Montana Legislative
Performance Audit Summary

Wildland Fire Administration

December 2004

Introduction

This performance audit provides information on DNRC's role in wildland fire suppression. It addresses questions about fire costs, communication/coordination with federal and local fire protection agencies, and availability of resources for wildland fire preparedness and suppression.

The 2003 fire season was the basis for the bulk of examination/analysis of wildland fire administration because of the few significant fires in 2004. We did observe current fire suppression and administration efforts of state, county, and federal fire protection agencies by going to three separate fires that occurred during 2004.

Background

The types of wildland fires are based on size and complexity. For basic administration of fires, however, there are really only two kinds: initial attack fires and extended attack fires. The distinction between them is the length of time to extinguish. Initial attack fires are typically contained or controlled within 1-2 operational periods, with 24 hours being a typical operational period. Extended attack fires are incidents that could not be contained or controlled by initial attack forces and need more firefighting resources. Extended attack fires can range from two days to several months depending upon location, topography, and forest fuels.

Fire Protection Agencies are Initial Attack-Oriented

Montana's fire protection agencies (state, federal, and local) are initial attack-oriented firefighting forces. Their primary objective is to aggressively respond to reports of fire in an attempt to keep the fires as small as possible. These agencies often rely upon one another to assist and support their initial attack efforts. The administration of initial attack fires is typically conducted by the fire protection agency responsible for protecting that land. An incident commander working for that entity orders the necessary resources and determines how those resources (personnel and equipment) are used to suppress the fire.

If a fire becomes an extended attack fire, a substantively different administrative approach generally comes into play. Because these fires are already large and/or complex or rapidly getting to that point, it becomes necessary to bring in "Incident Management Teams (IMTs)" to manage and ultimately suppress the fires.

Instead of each agency having its own IMTs, there has been a coalition of agency resources developed. By agreement and necessity, local, state, and federal personnel have been recruited and trained over the years to participate on IMTs.

Wildland Fires are Expensive and Nature Impacts Management Decisions.

Combating wildland fires is inherently expensive. The 10-year average cost of suppressing fires of 10 acres or less was approximately $4,500 per fire. In comparison, suppression costs for larger fires (Over 5,000 acres) averaged $2.3 million per fire. Aviation resources, heavy equipment, and crews are required to attack wildland fires. Equally important factors in costs are topography, weather, and forest fuels. The strategies created and resources deployed are experience-based calls by the administering entities and IMTs. Post-fire reviews show at times different judgments could have been made, established procedures were overlooked, and inefficiencies occurred.

During the last four years, numerous studies have been conducted with regard to wildland fire administration and more specifically of fire suppression costs. There are five common themes:

- The most effective cost containment strategy is to prevent fires from escaping initial attack.
- A critical need to reduce fuel levels in wildland areas.
- Movement into the wildland urban interface has increased fire suppression costs.
- There needs to be greater integration of local resources in the wildland firefighting strategies.
- The prevailing climatic conditions (drought) may well exist for the next 20-30 years.

2003 Fire Season Should be Placed in Perspective

Decision-making, policies and procedures, as well as existing business practices were all impacted and tested by the severity of the 2003 fire season. The types, locations, and number of fires stressed operational and control systems. Montana faced a designated fire danger of "very high" to "extreme" for two months. Large fires were prevalent and widespread in the Northern Rockies. Southwestern Montana had large fires threatening subdivisions near Missoula, Florence, Lolo Creek, etc. Central and South Central Montana had at least 10 large fires. The Fire Season began early with large fires starting by July 13. By August 15, there were (or had been) 52 large project fires. Fire costs exceeded $325 million for the Northern Rockies. Montana's portion will exceed $76 million.

Conclusions

The report includes conclusions that address various areas of wildland fire administration. The following is a summary:

- Effective cost containment strategies should concentrate on the cost factors: equipment, personnel, and aviation.
- The best-cost containment strategy is to prevent a fire from getting large.
- DNRC has established procedures and provided resources to locate, report, and respond to wildland fires.
- Resources are generally dispatched without delays when fires are located near boundaries between state, local, tribal, and federal protection areas. This results in more aggressive initial attack efforts.
- State, federal, and local entities coordinate fire suppression activities during initial attack.
- DNRC is meeting its goal to suppress 95 percent of fires at less than 10 acres.
- Helicopters and severity resources supplement DNRC initial attack capabilities, but lead to increased costs. Controls are in place to monitor use of resources.
- The state's fuels reduction efforts are not coordinated to ensure those areas with the greatest risk are treated.
- Business practice controls are in place and were adhered to during large fires. Improvement can be made.
- DNRC and other agencies involved in dispatch recognize and are addressing problems identified during 2003. Improvements are still needed.
- Mandated limitations on hours and days worked exist for the safety of fire personnel, but contribute to increased fire costs and can create negative, often-inaccurate perceptions about personnel work activity.
- Fires in wildland urban interfaces increase suppression costs.
- DNRC fire personnel are active participants in the interagency arena and have the opportunity and responsibility to present and protect Montana's interests.
- The impact of training equivalencies, availability, and timeframes associated with obtaining some firefighting credentials hampers the full use of local resources.
- Any strategies to enhance use of local firefighting forces in suppression of wildland fires must address conditions and issues impeding local forces from being fully integrated into the wildland firefighting environment.

Recommendations

The report includes 27 recommendations. The following is a summary:

- Coordinate with the NRCG to implement a two-tiered rate system for funding severity resources.
- Make completion of the fire program analysis a priority.
- Seek support for additional funding from the legislature for the county cooperative program.
- Seek legislation to establish a formal risk financing method for severity funding.
- Standardize first and last day of work payments to local fire departments.
- Take steps to ensure on-site equipment inspections are performed on project fires.
- Change language in equipment contracts to reflect damage claim clauses used in national engine/aviation contracts.
- Work with federal and other partners to improve and expand Delegation of Authority language to provide more specific direction to Incident Management Teams.
- Strengthen the cost share agreement development process by increasing training and support for Line Officers.
- Aggressively implement use of Incident Business Advisors.
- Use close-out briefings for a more detailed discussion of a fire's administration.
- Ensure Line Officers conduct detailed performance appraisals of Incident Management Teams and incorporate the information into the overall evaluation of the IMT.
- Work to establish meaningful performance measures for all personnel assigned to fire incidents, including contractors. Incorporate requirements for performance appraisals into each fire's Delegation of Authority.
- Clarify policy on when DNRC will pay individuals and industry for assistance efforts on accidentally started fires.
- Establish tighter controls over fire cache.
- Continue efforts to solicit competitive proposals for wildland firefighting contracts.
- Actively examine cost benefits of renting versus purchasing items for suppression, and reexamine fire cache contents.
- Begin cross-training other department staff for FEMA cost recovery efforts and review of federal fire bills.
- Employ formal retrospective cost studies to examine efficiency and effectiveness of wildland fire suppression efforts and provide results to fire managers.
- Strengthen capabilities of Line Officers by providing training and additional resources for large project fires and when requested on other fires.
- In cooperation with other fire protection agencies explore options to involve dispatch in discussing, evaluating, and documenting the role of dispatch in a fire's administration.
- Request appropriations for sufficient personal services to provide for a continuous helitack capability for each helicopter assigned to land offices during the fire season.
- Request sufficient personal services resources to safely and effectively operate all assigned aircraft and more accurately reflect actual pilot operating requirements.
- Request sufficient personal services resources to properly staff its aviation maintenance program.
- Establish formal agreements with local fire organizations to clarify responsibilities and compensation for responding to DNRC fires occurring outside the statutory fire season.
- Present a proposal for the formation, maintenance, and funding of additional Type 3 Incident Management Teams.
- Develop and update fire-related statutes to address current development and environmental conditions and improve wildland fire suppression management and mitigation.

For a complete copy of the report (04P-011) or for further information contact the Legislative Audit Division at 406-444-3122; e-mail to lad@state.mt.us; or check the web site at http://leg.state.mt.us/audit/