

Shared Resources¹

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Abstract: Wildfires do not respect property boundaries. Whole geographic regions are typically impacted by major wildfire outbreaks. Various fire related resources can be shared to solve such crises; whether they are shared, and how they are shared depends to a great extent upon the rapport among the agencies involved. Major progress has been achieved over the past decade largely through the adoption of some formalized processes, such as the National Wildfire Coordinating Group. More progress can be made on into the 21st century at the local, state, and national levels if managers will support the cost effective use of shared resources in the attainment of wildland fire management objectives.

The topic "Shared Resources" at first struck me as being somewhat out of place in the setting of the 21st century. The more I explored it however, the more it appeared to be the epoxy that will bond us together and enable us to move efficiently into the future.

Before launching into this discussion of shared resources, it is important to define the term "share." According to Webster, a share is "one's full or fair portion," (Webster 1985). We are dealing with portions of a whole, whole being all wildland fire management resources.

¹Presented at the Symposium on Wildland Fire 2000, April 27-30. 1987, South Lake Tahoe, California.

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THE ABILITY TO SHARE

Individual agencies must first establish a process that enables them to meet their internal needs for wildland fire protection. The normal year fire planning process identified one way of normalizing fire activity to provide, at least statistically, a means to target realistic numbers of fires per year for planning and programming purposes. That would suffice in field areas for their internal fire suppression needs in most times. However without expansion to address the ability to handle the worst case scenario in exceptional years, the process would fail to perform. So, in addition to the normal fire year process for field areas of an agency, there also needs to be an additional regional/national investment in worst case scenario. A national normal fire year, if you will, would identify those resources that must be available somewhere in the system, to back-up the field areas in their worst fire years.

Only after agencies have managed to obtain a reasonable degree of protection for their own lands, can they seriously look at the sharing of some of those resources. At this point they have merely laid the groundwork upon which the concept of shared resources rests if it is to serve local, regional and national needs. Regardless of the administrative level of the sharing activity, the principles are the same.

Finally, to manage shared resources, the partners in this process must have agreed to form a whole body of wildland fire personnel and resources which may then be shared among the group during those times when demands exceed individual capability. The magnitude of individual sharing is not as important as the intention and effort to share.

EFFECTS UPON FUTURE SHARING

There are as many futures as there are thinking people who plan ahead. We need to set the stage for a future against which we can plan, before we can make forecasts and develop solutions to problems that may evolve. Sideboards are needed if we are to be able to focus our attention and our energy into productive channels. The Symposium on Wildland Fire 2000 should help provide that focus. Futurists such as Naisbitt warn too that having met and planned is not enough (Naisbitt 1982). We must also keep alert for changes in our assumptions that may call for revision of our actions over time.

In reality, we in wildland fire management may have it relatively easy. When compared with those bodies that must attempt to project international political ramifications to the year 2000, wildland fire appears much more simple and manageable. While we, in the wildland fire community, may proceed on these assumptions, we must be mindful of the fact that such things as world population pressures, war and peace, and the economy of the United States and of the other nations of the world may be controlling factors in management options and problems in the future.

Let us reflect a few moments on the activities of the last 13 years before turning ahead to the next 13 years and beyond. We are today reaping the benefits of those investments made a little over a decade ago. They are crucial in the discussion of shared resources.

The wildland fire crisis of 1971 in southern California, jarred the wildland fire community by its magnitude and jurisdictional complexity. The intensified interagency activity fostered changes in technology and the pulling together of federal, state and local fire entities.

Two major organizations evolved in the seventies that created our ability to share effectively on a national scale today: the Boise Interagency Fire Center (BIFC) and the National Wildfire Coordinating Group (NWCG). BIFC evolved in recognition of the need for interagency operational coordination. The expandability of seasonal operations there in response to seasonal fire demands have facilitated its national operations. It has also attained international recognition for response to emergencies. The three original federal partners, Bureau of Land Management, U.S. Department of the Interior; Forest Service,

U.S. Department of Agriculture; and National Weather Service, U.S. Department of Commerce--have since been joined by the National Park Service, Bureau of Indian Affairs, and the Fish and Wildlife Service, all of the U.S. Department of the Interior. The Office of Aircraft Services. U.S. Department of the Interior has also moved onto the base.

Heart of the national interagency activity at BIFC has been the Logistics Support Office (LSO). Since characterized as the National Interagency Fire Coordinations Center (NIFCC). During critical national mobilization such as that in 1985 and 1986, it is expanded by the land management agency managers who serve as the National Multi-Agency Coordinating (MAC) Group.

The second entity, the NWCG, which operated informally from 1974 to 1976, until, it was chartered by interdepartmental agreement. It nonetheless made significant progress from the start providing the critical national interagency policy framework for shared action. The Training Working Team and the Qualification and Certification Working Team of NWCG, lead the landmark activity which enabled us to exchange personnel among agencies on a national scale.

The evolution of the high quality fire suppression (S-course) training series provided a vehicle through which all of us could train against the same standards and in the process learn to work with one another. Yes, there were problems with the implementation of NIFQS, the National Interagency Fire Qualification System, but it and the S courses did provide the basis of national interagency cooperative activity for most of the last decade.

Not all the products that will be available in the year 2000 and beyond are visible today, but their roots will be in the technology and the organizations of today. Both a policy framework and an operational process are essential if future sharing is to be feasible.

Looking ahead we will have a difficult time projecting the direction of this economy and all options that will be available to us. However, futurists such as Naisbitt (1982) in Megatrends, appear to agree that the rate of change and the magnitude of change will increase rather than decrease as we move on into the 21st century.

It is timely here to also remember that wildland fire management is not the dominant activity of any of the federal land management agencies. It is a support program providing

protection for their resources in the context of agency mandates and implications for the future. The fire management program will move as the agencies move.

We live with the idiosyncrasies and wide variability of weather and fire occurrence. Notwithstanding, the magnitude of wildland fire occurrence and its timing are significant factors influencing our ability to muster support from our agencies and from the public in general. We passed through wetter than normal years, 1982 and 1983, and felt the support for fire protection wane; only to enter 2 years back-to-back, 1985 and 1986, which would be classed as crisis years! The degree of support which we may receive in the future and our ability to perform will be directly dependent upon the interpretation of our potential contribution to agency programs. The weather and associated fire occurrence between now and the turn of the century might significantly alter our ability to attain the goals envisioned at this symposium.

We might also reflect for a moment on the tenuous nature of shared resources and of our commitment to the future. The tendency is to "pull in one's horns" when times are tough and to accept the risk of disappointing partners rather than to muster an additional defense of the need to maintain those partnerships as cost-effective options.

There are a few assumptions about the future from which I will proceed in my discussion of shared resources. Fire protection is predominantly a public function. The public can be expected to continue not only to anticipate but also to demand fire protection. We also see throughout the United States today that the public is most interested in obtaining the most for its dollar. Well founded, economically smart management will be the expected standard.

THOSE SHARED RESOURCES

With the crisis years, of 1985 and 1986, still fresh in our minds, there is little doubt about the contribution made to those numerous project fires by shared resources. Nor is there any question that the most frequently shared resources were personnel. Those skilled, trained, physically fit and equipped fire personnel upon which we all rely, are the backbone of the shared resources today and undoubtedly will be on into the future.

Our ability to develop qualified, mobile and well-supported overhead management teams will be a significant factor, determining our success in managing severe wildland fire outbreaks. They need to be supported by organized crews of firefighters who allow us to get the job done on the ground. All the technology in the world is not likely to supplant the ability of people to complete the suppression of fires in wildland fuels.

In addition to the personnel on the fire, we cannot forget the importance of those individuals who facilitate the development of those skills and knowledge. They develop the essential quality training materials. These subject matter experts from all the agencies, allow us to pool the best talents in the entire wildland fire community to generate those courses. In addition to the training packages, we have the cadre of instructors who bring not only the wildland fire talents with them, but also their instructional and educational skills and knowledge.

In 1985, more than 20,000 people were mobilized for the wildland fire activity in the western United States. Resources were taxed but there were still reserves of personnel available that could have been brought to bear should conditions have further deteriorated. An emergency training program was even mobilized to expand the ranks of firefighters.

The complementary side of the shared resource system involves all those facets of technology that have become an integral part of wildland fire management today. Whether they be the engines, helicopters, retardant aircraft, the fire weather/fire danger network which we use in our planning, or the infrared sensing aircraft which allow us to see our problems more clearly, they all are essential facets of the wildland fire management program today.

Looking to the future, the particular contribution of those various facets of technology will undoubtedly change. The physical availability of certain of the components likewise will change. There really is a limit to how long World War II vintage aircraft can be sustained! However, the delivery of retardant to fire will undoubtedly persist even though the mixture, method of delivery and the particular hardware in which it is transported may change significantly.

Today we are, particularly at the local level, already sharing resources on prescribed

fire activity. Personnel from several agencies are grouped together to execute prescribed burns in given geographic areas and to minimize the cost of transporting personnel of a single agency over much larger distances. This has particular significance when carried out under the uncertainties of hitting a narrow prescription window.

There are also some changes in the character of shared resources which are on the horizon. The need for and development of, an improved wildland fire communications system has already been identified as a research and operational need if we are to effectively run wildland fire management on a national scale. The world of instant national media coverage, public involvement and all the layers of political involvement in the sharing process require good information, instantly!

Along with that system is the possibility of networking our information systems. The current generation of hardware has its obstacles, however the intent of manufacturers and users alike is to overcome those obstacles and physically permit a considerable increase in the exchange of knowledge and data among wildland fire partners.

Probably one of the newest and most promising resources to be shared in the future will be that of human intelligence. Not just one-on-one, but through the merger of computerized systems and the contributions of expert knowledge. Expert systems and artificial intelligence may permit us to provide an opportunity to capture the intuitive expertise of an individual and make it available to others at that time and also to other generations. Latham (1987) expands upon the potential of this evolving facet of our fire resources. A big factor in the future sharing of present expertise will depend upon our ability to generate a process that will be viable over time to trigger the retrieval of the stored "expert" solution.

This too has potential for international sharing as further indicated in a recent article from the Petawawa National Forestry Institute in Canada (Kourtz 1987). They too are pursuing both artificial intelligence and natural language processing.

The specific resources to be shared will be dependent upon the technology and innovation of fire management personnel and researchers working today. The possibilities are virtually

endless, given support and encouragement for new innovations and development.

HOW WE SHARE

Sharing does not just happen. While we may be able to operate on an impromptu basis for a short period of time or infrequently, the primary vehicle through which sharing takes place has some formalized structure. Let us examine the process of sharing itself and how it can be conducted and what inhibits its conduct.

Informal sharing is always an option in any emergency activity. When a call goes out for assistance during a crisis such as wildland fire, the agencies in the area generally respond. That response is predicated upon obligations and public acceptance. Such informal response, by and large, is short-term in nature and on a very localized scale.

It also must be of an infrequent nature, in that frequent exercise of a call for help will soon lead toward one of two solutions: either a refusal because of the excessive demands, or a proposal for a formalized relationship to guide future requests of that nature.

In addition to those other characteristics, informal responses must be perceived as being in the public good. They must be politically expedient. The act of assistance itself, which may have questionable legal authority, will be overlooked because of the accomplishment of the good deed for the public in general. That credit for accomplishment wears thin very rapidly upon the repeated exercise in the absence of a more firm political and financial commitment.

The more typical process and the backbone of all large scale shared resources, rests upon a legal framework. That framework also is indicative of the commitment to cooperate in advance of a crisis. That permits significant preparations which then facilitate the actual sharing of the resources when an incident occurs.

The federal wildland fire community relies very heavily upon a national interagency agreement as the umbrella under which we all share our resources. A similar agreement exists for the National Wildfire Coordinating Group which also has its official origin in an interdepartmental agreement.

At the local level the typical mutual-aid agreement among urban departments is also characteristic of the procedures by which independent, side-by-side agencies can join to their mutual benefit.

In recent years we have seen that the process of sharing of wildland fire resources knows few bounds. Local, state, regional, national and even international resources have been exchanged on wildland fires throughout the world.

As the scale of the operations increases, the role of the economic factors becomes more and more important. Obviously large numbers of personnel are not normally shared on an international scale. Specialized skills, special equipment and unique contributions are most often exchanged.

Probably the best candidate for improved sharing on an international scale is the knowledge of wildland fire management. Personal knowledge of techniques, strategies and tactics for wildland fire management is a common denominator for worldwide sharing.

The West German government has sponsored two international symposia since 1980 on combatting wildfires from the air. At the last session they expressed a sincere interest in furthering such international exchanges of knowledge and skills in regard to the management of wildland fire.

WHY SHARE?

We have all seen or heard of individual unit managers in our own agencies that were reluctant to make some of their resources available to their peers in a time of need. The question of "Why should I share?" will continue to be raised in the future. Such reluctance is also a part of human nature. Each manager is responsible for his or her portion of a program and is expected to maintain the ability to meet all of the needs and demands that have been placed upon them. Releasing some of their resources to accomplish emergency needs of others, in essence means relinquishing some of the goals or objectives of the lending institution. Hence it is essential that the next, and the next level of supervisors all support the process. All levels of management need to recognize the fact that while one unit may share their resources with another today, the donor unit will probably be a recipient of the shared resources from other

managers at some unforeseen crisis in the future.

Two factors stand out as the bases for sharing resources. The first of these is good economics. We would all like to have enough funds and resources to maintain a high level of preparedness every year within our agencies. However, reality will force us to a more modest level of preparedness. We may use a planning process or an economic analysis to determine what that level is, but it will be a conservative figure.

With access to a process of sharing, that conservative level can be pooled when needed and brought to bear on critical fire situations such as we have seen in 1985 and 1986. No one unit or agency in the system would have been able to provide that magnitude of resources in that timeframe. However, through shared resources, major fire activity in widely scattered geographic regions has been handled appropriately and cost-effectively, with those resources returning to their home bases for use another time at the end of the emergencies.

This sharing provides an additional degree of flexibility, the second major factor, beyond that which the same level of locked-in resource allocation could provide. The very nature of wildland fire itself requires that we retain a process that is flexible and responsive to the variations of fire seasons from year to year, region to region and virtually from day to day.

An additional factor is significant in major fire outbreaks. The reality of wildland fire as a common threat to a group of political entities in a given geographic area prompts mutual response. Even in the absence of coordinating agencies, the large wildfires in the early part of this century prompted emergency community action.

When a geographic region experiences one of these critical fire danger episodes as the Southeast and Northwest did this last year, all of the political entities in those areas are galvanized into action to make the most of the resources they have available and to overcome the obstacle that may have existed in normal times. Good preparations for sharing make it even more effective!

CLASSIC INSTRUMENTALITIES FOR FUTURE SHARING

There are three complementary instrumentalities that have the potential to

make even more significant contributions to wildland fire management on into the 21st century. Undoubtedly they will undergo refinements and improvements over time. They play a complementary role to one another. The National Wildfire Coordinating Group (NWCG) is a policy-setting body which provides a framework. Operational coordination ties together regional and national operations, and lastly the National Interagency Incident Management System (NIIMS) puts those policies into action on wildland fire incidents. Together they can provide a significant conduit through which resources may be shared locally, regionally, and nationally and be managed effectively.

I have been privileged to serve on the NWCG along with fellow fire managers from the other four wildland fire management agencies and representatives of the National Association of State Foresters. There has been a flow of personnel through those chairs over that decade. and in spite of the turnover, the underlying commitment of the group remains: the joining together in an effort to create cost effective, quality fire management.

The Creed of NWCG says it best:

"We believe the goal of effective wildfire management is best served through coordinating the resources of all fire management agencies, irrespective of land jurisdiction.

"We believe in the concepts of full partnership, trust and mutual assistance among fire management agencies.

"We strongly support professionalism in all facets of fire management.

"We strive to bring the best talent available to bear on vital issues in a timely manner, irrespective of agency affiliation.

"We strive for economy, efficiency and quality in all our activities, and practice concepts of total mobility, closest forces, and shared resources without geographic limitations.

"We constantly search for areas of agreement to further the effectiveness of the wildfire management program."

The products and details that are developed on behalf of the NWCG are largely generated by the technical working teams it sponsors. Those experts, shared experts, from federal and state agencies enable the wildland fire community to pool its best talents and focus them upon the solution of specific problems. Frequently the working teams also reflect a composite of technical, managerial and research personnel that allow a synergism to prevail and to foster an innovative process to the benefit of the program. Every one of these teams epitomizes the concept of shared resources in that agency and geographic contributions are also reflected in the assembly of these teams.

One of the subtleties is not necessarily apparent in regard to the NWCG is the process by which it progresses. The NWCG does not have the direct power to implement any programs. Independent agencies work toward a common shared future. The programs espoused by NWCG are carried back to the individual agencies by the members and implemented through individual agency directives. The crucial contribution of NWCG is the generation of a consensus solution among the agencies on processes and procedures, strategy and technological products that reflect a best blend of the needs and desires of all the agencies. It is in fact a subtle process which is very dependent upon the rapport among the individuals representing their agencies and associates.

There must also be an operational aspect of sharing in addition to policy and procedural solutions. The last two years, 1985 and 1986, attest to that fact on an interregional scale. The National Interagency Fire Coordination Center and the MAC group at BIFC serve that national role. It is through this process that total mobility of the shared resources can be achieved. Resources from regions unaffected by critical fire danger are funneled into those regions in need.

Regional coordination is a critical operational link. In most years resources exchanged locally or within a geographic region is sufficient. It would be simple if it were not for the fact that no two land management agencies have the same regional boundaries. Regional personnel must also develop a consensus on boundaries and procedures if this intermediate operational step is to facilitate rather than obstruct sharing.

Finally, and the real reason for the entire elaborate process, we get out on the ground with the line manager of the land and its natural resources. Those line managers need an operational system that works in the real world of fires, program accountability, autonomy, and sharing all rolled up into one crisis situation. The National Interagency Incident Management System was built for just that reason (NWCG 1983).

The system tends to be overlooked, with the attention going to the operational facet, the Incident Command System (ICS). That is a grave error! After adequate preparations for the occurrence of an incident through an active dialog and commitment among adjacent managers, only then can ICS be implemented effectively. Some dissatisfaction has been erroneously attributed to ICS when it really was caused by a failure to fully prepare the whole parent management systems, NIIMS, of which ICS is only one part!

Management by consensus is not easy, in fact it may be one of the most difficult management styles to achieve. It requires a constant weighing of needs and opportunities, give and take, against the backdrop of a varied group of users ranging in size, mandate and jurisdiction. The accomplishments to date are indicative of the fact that the process can work.

THE ROLE OF MANAGEMENT IN THE FUTURE OF SHARED RESOURCES

Earlier when I discussed the process of sharing and its relationship to agency resources, it was obvious that management drives the sharing process. Management in this sense has two forms; that of agency management per se, which runs the entire spectrum of management activities related to the agency mandates, as well as the fire manager who is directly involved with the fire resources and the degree to which they can or may be shared.

In that sense the role of management in the successful use of these resources is not unlike any team sport. All of the partners must contribute their skilled resources to the common good, consistently and energetically if the team is to be successful.

Shared resources are managerially dependent. They rely entirely upon the exchange of those resources among willing partners. The comfort level of this process can be elevated

significantly by a structured process and advance agreements on how that process is to function.

CHANGES IN SHARING

The wildland fire activities of most of the federal land management agencies and many of the states have evolved from a pure fire control organization into fire management organizations. As such, one of the changes in sharing that is expanding significantly at the present time is the use of prescribed fire. If there were an activity where shared resources are ideal if not essential to its economic feasibility, prescribed fire would come close. The necessity to minimize costs and to have a very responsive aggregation of personnel that can execute prescribed burns when the weather cooperates, makes this area fertile ground for the use of shared resources toward a common goal.

The added complexity of smoke management and its group of predominately urban/atmospheric players, further supports a shared resource approach for resolution. The ability of the land management agencies to continue to use prescribed fire will largely depend upon the success of that process.

Another change that might evolve in the foreseeable future, would be participation by additional players in the natural resource management/wildland fire arena. There are two that are not readily thought of when wildland fire is mentioned, however, they are two of the largest landholders in the federal sector and are not presently represented. They are the Department of Energy and the Department of Defense. Rarely does a year go by without involvement of their land in some significant wildland fire activity upon which personnel from one of the land management agencies or states is involved. The extent to which they participate and the vehicle by which they would participate is yet to be defined.

The last, but not least, arena in which changes will take place is in the wildland/urban interface. The initiative prompted by the actions of the National Fire Protection Association, the U.S. Fire Administration and the Forest Service will raise the visibility of this issue and its associated demands on the wildland fire protection community. It will be virtually impossible to resolve this issue in the absence of shared resources and technology. This will compound even further, through the

merger of tactics for structural and wildland fires if the problem is to be resolved.

FUTURE SHARING IS POSSIBLE, IF...!

For the wildland fire community to be successful in the future, we must perpetuate the processes that permit us to share. All the protection agencies involved need to be a part of the system. The solutions to the problems that will arise need to be addressed so as to benefit all of the partners.

In addition to the umbrella policies and procedures among all of the partners, we need to have common national, regional and field operations, through which we can handle the fire incidents as they occur. The design of that operational program needs to provide national consistency, cost effective total mobility and yet the ability to adapt operationally to regional and local idiosyncrasies of climate, organization and politics, and use of closest forces.

POSSIBLE = PREFERRED = PROBABLE?

The more partners in the system, the greater the risk of exceptions to the "possible" solutions. Even though that may happen, major gains can still be made beyond the status of sharing today, particularly at the state and local levels.

The wildland/urban interface represents a major new opportunity where the effective use of shared resources can expand greatly, out of necessity.

The probable future will, be less than the possible and preferred future only to the degree that managers fail to share. A continued high level of commitment and search for more effective ways to share could bring the "probable" quite close to the "possible" and "preferred" goal. We, as program managers can make that happen.

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