- **Lack of simplicity and efficiency.** Participants expressed frustration with the complicated nature of grants and the grant process. In Colorado, the USDA Forest Service and Interior are attempting to make the VFA and RFA programs more user-friendly by administering them jointly and keeping decisions within the state. Many participants advocated a one-stop shop website for fire grants that would include information on all grants available and an online application process. They identified numerous difficulties with the grants process. The time lines to apply are too short. Matching requirements vary widely. And the federal agencies often use different criteria and processes. For example, Interior provides RFA funds only to departments that are either adjacent to its land or that agree to fight a wildfire on its land. VFA, by contrast, is available to any volunteer department in the state. These differences confuse applicants and make joint administration more challenging.
- **Role of the Federal Emergency Management Agency.** Participants in Arizona and Colorado expressed frustration with the fact that FEMA has established a national process—centralized in its Washington, DC, headquarters office—for awarding Assistance to Firefighters grants. They were concerned that this process may not allocate funds to the highest priorities at the local level. The Arizona and Colorado participants were unaware of FEMA's new electronic grant initiative for Assistance to Firefighters explained to workshop participants at the later (July) workshop in Florida. This initiative allows fire departments to apply for grants, receive grants, and submit required reports

online. The entire process of getting a grant may take as little as three or four months. After an award is made, funds are deposited electronically within ten days. Participants in all the workshops agreed that the ability to access grants electronically could make the federal programs more user-friendly.

Additional research reveals that the USDA Forest Service, Interior, and FEMA have been working to improve administration of their grant programs. FEMA's online process for Assistance to Firefighters supplements the computer scoring of applications with review by a panel of peers (who evaluate the description of the program, cost-benefit, and financial need). The federal land management agencies are administering Volunteer Fire Assistance (FS) and Rural Fire Assistance (DOI) jointly in some states: Alaska, California, Colorado, Montana, Oregon, Utah, and Washington. Each of these states except Colorado have established a one-stop website with information about the two grants and a single application.

PANEL CONCLUSIONS AND RECOMMENDATIONS

Based on the research and workshop information cited above, the Panel believes that three new initiatives are needed to most appropriately take advantage of local firefighting forces in suppressing wildfires. These initiatives are designed to (1) train and qualify local firefighters for leadership and other roles in wildfire suppression, (2) provide means for more fully utilizing local forces, and (3) making federal aid more easily available to local fire departments.

Increase Availability of Local Firefighting Forces for Wildfires

The Panel believes that developing local Type 3 Incident Management Teams in wildfire-prone communities not only would enhance firefighting preparedness and response, but would also reduce the costs of suppressing large wildfires. Teams could be staffed with federal, state, and local firefighters who do not feel they can commit to out-of-area assignments. In addition, qualifying local firefighters to serve in crew and other capacities under federal teams would yield similar benefits.

But a significant amount of local resources will be necessary to establish these Type 3 teams and qualify local firefighters for use on federally administered fires. And these resources are currently unavailable in many places. For example, local firefighters are often unable to qualify for these teams and other roles because they do not have access to the required wildfire training and/or are unable to meet NWCG standards. In many cases, some local firefighters could meet NWCG standards if training were more widely available. In other cases, they could qualify if NFPA standards were recognized as sufficient for local firefighters. The nation needs to develop a better way of tapping these local resources without, of course, compromising firefighter safety or effectiveness.

The Panel recommends, therefore, that the Wildland Fire Leadership Council:

- **Establish mechanisms to ensure that wildland fire training opportunities are provided equitably to all local fire departments in a state, both those adjacent to and**

those not adjacent to federal lands. The Panel believes that a relatively small investment in training and qualifying local firefighters to serve on local Type 3 teams and in other capacities—sustained from year to year—would yield immense returns in wildfire suppression by improving firefighter safety, increasing firefighting effectiveness, and reducing suppression costs.

- **Work with appropriate officials at the Department of Homeland Security to ensure that money available for upgrading communications technologies for first responders include all federal, state, tribal, and local firefighters responsible for suppressing wildfires.** The Panel urges that these funds be used to purchase equipment that allows firefighters responding to an incident to fully communicate with one another through interoperable systems.
- **Establish a multi-party task force consisting of NWCG, NASF, the International Association of Fire Chiefs, the U.S. Fire Administration, the International Association of Firefighters, the National Volunteer Fire Council, and NFPA to make specific proposals on how to more fully utilize local resources.** The task force should submit a report to WFLC before the start of the 2005 fire season. At a minimum, the report should address the following issues:
 - Determine what overlap exists in the fire curriculums of NWCG and NFPA and recommend how local firefighters could receive “transfer credit” for this overlap.
 - Recommend ways to make training more easily and inexpensively available to paid and volunteer local firefighters through such options as community colleges, Internet courses, video conferencing, evening and weekend training options, repackaging NWCG courses into three- and four-hour blocks, and hands-on training and field exercises. For upper level training, the Fire Academy-style training (based on Florida’s Prescribed Fire Academy) should be considered because it combines both classroom and practical experience in a single package and leads to certification within a condensed time-period.
 - Develop a national strategy for identifying and developing instructors at the state and local levels who could provide wildland fire training
 - Recommend national standards that allow more local resources to be used on Type 3 teams and in support of wildfires led by federal teams, perhaps through some variant of NFPA standards, such as the recognition of NFPA 1051 Standard positions as equivalent to NWCG wildland fire positions
 - Incorporate the information gathered by the Wildland Fire Lessons Learned Center regarding past firefighter deaths, injuries, and close calls in order to ensure that firefighter safety is fully protected.
 - Recommend a section to the Interagency Standards for Fire and Aviation Operations (ISFAO) and the Bureau of Indian Affairs’ ISFAO that (1) addresses

the use of local fire departments for mutual aid and large fire support and (2) clarifies qualification, fitness, and medical standards

The Panel recommends, further, that elected officials and senior administrators in local governments be actively engaged in increasing training opportunities and promoting the development of local Type 3 incident management teams. Without strong local leadership at these high levels, the needed resources to support mobilization of local forces will be much less likely to be made available. To support this recommendation, the Panel also recommends that the International City/County Management Association, the National Association of Counties, and the National League of Cities take appropriate steps to inform their members of this need for active leadership.

Integrate Firefighting Forces into Wildfire Response

The Panel believes that local, state, and national suppression responses can be enhanced significantly by greater utilization of properly trained and equipped local fire departments. An effective local department can independently, or in cooperation with others, suppress fires before they spread to state or federal jurisdictions; attack and contain fires on adjacent state and federal land, often before state and federal forces arrive; and provide much needed assistance on large state and federal wildfires. As local fire engines sit idle—for lack of training and coordination—federal agencies too often use more costly resources: contract engines and crews, resources from other states, National Guard resources, active duty battalions, and firefighters from other nations. At the same time, federal engines are frequently moved long distances—with considerable time delays and costs—when local engines could respond much faster, at less cost. Even with the more costly resources mentioned above, the nation has a critical shortage of resources during difficult fire seasons.

The Panel recommends, therefore, that the Wildland Fire Leadership Council establish specific guidance to their agencies for more fully utilizing local firefighting resources. The goal of this guidance should be to ensure that:

- Federal and state mutual-aid agreements are as consistent as statutory requirements allow.
- Annual operating plans are comprehensive and complete. These plans should cover such topics as integrated command, joint dispatch, annual joint training exercises, and cost reimbursements. They should also consider how best to use volunteer firefighters by thinking strategically about how much time they have available to fight wildfires, receive training, and participate in exercises.
- The pay issues currently causing problems in the field are resolved as much as possible. Currently, jurisdictions differ widely in their use of administratively determined rates for paid fire departments, payments for backfill positions, reimbursements for portal-to-portal pay, and means of funding the joint fire exercises recommended in annual operating plans.

- Equitable cost-sharing agreements between the federal, state, and local governments are established that ensure costs are shared proportionately based on jurisdictional responsibilities and values protected.
- Federal fire managers in the field are required to fully coordinate with state and local fire departments on all phases of wildland fire suppression.
- Workshops on federal-local cooperation are offered in each of the eleven Geographic Area Coordinating Groups.
- Mechanisms for checking in all available firefighting resources, and ensuring accountability for their use, are clearly established and monitored over time.

In addition, the Panel recommends that the Council develop a comprehensive strategy to provide incentives for local firefighters to become qualified to participate in federally managed wildfires. The Panel believes that increasing access to wildland fire training by reducing current barriers, as recommended in this report, would provide a significant incentive. The Council should also consider other options, such as those presented in the NASF report to pay stipends to local government trainers and to compensate volunteer firefighters for their time spent in training. Incentives to encourage training should be a shared responsibility of federal and local governments, and both should contribute.

Facilitate Federal Aid to Local Wildfire Response Forces

The Panel believes that federal fire grants have been a vital source of support for local fire departments, but applicants and recipients have experienced difficulties with grant administration. The Panel believes that the current federal-aid system supporting wildfire programs—not just grants to local fire departments, but all the grants available for fuels reduction, fire planning, communities-at-risk, training, equipment, and so on—needs to become more reliable, more accessible, and less burdensome to states and communities. Assistance to local fire departments might work in conjunction with the mitigation funds addressed in the Panel’s January 2004 report, *Containing Wildland Fire Costs: Enhancing Hazard Mitigation Capacity*. Among other things, this report develops a strategy to promote the development of one-stop shops and widespread adoption of electronic grants. The Panel envisions one-stop websites that include a comprehensive list of all related federal-aid and state-aid programs; detailed program descriptions; electronic application capability; an electronic checklist for applicants to effectively and efficiently determine their eligibility for each program; a single application for grants with the same purpose; and information on how to obtain grant-writing assistance. At the same time, provisions will be included for alternative means of access to federal aid for applicants who are unable to use electronic means. Because of the large cost and complexity of ensuring widespread interoperability among electronic communications systems for local and other wildfire suppression forces, joint efforts may be required by the land management agencies; the Department of Homeland Security; and the leadership of state, local, and tribal governments.

EPILOGUE

The Panel's 2003 wildfire studies were nearing completion when the massive Southern California wildfires of 2003 broke out. The severity of these fires and their strong relationship to the central recommendations of this year's study compelled the Panel to comment on their implications.

These fires began with three powerful, wind-driven wildfires on October 24th. The most noted one at that time was in the foothills of the San Bernardino National Forest 50 miles east of Los Angeles. It required evacuation of several thousand people. Over the next eleven days, nine serious wildfires ranged over an area of Southern California in six counties stretching 180 miles from the Mexican border to north of Los Angeles; 22 people died, well over 3,500 structures were lost, and 800,000 acres burned. Governor Gray Davis declared these fires to be the most devastating in the state's history. Tens of thousands of people were evacuated. The Cedar Fire in San Diego was the largest of the individual fires and also the largest in the state's history. According to CNN, Governor Davis announced, "At the peak of the wildfires, there were more than 15,600 firefighters battling the flames, along with 1,900 fire engines, 203 water trucks, 43 air tankers and 105 helicopters."

By the time the fires were contained on November 4th, 24,000 people were without electricity. Restoring service was expected to take several weeks, and officials worried that the next rain would bring serious flooding and mudslides. Following fire of this magnitude and intensity, damage from mudslides could easily reach millions of dollars.

Interestingly, the Panel's previous study had ended on a similar note. As it was being finalized, the 2002 fire season had become one of the largest in history, with several states experiencing their largest fires on record. And the Panel felt compelled to add an Epilogue. In part, the Panel noted then:

These fires strongly reinforce the concern that drought, excessive fuel hazards, and human movement into the wildlands continue to threaten the nation's communities, forests and fields, driving costs even higher. The 2002 fire season is more than a wake-up call. It is a painful reminder of the magnitude of the problem and the dire need for action.

The 2003 fire season reinforces this point. In addition, the anecdotal reports coming from the Southern California fires focus attention on two of the issues the Academy Panel is studying this year—organizing to make best use of local firefighting forces, and reducing or mitigating wildfire hazards before fires break out.

As the fires were raging, press reports surfaced about such topics as the differences in preparedness among county and other local fire departments in Southern California, and federal refusal of aid that California's governor had requested to clear highly flammable trees killed by bark beetles. But the press also reported some successes, including a recently built subdivision that used the latest fire resistant techniques to survive the wildfires with little damage. The Panel's 2003 reports address these issues.

The report, *Utilizing Local Firefighting Forces*, urges all states and fire-prone communities in wildfire danger areas to qualify their local fire departments and leadership teams to take part effectively in wildfire incidents. During the big Southern California wildfires of 2003, numerous separate fires broke out on federal, state, and locally protected lands. Local forces responded actively to fires within their jurisdiction as well as on state and federal lands, and conducted mutual-aid efforts to support other local, state, and federal jurisdictions. California has one of the most fully integrated incident command systems in the nation, and most local firefighters there routinely participate seamlessly in it.

The report, *Enhancing Hazard Mitigation Capacity*, urges the creation and effective staffing of wildfire partnerships to collaboratively mobilize all the many parties that must work together more urgently to successfully reduce wildfire hazards on a large scale. California's network of Fire Safe Councils is working toward this goal, but is much newer and not nearly as well developed as the partnerships for fighting fires.

Both reports urge the use of best practices learned from previous wildfire disasters, and offer specific recommendations for making wildlands as well as communities less vulnerable to catastrophic losses. The Panel continues to believe, as it did last year, that better coordinated response and hazard mitigation actions will provide the best prospects for reducing suppression costs in the long run.

The key message of both reports is to get better organized to take action across the boundaries of multiple agencies, governments, and landowners. Wildfires do not respect these boundaries. Unless those responsible for reducing wildfire hazards can work together more effectively, they are not likely to make headway against this massive problem. And many parts of the nation will continue to burn hotter and sustain more damage each year that experiences significant drought.

PANEL AND STAFF LISTING

Frank Fairbanks* *Chair*—City Manager, City of Phoenix, Arizona. Former positions with the Phoenix City Manager’s office: Management Assistant, Executive Assistant to the City Manager; Assistant City Manager. Former Volunteer with the Peace Corps and Teacher at the Universidad de Costa Rica.

Allan V. Burman*—President, Jefferson Solutions. Former Administrator for Federal Procurement Policy under Presidents Clinton, Bush, and Reagan. Has provided acquisition reform training and/or consulting services to a number of Federal agencies, including the National Institutes of Health, the Bureau of the Census, and the Departments of Education, Housing and Urban Development and Defense. Has also advised Congressional, Federal and other public and private entities on management and acquisition reform matters. Authored the Federal policy encouraging the use of performance-based contracting as a favored approach for services contracting.

Gail Christopher*—Guest Scholar, the Brookings Institution, Government Studies Department, and former Executive Director of the Institute for Government Innovation, Harvard’s John F. Kennedy School of Government. Former Co-Chair, Advisory Board, Alliance for Redesigning Government, National Academy of Public Administration; National Director and Creator, Americans All K-12 National Multicultural Educators Training Program; Associate for Development and Program Design, School of Divinity, Information and Services Clearinghouse, Howard University; National Director and Principal Architect of the National Reclaim Our Youth Violence Prevention Program; Executive Director, Family Resource Coalition of America. Member of Vice-President Al Gore’s Advisory Commission on Customer Service.

Patrick Kelly—President, PJ Kelly Consulting; Former USDA Forest Service positions including Assistant Director, National Fire and Aviation Program; Regional Aviation Officer, Pacific Northwest Region; Air Center Manager, Redmond, Oregon.

Lyle Laverty—Director, Colorado Division of Parks and Outdoor Recreation. Former Associate Deputy Chief, USDA Forest Service; Other USDA Forest Service positions included Director, Recreation, Heritage and Wilderness Resources in Washington, DC and the Pacific Northwest Region; Forest Supervisor, Mendocino National Forest in Northern California.

Keith F. Mulrooney*—Consultant. Former Special Assistant to the Administrator, Federal Highway Administration, U.S. Department of Transportation; Executive Director, American Society for Public Administration; Urban Management Consultant; City Manager, City of Alexandria, Virginia; City Manager, City of Claremont, California.

Paul L. Posner*—Director, Federal Budget Issues, U.S. General Accounting Office. Former positions with U.S. General Accounting Office: Assistant Director, Intergovernmental Relations Group; Associate Director for Tax Policy and Administration; Former position with New York City; Director, Federal Program Review, New York City Budget Bureau.

* Academy Fellow

Charles Wise*—Professor, School of Public and Environmental Affairs (SPEA), Indiana University. Former responsibilities with the School of Public and Environmental Affairs, Indiana University: Associate Dean; Associate Professor; Assistant Professor; Director, Graduate Programs in Public Affairs; Director, Undergraduate Programs in Public Affairs. Former positions with the U.S. Department of Justice: Director of Intergovernmental Affairs and Special Assistant for Policy Analysis.

STAFF

J. William Gadsby—*Responsible Staff Officer*. Vice President, Academy Studies, National Academy of Public Administration; project director on several recent Academy studies. Former Senior Executive Service; Director, Government Business Operations Issues, Federal Management Issues and Intergovernmental Issues, General Accounting Office.

Bruce D. McDowell—*Project Director*. President, Intergovernmental Management Associates. Former positions with U.S. Advisory Commission on Intergovernmental Relations: Director of Government Policy Research; Executive Assistant to the Executive Director; Senior Analyst; Analyst. Former Director, Governmental Studies, National Council on Public Works Improvement. Former positions with the Metropolitan Washington Council of Governments: Director, Regional Management Information Service; Assistant Director, Regional Planning; Director, Program Coordination.

John Maupin—*Senior Consultant*. Former positions with the USDA Forest Service on ten National Forests in five regions: Fire Staff Officer; member of National Incident Teams, including Incident Commander and Deputy Incident Commander involved in managing complex wildland fires. Former smokejumper.

Joseph P. Mitchell, III—*Research Associate*. Project staff on past Academy studies: Airport Security, Federal Bureau of Investigation, National Marine Fisheries Service, Patent and Trademark Office, and Wildfire. Adjunct Professor, Center for Public Administration and Public Policy, Virginia Polytechnic Institute and State University.

Jennifer L. Hardgrove Blevins—*Research Assistant*. Research Assistant, National Academy of Public Administration. Former Intern in the environment division of the Office of Investment Policy at the Overseas Private Investment Corporation; Former Intern in the Government Relations Office at Defenders of Wildlife. MA in Environmental Policy, American University; BS in Forestry and Wildlife with a concentration in wildlife science, Virginia Tech.

Martha S. Ditmeyer—*Project Associate*. Program Associate, National Academy of Public Administration. Former staff member of the Massachusetts Institute of Technology and of the Communications Satellite Corporation, Washington, D.C. and Geneva, Switzerland.

* Academy Fellow

**EXAMPLE OF A MEMORANDUM OF UNDERSTANDING
FOR MUTUAL AID**

INTERGOVERNMENTAL AGREEMENT

**AUTOMATIC AID FOR FIRE PROTECTION
AND OTHER EMERGENCY SERVICES**

PREAMBLE

This Agreement, effective the 1st day of July, 2002, by and between the City of Prescott, a municipal corporation of the State of Arizona ("CITY") and the Central Yavapai Fire District, a political subdivision of the State of Arizona ("DISTRICT").

RECITALS

WHEREAS, the CITY and DISTRICT are empowered pursuant to A.R.S. §11-952 and A.R.S. §49-805 to enter into this Agreement for purposes of carrying out their mutual responsibilities; and

WHEREAS, the CITY and DISTRICT wish to cooperate with each other in order to more effectively and economically provide **automatic aid**, in their respective service areas consistent with the terms and conditions set forth herein.

WHEREAS, it is the desire of the City and DISTRICT to improve the nature and coordination of emergency assistance to incidents that threaten loss of life and property with the geographic boundaries of our respective jurisdictions.

NOW THEREFORE, in consideration of mutual promises and covenants contained herein, the parties agree as follows:

COVENANTS

SECTION 1. - SERVICES PROVIDED

1. Both parties agree to dispatch their respective assigned fire department units on an automatic basis. The communications center will automatically determine the closest available, most appropriate unit(s) regardless of

- jurisdictional boundaries. Each jurisdiction agrees that such unit(s) will respond.
2. It is agreed that the scope of this agreement includes automatic assistance in responding to fires, medical emergencies, hazardous materials incident, rescue and extrication situations and other types of emergency incidents that are within the standard scope of services provided by fire departments
 3. This agreement shall encourage the development of cooperative procedures and protocols including but not limited to training, health and safety, and communications.
 4. Both parties agree to utilize standard command procedures for efficient management of the emergency and for the safety of firefighters.
 5. Both parties agree to develop and utilize standard minimum company standards to be used on the emergency incidents.
 6. Both parties agree to utilize the NPFA standards as a guideline in maintaining a inventory of equipment on each apparatus.
 7. Both parties agree that automatic aid is reciprocal. While automatic aid does not ensure that a community will receive the exact same amount of assistance as it gives, it does mean that both parties will provide some assistance outside its jurisdictional boundaries and that the level of service delivered within the automatic aid will be comparable.
 8. Both parties agree that calls outside the response boundaries of the automatic aid agreement will be considered mutual aid where such agreements exist. Request for and response to mutual aid will be at the discretion of the individual department.
 9. Both parties agree to maintain a combined incident reporting system and. share data and reports required by both parties,
 10. Both parties agree to track automatic aid assistance through the combined incident reporting system.
 11. Both parties agree that during working first alarm assignments, each agency will, backfill their respective reserve units.
 12. Both parties agree that individual station response areas that involve an automatic ~id unit, shall have the approval from both agencies before any changes to the response area is conducted,

SECTION 2. - SPECIAL PROVISIONS

The Fire Chiefs from both departments shall jointly promulgate operational procedures in the implementation of this Agreement, from time to time, so long as consistent with City

Charter, internal policy and the law. Until such time as said jointly promulgated operational procedures are the CITY shall establish operational procedures and guidelines to be followed by the Training Director.

Each party shall be responsible for the safety and supervision of their own personnel while using each other's facilities or while engaging in joint activities. Each party recognizes the inherent risks and dangerous nature of such activities and agrees to use the facilities at their own risk.

Each agency shall be responsible for the minimum staffing requirements, on a daily basis, as well as covering for emergency responses. Unless otherwise specifically provided in this Agreement, call-back of additional personnel as a result of a first alarm or greater emergency incident will be paid for by the agency in whose jurisdictional boundaries the emergency incident has occurred.

Each participating agency shall be responsible for absorbing the cost of its own Fire Prevention Assistant, and each agency will be responsible for its proportionate share of all costs incurred, other than in conjunction with emergency responses (such as administrative costs, and other costs unique to that participating agency). The parties acknowledge from time to time, special projects may be necessary, and that joint participation, from both a personnel and cost perspective, may be appropriate. Those special projects shall be pre-approved by the Fire Chiefs.

Except as specifically agreed to by both parties for a particular incident, or except as otherwise provided in this agreement, neither agency shall reimburse the other for any costs incurred pursuant to this Agreement. Foam and EMS equipment used in an incident in excess of five hundred dollars (\$500.00), will be replenished by the agency in whose jurisdictional boundaries the emergency incident has occurred. In the event of declared disasters, both parties may apply for reimbursement from County, State or Federal agencies.

SECTION 3. - SEVERABILITY

If any provision of this Agreement shall be held to be unconstitutional, invalid, or unenforceable, it shall be deemed severable; however, the remainder of the Agreement shall not be affected and shall remain in full force and effect.

SECTION 4. - DURATION OF AGREEMENT

This Agreement shall become effective upon the effective adoption and execution of this agreement by both parties and the recordation of the same (the "**Effective Date**"), and shall automatically renew itself from year to year thereafter, until terminated.

SECTION 5. - LIABILITY INSURANCE

Each party shall maintain, during the life of this Agreement, a policy of liability insurance naming the other party as an additional insured party in the amount of \$1,000,000.00 per occurrence with aggregate liability coverage of \$2,000,000.00. In the alternative, a party may self-insure in accordance with the above referenced liability amounts.

SECTION 6. - TERMINATION

This Agreement will terminate automatically should the governing body of either party fail to allocate funds for its continued implementation. Should termination occur due to said non-allocation, the non-allocation party shall give ninety (90) days written notice to the other party prior to termination.

In addition, either party may terminate their participation in this Agreement, for any reason, effective Three Hundred Sixty-Five (365) days from the giving of written notice to the other party at the following addresses

Central Yavapai Fire District
attn: Fire Chief
8555 S. Yavapai Road
Prescott Valley, Arizona 86314

City of Prescott
Attn: City Manager
P.O. Box 2059
Prescott, Arizona 86302

Either party may cancel this agreement pursuant to the requirements of A.R.S. § 38-511.

SECTION 7. - INDEMNIFICATION

Each party hereby agrees to hold harmless from and indemnify the other party, or any of their departments, agencies, officers or employees for that portion of all costs, damages and liability incurred as a result of the negligent act or omission of an employee or agent of the indemnifying party, or in the case of

activity in which the law applies a gross negligent standard, any cost, damage or liability incurred as a result of the gross negligence of the employee or agent of the indemnifying party.

This indemnification provision shall be several as a whole, and is contingent upon the same not acting to defeat either party's insurance coverage relating to either party's liability for the acts of its employees or agents.

Nothing herein shall be construed to prevent either party from alleging or petitioning for an allocation of fault or for contribution in the event of a third party claim.

This agreement shall not be construed as a third party beneficiary contract, it shall be intended to benefit only the parties named specifically herein.

SECTION 8. - WORKERS' COMPENSATION COVERAGE

All other employees of a party to this Agreement, who works under the jurisdiction or control of, or who works within the jurisdictional boundaries of another party pursuant to this particular intergovernmental agreement, shall be deemed to be an employee of the party who is his or her primary employer, as provided in A.R.S. § 23-1022(0), and the primary employer/party of such an employee shall be solely liable for payment of workers' compensation benefits for the purposes of this section, Each party herein shall comply with the provisions of A.R.S. § 23-1022(E) by posting the public notice required.

SECTION 9. - NON-DISCRIMINATION

The parties, with regard to this Agreement, will, not discriminate on the grounds of race, color, national origin, religion, sex, disability or familial status in the selection and retention of subcontractors, including procurement of materials and leases of equipment, The parties will not participate either directly or indirectly in the discrimination prohibited by or pursuant to Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Section 109 of the Housing and Community Development Act of 1974, the Age Discrimination Act of 1975, and Executive orders 99-4 and 2000-4.

SECTION 10. - MISCELLANEOUS

This Agreement supersedes all previous Intergovernmental Agreements between the CITY and DISTRICT relating to Automatic Aid.

SECTION 11. - BINDING EFFECT

This Agreement shall be binding upon the parties and any successor in interest. No provision herein is intended to create a third beneficiary interest in any person or entity, including but not limited to the respective employees or agents by either party.

SECTION 12. - WAIVER OF JURY TRIAL.

The parties hereto expressly covenant and agree that in the event of a dispute arising from this Agreement, each of the parties hereto waives any right to a trial by jury. In the event of litigation, the parties agree to submit to a trial before the Court.

SECTION 13. - WAIVER OF ATTORNEYS' FEES

The parties hereto expressly covenant and agree that in the event of litigation arising from this Agreement, neither party shall be entitled to an award of attorneys' fees, either pursuant to the Contract, pursuant to A.R.S. §12-341.01(A) and (E), or pursuant to any other state or federal statute.

IN WITNESS WHEREOF, the parties enter into this agreement on the date set forth below.

APPROVALS

CENTRAL YAVAPAI FIRE DISTRICT

CITY OF PRESCOTT

#2002-115

[Signature] 6-10-02
Chairman/Fire Board Date

[Signature] 6/28/02
Mayor Date

Charles L. Allen 6-10-02
Clerk/Fire Board Date

Maie L. Watson 6/28/02
City Clerk Date

[Signature] 6-17-02
Fire Chief Date

Danell Willis 7/3/02
Fire Chief Date

Undersigned counsel, who has determined that the agreement is in proper form and within the powers and authority granted under the laws of this state, has reviewed the foregoing agreement.

By: [Signature]
(Fire District Attorney) Date

By: [Signature] 6/26/02
(City Attorney) Date

FILE NAME: F:\00000000\00000000.DOC

JEFFERSON COUNTY'S ANNUAL FIRE OPERATING PLAN: SUMMARY OF CONTENTS

At the Panel's workshop in Boulder, Colorado, officials from Jefferson County supplied copies of their Annual Fire Operating Plan. This plan illustrates the kinds of information should be covered in an effective operating plan:

Introductory Matters

In the first pages, an Annual Operating Plan should contain plan approvals from authorized agencies; list the jurisdictions and participants within the plan's area; identify the legal authority for the plan; and describe the purpose of the plan.

Definitions and Descriptions

This section should establish the legal responsibilities of the respective jurisdictional agencies by clearly identifying who is responsible for the following: (1) wildfire suppression within the area covered by the plan; (2) non-wildland fire emergencies; and (3) wildfire suppression damage. In addition, this section should deal with mutual aid dispatch, mutual aid move-up and cover facilities, and any special management considerations.

Fire Protection Resource List

This section should list fire protection resources within the area covered by the plan. For each resource listed, the plan should identify its Incident Command System (ICS) type, location, anticipated availability period, staffing levels, and key contacts.

Protection Area Maps

After including a map of the protection area, this section should establish that a landowner will be notified as soon as practical when their land is threatened by a wildfire. Moreover, it should determine who is responsible for responding to such a fire and whether this is reimbursable; identify any special management consideration areas; and establish procedures for updating the maps of protected areas.

Fire Readiness

This section should cover the following issues: (1) fire planning, (2) wildfire training needs and coordination, and (3) inspection schedules for fire equipment. For fire planning, it should establish rules to govern the development of pre-attack plans, trigger points for increasing or decreasing readiness, and responsibility for prevention plans and prescribed burn plans. For wildfire training needs and coordination, it should establish responsibility for providing training and protective gear. For inspection schedules, it should determine who conducts inspections and how often.

Wildfire Suppression Procedures

This section should determine when the ICS is to be utilized. As a general rule, these plans should establish that ICS—a standardized method of managing emergency incidents—be used to manage all wildfires. This system is based upon a common organizational structure, common terminology, common operating procedures, and known qualifications of emergency personnel. The plan should include an ICS incident organizational chart. It should also establish the

principles to govern the following: (1) aerial detection flights; (2) notification about wildfires; (3) mutual aid dispatch areas; (4) initial attack dispatch levels; dispatching and resource order processes; (5) reinforcements and support; (6) move-up and cover locations and procedures; (7) interagency procurement, loaning, sharing, or exchanging and maintenance of facilities, equipment, and support services; (8) interagency sharing of communications systems and frequencies; (9) wildland fire situation analysis; (10) state emergency fire fund assistance; (11) dispatch centers or incident support facilities; (12) post-incident action analysis; and (13) out-of-jurisdiction assignments.

Aviation Procedures

This section should include an aviation map of the protected area; establish principles of flight following and frequency; identify the federal, state, local, and reservist resources available to support the aircraft; establish principles for aviation requests and operations; identify fixed wing and single-engine bases; and specify aircraft inspection schedules.

Fire Prevention

This section should establish responsibility for coordinating the following activities: releases about fire danger, distribution of fire prevention materials, adoption of fire restrictions, issuance of fire permits, and availability of fire weather reports. It should also establish principles to govern information and education, engineering, enforcement, and incident reports.

Fuel Management and Prescribed Fire Considerations

This should cover issues related to the management of fuels and the use of prescribed fire. In general, the respective agencies should agree to cooperate in the development and implementation of prescribed burning programs and projects; assign responsibility for wildfires resulting from an escaped prescribed fire; and ensure that burn plans for cooperative prescribed fires will cover cost sharing, reimbursement, and responsibility for suppression costs.

Cost Reimbursements

This section should determine which items are reimbursable and which are not. It should also cover cost reimbursement for dispatching, initial attack, mutual aid, reinforcements, and out-of-jurisdiction assignments. It should also establish billing and reimbursement procedures; resource use rates for personnel, equipment, and supplies and material; and cooperative resource rate forms.

Concluding Materials

The plan should include a general procedures section to establish periodic program reviews, processes for making changes during the year and updating the plan annually, and principles to resolve disputed. It should also include a directory of personnel and authorized agency representatives.

**PARTICIPANTS
FIREFIGHTING WORKSHOP BREAKOUTS**

The Panel extends its appreciation to all the participants at the firefighting breakout sessions at the four workshops, each of whom is listed below. The Panel also extends its appreciation to other helpful contacts at the Department of the Interior, the Federal Emergency Management Agency, USDA Forest Service, U.S. Fire Administration, and others at the state and local level.

FLAGSTAFF, ARIZONA—APRIL 3-4, 2003

Tom Beddow, Deputy Director, Fire & Aviation, Southwest Region, USDA Forest Service,
Springerville, Arizona
Kevin Boness, Arizona State Land Department, Flagstaff, Arizona
David Duggan, Fire Chief, Flagstaff Ranch Fire District, Flagstaff, Arizona
Bruce Greco, Fire Staff Officer, Coconino National Forest, Flagstaff, Arizona
Don Howard, Fire Chief, Structure Protection Specialist, Summit Fire Department,
Flagstaff, Arizona
Roger Mineer, Fire Chief, Lakeside Fire Department, Lakeside, Arizona
David Mueller, Program Lead, Fuels Management Specialist, Bureau of Land Management
Arizona State Office-Resources Division, Phoenix, Arizona
Marilyn Price, Fire Chief, Linden Fire Dept, Show Low, Arizona
Miquelle Scheier, Senior Manager, Coconino County Rural Environment Corps
Paul Summerfelt, Fuel Management Officer, Flagstaff Fire Department
Fire Chief's Office, Flagstaff, Arizona
Rich Van Demark, Forester, Regional Payson Area Project
Kevin Wiesmann, Project Coordinator, Northern Arizona Conservation Corps, Flagstaff, Arizona
Darrell Willis, Fire Chief, Prescott Fire Department, River Plateau, Prescott, Arizona
Rodger Zantotto, Stewardship Staff Officer, Coconino National Forest, USDA Forest Service,
Flagstaff, Arizona

BOULDER, COLORADO—APRIL 28-29, 2003

Justin Dombrowski, Wildland Fire Management Officer, City of Boulder, Boulder, Colorado
Mike Foley, Fire and Vegetation Management Officer, Arapaho and Roosevelt National Forest,
Fort Collins, Colorado
Kristin Garrison, Assistant District Forester, Colorado State Forest Service-Franktown,
Franktown, Colorado
Rich Homann, Fire Division Supervisor, Colorado State Forest Service, Fort Collins, Colorado
Bill Mills, Wildland Risk Management Officer, Colorado Springs Fire Department, Colorado
Springs, Colorado
Christina Randall, Vegetation Management Program Coordinator, Colorado Springs Fire
Department, Colorado Springs, Colorado
Rocco Snart, Wildfire Mitigation Specialist, Jefferson County Emergency Management,
Golden, Colorado

BEND, OREGON—MAY 22-23, 2003

Jack Barringer, Chairman of the Board, Black Butte Ranch RFPD, Black Butte Ranch, Oregon
Gary Cooke, Fire Management Officer, Warm Springs Confederated Tribes, Warm Springs,
Oregon
Earl Cordes, Fire Chief, Jefferson County RFPD # 1, Madras, Oregon
Don Jenson, Deputy Fire Chief, Operations, City of Bend Fire Department, Bend, Oregon
Larry Langley, Assistant Fire Chief, Crooked River Ranch, Rural Fire Protection District,
Terrebonne, Oregon
Robert Madden, Battalion Chief, City of Bend Fire Department, Bend, Oregon
Bob Schnoor, Fire Chief, Crook County Rural Fire District, Prineville, Oregon
Larry Timchak, Forest Supervisor, Deschutes & Ochoco National Forests, USDA Forest Service,
Region 6 & Pacific Northwest Research Station, Prineville, Oregon

PALM COAST, FLORIDA—JULY 10-11, 2003

Barry Baker, Ormond Beach Fire Department, Ormond Beach, Florida
M. C. Beadle, Chief, Fire/Rescue, City of Palm Coast, Palm Coast, Florida
Jamey Burnsed, Volusia Country Fire Department, Deland, Florida
Jim Cooper, Division Chief, Flagler County Fire Services, Bunnell, Florida
Bruce Harvey, Fuels/Prescribed Fire Specialist, USDA Forest Service, National Forest in
Florida, Tallahassee, Florida
Andy Hirko, Plum Creek Timber Company, Palatka, Florida
Chuck Johnston, Wildfire Mitigation Specialist, Sarasota County Fire Department, Sarasota,
Florida
John Kern, Deputy Chief, Field Operations, Florida Division of Forestry, Withlacoochee
Forestry Center, Brooksville, Florida
Bill Scaramellino, Forest Area Supervisor, Florida Division of Forestry, De Leon Springs,
Florida