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Wildfire Funding

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Wildfire Funding

Summary

The Forest Service and the Bureau of Land Management (BLM) are responsible for protecting federal lands from wildfires. Wildfire appropriations nearly doubled in FY2001, following a severe fire season in the summer of 2000, and have remained at a level substantially higher than before 2000. Along with this higher funding, the acres burned annually have increased over the past 50 years, with new record levels set in 2004, 2005, and 2006. Many in Congress are concerned that wildfire costs are spiraling upward without any discernable decline in the damage caused by wildfires.

The vast majority (about 95%) of federal wildfire appropriations are spent to protect federal lands. Wildfire activities include fire preparedness (for equipment, baseline personnel, and training); fire suppression operations (including emergency funding); post-fire rehabilitation (to help sites recover after the fire); and fuel reduction (to reduce wildfire damages by reducing fuel levels). In addition, since FY2001, Forest Service wildfire appropriations have included funds for state fire assistance, volunteer fire assistance, and forest health management (to supplement the State and Private Forestry funds for these three programs), economic action and community assistance, fire research, and fire facilities. Few funds are available to directly assist owners of private forests to rehabilitate their lands following wildfire.

Four issues have dominated wildfire funding debates. One is funding for fuel reduction. Funding and acres treated rose (roughly doubling) between FY2000 and FY2003, and have stabilized since. Currently about 3 million acres are treated annually. However, 75 million acres of federal land are at high risk, and another 156 million acres are at moderate risk, of ecological damage from catastrophic wildfire. Since many ecosystems need to be treated on a 10-35 year cycle (depending on the ecosystem), current treatment rates are insufficient to address the problem.

Another issue is the federal role in protecting nonfederal lands, communities, and private structures. In 1994, federal firefighting resources were apparently used to protect private residences and communities at a cost to federal lands and resources in one severe fire in Washington. A federal policy review recommended increased state and local efforts, commensurate with their responsibilities, but federal programs to protect nonfederal lands have also expanded, reducing incentives for local participation in fire protection.

A third issue is post-fire rehabilitation. Agency regulations and legislation in the 109th Congress focused on expediting such activities, but opponents expressed concerns that this would restrict environmental review of and public involvement in salvage logging decisions, leading to greater environmental damage.

Finally, high wildfire suppression costs, including $900 million borrowed from non-fire accounts and not repaid in 2006, is raising congressional concerns. Similar borrowing was not historically a problem, but is now affecting other agency programs. Numerous recent studies have recommended actions to try to control fire suppression costs, and the agencies have taken various steps, but it is unclear whether these actions will be sufficient to control wildfire suppression costs.

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Recent severe fire seasons have prompted substantial debate and proposals related to fire protection programs and funding. President Clinton proposed a new National Fire Plan in 2000 to increase funding to protect federal, state, and private lands; Congress largely enacted this request. The severe 2002 fire season led President Bush to propose a Healthy Forests Initiative to expedite fuel reduction on federal lands. In 2003, Congress enacted the Healthy Forests Restoration Act to expedite fuel reduction on federal lands and to authorize other forest protection programs.

Wildfire funding has continued at relatively high levels since 2000, and now constitutes a substantial and growing portion of land management agency budgets. Severe fire seasons seem to have become more common (see **Table 1**), and agency authorities to borrow other unobligated funds for emergency firefighting efforts appear to be impinging on other land management activities. The high and rising costs of firefighting are gaining attention; the Senate Energy and Natural Resources Committee held a hearing on fire suppression cost containment early in the 110th Congress.

This report briefly describes the three categories of federal programs for wildfire protection. One is to protect the federal lands managed by the U.S. Department of Agriculture, Forest Service (FS), and by the U.S. Department of the Interior, whose wildfire programs are coordinated by the Bureau of Land Management (BLM). A second category assists state and local governments and communities in protecting nonfederal lands; these programs are used to reduce wildland fuels, to otherwise prepare for fire control, to contain and control wildfires, and to respond after severe wildfires have burned. A third category of federal programs supports fire research, fire facilities, and improvements in forest health. The last section of this report discusses the impact of high and rising wildfire costs.

Background

The FS was created in 1905 with the merger of the USDA Bureau of Forestry (which conducted research and provided technical assistance to states and private landowners) and the Forestry Division of the General Land Office (a predecessor of the BLM). An early focus was on halting wildfires in the national forests following several large fires that burned nearly 5 million acres in Montana and Idaho in 1910. Efforts to control wildfires were founded on a belief that fast, aggressive control was efficient, because fires that were stopped while small would not become the large, destructive conflagrations that are so expensive to control. In 1926, the agency developed its *10-acre policy* — that all wildfires should be controlled before they reached 10 acres in size — clearly aimed at keeping wildfires small. Then in 1935, the FS added its *10:00 a.m. policy* — that, for fires exceeding 10 acres, efforts should

focus on control before the next burning period began (at 10:00 a.m.).[1] Under the 10:00 a.m. policy, the goal in suppressing large fires is to gain control during the relatively cool and calm conditions of night and early morning, rather than spending major efforts during the heat of the day.

Table 1. Acres Burned in Wildfires Since 1960

(in million acres)

Year	Acres	Year	Acres	Year	Acres
1960	4.48	1976	5.11	1992	2.07
1961	3.04	1977	3.15	1993	1.80
1962	4.08	1978	3.91	1994	4.07
1963	7.12	1979	2.99	1995	1.84
1964	4.20	1980	5.26	1996	6.07
1965	2.65	1981	4.81	1997	2.86
1966	4.57	1982	2.38	1998	2.33
1967	4.66	1983	5.08	1999	5.63
1968	4.23	1984	2.27	2000	7.39
1969	6.69	1985	4.43	2001	3.57
1970	3.28	1986	3.31	2002	7.18
1971	4.28	1987	4.15	2003	3.96
1972	2.64	1988	7.40	2004	8.10
1973	1.92	1989	3.26	2005	8.69
1974	2.88	1990	5.45	2006	9.87
1975	1.79	1991	2.95		

Source: National Interagency Coordination Center, at [http://www.nifc.gov/stats/fires_acres.html].

In the 1970s, these aggressive FS fire control policies began to be questioned. Research had documented that, in some situations, wildfires brought ecological benefits to the burned areas — aiding regeneration of native flora, improving the habitat of native fauna, and reducing infestations of pests and of exotic and invasive species. The Office of Management and Budget challenged as excessive proposed budget increases based on FS policies and a subsequent study suggested that the fire control policies would increase expenditures beyond efficient levels.[2]

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[1] See Julie K. Gorte and Ross W. Gorte, *Application of Economic Techniques to Fire Management — A Status Review and Evaluation*, Gen. Tech. Rept. INT-53 (Ogden, UT: USDA Forest Service, June 1979).

[2] Stephen J. Pyne, *Fire In America: A Cultural History of Wildland and Rural Fire* (continued...)

Following the 1988 fires in Yellowstone, concerns were raised about unnaturally high fuel loads leading to catastrophic fires and spiraling suppression costs. Congress established the National Commission on Wildfire Disasters, whose 1994 report described a situation of dangerously high fuel accumulations.[3] The summer of 1994 was another severe fire season, leading to more calls for action to prevent future severe fire seasons. In addition to the concerns about fuel loads, concerns were voiced that federal firefighting resources on a fire in Washington in 1994 had been diverted from protecting federal lands and resources to protecting nearby private residences and communities.[4] The Clinton Administration directed a review of federal fire policy, and the agencies released the new *Federal Wildland Fire Management Policy & Program Review: Final Report* in December 1995. The report recommended altering federal fire policy from priority for private property to equal priority for private property and federal resources, based on values at risk. (Protecting human life is the first priority in firefighting.) The recommended change became effective after the report was accepted by the Secretaries.

Concerns about wildfire threats persist. In 1999, the General Accounting Office (GAO) issued two reports recommending a cohesive wildfire protection strategy for the FS and a combined strategy for the FS and BLM to address certain firefighting weaknesses.[5] To address the severe 2000 fire season, the Clinton Administration developed the National Fire Plan and a supplemental budget request. Congress enacted this additional funding in the FY2001 Interior Appropriations Act, and has since largely maintained the higher funding. (See **Table 2**.) During the severe 2002 fire season, the Bush Administration developed the Healthy Forests Initiative to expedite fuel reduction projects in priority areas through administrative and legislative changes. Some elements of the initiative have been addressed through regulatory changes; others were addressed in the Healthy Forests Restoration Act of 2003 (P.L. 108-148). (For information on regulatory and legislative developments on wildfire protection, see CRS Report RL33792, *Federal Lands Managed by the Bureau of Land Management (BLM) and the Forest Service: Issues for the 110th Congress*, by Ross W. Gorte, Carol Hardy Vincent, and Marc Humphries.)

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[2] (...continued)
(Princeton NJ: Princeton University Press, 1982), pp. 293-294.

[3] R. Neil Sampson, chair, *Report of the National Commission on Wildfire Disasters* (Washington, DC: 1994).

[4] Bob Armstrong, Assistant Secretary for Lands and Minerals Management, U.S. Dept. of the Interior, "Statement," *Fire Policy and Related Forest Health Issues*, joint oversight hearing, House Committees on Resources and on Agriculture, October 4, 1994 (Washington, DC: U.S. GPO, 1995), p. 9. Serials No. 103-119 (Committee on Resources) and 103-82 (Committee on Agriculture).

[5] U.S. General Accounting Office (now the Government Accountability Office), *Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats*, GAO/RCED-99-65 (Washington, DC: April 1999); and *Federal Wildfire Activities: Current Strategy and Issues Needing Attention*, GAO/RCED-99-233 (Washington, DC: August 1999). Hereafter cited as GAO, *Cohesive Strategy Needed*.

Table 2. Total Appropriations to Wildfire Accounts, FY1994-FY2008

(in millions of dollars)

	FY1994	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001
FS	752.7	835.6	485.5	1,080.0	836.6	722.4	1,008.0	1,882.8
BLM	350.5	235.7	286.9	352.0	280.1	336.9	591.0	977.1
Total	1,103.2	1,071.3	772.4	1,432.1	1,116.7	1,059.3	1,598.9	2,859.9

	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008 Request	FY2008 House[a]
FS	1,560.3	2,290.0	2,347.0	2,128.5	1,846.1	2,193.6	1,868.6	1,974.6
BLM	678.4	875.2	883.6	831.3	855.3	853.4	801.8	806.6
Total	2,238.8	3,165.1	3,230.6	2,929.8	2,701.4	3,047.0	2,670.5	2,781.3

a. This is the amount recommended to the full committee by the House Appropriations Subcommittee on Interior, Environment, and Related Agencies.

Note: The totals in this table are the sum of totals in **Tables 3, 4, and 5**, excluding the wildfire assistance programs funded through FS State and Private Forestry.

Funding Levels

The tables below present data on funding for the three categories of federal fire programs: protection of federal lands; assistance for protection of nonfederal lands; and other fire-related expenditures. The FS and BLM use three fire appropriation accounts — preparedness, suppression operations, and other operations — to fund most federal fire programs. However, the agencies include different activities in the accounts (e.g., the BLM includes fire research and fire facility funding in the preparedness account, while the FS includes these in other operations), and the accounts change over time (e.g., the agencies split operations funding into suppression and other operations in 2001). Thus, the data, taken from the agency budget justifications for the National Fire Plan, have been rearranged for the tables in this report to present consistent data and trends on the three categories of federal wildfire programs since 1999.

Federal Lands

Wildfire management funds are used to protect federal lands. **Table 3** shows wildfire management appropriations for FY1999-FY2006, the enacted level for FY2007, and the President's budget request and the recommendations of the House Appropriations Subcommittee on Interior, Environment, and Related Agencies for FY2008 for protecting federal lands from wildfires. The data in this table exclude funding for the other two categories of federal wildfire funding — assistance to state and local governments, communities, and private landowners; and other fire-related activities (research, fire facility maintenance, and forest health improvement, etc.). The BLM included funds for fire research and fire facilities under its preparedness budget line item through FY2004; these funds have been excluded from the table. **Table 3** shows appropriations by fiscal year, with emergency funding identified for

the year in which it was provided, rather than in the year it was spent. The agencies are authorized to borrow from other accounts for fire suppression, and emergency funds generally repay these borrowings. The table shows that total federal land fire management appropriations rose substantially in FY2001 and have since remained relatively high, with fluctuations generally depending on the severity of the preceding fire season.

Preparedness. Fire preparedness appropriations provide funding for fire prevention and detection as well as for equipment, training, and baseline personnel. Wildfire preparedness funding rose substantially (58%) in FY2001 and by a lesser amount (7%) in FY2004. In FY2001, BLM preparedness appropriations rose more (81%) than FS preparedness funding (49%). In FY2004, BLM preparedness funding declined slightly, with the rise entirely in FS preparedness. For FY2008, the FS proposed a separate Wildland Firefighters account to cover basic personnel and training costs. The total proposed funding for FS firefighters and FS preparedness was $568.8 million, a decline of $87.1 million (13%, the lowest level since FY2000. Proposed BLM preparedness for FY2008 was $268.3 million, a decline of $6.5 million (2%) from FY2007. The House Appropriations Subcommittee recommended higher funding levels — $675.4 million for the FS ($106.6 million, 19%, above the request) and $274.9 million for the BLM ($6.6 million, 2%, above the request).

Suppression and Emergency Funds. Funds for fighting wildfires — appropriations for fire suppression and supplemental contingency or emergency funds — have fluctuated widely over the past decade, from less than $430 million (in FY1999) to nearly $1.7 billion in FY2003. As noted above, some of the variation results from fluctuations in the severity of the fire season in the preceding year, particularly in supplemental emergency funding. Such fluctuations have long been part of the agencies' funding, with total appropriations in FY1997 doubling from FY1996 levels owing to severe season in the summer of 1996. (See **Table 3**.) Appropriations for fire suppression have risen steadily and sharply for both agencies since FY2002. The FY2008 request for BLM suppression funding is triple the FY1999 appropriation. BLM fire suppression funds rose sharply (64%) in FY2000, and have risen steadily since FY2003, with a proposed increase of $37.4 million (15%) for FY2008. The FY2008 request for FS fire suppression funding is five times greater than the FY1999 appropriation. FS suppression funding more than doubled in FY2001, then fell in FY2002 before rising sharply in FY2003 (64%) and again in FY2004 (43%). FS fire suppression funding has risen steadily since FY2004, and is proposed to increase by $169.6 million (23%) for FY2008. The subcommittee recommendation matched the request for the BLM, but was $52.0 million (6%) less than the request for FS fire suppression.

Table 3. Wildfire Funding to Protect Federal Lands, FY1999-FY2008

($ in millions)

	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007 Enacted	FY2008 Request	FY2008 House SC
Forest Service	**722.4**	**1,008.0**	**1,702.4**	**1,415.6**	**2,162.7**	**2,233.2**	**2,026.2**	**1,737.2**	**2,084.3**	**1,771.4**	**1,862.7**
Preparedness	374.8	408.8	611.1	622.6	612.0	671.6	676.5	660.7	655.4	[a]568.8	675.4
Suppression	180.6	139.2	319.3	255.3	418.0	597.1	648.9	690.2	741.5	911.0	859.0
Emergency Funds	102.0	390.0	425.1	266.0	889.0	699.2	395.5	100.0	370.0	0.0	0.0
Site Rehabilitation[b]	0.0	0.0	141.7	62.7	7.1	6.9	12.8	6.2	6.2	0.0	18.0
Fuel Reduction	65.0	70.0	205.2	209.0	236.6	258.3	292.5	280.1	301.3	291.6	310.3
BLM	**327.9**	**577.7**	**929.1**	**640.6**	**845.0**	**853.6**	**801.3**	**831.8**	**841.6**	**790.1**	**796.6**
Preparedness[c]	147.9	152.6	276.7	253.0	255.2	254.2	258.9	268.8	274.8	268.3	274.9
Suppression	96.2	158.1	153.1	127.4	159.3	192.9	218.4	230.7	249.2	294.4	294.4
Emergency Funds	50.0	200.0	199.6	54.0	225.0	198.4	98.6	100.0	95.0	0.0	0.0
Site Rehabilitation	[d]0.0	20.0	104.8	20.0	19.9	24.2	23.9	24.1	22.8	24.6	24.6
Fuel Reduction	[e]33.8	47.0	195.0	186.2	185.6	183.9	201.4	208.1	199.8	202.8	202.8
Total	**1,050.3**	**1,585.6**	**2,631.5**	**2,056.3**	**3,007.6**	**3,086.8**	**2,827.5**	**2,569.0**	**2,925.9**	**2,561.5**	**2,659.3**
Preparedness	522.7	561.3	887.9	875.7	867.2	925.8	935.4	929.5	940.2	837.1	950.2
Suppression	276.8	297.3	472.4	382.7	577.3	790.0	867.3	920.9	990.7	1,205.4	1,153.4
Emergency Funds	152.0	590.0	624.6	320.0	1,114.0	897.6	494.1	200.0	465.0	0.0	0.0
Site Rehabilitation	0.0	20.0	246.6	82.7	26.9	31.1	36.8	30.3	29.0	24.6	42.6
Fuel Reduction	98.8	117.0	400.1	395.2	422.3	442.2	463.9	488.2	501.0	494.4	513.1

Source: Annual agency budget justifications.

Note: This table differs from the similar table in CRS Report RL34011, *Interior and Related Agencies: FY2008 Appropriations*, coordinated by Carol Hardy Vincent and Susan Boren, because of adjustments for the two non-federal land categories of federal wildfire funding.

a. Includes proposed separate wildland firefighter account.
b. Unidentifiable amount funded from other budget line items, such as watershed improvement.
c. Excludes joint fire science research and facilities funding enacted within the BLM preparedness account through FY2004.
d. Unidentified amount included in suppression funding.
e. Calculated at 26% of wildfire operations (see page IV-36 of the FY2001 BLM budget justification).

Post-Fire Rehabilitation. Wildfire appropriations for rehabilitating burned areas have been relatively stable, except in FY2001 and FY2002. Most wildfire site rehabilitation funds are to the BLM for treating burned Interior lands. Except for the five-fold increase for FY2001, BLM site rehabilitation funds generally have ranged between $20.0 and $25.0 million annually since FY2000. The FS generally receives few wildfire funds for site rehabilitation (none prior to FY2001), and instead uses funds appropriated to other accounts, such as watershed improvement and vegetation management. However, the FS was appropriated $141.7 million of wildfire funds for site rehabilitation (a third more than the unusually high BLM rehabilitation funding) in FY2001, and $62.7 million (more than three times the normal BLM rehabilitation funding) in FY2002. These two years account for 84% of FS wildfire appropriations for site rehabilitation in the past decade. For the BLM, the House Appropriations Subcommittee recommended matching the request at $24.6 million, $1.8 million (8%) above the FY2007 level. For the FS, the Administration requested no rehabilitation funds, and the subcommittee recommended $18.0 million, $11.8 million more than FY2007.

Fuel Reduction. Fuel reduction funding is intended to protect lands and resources from wildfire damages by lowering the fuel loads on federal lands, and thus making the fires less intense and more controllable. Total fuel reduction funding more than tripled in FY2001. Except for a drop in FY2006, FS fuel reduction funding has continued to rise slowly since FY2001. The FY2008 request is $291.6 million, $9.7 million (3%) lower than FY2007 funding, and 42% above the FY2001 level. The subcommittee recommended $310.3 million, $18.7 million (6%) more than the request and $9.0 million (3%) above FY2007. For the BLM, fuel reduction appropriations have been relatively stable since FY2001, ranging from $183.9 million in FY2004 to $208.1 million in FY2006. The subcommittee recommended funding of $202.8 million, matching the FY2008 request, $3.0 million (1.5%) above FY2007.

Assistance for Nonfederal Lands

States are responsible for fire protection of nonfederal lands, except for lands protected by the federal agencies under cooperative agreements. The federal government, primarily through the FS, has a group of wildfire programs to provide assistance to states, local governments, and communities to protect nonfederal (both government and private) lands from wildfire damages.[6]

Most FS fire assistance programs are funded under the agency's State and Private Forestry (S&PF) branch. State fire assistance includes financial and technical help for fire prevention, fire control, and prescribed fire use by state foresters, and through them, to other agencies and organizations. In cooperation with the General Services Administration (GSA), the FS is encouraged to transfer "excess personal property" (equipment) from federal agencies to state and local firefighting forces. The FS also provides assistance directly to volunteer fire departments. Since FY2001, fire assistance funding also has come through wildfire appropriations. In

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[6] For more details on these programs, see CRS Report RL31065, *Forestry Assistance Programs*, by Ross W. Gorte.

addition, the 2002 farm bill (P.L. 107-171) created a new community fire protection program, authorizing the FS to assist communities in protecting themselves from wildfires and to act on nonfederal lands (with the consent of landowners) to assist in protecting structures and communities from wildfires.

Wildfire funds have also been provided for economic assistance. For three years (FY2001-FY2003), FS wildfire appropriations were added to the S&PF Economic Action Program (EAP) for training and for loans to existing or new ventures to help local economies. In addition, in FY2001, the FS received fire funds to directly aid communities recovering from the severe fires in 2000. The BLM received funding to assist rural areas affected by wildfires for FY2001-FY2006.

Funding for these assistance programs is shown in **Table 4**. Total funds for assistance in protecting nonfederal lands increased substantially in FY2001, from $27.2 million (all FS S&PF funds) to $148.5 million. Funding dropped about 20% in FY2002 (to $117.5 million) and has fluctuated by as much as 40% annually since. Wildfire funds for these programs were enacted for the first time in FY2001, and have been maintained for FS state and volunteer assistance programs. President Bush proposed reducing wildfire funding for state fire assistance in FY2006 and FY2007, but Congress restored much of the proposed cut. For FY2008, the President has again proposed reducing wildfire funding for FS state fire assistance (but not for volunteer fire assistance), by $11.2 million (24%). The House Appropriations Subcommittee recommended restoring state fire assistance funding to the FY2007 level. The subcommittee also recommended increasing fire funding for volunteer fire assistance to $10.0 million, $2.0 million (25%) above the FY2008 request and $2.2 million (28%) above FY2007.

FS community assistance to aid communities affected by fires in the summer of 2000 was a one-time appropriation, and FS EAP funds from wildfire appropriations were enacted for only three years. (The Administration has proposed terminating S&PF EAP funding in each budget request since FY2005.) Appropriations for BLM rural assistance were enacted annually for FY2001-FY2006, but no funds were provided for FY2007, none were requested for FY2008, and the subcommittee recommended none.

Other Fire Funding

Wildfire appropriations are also provided for several other activities, including wildfire research, construction and maintenance of fire facilities, and forest health management, as shown in **Table 5**. Wildfire funds for fire research have been enacted for both the BLM and the FS for the Joint Fire Science program. BLM's appropriations, in the wildfire preparedness budget line item, were $4 million annually for FY1999 and FY2000, about $8 million annually for FY2001-FY2005, and about $6 million for FY2006. Funding for FY2007 and the request for FY2008 are $4.0 million each year. FS funds for Joint Fire Science have been about $8 million annually since FY2002 (and previously included an unidentified portion of FS research funds). The Administration proposed to cut the funding in half in FY2007, but Congress instead returned funding to $7.9 million. The FY2008 request and the subcommittee recommendation for FS Joint Fire Science funding is $8.0 million. The FS also has been appropriated wildfire funds for fire research and

development, beginning in FY2001, and averaging about $22 million annually. For FY2008, the Administration requested $22.0 million, $0.8 million (4%) less than the FY2007 level. The House Appropriations Subcommittee recommended increasing the funds slightly, to $23.5 million, 7% above the request. These funds supplement monies for wildfire research in the FS research account; however, because the portion of funds in the FS research account used for fire research cannot be determined, total FS fire research funding is unknown.

Both the BLM and the FS have received funds to improve deteriorating fire facilities. The BLM has long used a portion of its fire preparedness funds for "deferred maintenance and capital improvements" (i.e, for fire facilities), but the level has fluctuated. The FY2008 request is $7.7 million, matching the FY2006 and FY2007 appropriations. The House Appropriations Subcommittee recommended reducing this to $4.0 million. FS wildfire funds for fire facilities declined after the initial $43.9 million in FY2001 and ended in FY2004. The FS also builds and maintains fire facilities with its capital construction and maintenance account, but the portion used for fire facilities is unknown.

Finally, the FS has received wildfire funds for forest health management. This S&PF program focuses on assessing and controlling insect and disease infestations on federal and cooperative (i.e., nonfederal) lands, but includes efforts to control invasive species. In FY2001 and FY2002, the FS received nearly $12 million annually in wildfire funds for forest health management. Appropriations rose to nearly $25 million annually since FY2004. The Administration proposed cutting the funds by more than half (to less than $12 million) in FY2007, but Congress enacted funding of $24.6 million, and the Administration requested $24.4 million for FY2008. The House Appropriations Subcommittee recommended funding the proposed amount.

Fire Funding Issues

Four issues related to wildfire funding have arisen in the last few years. The first to arise was level of fire protection funding to reduce fuel loads on federal lands. A second, related issue is the federal role in fire protection of nonfederal lands and structures, and the funding of the relevant federal activities. During the 109th Congress, a third issue was raised about post-fire rehabilitation. Finally, a growing concern has been the rising cost of fire suppression and its effect on other aspects of federal land management.

Fuel Reduction Funding

Fuel management is a collection of activities — primarily prescribed burning and thinning — intended to reduce the threat of significant damages by wildfires. The FS began its fuel management program in the 1960s. By the late 1970s, earlier agency policies of aggressive suppression of all wildfires had been modified, in recognition of the enormous cost of the organization needed to achieve the goals of the 10:00 a.m. and 10-acre policies and of the ecological benefits that can result from some fires. These understandings have in particular led to an expanded prescribed burning program.

Table 4. Federal Funding to Assist in Protecting Nonfederal Lands, FY1999-FY2008

($ in millions; includes emergency appropriations)

	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007 Enacted	FY2008 Request	FY2008 House SC
FS, Wildfire Mgt.	**0.0**	**0.0**	**108.5**	**77.1**	**79.4**	**59.2**	**48.1**	**53.6**	**54.0**	**43.0**	**56.2**
State Fire Assistance	0.0	0.0	52.9	56.4	66.3	51.1	40.2	45.8	46.2	35.0	46.2
Volunteer Fire Asst.	0.0	0.0	8.3	8.3	8.2	8.1	7.9	7.8	7.8	8.0	10.0
Economic Action	0.0	0.0	12.5	12.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Community Assistance	0.0	0.0	34.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLM *Rural Assistance*	**0.0**	**0.0**	**10.0**	**10.0**	**9.9**	**9.9**	**9.9**	**9.9**	**0.0**	**0.0**	**0.0**
Total Wildfire Funds	**0.0**	**0.0**	**118.5**	**87.1**	**89.3**	**69.1**	**58.9**	**63.4**	**54.0**	**43.0**	**56.2**
Forest Service, S&PF	**22.9**	**27.2**	**29.9**	**30.4**	**30.5**	**63.3**	**38.8**	**38.8**	**38.8**	**42.1**	**42.1**
State Fire Assistance	*20.9*	*23.9*	*24.9*	*25.3*	*25.5*	*58.2*	*32.9*	*32.9*	*32.9*	*33.1*	*33.1*
Volunteer Fire Asst.	*2.0*	*3.2*	*5.0*	*5.1*	*5.0*	*5.0*	*5.9*	*5.9*	*5.9*	*9.0*	*9.0*
Total Assistance	**22.9**	**27.2**	**148.5**	**117.5**	**119.8**	**132.4**	**97.8**	**102.2**	**92.8**	**85.1**	**98.3**

Source: Annual agency budget justifications.

Table 5. Other Fire Management Appropriations, FY1999-FY2008

($ in millions)

	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007 Enacted	FY2008 Request	FY2008 House SC
Forest Service, Fire	**0.0**	**0.0**	**71.8**	**67.6**	**47.9**	**54.6**	**54.3**	**55.3**	**55.3**	**54.4**	**55.8**
Joint Fire Science	0.0	0.0	0.0	8.0	7.9	7.9	7.9	7.9	7.9	8.0	8.0
Fire research	0.0	0.0	16.0	27.3	21.3	22.0	21.7	22.8	22.8	22.0	23.5
Fire facilities	0.0	0.0	43.9	20.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Forest health	0.0	0.0	12.0	12.0	16.8	24.7	24.7	24.6	24.6	24.3	24.3
BLM	**9.0**	**13.3**	**38.0**	**27.8**	**20.2**	**20.1**	**20.1**	**13.6**	**11.7**	**11.7**	**10.0**
Joint Fire Science	4.0	4.0	8.0	8.0	7.9	7.9	7.9	5.9	4.0	4.0	6.0
Fire facilities	5.0	9.3	30.0	19.8	12.3	12.2	12.2	7.7	7.7	7.7	4.0
Total	**9.0**	**13.3**	**109.8**	**95.4**	**68.1**	**74.7**	**74.4**	**68.9**	**67.0**	**66.0**	**65.8**

Source: Annual agency budget justifications.

Since 1990, recognition of unnaturally high fuel loads of dead trees, dense understories of trees and other vegetation, and non-native species has spurred interest in fuel management activities. Attention and efforts have expanded with and following development of the National Fire Plan in 2000. **Table 6** shows acreage by ownership class of lands at low, moderate, and high risk of significant ecological damage from wildfire due to high fuel loads.

Table 6. Lands At Risk of Ecological Damage from Wildfire
(in millions of acres)

Landowner	Total Acreage	Low Risk	Moderate Risk	High Risk
Forest Service	196.52	64.95	80.45	51.12
Dept. of the Interior	227.72	128.42	75.83	23.47
Pvt., state, & other fed.	825.01	404.60	313.54	107.18
Total	**1,249.25**	**597.97**	**469.82**	**181.77**

Source: Kirsten M. Schmidt, James P. Menakis, Colin C. Hardy, Wendel J. Hann, and David L. Bunnell, *Development of Coarse-Scale Spatial Data for Wildland Fire and Fuel Management*, Gen. Tech. Rept. RMRS-87 (Fort Collins, CO: USDA Forest Service, April 2002), pp. 13-15.

Increasing fuel reduction activities was one of the primary rationales for enacting the Healthy Forests Restoration Act of 2000 (HFRA). Many observers described the need for expeditious action to reduce fuel loads and fuel ladders,[7] and the difficulties in achieving expeditious action because of the environmental documentation and public participation required by the National Environmental Policy Act of 1969 (NEPA; P.L. 91-190, 42 U.S.C. §§4321-4347). HFRA established an expedited process for environmental review and public involvement in fuel reduction activities. In addition, the FS and BLM established *categorical exclusions* from NEPA for hazardous fuel reduction activities. (These authorities are discussed further under "Post-Fire Rehabilitation," below.) It is unclear how many fuel reduction activities have occurred under either of these authorities.

Fuel treatment acreage has increased since the mid-1990s. **Table 7** shows that the acreage treated from FY1995 to FY2004 increased by 400%. However, treatment acreage fell in FY2005 and again in FY2006, and has not been proposed to return to the FY2004 level. At a treatment level of 3 million acres annually, it would take nearly 25 years to treat the FS and DOI lands at high risk of ecological damage from wildfire, and another 52 years to treat the lands at moderate risk.

[7] A *fuel ladder* is a stand structure with continuous fuels, in the form of tall grasses and forbs, shrubs, and low branches, between the ground and the tree crowns that allow surface fires to spread upward.

Table 7. Total Acreage of Fuel Treatment, FY1995-FY2008

(in thousands of acres)

	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001
FS	541.3	599.5	1,097.7	1,489.3	1,280.0	772.0	1,361.7
BLM	57.0	298.0	474.0	632.0	827.8	1,020.0	728.1
Total	**598.3**	**897.5**	**1,571.6**	**2,121.3**	**2,107.8**	**1,792.0**	**2,089.8**

	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007 Planned	FY2008 Proposed
FS	1,257.9	1,453.3	1,803.8	1,663.9	1,454.7	1,750.0	1,800.0
BLM	1,059.0	1,258.8	1,205.9	1,269.4	1,106.1	1,055.0	1,061.0
Total	**2,316.9**	2,712.2	3,064.7	2,933.3	2,560.8	2,805.0	2,861.0

Source: Annual agency budget justifications.

The presumption behind fuel treatment is that lower fuel loads and a lack of fuel ladders will reduce the extent of wildfires, the damages they cause, and the cost of controlling them. Numerous on-the-ground anecdotes support this belief. However, little empirical research has documented this logical presumption. As noted in one research study, "scant information exists on fuel treatment efficacy for reducing wildfire severity."[8] This study also found that "fuel treatments moderate extreme fire behavior within treated areas, at least in" frequent fire ecosystems. Others have found different results elsewhere; one study reported "no evidence that prescribed burning in these [southern California] brushlands provides any resource benefit ... in this crown-fire ecosystem."[9] A recent summary of wildfire research reported that, although prescribed burning generally reduced fire severity, mechanical fuel reduction did not consistently reduce fire severity, and that limited research had examined the potential impacts of mechanical fuel reduction with prescribed burning or of commercial logging.[10] Thus, it is unclear whether, or to what extent, increasing fuel treatment funding and efforts will protect communities and ecosystems from damaging wildfires.

Federal Role in Protecting Nonfederal Lands

The states are responsible for protecting nonfederal lands from wildfires, but Forest Service cooperative fire assistance to states has been authorized since the

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[8] Philip N. Omi and Erik J. Martinson, *Effects of Fuels Treatment on Wildfire Severity: Final Report*, submitted to the Joint Fire Science Program Governing Board (Fort Collins, CO: Colorado State University, Western Forest Fire Research Center, March 25, 2002), p. i.

[9] Jon E. Keeley, "Fire Management of California Shrubland Landscapes," *Environmental Management*, vol. 29, no. 3 (2002), pp. 395-408.

[10] Henry Carey and Martha Schumann, *Modifying WildFire Behavior — The Effectiveness of Fuel Treatments: The Status of Out Knowledge*, Southwest Region Working Paper 2 (Santa Fe, NM: National Community Forestry Center, April 2003).

Clarke-McNary Act of 1924. Cooperative fire assistance was questioned during the Reagan, George H. W. Bush, and Clinton Administrations, with budget proposals to substantially reduce funding (generally to less than 30% of enacted appropriations) from FY1984 through FY1995.

The debate over the federal role in assisting states shifted, because the summer of 1994 had been a severe fire season. The *Federal Wildland Fire Management Policy & Program Review: Final Report*, released in December 1995, altered federal fire policy from priority for private property to equal priority for private property and federal resources, based on values at risk. (Protecting human life remains the first priority in firefighting.) The increased emphasis on state and local responsibility for protecting nonfederal lands also led to a recognition of the importance of federal assistance to state and local agencies. (Sharing fire suppression costs with state and local governments is discussed below, under "Wildfire Suppression Costs.")

In contrast to White House efforts to cut fire assistance funding in the 1980s and early 1990s, state and volunteer fire assistance funding more than tripled in 2001, rising from $27.2 million to $91.1 million, pulled along by the broad rise in federal wildfire funding under the National Fire Plan. (See **Table 4**, above.) State and volunteer fire assistance funding continued to rise for a few years, peaking at $122.5 million in FY2004. Funding fell to $86.9 million in FY2005, and has persisted at about $90 million annually since.

The 2002 farm bill (P.L. 107-171, the Farm Security and Rural Investment Act of 2002) authorized a new fire assistance program, the Community Fire Protection Program. The program authorizes the Forest Service, working with and through state forestry agencies, to assist local fire protection planning, education, and activities. The program is authorized at $35 million annually for FY2002-FY2007, and "such sums as are necessary" thereafter; to date, no explicit budget line items have been enacted for this program.

Questions persist about the appropriate role of federal firefighters and funds in protecting structures, communities, and privately owned resources. States bear the responsibility for fire protection on all nonfederal lands. The Forest Service and others also support the FIREWISE program to educate landowners and communities about how to protect their properties and structures from wildfire. The National Interagency Fire Center coordinates the movement of firefighting forces (federal, state, and private contractors) to areas with lots of wildfires. The federal agencies are also directed to give "excess personal property" (such as surplus firefighting equipment) to state or local fire departments. Some question whether these programs are sufficient, and suggest that perhaps the federal financial assistance could be terminated. Others question appropriate federal firefighting actions, where state or local responsibility for structure fires has been used as an excuse for inaction.[11] On

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[11] At least two houses on the Standing Rock Indian Reservation burned down in the summer of 2006, because firefighters of the Bureau of Indian Affairs apparently were not allowed to fight fires in private dwellings, only grassland fires and government structure fires; the policy was modified in July 2006 ("Dorgan: BIA Changing Policy on Standing Rock Fires," (continued...)

the other hand, federal firefighters are not trained to fight structure fires, and such efforts without proper training might endanger the firefighters, it has been argued.

The appropriate federal response following wildfire damages to private lands and resources has also been questioned. Catastrophic wildfires sometimes lead to disaster declarations, and thus to recovery efforts coordinated and assisted by the Federal Emergency Management Agency (FEMA) of the Department of Homeland Security. Wildfire damages not in declared disaster areas are sometimes, but not always, covered by private insurance (which is regulated by the states). Homeowners without fire insurance or whose fire insurance does not cover wildfires may be left without compensation for their losses. Similarly, landowners with resource losses (e.g., many trees killed by wildfire) may receive no compensation or assistance to help recover from the losses. It seems unfair to some that wildfire damages are substantially covered only when total damages are sufficient to declare the area a disaster. Some have suggested that the National Flood Insurance Program might provide an appropriate model for federal wildfire insurance for private landowners.[12] Others assert that private insurance exists and is more efficient than a government insurance program, and that the National Flood Insurance Program has not prevented building in flood zones or repetitive flood losses, despite these being part of its goals.

Post-Fire Rehabilitation

Rehabilitation of burned sites following intense wildfires has been a generally accepted practice. As shown in **Table 3**, the BLM has traditionally received modest appropriations for rehabilitation; in contrast, the Forest Service has funded burned area rehabilitation from regular appropriations for vegetation management, wildlife habitat, watershed management, and other accounts, with little or no special appropriations for rehabilitation except in FY2001 and FY2002.

Attention to post-fire rehabilitation has increased in recent years. The Bush Administration finalized regulations authorizing NEPA categorical exclusions for post-fire rehabilitation activities affecting up to 4,200 acres in June 2003.[13] These (and other) regulations were successfully challenged as violating the Forest Service Decision Making and Appeals Reform Act (§322 of P.L. 102-381; 16 U.S.C. §1612 note), and the FS suspended many proposed actions in response to the court's order.[14] In the 109th Congress, the Forest Emergency Recovery and Research Act of 2006 (H.R. 4200) was introduced to direct the Forest Service and BLM to establish research protocols for catastrophic events affecting forests, to provide an expedited process for recovery of forests from catastrophic events, and to authorize financial assistance to restore landscapes and communities affected by catastrophic events. The expedited process would have required catastrophic event recovery assessments,

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[11] (...continued)
Associated Press, July 15, 2006).

[12] See CRS Report RS22394, *National Flood Insurance Program: Treasury Borrowing in the Aftermath of Hurricane Katrina*, by Rawle O. King.

[13] 68 *Fed. Reg.* 33814 (June 5, 2003)

[14] *Earth Island* v. *Pengilly*, 376 F.Supp. 2d 994 (E.D.Cal. 2005).

with pre-approved management practices and alternative NEPA arrangements, and foreshortened administrative and judicial reviews of related activities. The bill was reported by the House Committee on Resources (H.Rept. 109-451, May 4, 2006) and discharged from the House Committees on Agriculture and on Transportation. It passed the House on May 17, 2006. The Senate Committee on Agriculture, Nutrition, and Forestry held hearings on the bill on August 2, 2006, but took no further action on the bill. Legislation to expedite post-fire rehabilitation may be reintroduced in the 110th Congress.

No data or assessments have examined the adequacy of current rehabilitation activities. It is unclear how often rehabilitation activities are necessary, and what activities are involved. It is also unclear whether NEPA environmental reviews or public involvement have delayed rehabilitation activities significantly. Opponents of the legislation expressed concerns that it would ease environmental review of and public participation in salvage logging decisions, since salvage logging was not precluded as a rehabilitation activity. They note that salvage logging can cause significant environmental damage. Proponents of the legislation contend that timber salvage can help in site rehabilitation, both by reducing costs and by removing dead biomass that may interfere with vegetative regrowth on the site.

Wildfire Suppression Costs

Federal costs for wildfire suppression are substantially higher than they were a decade or more ago, as shown in **Table 3**. Wildfire suppression appropriations (including emergency supplemental funding) have exceeded $1 billion annually, beginning in FY1993, except for FY2007, and the vetoed emergency supplemental appropriations bill (H.R. 1591) included $200 million for wildfire suppression. The Senate Committee on Energy and Natural Resources held a hearing on suppression costs on January 30, 2007; Chairman Bingaman observed that FY2006 suppression costs were nearly $2 billion, and that $900 million was needed in supplemental appropriations.[15] (FY2006 appropriations for wildfire suppression were $920.9 million, and $200.0 million in emergency supplemental funds were included in the Emergency Supplemental Appropriations Act, H.R. 1591, pending at that time.)

How can an agency spend more than its appropriations? In most situations, it can't. However, provisions in the annual Interior appropriations acts authorize the BLM and the Forest Service to borrow unobligated funds from other accounts for emergency firefighting. This is, in effect, an open-ended reprogramming authority.

Historically, this borrowing authority was not a significant problem. Prior to about 1990, the Forest Service had several mandatory spending accounts, funded from timber receipts, with substantial running balances. The Knutson-Vandenberg (K-V) Fund was particularly useful for borrowing. The K-V Fund was created in 1930 to retain deposits from timber purchasers primarily to reforest the timber sale areas; annual deposits were $150-$200 million, with about a three-year lag between

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[15] U.S. Senate, Committee on Energy and Natural Resources, *Costs of Wildfire Suppression*, S.Hrg. 110-10 (Washington, DC: U.S. GPO, 2007), pp. 1-2. Hereafter referred to as Senate ENR, *Hearing on Wildfire Suppression Costs*.

the deposits and reforestation expenditures, leaving a running balance of about $500 million. Thus, firefighting funds could be borrowed from the K-V Fund, and repaid later with supplemental or regular appropriations, without a significant effect on the reforestation program. The decline in timber sales has led to a comparable decline in K-V (and other mandatory account) balances, and thus the Forest Service has had to turn elsewhere to borrow funds to pay for firefighting.

Another reason why the borrowing authority was not a problem is that, for FY1994-FY2000, wildfire suppression expenditures were only about 30% of agency discretionary appropriations (30.6% for the Forest Service, 29.0% for the BLM), leaving significant funds in other accounts to borrow from. (This is even more true for the BLM, since it can borrow from any Interior Department accounts, not just BLM accounts.) However, since FY2001, wildfire suppression expenditures have averaged 44% of agency discretionary appropriations (43.7% for the Forest Service, 44.2% for the BLM). Thus, there are relatively fewer funds available to borrow, and borrowing to pay for firefighting is having a relatively greater effect on those other accounts. Various interests have increasingly expressed concerns about the effects of firefighting borrowing on the agencies' abilities to implement other programs.

Numerous organizations have examined wildfire suppression costs and made recommendations to the agencies for how to contain those costs.[16] These reports present three general conclusions: (1) a fair share of wildfire suppression be paid by state and/or local governments; (2) more, better, and better-focused fuel reduction efforts; and (3) better accountability for cost control.

Several reports have noted that wildfire suppression cost-share agreements are inconsistent and inequitable, and that cost apportionment and responsibilities among the various levels of government are unclear. This has led to increasing reliance by homeowners and local governments on federal fire protection, despite the relatively clear direction in the 1995 federal fire policy review to increase local responsibility for wildfire protection and suppression for nonfederal lands and structures.[17] The reports note that significant local cost responsibility is necessary to give incentives

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[16] The organizations' reports include:

U.S. General Accounting Office (now Government Accountability Office), *Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats*, GAO/RCED-99-65 (Washington, DC: April 1999), 60 p.; *Wildland Fire Management: Lack of a Cohesive Strategy Hinders Agencies' Cost-Containment Efforts*, GAO-07-427T (Washington, DC: January 30, 2007), 13 p.; and more than a dozen other reports.

National Academy on Public Administration, *Wildfire Suppression: Strategies for Containing Costs* (Washington, DC: September 2002), 2 volumes.

Strategic Issues Panel on Fire Suppression Cost, *Large Fire Suppression Costs: Strategies for Cost Management*, A Report to the Wildland Fire Leadership Council (August 26, 2004), available at [http://www.fireplan.gov/reports/2004/costmanagement.pdf].

U.S. Dept. of Agriculture, Office of Inspector General, Western Region, *Audit Report: Forest Service Large Fire Suppression Costs*, Rept. No. 08601-44-SF (November 2006), 47 p.

[17] U.S. Dept. of the Interior and Dept. of Agriculture, *Federal Wildland Fire Management Policy & Program Review: Final Report* (Washington, DC: December 18, 1995).

to homeowners and local governments to take actions to protect themselves, and that without such incentives, federal costs will continue to escalate.

Fuel reduction efforts, as discussed above, are commonly proposed as a means of reducing wildfire suppression costs. However, as shown in **Table 7**, the annual fuel treatment acreage has stabilized at less than 3 million acres annually, less than the amount needed to treat lands at high and moderate risk of ecological damage from wildfire. (See discussion above.) The proportion of fuel treatments in the wildland-urban interface (WUI) has increased since FY2001 (the first year for which such data area available), from 37% (45% for the Forest Service, 22% for the BLM) to about 60% from FY2003 to FY2006 (73% for the Forest Service, 42% for the BLM), and is proposed to rise to 70% in FY2008 (83% for the Forest Service, 47% for the BLM). Nonetheless, at the same hearing, Robin Nazzaro of GAO noted that the agencies still needed to:[18]

> ... develop a cohesive strategy that identifies the options and associated funding to reduce fuels and address wildland fire problems.... In 2005 and 2006, because the agencies had not yet developed such a strategy, we reiterated the need for a cohesive strategy and broadened our recommendations' focus to better address the interrelated nature of fuel reduction efforts and wildland fire response.

Finally, the reports also discussed the need for better cost control and accountability. Most have noted the inconsistent cost tracking and the weak measures of the benefits of fire suppression efforts. GAO noted:[19]

> ... the agencies need to establish clear goals, strategies, and performance measures to help contain wildland fire costs. Although the agencies have taken certain steps to help contain wildland fire costs, the effectiveness of these steps may be limited because agencies have not established clear cost containment goals for the wildland fire program, including how containing costs should be considered in relation to other wildland fire program goals such as protecting lives, resources, and property; strategies to achieve these goals; or effective performance measures to track their progress.

The Strategic Issues Panel noted that the high cost of large fires was the result of the "unwillingness to take greater risks, unwillingness to recognize that suppression techniques are sometimes futile, the 'free' nature of wildland fire suppression funding, and public and political expectations...."[20] The panel then recommended better fire cost data and "a benefit cost measure as the core measure of suppression cost effectiveness."[21]

Another part of cost control and accountability is integration of wildfires and fire control efforts and effectiveness in land and resource planning, fire planning, and budgeting. One aspect of this integration is maintaining local capacity for initial

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[18] Senate ENR, *Hearing on Wildfire Suppression Costs*, p. 15.

[19] Senate ENR, *Hearing on Wildfire Suppression Costs*, p. 15.

[20] *Large Fire Suppression Costs: Strategies for Cost Management*, p. 6.

[21] *Large Fire Suppression Costs: Strategies for Cost Management*, p. 33.

attack on new wildfires. Most of the reports assert that, without that local capacity, new fires could become conflagrations if resources are too focused on suppressing current conflagrations.

The Administration has responded to some of these concerns. In testimony on January 30, 2007, Under Secretary of Agriculture Mark Rey noted the agencies have adopted "appropriate management response" for tactical decisions, such that wildfire control efforts are related to values at risk.[22] In conjunction with this, the agencies are to maintain their initial attack success. The Forest Service Chief will identify an individual to "provide oversight on fires of national significance and assist local units coordinate with DOI on DOI lands." Finally, "national resources," such as aviation resources (helicopters, etc.) and personnel (smokejumpers, hot shot crews, etc.) will be pre-positioned, based on predicted services and planning levels, to provide "a more centralized and flexible management of these response resources and more efficient use ..."[23] It is unclear how well these actions will address concerns about cost control and accountability.

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[22] Senate ENR, *Hearing on Wildfire Suppression Costs*, p. 7.

[23] Senate ENR, *Hearing on Wildfire Suppression Costs*, p. 7.