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# **LARGE FIRE COST REDUCTION ACTION PLAN**

**MARCH • 2003**

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*USDA FOREST SERVICE -- USDI THE DEPARTMENT OF THE INTERIOR --  
NATIONAL ASSOCIATION OF STATE FORESTERS*

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*“Only when every member of the nation’s wildland firefighting organization is held accountable for his or her role in containing costs, will a corporate resolve begin to coalesce and emerge. Meaningful accountability for cost containment must be instituted throughout all levels of the nation’s wildland fire suppression program.”*

***Cost Containment on Large Fires – Efficient Utilization of Wildland Fire Suppression Resources, July 2001***  
**National Association of State Foresters**  
**Fire Protection Committee**

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***Why Should You Read This Report?***

If you care about our country’s ability to successfully respond to the challenge of suppressing our rising trend of large wildland fires—this interagency-rooted Action Plan is for you.

Thousands of hours have already been invested on previous fire suppression cost reports and reviews. Unfortunately, it seems, far too often these important strategies have been quickly forgotten or overlooked. This Action Plan strives to be different.

These past efforts reflect consistent findings and recommendations—as far back as 1994—with little or no apparent implementation action. For the most part, a bias for action and a corporate will to change has been absent in these previous efforts.

This Action Plan attempts to rectify these shortcomings.

Requested by the Federal Fire and Aviation Leadership Council, this Action Plan supports the February 2003 *Chief’s Incident Accountability Report* and the July 2001 *Cost Containment of Large Fires – Efficient Utilization of Wildland Fire Suppression Resources* by the National Association of State Foresters.

Sponsoring agencies of this Action Plan include: the U.S. Department of Agriculture Forest Service; and the Department of the Interior – Bureau of Land Management, National Park Service, Bureau of Indian Affairs, and U.S. Fish and Wildlife Service; and the National Association of State Foresters.

The majority of the cost-containment strategies and approaches outlined in this report will be enacted this fire season. In crafting this strategy, the 2003 Large Fire Cost Reduction Team has tried to promote new business methods that will help us this year, and successfully move us into a more cost-beneficial future.

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*“Drought, excessive fuel hazards, and human movement into the wildlands continue to threaten the nation’s communities and forests—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.”*

***Wildfire Suppression: Strategies for Containing Costs***  
**A Report by a Panel of the National Academy of Public Administration**  
**September 2002**

## INTRODUCTION

There is an urgent and immediate need to reduce the overwhelming cost of large fires.

A series of factors have combined to create an environment that fosters increases in the cost of suppressing large fires. During the 2002 fire season, four states set records for the largest fires in recent history. Twenty-one firefighters lost their lives. Two air tankers and eight helicopters crashed. Thousands of homeowners were evacuated. Hundreds of structures were destroyed. A total of 7.2 million acres burned.

Thus, this past fire season introduced extraordinary stress to agency leadership, agency line officers, fire staff, and Incident Management Teams.

This horrendous fire year saw the Forest Service, alone, funnel \$1.4 billion dollars into wildland fire suppression costs. Total Federal expenditures on wildland fire suppression approached \$2 billion dollars. Of these unprecedented amounts, more than \$500 million in Forest Service dollars funded suppression costs on just *four* large fires. (These monies could have financed the entire budgets of these affected national forests for more than five years.)

As evidenced by implementation of the *National Fire Plan*, and supported by the *President’s Healthy Forest Initiative*, it is clear that—in the long term—treating fuels and aggressive initial attack are essential for success in reducing large fire occurrence. By doing so, we will also reduce wildland fire costs. For, more than 80 percent of our wildland fire suppression costs are attributed to only 2 percent of our wildland fires.

### **Cost Containment Actions Due This Fire Season**

To date, minimal progress has been made in addressing these escalating wildland fire suppression costs. This Action Plan strives to change that—starting this fire season. Through its various actions—outlined in detail in the following pages—this report provides effective, practical, common sense measures to help facilitate cost containment within our wildland fire suppression programs.

*It is incumbent on those entities with responsibility for wildfire management to ensure that the highest level of management expertise is applied to every element and decision in the fire management equation—at every level of fire complexity.*

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### **This Action Plan is Founded on This Concept**

As wildfires grow in number or size, the elements involved increase and the scope and effect (consequences) of the decisions based on those elements also increase.

It is therefore incumbent on those entities with responsibility for wildfire management to ensure that the highest level of management expertise is applied to every element and decision in the fire management equation—at every level of fire complexity.

Ensuring that this management expertise occurs is not simply a matter of deferring to the person—or people—with the most experience. It is a matter of assuring that the individuals responsible for making critical fire management decisions:

- Either *possess* the requisite level of expertise required for the level of decisions they are expected to make;
- Or are *advised* by individuals with that expertise.

This basic concept applies to *every* element in the wildfire management equation at *every* level of wildfire management complexity. This Action Plan is founded on this concept.

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# SECTION ONE – IMMEDIATE 2003 ACTIONS

## Our Culture

*“A ‘corporate will’ to change appears to be lacking throughout the national organization. Strong national leadership in containing costs is essential and must be accompanied by the allocation of accountability for cost containment throughout the national organization.”*

### **Cost Containment on Large Fires – Efficient Utilization of Wildland Fire Suppression Resources, July 2001 National Association of State Foresters Fire Protection Committee**

Our culture and incentive system are not oriented toward reducing the costs of large fires. Currently, the local Agency Line Officer<sup>1</sup> and Incident Commander have three primary objectives: 1) Ensure firefighter and public safety; 2) Suppress the wildland fire; 3) Respond to community needs.

Unfortunately, any incentive to reduce costs is absent from these three central responsibilities. At this time, there is more incentive to reduce risk rather than reduce costs. We must change this. Beginning this fire season, we must elevate cost containment commensurate with other objectives.

To truly accomplish this, we must also be able to alleviate our managers’ concern regarding personal risk. Not risk in the personal liability sense, but more akin to a career altering/ending event. At the same time, we must also reward our managers who exhibit and make good progress in cost containment.

## AGENCY ACTIONS

*As the National Association of State Foresters recommend in their Cost Containment on Large Fires July, 2000 report:*

- Each agency will formally establish wildland fire suppression cost control as a high priority. Begin this change at the very top of the organization.
- All levels of the organization will recognize and strive for leadership that is united and earnest about cost containment. **Both our Agency Line Officers and Incident Commanders are vital to this effort.**

<sup>1</sup> The “Agency Line Officer” is the official responsible for administering policy on an area of public land who has full authority for making decisions and providing direction to the incident organization. Also known as “Agency Administrator” and “Line Officer.”

*“Although most managers recognize that they have the authority to select priorities and strategies that will reduce cost, few are willing to take the risk. Managers do a good job of allocating scarce resources to priority fires. As resources become more readily available and outside pressures increase, the care used in allocation of resources declines. The potential for litigation and claims, critical media coverage, and political pressure to suppress all fires are major disincentives to risk taking.”*

***Fire Suppression Costs on Large Fires – A Review  
of the 1994 Fire Season, USDA Forest Service***

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## **The Agency Line Officer**

Agency Line Officers are key to the efficient and effective management of large incidents. Yet, today, many are not effectively engaged in large incident management. Agency Line Officers significantly affect fires in two key ways:

**Before the Fire** – Agency Line Officers influence: planning (Land and Resource Management Plans, Fire Management Plans); prevention; implementation of National Fire Plan.

**Once Fire Starts** – the Agency Line Officer’s role becomes even more immediate and direct, with responsibility for: oversight of costs; complexity analysis of fires as they grow; The Wildland Fire Situation Analysis (WFSA); Delegation of Authority; monitoring of fire suppression efforts.

Fire complexity and the desire to minimize risk in fire operations leads to higher costs and greater safety issues.

Agency Line Officers must view and interpret risk management from a broad perspective, including: cost containment; safety issues/risk; alternative strategies and tactics that balance environmental impacts; and socio-economic concerns.



For Agency Line Officers to fully redeem their responsibilities, they must have:

- **Training** – Fire Management Leadership and WFSA Training;
- **Experience** – Successful participation as a shadow/trainee in at least one large Type I wildland fire incident;
- **Currency** – Completion of annual WFSA refresher; performing the duties of an Agency Line Officer on one Type I or Type II wildland fire incident within the last three years.

## AGENCY LINE OFFICER ACTIONS

- Formalize the three Training, Experience, and Currency requirements (listed above).
- When an incident reaches a Level I complexity, the Regional or State administrator—in collaboration with the local Agency Line Officer—will assign an experienced person to assist the Agency Line Officer in performing his or her responsibilities. This individual does not have to be from the Agency Line Officer’s own agency. *(Coaching and mentoring is the key concept here. We need to help create a culture that encourages [rewards] managers rather than discourages [punishes] managers who ask for assistance.)*
- In addition to competencies normally associated with Agency Line Officer positions, evaluation criteria related to necessary fire management skills should be added to vacancy announcements. These skills should also be added to Agency Line Officer annual performance standards. This will lead to increased skills and decreased costs. *(Specifically for the Forest Service, these criteria and standards have been submitted to the Washington Office as an action item of the Thirtymile Fire Accident and Prevention Action Plan.)*

## Incident Commander and Agency Line Officer

As soon as possible after the Incident Management Team arrives, the Agency Line Officer and the Incident Commander will jointly review the initial Wildland Fire Situation Analysis (WFSA).

At this time, the WFSA will be revised, as necessary, to produce attainable, reasonable, *doable* alternatives that reflect all of our objectives—including cost containment.

### INCIDENT COMMANDER AND AGENCY LINE OFFICER ACTIONS

*When Area Command is activated this 2003 fire season:*

- A representative of the Area Command team will be involved in the Agency Line Officer/Incident Commander meeting.
- The Area Command Delegation of Authority will reflect the selected alternative with cost containment objectives, and will re-delegate to the Incident Commander(s).
- Both the Incident Management Team and the Area Command will be evaluated on how well they meet the objectives of the Delegation of Authority.

*(After this fire season, better cost data for different fuel types and strategies etc. will be developed.)*

## The Wildland Fire Situation Analysis

The Wildland Fire Situation Analysis (WFSA) process for large fires is cumbersome. Its benefits are not well understood. It has commonly evolved beyond active thinking and analysis to simply a passive computer process-driven outcome.

The WFSA was never intended to be a superficial checklist. The National Wildfire Coordinating Group (NWCG) has recognized this important reality. Improvements to this valuable tool are currently underway. The Large Fire Cost Reduction Team endorses and encourages these efforts.

### WILDLAND FIRE SITUATION ANALYSIS ACTIONS

*The WFSA process must undergo change this year. All Agency Line Officers will:*

- Develop the WFSA to address:
  - More substance and alternatives that reflect a thorough analysis of cost-vs.-risk with emphasis on cost containment.
  - A focus on thinking and analysis—rather than rote computer program interaction.
- Recognize that preparing a good WFSA requires specific skills.
- Seek or accept assistance from peers, superiors, or master performers in developing the WFSA.
- **Establish a cost threshold at which Region or State level approval of the WFSA and Delegation of Authority would be required. (For example, when projected or current costs exceed \$15 million.)**
- Collaborate and ensure in-depth discussion with the Incident Commander. This is crucial in developing a well-thought out WFSA. Equally important are similar discussions for ongoing review and updates using current and estimated costs.
- Issue Delegations of Authorities that reflect specific cost objectives and cost monitoring procedures.

## WILDLAND FIRE SITUATION ANALYSIS ACTIONS

### *When preparing a WFSA for suppression action:*

- Consider only tactics and strategies likely to be effective in that fire regime.
- Identify the least cost alternative.
- Provide justification when selecting an alternative other than the least cost alternative.
- Establish a cost threshold trigger that, when exceeded, requires a revision of the WFSA that includes review of additional alternatives.
- Establish performance standards for Area Command and Incident Management Teams to minimize suppression costs. Recognize the Area Command and Incident Management Team's performance in achieving cost containment.

## Financial Management

Several immediate actions can be taken to improve fire business management practices, procurement, and reviews. These have been adequately discussed—and outlined with corresponding follow-up actions—by the *Chief's Incident Accountability Report* (in Final Draft, February, 2002).

The *Chief's Incident Accountability Report* addresses a number of prudent fire business management practices that call for action. Implementation of these actions is essential to reducing costs. (Decisions and costs associated with fire suppression tactics and the cost of incident operational decisions were not included in this report.) Chartered by the Chief of the Forest Service, this report's four key incident cost-control measures:

1. Enhance and Streamline Resource Acquisition Standards.
2. Refocus and Improve Large Fire Cost Reviews.
3. Conduct Post-Incident Activity Reviews.
4. Better Define and Improve Comptroller Roles and Training.

### The Incident Business Advisor

The Incident Business Advisor position often becomes overrun in high cost incidents. Therefore, on large fires, a single Incident Business Advisor is insufficient. (To fill this need, in the short term, it may be necessary to rely on our retiree experience.)

## FINANCIAL MANAGEMENT ACTIONS

- Endorse and incorporate the actions of the *Chief's Incident Accountability Report*.
- Reinforce the need for additional highly-skilled Incident Business Advisors.
- Reinforce the existing direction to ensure Incident Business Advisors are assigned to all Type I incidents. Consider assigning an Incident Business Advisor to Type II incidents with high-cost potential.
- Assign additional cost containment support positions (in addition to the Incident Business Advisor) when incidents exceed \$12-\$15 million.
- Collectively, these cost containment support positions must have the following financial skills: 1) Fire Business Management; 2) Contracting or Procurement; 3) Fire Operations.
- Invite senior-level agency, administration, and state policy staff to large fire incidents. (*Including these individuals will encourage an expanded view and learning opportunity of the myriad complexities that occur on large fire situations.*)

## Operations – Large Aircraft, 14-Day Rotation, Tactical

*Apply the least force necessary to achieve the desired outcome.*

### Large Aircraft

Today, large aircraft (air tankers and helicopters) are:

- The most visible symbol of our fire suppression efforts.
- The most expensive resource on large wildland fires.

On this country's large wildland fires in recent years, these large aircraft costs—alone—can account for more than one-third of total suppression costs. Therefore, to save money on our wildland fires, we must address the spending on large air tankers and large helicopters. Better managing of use, flight times and contract performance for these aircraft—both fixed and rotary wing—will provide more prudent suppression strategies and vital cost-saving opportunities.

### LARGE AIRCRAFT ACTIONS

- Ensure that the primary role and purpose of air tankers and large helicopters is initial attack and the protection of human life.
- Increase the use of Single Engine Air Tankers (SEATS). They may constitute the minimum force necessary for suppression.
- Conduct an analysis to determine the appropriate number of Type I Helicopters and National Shared Resource Type II Helicopters to be used in the national fleet. (Resources contracted over a period of time are more cost efficient than paying call-when-needed rates during an emergency.)
- Agency leadership should support operational decisions NOT to use large aircraft on incidents.
- Establish positive management controls and oversight on aerial operations regarding the use of large helicopters.

*All assignments are limited to 14 days, exclusive of travel, with possible extensions as identified in the 2003 updated language for the Interagency Incident Business Management Handbook.*

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### **14-Day Rotation for Incident Management Teams and Area Command**

Transitions between Incident Management Teams are a critical wildland fire event.

These disruptions in management continuity can have significant adverse impacts, including:

- Increased risks to firefighter safety.
- Reduced suppression effectiveness.

Furthermore, multiple transitions on long-duration fires can also be difficult for the land management unit and local cooperators. And, of course, team transitions also cost money.

### **14-DAY ROTATION ACTIONS**

- Take maximum advantage of the flexibility within the recently revised 2003 NWCG guidelines (*Interagency Incident Business Management Handbook*) to minimize the number of Incident Management Team and Area Command transitions.

*“Fight fire aggressively and provide for safety first.”*

## Standard Fire Order

*“Confinement and containment strategies often involve maximizing the use of natural barriers and the commitment of fewer resources. Appropriate use of these strategies is estimated to save millions of dollars each year.”*

## Fire Suppression Costs on Large Fires – A Review of the 1994 Fire Season

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### Tactical

We need to reauthorize fire managers to maximize the opportunities provided by aggressive firefighting. While safety is our first priority, it isn't our only priority.

Aggressive initial attack is the best way to reduce costs and decrease long-term exposure to risk. In wildland fire management: we must always *“play to win rather than play not to lose.”*

#### *Initial Attack*

Key actions to minimize the cost of suppressing wildland fire: preventing the fire from occurring; immediate and aggressive initial attack to contain and control a new fire ignition while it is still small.

Suppression costs escalate significantly as fire size increases. Consequently, by eliminating greater exposure to large fire hazards, successful initial attack reduces suppression costs and also increases safety.

Forest Service figures show that only two percent of this agency's wildland fires—the large incidents—now usurp an enormous 85 percent of the agency's total suppression budget.

### TACTICAL ACTIONS

- All Federal, State and Local agencies engaged in the suppression of wildland fire will formalize and embrace a policy of aggressive initial attack. This will be our wildland fire suppression program's top priority.
- Place a stronger consideration on the use of mechanized equipment. This can reduce: costs, risks to firefighters, and resource damage.



## TACTICAL ACTIONS

- Revisit the advantages of night operations. Ensure a careful exposure to risk analysis is undertaken before we make decisions for no night operations.
- Rebuild a Type III Incident Management Team capability on local units.
- Apply the lowest standard of mop-up necessary to accomplish the incident objective. When applied to mop-up, less may be more.
- Demobilize resources—including portions of Incident Management Teams—as quickly and efficiently as possible when they are no longer needed to meet incident objectives.



## SECTION TWO – 2003 AND BEYOND

*We must ensure that we apply the highest skill level available at every phase and in every element of wildfire management.*

### Preparedness Levels IV and V

#### Clarified Roles and Responsibilities

Several times in the past decade our management model for Preparedness Levels IV and V has been stretched to the limit. To better contend with the increasing complexity of incidents and the decreasing availability of incident management expertise, we need a new model with clarified roles and responsibilities for Agency Line Officers, as well as for Local, Geographic, and National Multi-Agency Coordination Groups.

This concept helps buttress the underlying premise of this report: that we must ensure that we apply the highest skill level available at every phase and in every element of wildfire management.

### PREPAREDNESS LEVEL IV & V ACTIONS

- At the highest preparedness levels, transition the National and Geographic Multi-Agency Coordination Groups to a management model of “command” rather than “coordination.” This will enable these important groups to make the difficult, strategic decisions necessary to ensure that critical resources are best positioned (nationally or geographically) to respond to the highest priority threats.

## PREPAREDNESS LEVEL IV & V ACTIONS

- Implementing this change (first bulleted action on previous page) will require the following actions:
  - 1) National Multi-Agency Coordination (MAC) members must receive a written delegation of authority from their respective agencies that provides clear authority to allocate and reallocate nationally mobilized resources to the Geographic Areas having the most critical need.
  - 2) To quickly respond to emerging or rapidly changing situations, Geographic MAC members must receive a written delegation of authority from their agencies that provides clear authority to allocate and reallocate resources available to them within the Geographic Area.
  - 3) Agencies must ensure their National-MAC and Geographic-MAC members have the appropriate skills and experience to: a.) recognize emerging or changing situations; b.) make the timely, critical decisions necessary to ensure the available resources are best positioned to respond. This may require new training and support for MAC Groups to be developed that focuses on necessary decision-making skills required at the highest preparedness levels.
  - 4) To be effective, National and Geographic MAC Groups must have access to timely and accurate intelligence and predictive information.

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## Contracting

### *Needed: A New, Long-Term Approach to Fire Finance*

As Michael Hupp, formerly of the Pacific Northwest Region's Umpqua National Forest, significantly pointed out in that Forest's 2002 Lessons Learned:

- Contracting now represents the major cost center in large fire suppression. In 2002, two-thirds of our suppression costs on large fires went through contracting.
- This scenario of very large, long-duration fires so heavily staffed by contractors is a relatively new phenomenon.
- Our business tools for fire finance were developed for smaller, shorter-duration fires staffed primarily by agency employees with occasional rented equipment. (This works just fine for a 300-person two-week fire.)

- The complexity of very large, long duration fires—staffed by thousands of contract employees—overwhelms our present finance model. We have suddenly become a very large contracting business.
- We, therefore, clearly need a new long-term approach to fire finance.

## CONTRACTING ACTIONS

- |                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Establish an interagency team (including private sector experts) to establish a more efficient business model for contracting. This should include the development of new contracting management tools.</li> </ul> |
| <ul style="list-style-type: none"> <li>• Implement a new business model for contracting on large fires and develop the new skills and workforce to properly administer our contracts on the fireline.</li> </ul>                                            |
| <ul style="list-style-type: none"> <li>• In lieu of contracting, increase the use of state and local resources.</li> </ul>                                                                                                                                  |

## Wildland Urban Interface

During the past decade, frequent and prolonged wildland fire suppression operations in the Wildland Urban Interface (WUI) have become increasingly common. These operations have resulted in a dramatic increase in costs as Agency Line Officers and Incident Management Teams employ extraordinary efforts to protect: communities and associated infrastructure, homes, businesses, and other structures.

Uncertainty regarding the legal authorities, roles, and responsibilities of Federal, State, Tribal, and Local government entities with adjoining or over-lapping jurisdictions has led to confusion, and has occasionally resulted in uncoordinated, inefficient actions. Therefore, significant cost reductions in the Wildland Urban Interface will require a conscientious, well-coordinated effort by all entities with jurisdiction—long before a fire starts.

An interagency team, led by Jerry Williams (Forest Service) and Larry Hamilton (Bureau of Land Management), is currently working on this issue. One of their charges is to clarify the authorities, roles, and responsibilities of Federal, State, Tribal, and Local government in providing structure protection and structure suppression within the Wildland Urban Interface.

## WILDLAND URBAN INTERFACE ACTIONS

*In areas with communities-at-risk from wildland fire, all local fire protection organizations with jurisdiction should immediately beginning planning for the eventual wildland fire that threatens their communities or associated infrastructure. At a minimum, such planning should include the following:*

- Jointly assess the defensibility of each community and its associated infrastructure and set priorities appropriately.
- Based on the (above) assessment, develop and implement pre-attack plans that identify which homes, businesses, and other improvements will be protected; how they will be protected; and by whom. In addition, identify those which are not safely defensible and which will only be evacuated.
- Jointly develop agreements that identify how structure protection costs will be shared among agencies should a fire threaten a community.
- Plan and train for the use of Unified Command among all organizations with jurisdiction.
- Jointly train with local government fire personnel to ensure that—in the event of fire—they can be immediately and effectively utilized in the suppression effort.
- Work with communities and home owners to implement “Firewise” actions to reduce their risk from wildfire.

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## **LARGE FIRE COST REDUCTION TEAM MEMBERS**

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