

# FOUNDATIONAL DOCTRINE

## Fire & Aviation FOUNDATIONAL DOCTRINE

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Fire and Aviation: Foundational Doctrine  
January 2006

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*“We can’t form a nation, but we can cause  
a revolution in this time, in this place.”*

~ Tom Harbour

*National Director of Fire and  
Aviation Management*

*USDA Forest Service*

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**Excerpted from Tom Harbour’s  
“Commander’s Intent” address personally**

## **delivered to Rotor and Wing Conference Participants**

*You have been entrusted to accomplish several tasks which may change the way we think and act in our aviation duties.*

*Equally important, the doctrine you define—which will be vetted by our National Leadership Team—will provide an anchor for us as we face the daunting task of reinventing aviation in the Forest Service while partnering with our cooperators.*

*Today—and into the future—our aviators and platforms execute duties with our interagency partners in a political, cultural, and physical environment that is more challenging than ever before.*

*The current expectations of our performance—as well as the scrutiny of our actions—are extraordinary. We are expected to be safe, efficient, effective, and seamless.*

## **Changing the Way We Think and Act in Our Aviation Duties**

*“I want you to take advantage of the variety of diverse and divergent views that you have here this week. You are here because we needed you to be here. You are here because your perspective—as a line officer, as a staff officer, as a pilot, as an aviation specialist, as somebody who has something to do with the union, as somebody who has something to do with aviation . . . Your opinion is valued. You speak for the 1,000 people who we have in the interagency aviation community.”*

*~ Tom Harbour*

*National Director of Fire and Aviation Management*

### **What is Doctrine?**

Doctrine is essentially a body of principles evolved from laws, culture, history, and precedence that guides the action of an organization.

It is the expression of the fundamental framework and concepts that also guides the planning and conduct of operations.

### **What is Foundational Doctrine?**

Foundational doctrine applies to the organization's overall mission.

It is the body of principles, foundation of judgment, decision-making and behaviors that guide the actions of the organization and describes the environment in which

they are taken.

It is developed from the organization's legal and ethical mandate.

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### **What does doctrine do?**

Doctrine describes how people in the wildland fire service think about applying the basic principles of fire suppression and the circumstances and influences of the operational environment.

Doctrine:

- q Defines the spectrum of operational missions.
- q Facilitates communication between members of the Fire and Aviation Management community and their customers.
- q Creates a shared professional culture and approach to operations.
- q Defines the requirements of the education and training curriculum.
- q Drives the standards needed for qualifications and leader development.
- q Shapes airframe and equipment requirements.
- q Sets the direction for modernization and the integration of new technologies.

*You are here because:*

q *You have the capacity to think boldly,*

q *You are respected and skilled at what you do,*

q *You can see the future, and*

q *This agency can entrust this important part of its work to you.*

*I'm asking you to develop a national perspective. I want you to ask yourselves those critical questions. And, to do so, I'm asking you to use the "dialectic" approach—the classical Greek approach of inquiry and oratory, of argument and logic and syllogism. I want you to try to peel back that onion as much as you can—to get to the core of things.*

*At the end of the week, I want you to tell me what you want to keep regarding aviation doctrine. And I want you to be able to tell me how? and what? and where? and why? Unless you are disciplined within your groups—and within yourselves—to ask these dialectic, approach-based questions, they are not going to get answered. And you will have given up an opportunity that you won't have and I won't have anytime again in the near future.*

*Through this conference we have been given an opportunity to set in motion a series of events that—with a sense of initiative, creativity, and accountability— will lead us to develop*

*leaders who match the variety of situations that we face.*

*Check lists never ensure success.*

*To succeed, we must develop a core operating system that relies on a solid, integrated framework of both:*

*q Doctrine and Policy, and*

*q Principles and Rules.*

### **Give Them the Tools to be Successful**

*Our success depends on the ability of men and women—skilled and experienced in the application of doctrine, policy, and rules—to make decisions in a high-risk and highconsequence environment. We must give them the tools to be successful.*

*Continued on Page 3*

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### **Why This Aviation Doctrine is Important**

*I want you to take advantage of the variety of diverse and divergent views that you have here this week. You are here because we needed you to be here. You are here because your perspective—as a line officer, as a staff officer, as a pilot, as an aviation specialist, as somebody who has something to do with the union, as somebody who has something to do with aviation. Your opinion is valued. You speak for the 1,000 people who we have in the interagency aviation community.*

*So, why is this aviation doctrine important?*

*What you are going to do this week has never been done before in the Forest Service. You are going to offer your best shot at a philosophy, at a plan of words and meaning. You are going to create a vision of how Forest Service aviation should be. It won't be a detailed roadmap or a detailed blueprint. But you are going to have some idea for me about how Forest Service aviation should look and how it should be.*

*The power of aviation to achieve public purposes is growing every year*

*Expert aviators assure safe and effective air operations.*

*“We work in a high-risk environment on a daily basis. Everyone here this week has something to bring to this topic. You are all extremely qualified for this. You have the*

*vision that it takes. By the end of the week, we will have determined what we can do to make our aviation program better.”*

*“This is going to be a challenging and dynamic week. I hope you all ate your Wheaties.”*

~ Jon Rollens

*Incident Commander,*

*Rotor and Wing Conference*

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*“You are going to create a vision of how Forest Service aviation should be. It won’t be a detailed roadmap or a detailed blueprint. But you are going to have some idea for me about how Forest Service aviation should look and how it should be.”*

*“What you are going to do this week has never been done before in the Forest Service.”*

~ Tom Harbour

*addressing the Rotor and Wing*

*Conference participants Setting standards for use and deployment of aviation resources is an important step in successful aviation management.*

## **How We Got Here**

Each Forest Service Region nominated from six to eight individuals—from senior aviators to ground flight personnel—to attend the Rotor and Wing Conference who are:

- q Experienced and knowledgeable in air operations and management.
- q Considered real students of his or her art.
- q Known for possessing proven track records that illustrate initiative in bringing continuous improvement to the workplace.
- q Known for demonstrating the ability to see how things fit together in the larger picture.
- q Persons who work effectively when given leader’s intent and the authority to carry out assignments.

Aviation professionals representing every Region were then selected to review our current approach to:

- q Decision-making and actions.
- q The agency’s rule-set for implementing and monitoring decisions and actions on-the-ground, in-the-air, and up-and-down the chain-of-command. *Seeding a burned area.*

## **Introduction**

This report summarizes and describes the outcomes of the Rotor and Wing Conference, the second Forest Service conversation on fire and aviation management—collectively known as the Pulaski Conference Series. The Forest Service’s Federal and State partner agencies have also participated and provided input at these first two “Pulaski Conferences.” The Rotor and Wing Conference was convened January 22-27, 2006 in Stevenson, WA to consider the future of Forest Service aviation. This report articulates those “simple, clear principles that will encourage complex, intelligent behavior” in Forest Service aviation. It sets forth:

- q Agency foundational doctrine supporting the Forest Service mandate for aviation management.

- q Doctrine that provides intent for the activities and performance of Forest Service aviation in aerial fire fighting and other support missions.

The Chief of the Forest Service has asked that the findings of this report be presented to the National Leadership Team for endorsement.

The Forest Service’s National Director of Fire and Aviation Management has vowed to implement these actions.

Our team will assemble doctrine, validate policy, and display tactics that will begin an intellectual and operational renaissance focused on risk management and effectiveness in our Forest Service aviation mission.

## **Conference Intent**

## **Background**

The USDA Forest Service is a major user of aviation. Of all the governmental agencies, its aviation program is second in size only to the U.S. Department of Defense.

In 2005, the Forest Service aviation program represented a professional group of just over 100 program managers—representing a total of 1,000 employees—who spend \$175 million a

year to manage more than 80,000 flight hours. These hours represent accomplishments in a wide range of mission objectives.

There's no question that the work and use of Forest Service aviation management is constantly growing. When the fire bell rings—in most cases—the initial dispatch is an aviation asset.

Just two decades ago, the agency commanded fewer than 40 medium and heavy helicopters. Today—to meet a variety of mission needs—it fields more than 400 helicopters of all types. Similarly, single-engine airtankers have grown from 9 to 90 in a matter of years. The Forest Service's fleet of lead planes and service planes is in transition. At the same time, the agency continues to field many heavy air tankers. Clearly, this aviation use—and need—will continue to grow.

Technical and operational innovation has always been a hallmark of Forest Service aviation. The Rotor and Wing Conference and its proposed doctrinal outcomes represent a significant—and essential—huge step into the agency's aviation future. *Technical innovations increase capability and responsibilities.*

*Aircraft are critical in life and death situations.*

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*“My hope is that we can transform ourselves—this agency. If we don't—someone else will.”*

~ Conference Participant

## **Defining the Operational Environment**

The dynamic complexity of the operational environment requires a mobile, flexible, and responsive organization.

Aviation operations range from the traditional fire suppression role, to the support of natural resource missions, to the varied challenges of the “all-risk” environment.

The aviation environment is a complex, high-risk environment. Aviation personnel routinely encounter numerous and varied risks to accomplish their aviation-related responsibilities. This environment possesses

inherent risks that—even with reasonable mitigation—can cause harm or death to aviation personnel. In recognition of this fact, the aviation organization is committed to the aggressive application of risk management.

### **Purpose and Outcome**

The Rotor and Wing Conference is the second in the Pulaski Series of conferences to develop doctrine for the Forest Service and Aviation Management.

During the conference's six days, its 0 participants—an interagency group of experts and integrators—worked to develop new doctrine for the agency's aviation management program.

Doctrine is the expression of the fundamental framework, concepts, and principles that guide the planning and conduct of operations and program decision-making. It is authoritative, but flexible. Doctrine must be definitive enough to guide specific operations, yet adaptable enough to address diverse and varied situations. People are expected to use judgment in its application.

*"I'm here because I value tremendously the mission and the mandate that I've been working under for the last 35 years. And I value the people who have pledged their lives—both literally and figuratively—to that mission. I believe that at this point in time—probably unprecedented in our history—we have the leadership that has the will to take this forward and to make something of it at the very highest levels of our executive leadership."*

~ Conference Participant

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## **Mission, Operations, & Roles**

### **Mission**

## **USDA Forest Service**

The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations. We express our mission as "*Caring for the land and serving people.*"

### **Aviation**

The mission of Forest Service aviation is to provide safe, efficient, and coordinated aerial support for agency operations, to support partnership agreements, and to meet current and future needs through innovation and technology.

Forest Service aviation is an essential program to Federal, State, and local land management agencies. It provides a wide range of aerial platforms and services in a practical and cost effective method.

### **Current Doctrine and Principles Need Revamping**

"The complexity of our work has increased exponentially. Operational doctrine has not evolved to keep pace with this change.

The environment in which aviation work is performed today is dynamic, high-risk, and high-consequence. It is among the most visible work we, in the Forest Service, do.

. . . [Yet] there is an absence of clearly illuminated doctrine and guiding principles supportive of our aviation mission.

This is not to say that doctrine and principles don't exist. They simply do not exist in a manner that is easily discerned, commonly understood, and consistently applied in managing the issues surrounding wildland fire suppression."

~ From the September 1, 00 *Defining Doctrine and Guiding Principles of Wildland Fire Suppression in the USDA Forest Service*

*The operational environment for Forest Service aviation is complex and often filled with urgency.*

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*"Hope is great. But I would ask you all this week to leave your hope at the door. Hope is not a plan. Come in here with your will to take action. And don't give up. That's why I have trouble with this effort this week. So please leave your hope at the*

*door this week and come in here with the will to take action.”*

~ Conference Participant

### **Natural Resource Management**

The Forest Service manages the natural resources on 191 million acres of public land. Aviation provides the resource manager tools to survey, inventory, and manage this enormous land base in a timely, cost-effective, and efficient manner. Real-time information can be gathered quickly to aid in decision-making. Activities and conditions can be monitored with a minimum number of personnel.

### **Other Emergency Response**

The fundamental responsibility of Forest Service aviation is to support the agency's land management operations. The agency is also recognized for having unique "incident" management capabilities that have value to areas outside of land management. When requested to respond to current and developing "all-risk" emergency situations that are outside of the core responsibilities of the agency, we will respond consistent with our skills, training, and abilities.

### **Aviation Management**

Aviation employees from all program areas are integral to the mission of the Forest Service, will have a basic understanding of aviation management, and have a responsibility to support the program. Aviation personnel will be qualified for assignments and meet established interagency and agency competencies and associated qualifications. It is the agency's responsibility to recruit, train, mentor, and retain a highly skilled, diverse aviation workforce at all levels through an established aviation career path.

### **Fire Management**

Every employee has the responsibility to support and participate in the fire management program. Forest Service aviation is an integral part of fire suppression and fuels management. It provides a delivery vehicle and a working platform for fire operations that

would otherwise be infeasible or impractical. The aerial delivery of firefighters provides a rapid response to wildfires. It maximizes the opportunity for early suppression and containing the fire before it escapes. Aviation gives the firefighter the flexibility to size-up, staff, and support fires with a wide array of aerial tools.

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### **Operations**

Efficient operations should be a hallmark of our aviation program and is defined as maximizing the capability and effectiveness of available resources.

### **Purpose of Aviation Doctrine**

Aviation doctrine expresses our fundamental beliefs on aviation management. Doctrine establishes a particular way of thinking about aviation operations. It provides a philosophy for leading aviation personnel in aviation operations, a mandate for professionalism, and a common language. Rather than consisting of procedures to be applied to specific situations, aviation doctrine sets forth general guidance that requires judgment in application. Therefore, while authoritative, doctrine is not prescriptive.

### **Nature of Aviation Missions**

Operations are intended to be dynamic, flexible and safe in the execution of assigned agency missions and within the scope of the leader's intent. In all operations our priorities are: to protect and preserve human life, property, and natural resources.

Operations include—but are not limited to—fire retardant and suppressant delivery, fuels management, natural resource surveys and inventory, aerial photography, law enforcement, air quality monitoring, forest health surveys, research, search and rescue, medivac, and disaster relief.

### **Standardization**

To maintain a mobile, highly effective, interchangeable, flexible and dynamic national aviation program, we will maintain

standardization throughout the entire spectrum of aviation operations and administration.

### **Policy Versus Guides**

Aviation operations require regulations, manuals, guides, and checklists to execute and coordinate operations in a safe manner.

All guides within the Forest Service directive system are principles and not regulatory. This

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promotes flexibility in the decision-making process. Forest Service guides and checklists give us guidance during operations and are not absolutes. This system of guides and checklists provide us with the framework of principles to ensure flexibility for safe mission accomplishment within the leader's intent.

These principles will allow for judgment and flexibility and encourage sound decision making at all levels during situations not covered by regulations and handbooks during normal operations.

### **Preparedness Philosophy**

Aviation preparedness is achieved by having the appropriate resources in place at the appropriate locations for the assigned missions.

Preparedness is a continuous process that requires identification of type and number of appropriate resources.

### **Mission Philosophy**

Planning, organizing, and implementing aviation missions should always meet the objective of the operation in the most efficient means consistent with safety. All aviation personnel should be committed to the safe completion of all missions.

promotes flexibility in the decision-making **Safety Philosophy**

A highly successful safety culture understands that every person in the organization accepts that safety is a conscious and ongoing mindset—as opposed to simply a box to be checked.

We understand that safety is a dynamic nonevent.

Consequently, we need to maintain the capability to continuously seek out and eliminate latent defects within our systems and culture. By being proactive in this area, we eliminate potential causal factors that could lead to future accidents.

We recognize that our employees are our greatest asset and source of our strength. Our agency's rich history provides a base for our culture and a wealth of hard lessons learned. When accidents occur or significant errors are committed, we will treat personnel with empathy and respect as we determine the causes.

We acknowledge that most organizational accidents have multiple causes at many levels and that to prevent similar future events, we must seek out the organizational and underlying factors that contributed to the accident chain. By

fostering a just culture,  
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we maintain an environment where employees can feel free to self-report errors in judgment—without undue fear of unjust punishment. This maximizes our ability to glean lessons learned from anomalous events. It is the heart of our safety culture.

### **Roles**

The management and oversight necessary to guide a unique and highly complex organization such as Forest Service aviation requires a centralized management structure that emphasizes decentralized utilization. This type of structure creates an environment in which our ability to set priorities, standardize operations, efficiently and effectively utilize funding, and increase accountability will all be enhanced while eliminating duplicated efforts. Delivering safe, effective, and efficient aviation services requires decision-making free from conflicts of interest. Qualified government personnel shall fill all positions

within the aviation program empowered to allocate resources, commit funds, make command decisions, or evaluate and approve personnel and equipment that provide aviation services.

### **Technology and Innovation**

As aircraft and systems age they become less reliable, more difficult to maintain, and eventually obsolete. In the high-risk operational environment in which these aircraft operate, reliable, compatible, and cost effective technology is essential.

Reliable aircraft decrease the risk of catastrophic failures and increase the chances of successful outcomes and missions.

Compatible systems allow the agency flexibility to move aircraft and personnel between units, interacting seamlessly.

Compatible systems are essential to minimize errors in the pilot/system interface.

Technology and development work is, by nature, expensive. Cost-effective technology is technology that eliminates redundancy, improves efficiency, and accurately meets the needs of the user, thereby adding value to the operation.

We will utilize reliable, compatible, cost effective technology in our aviation operations.

To meet the changing needs and to better serve our customers, we will continuously evaluate, develop, and procure appropriate technologies.

*Safety doctrine must engage interagency partners.*

*“Those who are possessed of a definitive body of doctrine and deeply rooted convictions based upon it, will be in a much better position to deal with the shifts and surprises of daily affairs than those who are merely taking short views.”*

~ Sir Winston Spencer Churchill

on the Benefits of the Doctrine Process

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## **Leadership & Accountability**

### ***Principle***

***Competent and confident leadership is essential to successful aviation management.***

***Leadership is influencing people — by providing purpose, direction and motivation***

**— while operating to accomplish the mission and improving the organization.**

*“Influencing means getting people to do what you want them to do. It is the means or method to achieve two ends: operating and improving. But there’s more to influencing than simply passing along orders. The example you set is just as important as the words you speak. And you set an example – good or bad – with every action you take and word you express. Through your words and example, you must communicate purpose, direction and motivation.” ~ U. S.*

*Army Field Manual FM 22-100, Leadership*  
The aviation operational environment is high risk and complex and possesses inherent hazards that can—even with reasonable mitigation—result in harm to aviators, aviation users, and support personnel. In recognition of this fact, aviation leaders are committed to the aggressive application of risk management. Full support and compliance with investigations are expected to provide relevance and germane actions to the improvement of our aviation management program.

Due to the distinct, complex aviation missions required of the agency and the historical scope of aviation use and its projected use in the future, the agency has an inherent responsibility to staff aviation management with leaders that possess specialized skills. These skills allow the agency to respond effectively to planned, unpredictable, and catastrophic events.

A fundamental responsibility of aviation leadership is to promote and use innovation in operations, equipment, and doctrine to meet changing and future requirements. It is necessary to keep pace with escalating complexity and managing risk. Embracing innovation allows us to utilize technological advancements to create a more effective and efficient aviation management program.

“The current expectations of our performance and the scrutiny of our actions are extraordinary. We are expected to be

safe, efficient, effective, and seamless.”

~ Tom Harbour

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### **Aviation leaders:**

q Because of the multifaceted nature of the program and the services it provides are identified, developed, nurtured, and supported at all levels of the organization by peers, subordinates, supervisors, and management.

q At all levels of the organization, are expected to understand and provide intent in the context of task, purpose, and end result through chain-of-command—to minimize confusion and maximize synergy in a chaotic environment.

q Have specialized knowledge of the capability and limitations of aerial resources and contribute these skills to the accomplishment of mission tasks.

q Have a responsibility to evaluate and recommend the appropriate use of aviation resources as a tool to accomplish agency objectives and specific missions

q Will ensure that the discipline of safety is an integral part of any decision-making process or operational procedure they are called upon to execute or oversee.

q Have continually escalating aviation security requirements due to security issues in the post-9/11 environment and the remote nature of agency operations.

### **Communication**

Collective leadership and aviation users are responsible to each other to promote and maintain open lines of communication:

q Four-way mutual communications (up, down, and lateral).

q Leaders are expected to understand and provide intent in the context of task, purpose, and end state.

q All effort will be made to ensure communications are timely and accurate.

q Aviation customers should rely on aviation leaders to provide aviation mission

management.

Single engine airtanker.

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### **Accountability**

Appropriate accountability in the organization must be a shared vision embraced by all who work in the field of aviation. Accountability—both positive and negative reinforcement—at all levels of the organization will be based on individual behavior as measured by:

- q Appropriate use of available information.
- q Appropriate application of doctrine, principles and guidelines.
- q Execution of responsibilities commensurate with role.
- q Adherence to rules.
- q Exercising good judgement.

Performance will be measured by regular, comprehensive reviews of behaviors and attitudes by subordinates, peers and supervisors.

Aviation leaders find themselves in positions of influence as opposed to positions of authority.

Leaders must earn respect by extolling a sound foundation of values and ethics—and demonstrating the same in a professional manner.

### **Organizational Structure**

A centralized aviation organizational structure supports high performance and improved accountability. Aviation resources that are centrally managed for decentralized execution achieve maximum availability and effective use of nationally shared and other key aviation resources in support of critical events by:

- q Meeting rapid response requirements,
- q Efficiently utilizing resources,
- q Strengthening command and control, and
- q Maximizing flexibility for a wide range of response scenarios.

### **Aviation Leadership Attributes**

Sound judgment, strength of character and critical thinking contribute to aviation leadership fitness. Effective aviation leaders:

- q Are effective communicators and listeners

who are technically competent and committed to core organizational values.

q Are expected to have sound decisionmaking abilities, to demonstrate responsibility, assertiveness, moral courage and a willingness to take risk in a responsible and accountable manner.

q Demonstrate initiative and leadership through action that results in trust by subordinates and peers.

### ***Skills of Effective Leaders***

The development of an effective aviation leader is a unique blend of acquired skills and experience.

q Aviation leaders often must work in an environment of team building and teamwork. Effective communication skills (oral and written) enhance group interactions.

q Aviation leaders must be able to work in a solo environment and require the skills of assertive decision-making, self-awareness, self-assessment and situational awareness.

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These skills and experience are critical to an effective aviation leader.

## **Aviation Risk & Risk Management**

Aviation is inherently hazardous. We operate in an ever-changing and complex environment with contributing factors often beyond our control. We recognize that humans and machines can fail. The consequences of human and mechanical failure can be severe, even while working within agency doctrine and policy. We are expected to make reasonable and prudent decisions to accomplish the Agency mission. We are empowered and expected to manage the risks of aviation operations. This doctrine is designed to facilitate the decision making process while minimizing loss of life and serious injury. We will always begin with the question: *“Is aviation the appropriate tool to accomplish the mission?”*

### **Aviation Risk Management Concept**

Managing risk in aviation operations is a process that includes situational awareness, hazard identification and assessment, development of controls, decision making and evaluation.

Risk management includes acceptance of varying degrees of exposure to hazard depending on the nature of the mission.

Risk management is the process of making operations safer while completing the mission; it's a tool that allows us to operate successfully in our inherently hazardous environments.

Leaders at every level have the responsibility to identify hazards, to take measures to reduce or eliminate those hazards, and then to accept risk only to the point that the gains outweigh the potential costs.

The line officer, aviation leader, or individual performing the mission decides whether or not to accept the level of risk. When the risk is determined to be too great to continue with the mission, he or she develops additional controls, modifies, changes, or aborts the mission.

***Principles:***

q Risk management decisions are made at different levels within our organization depending on the urgency and importance of the mission; as well as the knowledge, skills and abilities of the personnel involved.

q Decisions can be limited by the time available for planning and require flexibility and judgment by line officers, aviation leaders, pilots, or the individuals performing the mission. The urgency of some missions may not allow for sophisticated analysis, professional reviews or established approval procedures. Involved personnel must assess the situation and determine the most appropriate course of action. It is important that an informed decision is made, which could include not accepting or aborting the mission.

*"I've been in the fire business—one way or another—for quite awhile. I know*

*where we've been. But I'm more interested in where we are going."*

~ Conference Participant

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q Organizational learning is crucial to risk management. It is essential we review our successes as well as our failures to promote and strengthen our safety culture. We will acknowledge those who practice and promote the use of risk management in accomplishing the agency mission.

q Formal and informal training is critical to risk management and mission accomplishment.

q We recognize and accept the inherent risks associated with aviation. We depend on our doctrine, training, experience, and leadership to mitigate those risks.

q Disregarding inherent risks or failure to practice risk management is unacceptable, regardless of whether or not it results in injury or death.

q Individuals will be held accountable for their decisions. Those decisions should be considered to be reasonable and prudent based on doctrine, training, experience and the given situation.

q In order to mitigate human factors, it is an aviation leadership responsibility, as well as a personal responsibility, to appropriately address the effects of our work on human performance.

## **Training, Qualifications, & Education**

Aviation is inherently dangerous. Users of aviation often perform in a high risk environment. Mistakes are unforgiving and can result in catastrophic and deadly consequences. Aviation accidents result in high costs to the agency. The harsh reality is to succeed and survive, aviators must first perceive and believe the complexities of this

*"I have been involved in telling a family that their son wasn't coming home. That experience really increased my passion for*

*what we are doing here this week. Anything we can do to make this high-risk business safer and better is something I'd like to be a part of."*

~ Conference Participant

*"I've seen the Forest Service struggling for several years with changes. I believe we are now at the threshold of a paradigm shift within this organization. I want to be a part of this on the ground floor. That's why I'm here this week."*

~ Conference Participant

*"I'm here because I support aircraft users in the Forest Service. You know how every day we go to work and fight dysfunctionality—we're downsizing and centralizing and all kinds of things. This is our opportunity to turn things around—at least in the area of aviation—and to make this program functional."*

~ Conference Participant

*Many aviation missions are urgent and expensive.*

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environment; then think, plan, manage risks and then boldly engage. The actions of a single individual at the critical moment can have great impact in the outcome of operations. Promoting training at all levels will help meet the challenges faced by aviation management. All Forest Service employees are required to meet training standards. All aviation users will know where to go for assistance.

As we move from a rule-based performance system to a doctrine-based system, our training must teach employees how to think and react to make good decisions. We need to recognize the value of our experienced aviation workforce.

### **Training**

A Forest Service-wide goal is to accomplish safe, efficient, and effective utilization of aviation resources. Increasing employee awareness of agency policy, procedures, and safe practices must receive high priority.

Aviation training, whether basic safety, specialized, or management, is a method to increase this awareness and a key to meeting this goal.

A highly trained, educated, and experienced workforce is critical to the future of aviation management in order to the challenges of the all risk aviation environment.

### **Currency**

The Forest Service aviation workforce requires a commitment to funding training, and proficiency, regardless of budget ebbs, and flows. This will allow our agency to provide a well trained mission ready workforce.

Maintain a working level of aviation proficiency and safety to ensure a positive outcome in all Forest Service flight operations. Without maintaining currency and competency people are at higher risk for accidents and injuries.

Training areas will include:

- q Leadership
- q Risk Management
- q Human Factors
- q Aviation Safety Management
- q Error Management

Leadership/supervisors need to make a commitment to assure information to the field is received. Include: lessons learned, policy changes, safety alerts, etc. Since there is a decentralized organization, collective leadership and aviation users are responsible to each other to promote open lines of communication, both up and down the chain of command. Aviation information is oftentimes critical and can make a difference between an accident occurring or being prevented.

Forest Service aviation management will foster new techniques to stay abreast of aviation industry state of the art advancements. Using innovative training at the local level to teach new ideas and disseminate information on changing technology to the field routinely.

“One of the key challenges is to determine how you keep the rules you need and create the flexibility to empower your people to get the job done.”

Mark Smith

*Mission-Centered Solutions*

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### **Scope of Training**

Training develops the tactical and technical proficiency that underlies all successful action in the all risk environment. Training must be effective and dynamic, and based in the support of core missions. Aviation training must address both the technical and the considerable human performance aspects of the aviation mission, and support the production and maintenance of an error' resilient and adaptive operational culture.

Employees are expected and empowered to be creative and decisive, to exercise initiative and accept responsibility and to use their training, experience, and judgment in decision-making to carry out agency goals.

Formal and informal training is critical to risk management and successful mission accomplishment. Formal aviation education develops the understanding, creativity, judgment, and the background essential for successful aviation management. Success of the training program will be measured by the students, instructors, and managers. Performance based qualification standards will be used as a way to reduce risk.

Because of the fundamental job skills involved in aviation it is essential to achieve proficiency through training with performance based elements. (Conduct drills, scenarios, and simulations, task books). *Train as you fly, fly as you train.*

Training will include processes to support risk assessment and will be taught to all employees. It will be made factual and inclusive. This training will include time critical, deliberate and strategic risk management. Air crews must be able to recognize, assess and mitigate hazards.

### **Standardization**

If our agency does not standardize our training and qualifications we will have confusion and chaos on all aviation operations which

will lead to aviation mishaps and accidents. National level leadership is required to assure a strong collaborative tie to our partners, and to oversee and manage the agency's training mission standards.

Standardized training will ensure that all employees receive quality aviation training. Standardization of training will provide cooperation with inter-agency partners and allow employees to provide a service across geographical boundaries. *Highly trained personnel are the key to aviation safety.*

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Employees will meet minimum interagency training standards according to the current manual, but individual units are encouraged to provide additional training.

Interagency guides are not policy. Guides help empower aircrews to make decisions at the lowest level. Recognizing that employees will use guides for good decision making based on past training and experience.

Standardized aviation training will promote a safety culture that includes positive attitudes, sound risk management and knowledgeable decision making.

### ***Lessons Learned***

We will share lessons learned. If we don't share and learn from our aviation experiences we will continue to pay the high cost of injuries and accidents that have occurred in the past.

Sharing the knowledge, experience and initiative of each aircraft user is integral to the success of aviation missions. We will not measure qualifications by training courses and tasks performed only will be recognized.

### **Relationships & Partnerships**

The premise on which the doctrine for establishing this "Relationships & Partnerships" section was formed:

***"Collaborative partnerships with cooperating agencies and positive relationships with contractors are essential to safe, efficient, and effective aviation management."***

### ***Doctrinal Message***

The Forest Service recognizes the importance of relationships with agency partners and contractors as an integral part of business practices. The following establishes the doctrinal message as it relates to the various relationships.

### ***Cooperators and Partners***

The Forest Service will establish an aviation program responsive to regional, national, and international needs. To serve the public and achieve maximum benefit, mutually productive relationships with our interagency partners and cooperators will be established or strengthened.

Forest Service aviation supports all users, functions, disciplines, and programs within the Forest Service and its interagency partners. Potential users include all program areas.

The Forest Service will ensure the greatest flexibility in its management of aviation resources

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### **Terminology**

For the purposes of this “Relationships & Partnerships” portion of the doctrine, the following definitions apply.

#### **Contractors**

The term contractor refers to a firm, individual, or consortium—usually from the private sector—that provides goods, services, or equipment (aircraft, support vehicles, etc.) to an agency.

#### **Cooperators**

For the purposes of this application, the term cooperator denotes another government entity (municipal, state, or federal) or coalition (i.e. timber protective association) that shares responsibility with the agency in the accomplishment of the common mission—or is a stakeholder in the outcome

of the mission.

**Partners**

In the context of the land management agencies, this is interchangeable with the term “cooperators.”

**Interagency**

This term generally refers to separate agencies, usually State and Federal, that share responsibility for the accomplishment of a mission, management of adjoining or overlapping geographic jurisdictions, or provide support to each other in the accomplishment of a mission (such as National Interagency Fire Center, Minnesota Interagency Fire Center, National Interagency Aviation Council, Interagency Fire Cache). It may also refer to common policies or practices, such as Interagency Helicopter Operations Guide or Interagency Mobilization Guide.

**Cooperative Competition**

Describes either:

(a) Government entities that may be in competition with each other for resources, funding, or jurisdictional priority, but which otherwise cooperate with each other in the accomplishment of the mission.

or

(b) Contractors, who—after competing with each other for work on a project—either share the mission or support each other in the accomplishment of the mission.

(Example: separate and competing aircraft companies that are both assigned a mission but who may support each other with fuel and service vehicles to increase the effectiveness of both to the agency).

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for maximum benefit. Compatibility and constructive cooperative competition for the use of aviation resources between agencies is established through combined coordination and strong relationships.

**Contractors**

The Forest Service will examine aviation needs through cost analysis, A-76 process, and best value determination with consideration to procurement law, current fiscal regulations, and budget considerations.

The role of aviation contractors is to provide equipment and services on an intermittent, seasonal, or full-time basis that is considered to be more responsive or cost effective than what the agency can reasonably provide on its own. The aviation services industry is dependent on the land management agencies as one of its major customers. The agencies are equally dependent on the providers of those services. Both entities are responsible to maintain a business climate conducive to each others' success.

When the government contracts needed services, the costs are effectively transferred to the provider of those services. This may, in effect, cost the agency and the taxpayer more in the long run, but will have less impact on the Forest Service's immediate budgetary allocations.

Successful relationships with contractors are measurable. Aviation contractors must understand the agency's needs and focus their business plans in anticipation of those needs. The Forest Service must communicate with contractors in a consistent and effective manner to enable them to plan for the *"My fear is that this (week's doctrinal product) won't have any interagency aspects. My hope is that it will represent people out at my level—the modular unit leader level."*

~ Conference Participant

*"It's the 'ground folks' who need our support. If it wasn't for them, we wouldn't be here. So I'm hopeful that we will make sure that what ever we do here this week will work for—and support—our people on the ground."*

~ Conference Participant

*"I see this conference as an outstanding opportunity for us to do what we haven't*

*been able to do our entire careers. I hope whatever we come up with serves the ground firefighter better—and also have interagency applications.”*

~ Conference Participant

*“My fear is that the people on the ground today who have seen firefighter and aviator after aviator be killed in the line of duty—those people who are now questioning whether or not they are going to continue doing their jobs with this agency—will leave us. If we here this week can make a difference and bring the passion and love back to these people, this agency will be much stronger.”*

~ Conference Participant

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capitalization of future equipment acquisitions and workforce levels.

The Forest Service will hold contractors accountable for meeting government standards and contractual requirements. The Forest Service should recognize vendors that exceed basic government requirements in the areas of safety, maintenance, training, and equipment. This can be accomplished through incentives and best-value contracts.

The Forest Service will encourage a competitive climate to ensure both the best value and best service to the government as well as fostering an environment for equitable opportunities for the contractor.

### **Concept**

Concepts define what agency relationships and partnerships should look like and how they should function.

Positive relationships are characterized by acceptance and understanding of the fundamental commonalities as well as differences of aviation operations—both within the agency and between interagency partners. The Forest Service recognizes and values the unique competencies and capabilities of its agency cooperators who share the Forest Service’s professional culture. The professional culture related to aviation management is

an important concept that evolves from establishing common goals, synchronized training, and acceptance of inherent agency operational differences.,

### ***Principles***

The Forest Service recognizes the concept of “cooperative competition,” whereby competition exists among agencies for the use of the same aviation resources to accomplish similar missions. To ensure and foster good working relationships, Forest Service business practices must be compatible with those of its partners.

It is essential that the Forest Service review the practices and procedures that currently enhance inter operation of aviation resources, as well as correct barriers to efficient and safe aviation management. Barriers may exist within the layers of current policy. The Forest Service may therefore need to examine their importance and application to safe and efficient operations and allow the opportunity to use best professional judgment in order to rapidly respond to emergency situations.

Fundamental concepts and principles will continue to evolve as agencies experience organizational changes. The Forest Service must look to that evolutionary process as an opportunity to strengthen relationships and partnerships.

### ***Successful Relationships***

Identifying the key indicators of success are important to successfully determine whether or not the principles set forth in this doctrine are being accomplished.

Successful relationships can be measured when the Forest Service and agency partners:

- q Share a common goal and vision;
- q Promote accurate, honest, meaningful, and consistent communication;
- q Anticipate and react to the needs of each other;
- q Are able to move transparently between jurisdictional boundaries to accomplish aviation objectives; and
- q Everyone benefits.

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## **Moving Forward**

The Chief of the Forest Service started the conversation on foundational doctrine in earnest in 2005. He will incorporate the core elements of this doctrine into already existing extensive work completed by the National Leadership Team. The Forest Service's National Director of Fire and Aviation Management is committed to implementing these actions.

*"I don't feel like we've been heading in the direction we need to be heading. I think we now have a good chance to change that direction. But my fear is that we're not going to follow through on these things this week that we say we're going to do. I've been to these type of conferences before when things end up not get followed through on. I'm hopeful that doesn't happen here."*

~ Conference Participant