Management Efficiency Assessment of the Interagency Wildland Fire Training and Related Services

Prepared for:

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Executive Summary

The Interagency wildland fire agencies maintain a goal of "managing wildland fire while providing for firefighter and public safety." Other considerations include "values to be protected, social and legal issues, environmental/ecological benefits and impacts, and economic efficiencies." The achievement of these goals requires personnel who are skilled, qualified, and available to fill the needed wildland fire positions. The primary mission of interagency wildland fire training is to fulfill the skill development portion of this need.

In performing this Management Efficiency Assessment, the Team adopted several assumptions and constraints:

- The recommendations of this assessment should not negatively affect States and other non-Federal stakeholders. The goals of Federal Wildland Fire Management Policy indicate that Federal, State, tribal, local, interagency, and international coordination and cooperation is essential in order to deal successfully with the ever-increasing and more complex fire management tasks.
- The interagency approach to wildland fire training is a strength, embedded in policy, and must be maintained.
- Budgets for the 2008 and 2009 fiscal years are expected to remain at current levels. Fire management programs and activities must be economically viable.
- Current policies and requirements will remain in place. For PMS 310-1 training, current NWCG standards for content and instructor qualification must be met. Most of the skills in wildland fire management are relatively unique to incident and fire management. They are not common to other types of professions or trades, so training content and delivery must primarily come from subject matter expertise internal to the wildland fire community.
- The Geographic Area organization in place providing comprehensive interagency wildland fire support will continue in its current configuration. Each Geographic Area will continue to require its own training organization.
- Most of the training courses (75% of class sessions and 80% of interagency wildland fire students) are delivered locally with little or no cost to participants. The outcome of this assessment should not negatively affect current low-cost delivery of training.
- No significant changes in workload requirements are anticipated. There may be some changes in the focus of the training as a result of changing workforce demographics identified through the many agency and departmental workforce and succession planning efforts.
- Expected retirements and subsequent recruitments may require a shift in training resources (e.g., entry level versus mid-level, additional distance learning) however, the overall workload is not anticipated to change.
- Costs associated with trainees (labor, travel, etc.) were not included in the Team's analysis.

Because of the critical nature of wildland fire activities and the need to mobilize resources between agencies and locations, a jointly agreed upon minimum standard for most wildland fire positions is necessary to assure safety, efficiency, effectiveness, and interoperability. PMS 310-1 establishes minimum standards for certification (qualification), including training, experience, physical fitness level, and currency standards for most wildland fire positions. The PMS 310-1 establishes that the training portion of the qualification standard is a performance-based training system requiring trainees to demonstrate successful position performance to become qualified.

The execution of interagency wildland fire training occurs through four separate sources of learning products, processes, and services: National Wildlife Coordinating Group (NWCG), Agency-Specific, Geographic Area-Specific, and Support Training programs.

The data presented in this report is based on a survey year June 1, 2006 – May 31, 2007. Data was collected from the Incident Qualification and Certification System (IQCS), the field, and other data sources.

Training was delivered at 1,351 known locations throughout the United States. There are over 6,976 class sessions delivered to over 115,000 students annually. The bulk of the classroom training is the 100-200 entry-level courses delivered to 80% of the students – generally at the local unit level. Training coordination and management is achieved through NWCG and Agency-specific and Geographic Area specific organizations working with dedicated professionals throughout the fire community using individualized systems to plan, schedule, and implement the training.

More than 4000 subject matter experts served as instructors and represent over 77 Federal positions/series and additional non-Federal positions. Some contract instructors are used, but subject matter experts handle the bulk of instruction on a collateral assignment basis. Instructors serve an average of 130 hours per year. The total instructor labor cost of $16,812,533 is generally assumed by the agency program offices; it is not paid for by a centralized instructional fund pool.

Participants in the training programs, in addition to the five federal land management agencies, include other Federal, State, and county personnel and some international participants. The five primary Federal agencies have approximately 52,195 individuals who received an Incident Qualification Card in FY 2007.

NWCG performs the bulk of the training development work, including nearly all the courses required for certification in one of the 250 incident positions (about 103 courses plus job aides). The National Advanced Fire and Resource Institute (NAFRI) provide development and revision for 15 of the advanced fire management courses. Development of Agency-Specific, Geographic-Specific and Support Training courses takes place in multiple locations.

Federal personnel supporting interagency wildland fire training total 455 full-time equivalents (FTE) for all components; 56% are instructors working an average of 130 instructor hours each annually. The remaining FTE is personnel engaged in other training component activities.

Market research was conducted to explore the capability and interest of commercial vendors to perform interagency wildland fire training development, delivery, instruction, management, and administration. The research consisted of three separate, but related, activities including:

- Formal market research conducted in compliance with Federal Acquisition Regulation (FAR) Part 10;
- Informal internet research; and,
- Assessment of current contract support. (The agencies currently obtain services from commercial vendors primarily for class instruction and support of specific course development requirements.)

The market research demonstrated a lack of interest and capacity from the private sector in providing broad based, wide spread programmatic training development, delivery, management, and administration.

The internet contains many commercial vendor websites expressing capability to provide instruction for wildland fire training. These sites predominantly include retired subject matter experts interested in providing instruction. The sites also include miscellaneous academic institutions offering courses in wildland fire-related subjects. The research also demonstrated the capability and interest of several vendors to provide limited support to development of wildland fire training.

Instruction, including class preparation and classroom presentation, represents the most prevalent use of current private sector contractor support. The use of private sector contractor support for other aspects of training, such as development, is on a case-by-case basis depending on the specific requirements.

The Team concluded that the current interagency wildland fire training organization meets the needs of its customers and is a credit to the many individuals who work together to make it succeed. There are no known future changes to mission, customer base, or workload that would require significant organizational/resource changes to the current operations.

The Management Efficiency Assessment identified a number of areas, listed below, that have a large potential for savings and improvements and that require additional evaluation.

Training Staffing Support

- Evaluate zone and local areas to determine the need for staffing of positions with training as a primary duty.
- Conduct analysis in all Geographic Areas to determine the most efficient staffing for the workload of each Geographic Area.

Workforce and Succession Planning

- Eliminate the "wants" based qualification track model and replace it with one that is designed to meet workforce succession planning needs at the local, geographic, and national levels and support the aptitude of individuals (and ability to succeed in specific tracks).
- Create incentives for individuals selecting less populated qualification tracks (e.g., Logistics, Plans, and Finance).
- Obtain management commitment to individual's qualification path, ensure that they perform a supportive role in helping the individual achieve their goals, and reinforce commitments to make qualified individuals available to meet mission requirements.

Training For Position Task Book (PTB) Trainers / Coaches / Evaluators

- Develop and provide training to the Unit Leader/Single Resource Boss level and above to enable them to perform adequately as a Trainer/Coach and Evaluator.
- More consistently use Training Specialists on Incident Management Teams Type 1 and 2. This helps assure matching trainees with Trainer/Coach/Evaluators who have sufficient skills to be effective in those roles.

Interagency Wildland Fire Training Funding

- On an interagency basis, determine the needed training organization. This effort should be conducted locally and geographically with full involvement of the interagency wildland fire community.
- Fund all programs at a consistent level based on Federal apportionment, and provide funding to both Geographic Area and local/zone levels. Use the respective agency budget processes to secure the funding.
- Use interagency agreements to establish funding processes and review them annually.
- Adopt a consistent funding policy that minimizes the collection of tuition.

Interagency Training Management Efficiency Assessment

Summary of Recommendations

The assessment team did not identify recommendations by priority or provide a timeline.

Category and Description of Recommendations

Training Staffing Support
Evaluate zone and local areas to determine the need for staffing positions with training as a primary duty.
Analyze all Geographic Areas to determine the most efficient staffing for the workload of each Geographic Area.

Workforce and Succession Planning
Eliminate the "wants–based" qualification track model and replace it with one that is designed to meet both workforce succession planning needs at the local, geographic, and national levels and support the aptitude of individuals (and ability to succeed in specific tracks).
Create incentives for individuals selecting less populated qualification tracks (e.g., Logistics, Plans, and Finance).
Obtain management commitment to individual's qualification path, ensure that they perform a supportive role in helping the individual achieve their goals, and reinforce commitments to make qualified individuals available to meet mission requirements.

Training for PTB Trainers/Coaches/Evaluators
Develop and provide training to the Unit Leader/Single Resource Boss level and above to enable staff to more adequately perform as Trainers/Coaches and Evaluators.
More consistently use Training Specialists on Incident Management Type 1 and 2 Teams to help to assure matching trainees with Trainer / Coach / Evaluators who have sufficient skills to be effective in those roles.

Interagency Wildland Fire Training Funding
On an interagency basis, determine the needed training organization. Each locality and geographic area should determine needs separately with full involvement of the interagency wildland fire community.
Fund all programs at a consistent level based on Federal apportionment, and provide funding to both Geographic and local/zone levels. Use the respective agency budget processes to secure this funding.
Use interagency agreements to establish funding processes and review the processes annually.
Adopt a consistent funding policy that minimizes the collection of tuition.

1. Introduction

1.1. Purpose of the Management Efficiency Assessment

This Management Efficiency Assessment documents a review conducted for the purpose of evaluating business models and determining more efficient methods for delivering interagency wildland fire training support and services. The Interagency Fire Program Steering Team commissioned the Efficiency review.

An interagency team consisting of representatives from the Fish and Wildland Service (FWS), National Park Service (NPS), Bureau of Indian Affairs (BIA), and Bureau of Land Management (BLM) in the Department of the Interior (DOI) and the Forest Service (USDA FS) in the U.S. Department of Agriculture (USDA) was convened to conduct the Management Efficiency Assessment. Management Analysis, Inc. (MAI) provided contract support. The assessment focused on identification of any areas within wildland fire training that could be improved through business process reengineering (BPR) or other follow-on efficiency assessments resulting in increased efficiencies in staffing, organizations, communications, technology application, and procedures.

Table 1 – Management Efficiency Assessment Team Membership

Interagency Charter Committee Members			
Lead	Robert Gordon (DOI)	Member	Kathy Winship (FWS)
Member	Barbara Loving (OWFC)	Member	Kevin Conn (FWS)
Member	Mark Beighley (DOI OWFC)	Member	Jim Glenn (BLM)
Member	Kathie Libby (BLM)	Member	Denny Truesdale (USFS)
Member	Sue Richardson (BLM)	Member	Tom Nichols (NPS)
Member	Jacqueline Myers (USFS)	Member	Mark Boche (USFS)

Management Efficiency Assessment Team		
Name	**Agency / Bureau**	**Title**
Don Washco	BLM	Fire Training Coordinator - BLM National Training Center – Phoenix, AZ
Bob Kausler	USDA FS	Logistics Coordinator Wallowa - Whitman National Forest – LaGrande, OR
Paul Fieldhouse	BIA	Training Specialist, Fire Suppression and Incident Management , Missoula, MT.
Noble Dunn	NPS	Training Specialist, Fire Suppression and Incident Management, Boise, ID
Renee Beams	USDA FS	Supervisory Training Specialist, Northwest Training Center, Redmond, OR
Kevin Conn	FWS	Assistant National Fire Training Specialist, Boise, ID
Kathy Garrity	DOI	Training Efficiency Assessment Review Lead, Washington Office
Clif Richardson		MAI - Contractor - Senior Management Consultant
Gerrie Wydeven		MAI - Contractor - Senior Management Consultant

1.2. Management Efficiency Assessment Scope

Interagency wildland fire training support and services is a multi-faceted, multi-agency undertaking representing many programs, processes, and resources. The US Forest Service review scope is defined by a Letter of Direction from the Deputy Chief for Business Operations (1310-1, July 16, 2007). The Department of the Interior did not provide specific scope definitions chartering this Management Efficiency Assessment. The Team, therefore, identified a Management Efficiency Assessment scope that directly supports the training goals of the interagency wildland fire community.

The achievement of the interagency wildland fire management goals requires that an adequate number of proficient, qualified, and certified wildland firefighters and incident response personnel are available to meet national, geographic, and local needs. The scope of the Management Efficiency Assessment was established to identify the resources, programs, and processes required to sustain this capability and to identify opportunities for greater effectiveness and efficiency. In addition, the Team considered potential impacts any changes may have on both Federal and non-Federal partners.

The interagency capability to support the wildland fire training requirements consists of processes that include:

- Training Development
- Delivery and Instruction
- Training Management and Administration

The Federal Wildland Fire Agencies describe their training policy in the Wildland Fire Qualifications Systems Guide, (PMS 310-1): "It is agency policy that only qualified personnel will be assigned duties in wildland fire suppression or prescribed fire. All employees assigned dedicated fire program management responsibilities at the local, geographic area, or national level shall meet established interagency and agency competencies (knowledge, skills, and abilities) and associated qualifications."

The National Wildfire Coordinating Group (NWCG) Training Working Team develops and coordinates fire management training programs for Federal and State agencies.

The goals and objectives are provided in Appendix 1 - Federal Wildland Fire Management Policy and Objectives**.**

2. Introduction to the Management Efficiency Assessment

2.1. Team Composition

The Interagency Wildland Fire Program Steering Team identified wildland fire training for an interagency Management Efficiency Assessment to determine opportunities for improvement. Agencies nominated representatives to be on this team. An interagency team consisting of representatives from the Fish and Wildlife Service (FWS), National Park Service (NPS), Bureau of Indian Affairs (BIA), and Bureau of Land Management (BLM) in the Department of the Interior (DOI) and the US Forest Service (USDA) with technical expertise in the area of interagency wildland fire training was convened to conduct this review. Management Analysis, Inc. (MAI) provided contract support.

The Team was composed of Subject Matter Experts (SME) with a breadth of knowledge and experience to cover most aspects of the interagency wildland fire training function. The Team membership had a diversity of geographic, organizational, and functional experience. Members of the Team have more than 154 years combined wildland fire experience, including 114 years of involvement with wildland fire training.

2.2. Team Processes

The Team used a number of processes to conduct this Management Efficiency Assessment, and Team members were charged with keeping their respective leadership advised of overall review progress.

The Team:

- Held five workshops to chart the Management Efficiency Assessment; develop the data call; analyze the data; and collectively create the recommendations.
- Held weekly teleconference calls to coordinate efforts and to provide a forum for discussing issues and challenges.
- Interviewed their respective Fire Directors to gain insight into current and planned initiatives and to hear first hand their vision for wildland fire training.
- Collectively met with members of the NWCG Training Working Team (TWT) to hear its plans and vision.
- Informally polled personnel at all levels of the fire organization seeking input into how training could be improved.
- Conducted two web-based data calls—one for instructors and one for other training personnel—to collect data on the scope and breadth of the interagency wildland fire training effort (a total of 888 instructors and 253 other training personnel responded to these data calls).
- Conducted market research to analyze the capabilities in the commercial marketplace to provide wildland fire training.
- Analyzed the data in the Incident Qualifications and Certification System (IQCS) database to gather workload and cost data.
- Collected organization charts, sample position descriptions, and representative process flowcharts and diagrams to better document specific aspects of interagency wildland fire training.
- Relying on its own breadth of experience and knowledge, identified aspects of interagency wildland fire training that would benefit from improvement and focused additional efforts on evaluating these for recommendations.

2.3. Review Approach

Initially, the Team took several steps to identify the scope of the Management Efficiency Assessment:

- Reviewed relevant interagency wildland fire documents, policies, and procedures with an emphasis on those that dealt with interagency cooperation and collaboration in the training of wildland fire personnel.
- Determined the programs, associated personnel resources, and workload that directly support the mission and goals of interagency wildland fire training would be the focus of this review.
- Interviewed key fire management personnel to gain their perspectives on the review.
- Identified sources of data that would provide information about demographics, type of training activities conducted, personnel resources involved, and associated workload.
- Developed a web-based data call and other data gathering processes to obtain data. The data helped refine the scope of the review and provided critical current operations data.

2.3.1. Scope of Review

The achievement of interagency wildland fire management goals requires that an adequate number of proficient, qualified, and certified wildland firefighters and incident response personnel are available to meet national, geographic, and local needs. These personnel must have the qualifications and certifications required to perform the necessary positions/tasks as defined by NWCG and other policy makers. This outcome requires successful completion of training programs**.**

To determine the scope, the Team identified those programs and processes that directly support the primary goals of interagency wildland fire training: ensuring the availability of qualified, certified personnel to support wildland fire and related incident support requirements and the processes that support that capability. Based on these criteria and the need to create a manageable Management Efficiency Assessment scope, the Team excluded certain categories and components:

- The Team defined the Training Program Categories as in or out of scope (Table 2 -Training Program Categories – In or Out of Scope & Table 3 - Training Processes or Components – In or Out of Scope).

Table 2 -Training Program Categories – In or Out of Scope

Category	Description	In Scope	Out of Scope
NWCG (as defined in PMS 310-1 and PMS 901-1) Training	Training courses listed in the PMS 310-1 as required or suggested for achieving qualifications for wildland fire positions.	√	
System Support Training	Training courses related to wildland fire management information technology (IT) programs, models, and systems.	√	
Federal Agency-Specific Fire Training	Other fire training courses identified in the Red or Blue Book or other Agency policy (e.g., Fire Management Leadership (FML), Engine Operator, Prescribed Fire Planning and Implementation, Technical Specialist).	√	
Incident Support Training	Training courses for individuals, specialists, and processes in support of wildland fire management (e.g., Communications Tech, Fire Investigation, Radio, Remote Automated Weather Station, Support Training (cache, hazmat).	√	
Geographic Area-Specific Fire Training	Training courses with a fire training objective unique to one or several Geographic Areas (e.g., Wildland Fires Use for Resource Benefit, Geographic Engine Academy, Northwest Fireline Safety Officer, Incident Medical Specialist training).	√	

Category	Description	In Scope	Out of Scope
National Wildland Firefighter Apprenticeship Program	On-the-job Training (OJT) Training programs such as the National Wildland Firefighter Apprenticeship Program. (However, individual training courses that would fit into the above categories, such as an NWCG course, would be in scope.)		√
Peripheral training associated with wildland fire management	Land management-focused fire management training such as National Environmental Policy Act training, Fire Regime Condition Class training, Forest Vegetation Simulator.		√
OJT – On-the-Job Training	Non-course training usually conducted locally to develop basic skills in a given category of responder. Also includes other preparedness and proficiency training conducted locally.		√
Unique Skill Training generally conducted locally to develop basic skills in a category	Training usually conducted locally to develop basic skills in a given category of responder (e.g. engine crew, hotshot, smokejumper, helitack).		√
Non-Federal Training Programs	Programs not maintained or administered by Federal personnel.		√
Position Task Books (PTB)	The training (OJT) and position performance evaluation that occurs once a PTB is issued and that is directly related to the tasks included in the PTB.		√
Training in Support of Position Descriptions	Training in support of fire management position descriptions (as opposed to position qualifications) or not related to fire but required by agency policy, such as Introduction to Supervision, Ethics and Conduct, Security Awareness Training.		√

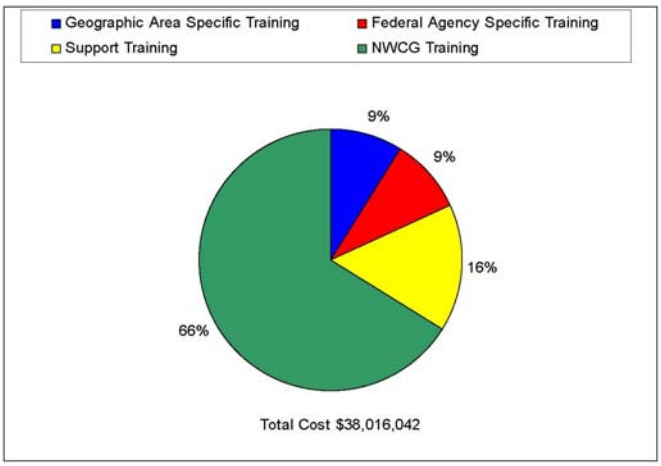
Table 3 - Training Processes or Components – In or Out of Scope

Component	Description	In Scope	Out of Scope
Development	Functions performed before training delivery such as creating a new course or significantly revising an existing course. Includes activities such as conducting needs assessments, gathering SME input, designing the course, analyzing instructional methods, crafting objectives, developing lesson plans, conducting alpha and beta testing, obtaining course approval, and managing the developers and development process.	√	
Delivery and Instruction	Functions performed when preparing for and conducting a course. Includes activities such as selecting the cadre, facilities, scheduling and developing the agenda, acquiring course materials, correcting pre-course tests or evaluations of other pre-course requirements, managing the classroom during the course, evaluating students (testing, simulations, etc.) and course, and preparing course documentation. Also includes lesson plans in accordance with agency policy; confirming the adequacy of supporting materials, facilities, and equipment; presenting classroom instruction; and supporting or conducting testing and evaluation.	√	
Management and Administration	Functions performed in support of a training program or center that includes activities such as planning, organizing, scheduling, prioritizing, budgeting, staffing, and program oversight. Also includes processing nominations, tuition, and travel expenses; purchasing; securing lodging; preparing contract and agreement documentation; preparing routine correspondence; photocopying; and completing other documentation.	√	

Component	Description	In Scope	Out of Scope
Federal Training Facilities and/or Equipment	Federal facilities and equipment that are used for training categories and components included in the scope of this review.		√
Federal Policy	Policy is agency direction that guides how the above components are to be accomplished or managed. It establishes procedures, standards, and requirements at the program level.		√

The Team focused heavily on interagency wildland fire training in the NWCG (PMS 310-1) category. This reflects the relative amount of resources - 67% of costs - invested in that category (see Figure 4 - Estimated Annual Expenditures by Category). A summary of costs is included in Section 7 Description of Current Operations.

Figure 4 - Estimated Annual Expenditures by Category



3. Interagency Wildland Fire

The nation experiences thousands of wildland fires each year. Fire has always been a major influence on our landscape. Currently, land management agencies have fire management programs to meet a variety of land management goals, including protection of values and ecosystem maintenance or restoration. The USDA and DOI maintain the primary responsibility for management of wildland fire and fuels on federal public lands. The US Forest Service and DOI bureaus (BLM, NPS, BIA, and FWS) have the lead for their respective Departments. The bureaus and agencies accomplish this mission through an organization that includes firefighters and other support personnel. The personnel must be highly trained, proficient, and qualified in incident and wildland fire management.

3.1. Key Definitions[1]

Wildland - An area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.

Wildfire - An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildfire Suppression - An appropriate management response to wildfire, escaped wildland fire use, or prescribed fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire.

Wildland Fire Use - The application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas outlined in Fire Management Plans.

Prescribed Fire - Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act of 1969 (NEPA) requirements (where applicable) must be met, prior to ignition.

Incident - An occurrence that is caused by humans or a natural phenomenon that requires action or support by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Additional definitions and acronyms can be found in Appendix 3 – Definitions and Appendix 4 - Acronyms.

3.2. Types of Wildland Fire

Wildland fire occurs throughout the United States in significant numbers involving substantial acres of land on an annual basis. Fire occurrences vary from year to year across areas. There has been an upward trend in the last 10 years that is expected to continue. There are three categories of fires:

- Wildfire
- Prescribed Fire
- Wildland Fire Use

[1] Source: NWCG Website

Table 5 - National 2007 Year-to-Date Report on Fires and Acres Burned shows a high level of activity throughout the country.

Table 5 - National 2007 Year-to-Date Report on Fires and Acres Burned[2]
by State for November 22, 2007

	Wildland		Prescribed		Wildland Fire Use	
State	**# Fires**	**# Acres**	**# Fires**	**# Acres**	**# Fires**	**# Acres**
AK	448	525,017	4	20,650	58	124,399
AL	3,368	64,207	14,639	791,533	0	0
AR	1,251	30,654	236	223,942	1	3,481
AZ	2,201	101,827	317	95,006	23	10,760
CA	8,881	1,059,923	704	64,490	47	1,467
CO	1,294	16,402	152	34,670	19	228
CT	244	231	7	60	0	0
DE	19	153	9	165	0	0
FL	4,702	573,457	311	248,009	18	2,753
GA	7,505	523,260	104	48,371	0	0
HI	5	21,030	0	0	0	0
IA	54	684	217	12,231	0	0
ID	1,474	1,996,383	445	40,554	73	189,442
IL	77	611	179	12,548	0	0
IN	804	5,416	285	25,357	0	0
KS	63	24,294	57	20,806	0	0
KY	2,001	58,722	32	16,490	0	0
LA	870	8,979	127	120,534	0	0
MA	2,204	2,687	5	46	0	0
MD	652	5,765	51	4,094	0	0
ME	460	399	37	196	0	0
MI	535	23,344	82	7,049	0	0
MN	1,813	124,057	603	92,572	2	11
MO	163	10,525	75	27,532	0	0
MS	1,096	14,309	196	212,399	0	0
MT	1,871	811,598	364	30,440	25	44,402
NC	6,583	52,362	186	94,084	0	0
ND	934	41,328	314	22,194	0	0
NE	52	4,073	53	9,830	0	0
NH	422	213	15	187	0	0
NJ	1,212	20,789	133	11,712	0	0
NM	1,403	79,259	157	50,678	22	26,785
NV	882	890,400	25	11,161	6	3,631
NY	211	855	13	353	0	0
OH	498	1,238	10	1,643	0	0
OK	1,286	47,042	31	20,096	0	0
OR	2,488	646,749	807	100,563	0	0
PA	523	1,047	3	40	0	0
PR	3,258	18,913	0	0	0	0
RI	100	61	5	110	0	0

[2] Source: Interagency Wildland Fire Center

	Wildland		Prescribed		Wildland Fire Use	
State	**# Fires**	**# Acres**	**# Fires**	**# Acres**	**# Fires**	**# Acres**
SC	3,424	15,520	206	101,625	0	0
SD	1,440	76,423	120	27,784	0	0
TN	3,276	46,615	17	14,146	0	0
TX	614	25,436	171	214,276	1	1
UT	1,372	623,811	75	34,855	20	7,225
VA	1,510	13,869	35	10,350	2	407
VT	99	230	5	302	0	0
WA	1,263	216,999	1,304	33,237	3	802
WI	1,451	4,728	545	34,134	0	0
WV	789	6,067	6	450	0	0
WY	582	77,739	56	25,875	21	3,891
Grand Totals	79,727	8,915,700	23,530	2,969,429	341	419,685

3.3. Brief History of Interagency Collaboration

In 1963, a BLM fire program task force, responding to a request from the Bureau of the Budget, proposed that a BLM fire center be created, preferably in Boise, Idaho. By 1965, the BLM had established the Great Basin Fire Center in vacant Idaho National Guard buildings at Gowen Field. A joint Forest Service/BLM Fire Coordination Center was established in Forest Service space across from Julia Davis Park in downtown Boise. At the same time, the Forest Service also wanted to establish an air center for forest fire suppression, and fire weather was recognized by both agencies as an important ingredient in fire suppression. These needs ultimately resulted in an agreement among BLM, Forest Service, and the Weather Bureau (now the National Weather Service) to construct the Boise Interagency Fire Center (BIFC) on land acquired by BLM through a land exchange with the state of Idaho. Because construction funding is included in its budget, BLM also owns the buildings and serves as the host agency.

In 1968, construction began on the administration building and warehouse. The three agencies moved into the building in May 1969. By that fall, a mess hall, west wing of a barracks, and smokejumper loft were also completed. Remaining major construction was completed in 1970.

During the 1960's and 70's, the Forest Service operation was administered by the Boise National Forest and operated the Region 4 Western Zone Air Unit, the National Fire Radio Cache, and the Boise National Forest's Fire Control Branch, which included its dispatchers, smokejumpers, airtanker base, fire warehouse, air operations, and law enforcement. BLM's organization included the Divisions of Fire Management, Standards and Technology, Aircraft Management, Communications, and Administration, and its charge was to coordinate wildfire support for BLM nationally.

Different administrative levels and missions have created interesting challenges through the evolution of the Fire Center. For example, at one time, a yellow line in the warehouse separated the BLM's 5,000-person fire cache and the Forest Service's 2,000-person cache. The dispatch office included three separate operations: the BLM's national fire support staff, the Boise National Forest dispatcher, and a Forest Service regional coordinator. By 1973, the Forest Service operation was elevated organizationally to a national level after having been administered for a short time by Region 4. Ultimately, through the leadership of BLM-NIFC Director Jack Wilson and Forest Service Director Bob Bjornsen, a new era of cooperation and coordination evolved.

In 1973, the Department of the Interior established the Office of Aircraft Services, which was headquartered at the Fire Center. In January 1974, the National Wildfire Coordinating Group (NWCG), composed of the top fire managers of the Federal and State wildland fire organizations, was formed. This ultimately had a big effect on Fire Center operations. That same year, the agencies at BIFC were joined by the NPS; and in 1976, the BIA became a permanent partner. In 1979, the FWS officially joined as a partner, bringing the total number of agencies housed on base to seven. In early 1993, the Center's name was changed to "National Interagency Fire Center," or NIFC, to more accurately reflect its national mission. In 2002, the US Forest Service's Washington Office aircraft and pilots were reassigned back to Region 4 being relocated to Ogden UT, and a full-time representative of the National Association of State Foresters was established at NIFC, and in early 2003, a permanent representative of the Federal Emergency Management Administration joined the NIFC team.

Since the inception of NIFC, the partner agencies have effectively shared firefighting resources and associated costs. Today, through cooperative agreements, NIFC's highly successful interagency concept extends to all 50 States and Canada. NIFC also supports fires and other emergencies in foreign nations when requested by the Office of Foreign Disaster Assistance of the U.S. Department of State.

The Federal Wildland Fire Management Policy establishes guiding principles and policies for interagency wildland fire management. Those policies are described in TE 1-001, Federal Wildland Fire Management Policy and Objectives.

3.4. Interagency Wildland Fire Training Management

The execution of interagency wildland fire training occurs through four separate sources of learning products, processes, and services: National Wildlife Coordinating Group (NWCG) Training; Agency-Specific Training, Geographic Area-Specific Training, and Support Training (various sources) programs. This review focused on all four of these sources of interagency wildland fire training.

3.4.1. National Wildfire Coordinating Group

The purpose of NWCG is to coordinate programs of the participating wildfire management agencies to avoid wasteful duplication and to provide a means of constructively working together. Its goal is to provide more effective execution of each agency's fire management program. The group provides a formalized system to agree upon standards of training, equipment, qualifications, and other operational functions.

NWCG has accomplished a number of major goals with the assistance of working teams and other task groups. Accomplishments specific to training include:

- Development of interagency fire training programs so State and Federal fire personnel have the same training background.
- Development of the National Interagency Incident Management System (NIIMS) along with its operational organization, the Incident Command System (ICS).
- Implementation of the NIIMS that includes a common incident organizational management system, a National Interagency Wildland Fire Qualifications Guide, associated training, and supporting technologies.
- Development of fire prevention training materials and guides.
- Standardization of fire cache equipment leading to equipment compatibility and use by all fire organizations.

- Development and publishing of prescribed fire qualifications, monitoring, and smoke management guides.
- Creation of a new generation of training packages for the ICS.
- Refinement of a performance-based qualification system for the ICS and suppression fire training and qualification curricula.
- Publication of the ICS National training curriculum for All-Risk users.
- Approval of the development of prescribed fire and qualification and training system.

3.4.2. Agency / Bureau Fire Training Management

Each of the Federal land management agencies has National Training Officers who administer fire and aviation management training programs. They develop and refine agency and interagency policy, provide direction and oversight for their agency's training facilities, implement the qualification and certification process, and represent their agencies on interagency working groups. These National Training Officers and their staffs are also responsible for the planning, budgeting, and support of the development and delivery of agency-specific coursework.

3.4.3. Support Training

Training for fire incident and systems support is interagency in nature and is not required for qualification for positions in the PMS 310-1. In some cases, the training is supported by NWCG, such as Resource Ordering and Status System (ROSS) and Incident Qualification and Certification System (IQCS) Training. Often the training is developed, delivered, and managed by small groups of dedicated specialists and SMEs in response to a unique need, such as the Infrared Interpreter Training. In other cases, the training is provided as a result of a new tool, process, or program, such as for the computerized fire modeling program—Behave—that a segment of the workforce might like to use but will need training first. Guiding policy for specific training in this category may or may not exist. Funding sources are diverse. Delivery of this training may be coordinated through the Geographic Area Training Representatives (GATR) and accomplishments recorded in the Incident Qualifications and Certification System (IQCS), but often it is not. As courses developed in this category are more broadly accepted, they are often adopted by NWCG.

3.4.4. Geographic Area-Specific Training

Training, with a fire training objective, unique to one or several Geographic Areas (e.g., Wildland Fires Use for Resource Benefit, Geographic Engine Academy, Northwest Fireline Safety Officer, Incident Medical Specialist training) is Geographic Area-Specific Training. It is interagency in nature and is not required for qualification for positions in the PMS 310-1 and PMS 901-1. Often the training is developed, delivered, and managed by small groups of dedicated specialists and SMEs in response to a unique geographic need. The Geographic Training Working Team may provide guiding policy for specific training in this category.

4. Business Needs Assessment

The Interagency wildland fire agencies maintain a goal of managing wildland fire while considering, among other things, firefighter and public safety, values to be protected, social and legal issues, environmental/ecological benefits and impacts, and economic efficiencies.

Federal Wildland Fire Management Policy [3]

1. Firefighter and public safety is the first priority of every fire management activity.
2. The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
3. Fire Management Plans, programs, and activities support land and resource management plans and their implementation.
4. Sound risk management is the foundation of all fire management activities.
5. Fire management programs and activities are economically viable. Federal agency administrators are adjusting and reorganizing programs to reduce costs and increase efficiencies. As a part of this process, investments in fire management activities must be evaluated against other agency programs in order to effectively accomplish overall mission.
6. Fire Management Plans and activities are based on the best available science. Knowledge and experience are developed among all wildland fire management agencies.
7. Fire Management Plans and activities incorporate public health and environmental quality considerations.
8. Federal, State, tribal, local, interagency, and international coordination and cooperation are essential. Increasing costs and smaller workforces require that public agencies pool their human resources to successfully deal with the ever-increasing and more complex fire management tasks. Full collaboration among Federal agencies and among the Federal agencies, international, State, tribal, and local governments, and private entities results in a mobile fire management workforce available for the full range of public needs.
9. Standardization of policies and procedures among Federal agencies is an ongoing objective. Consistency of plans and operations provides the fundamental platform upon which Federal agencies can cooperate, integrate fire activities across agency boundaries, and provide leadership for cooperation with State, tribal, and local fire management organizations.

The achievement of these goals requires personnel who are skilled, qualified, and available to fill the needed wildland fire positions. The primary mission of interagency wildland fire training is to fulfill the skill development portion of this need.

Because of the critical nature of much of wildland fire activities and the need to mobilize resources between agencies and locations, a jointly agreed upon well-defined minimum standard for most wildland fire positions is necessary to assure safety, efficiency, effectiveness, and interoperability. The National Interagency Incident Management System Wildland Fire Qualification System Guide, PMS 310-1 establishes minimum standards for certification (qualification), including training, experience, physical fitness level, and currency standards for most wildland fire positions. Some positions (some technical specialist positions, for instance) that support wildland fire activities or organizations have been identified, receive wildland fire training, are mobilized through the coordination (dispatch) system, but have no minimum qualifications that have been established by NWCG.

[3] Source: 2001 Federal Wildland Fire Management Policy, pages 21-22

The PMS 310-1 establishes that the training portion of the qualification standard is a performance-based training system. This requires that, for wildland fire positions listed in that document, trainees must demonstrate successful position performance to become qualified. Candidates prepare for position performance via several different training methodologies, the requirements for which are linked to the specific position.

Most of the skills in wildland fire management are relatively unique to incident and fire management. They are not common to other types of professions or trades, so training content and delivery must generally come from subject matter expertise internal to the wildland fire community.

5. Assumptions and Constraints

5.1. Scope

The Team identified a logical and reasonable scope for the review. They identified a scope that included those programs and processes that directly support the primary goals of interagency wildland fire training.

5.2. Workload

The Team anticipates no significant changes in workload requirements. The Team does anticipate changes in the focus of the training as a result of changing workforce demographics identified through the many agency and departmental Workforce and Succession Planning efforts. Expected retirements and subsequent recruitments may require a shift in training resources (e.g., entry level versus mid-level, additional distance learning); however, the overall workload is not anticipated to change.

5.3. Customers / Stakeholders

The recommendation of this review should not negatively affect States and other non-Federal stakeholders. The goals of Federal Wildland Fire Management Policy indicate that Federal, State, tribal, local, interagency, and international coordination and cooperation is essential in order to successfully deal with the ever-increasing and more complex fire management tasks.

5.4. Class Delivery

Most of the training courses (75% of class sessions and 80% of interagency wildland fire students) are delivered locally with no or little cost to participants. Recommendations of the review Team should not negatively impact existing low-cost delivery of training.

5.5. Funding / Budget

Budgets for 2008 and 2009 are expected to remain constrained at current levels. Fire suppression costs have continued to escalate as fuel conditions and habitation patterns shift. Large fire suppression costs have received much attention from OMB, Congress, and the Departments. Containment of costs continues to be a key factor in the management of incidents and funding for training and other support programs.

5.6. Policy Constraints

Established policies and requirements will remain in place. Current NWCG standards for content and instructor qualification must be met.

5.7. Organizational Structure

The interagency approach to wildland fire training is strength, embedded in policy, and will be maintained. The Geographic Area organization in place providing comprehensive interagency wildland fire support will continue in its current configuration. Each Geographic Area will continue to require its own training organization.

6. Data Gathering

In order to adequately understand and describe the current operations, the Team developed and used several methods to collect data:

- Survey of instructors and training management personnel
- Review of data from IQCS
- Survey of NWCG course development teams

The goals of the data call included:

- Gaining some demographic data on who is involved with interagency wildland fire training.
- Quantifying the workload and cost associated with performing the function.

6.1. Training Included in Data Call

6.1.1. NWCG Training

NWCG training is organized by levels and begins with the entry level, continuing through advanced/national level management skills. The courses begin with the 100 level and advance to the 600 level in accordance with Table 6 - NWCG Course Levels.

Table 6 - NWCG Course Levels

Number Range	Level
100-200	Local entry-level skills development
300-400	Mid-level and/or Geographic Area level management skills
500-600	Advanced/national level management skills

6.2. Data Call – Instructor and Training Surveys

The Team developed two data collection instruments (see Appendix 5 - Instructions for Instructor Data Call and Appendix 6 - Instructions for Training Data Call and submitted the survey instruments via the web to instructors (e.g., Federal, State, county, vendors) and training management and coordination personnel in units (local/zones and Geographic Area). The Team's intent was to collect data for the specified training categories.

6.2.1. Timeframes of Data Call

May, 2007	Data call designed and refined
June 18, 2007	Data call launched with a 30 day response request
June 13 and June 21, 2007	DOI and USDA FS leadership correspondence issued to support data call
July, 2007	Data call response dates extended
September 13, 2007	End of data call

6.2.2. Data Call Methodology

To distribute the data calls, the Team identified organizations in the Federal fire training world and assigned a Team member as a representative to each organization. Instructions and transmittal emails were sent to training contacts that were then forwarded to the field. The data call instrument was a web-based, fill able form, accessed by the survey responders via links provided in the transmittal emails (see Appendix 7 - Screen Shot for Instructor Data Call and Appendix 8 - Screen Shot for Training Data Call).

The surveys were distributed to all individuals participating in fire training activities who had taught any course within the identified categories. It included panel members, coaches, evaluators, role-players, simulation facilitators, and classroom instructors. The surveys were also sent to individuals providing training support, such as coordination, management, and administration. While many formal and informal training leaders stepped up to facilitate this effort, the bulk of the workload fell upon the Geographic Area Training Representatives (GATR). The Team appreciated the enthusiasm and dedication of the GATRs in assisting with the data gathering.

Respondents were asked to provide workload and travel costs associated with training activities in each of the training curriculum categories and components for the one-year period beginning June 1, 2006, and ending May 31, 2007.

6.2.3. Data Call Responses

The Team worked with the GATR and others to determine the number of potential respondents, monitor, and eliminate duplicate responses. The response rates are shown in Table 7 - Responses to Data Call. The response rate of over 50% exceeded the acceptable level (based on ANSI standards for statistical sampling) to support conclusions drawn in this report.

Table 7 - Responses to Data Call

	Instructor	Training Support
Responses Requested	1607	473
Respondents	888	253
Percent Response	55.3%	53.5%

6.3. IQCS Analysis

The Team also analyzed data available on IQCS. The IQCS is an information system that tracks training and certifications for wildland firefighters. It is an interagency application that allows Federal agencies to share wildland firefighter training and certification data.

6.3.1. Function of IQCS

The four major functions that IQCS performs are as follows:

Certification Standards Management - IQCS contains the wildland fire incident response position performance standards and their respective qualification and certification requirements.

Training Management - IQCS can interface with Learning Management Systems or provide stand-alone abilities for course/offering descriptions, learning objectives, pre-course requirements, class schedules, student registration, and class participation information.

Workforce Analysis - IQCS can report and forecast the disposition, status, and deficiencies of all tracked positions from any agency in the incident response community. It uses a snapshot in time and can project up to a 3 to 5 year period.

Incident Responder Management - IQCS tracks personnel information related to qualifications and incident history that includes information such as positions, position performance, training, physical fitness status, and external warrants.

6.3.2. IQCS Analysis Conducted

The Team used IQCS to gather data on 100- and 200-level NWCG courses that occurred from June 1, 2006 to June 2007. Courses were identified as being in or out scope and occurrence numbers recorded from the system. The Team used the PMS 901-1 Field Managers Course Guide to determine the number of hours required for each course. Team members developed extrapolation factors and used them to determine instructor numbers, time commitment, and General Schedule (GS) grade level.

6.4. NWCG Development Work Analysis

The Team collected NWCG development work data. The NWCG Development Units are responsible for course development for PMS 310-1 wildland interagency fire courses. The Team used a spreadsheet to gather data from the development units. This spreadsheet was distributed directly to the Project Leaders and units assigned to course development. They, in turn, contacted SMEs and populated the spreadsheet (see Appendix 9 - National Wildland Coordinating Group Course Development Data Gathering).

6.5. Team Interviews

Team members interviewed their respective agency fire directors in an effort to gain their insights and perspectives for the future of wildland fire training program. The Team developed a questionnaire (see Appendix 10 - Fire Manager Questionnaire designed to standardize and guide the discussion. Team members paired up to facilitate note taking and to better capture these leaders' thoughts. The Team shared and discussed the notes from the interviews and ensured that the information was included in this document. The notes are contained in the official file documents, but are not included in this report.

7. Description of Current Operations

7.1. Interagency Wildfire Training

The NWCG Training Working Team (TWT) sets standards for NWCG training programs.

For Agency-Specific Training, each of the five Federal land management agencies has National Training Officers that administer fire management training programs.

Support Training for fire incident and systems support is interagency training that is not required for qualification for positions in the PMS 310-1, and that has various management structures.

Geographic Area-Specific Training is training unique to one or more Geographic Areas.

7.1.1. National Wildfire Coordinating Group Training

The NWCG Training Working Team (TWT) provides oversight for the interagency fire training curriculum. The TWT:

- Manages the NWCG training curricula program,
- Recommends the wildland fire curriculum to senior fire management for approval,
- Oversees NWCG course revisions;
- Recommends course development and format standards and assures all training materials developed by NWCG meet the standards; and
- Provides guidance to other teams on the development process and standards.

The NWCG Development Units support the TWT and are primarily responsible for development of training.

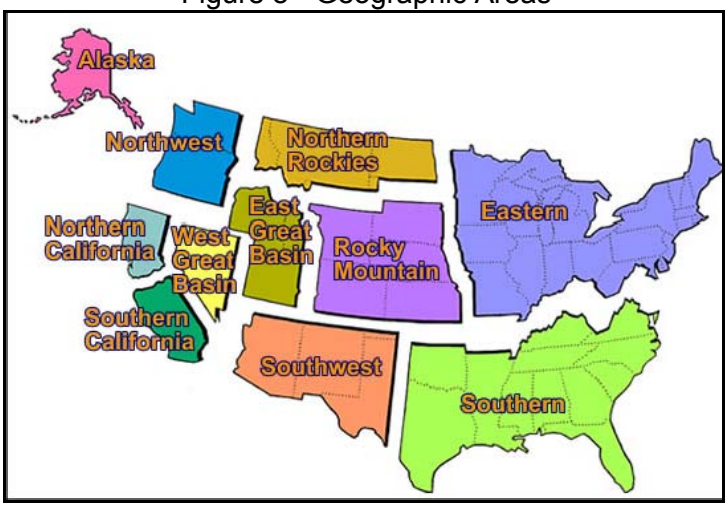
7.1.2. Geographic Area Specific Training

Training, with a fire training objective, that is unique to one or several Geographic Areas (e.g., Wildland Fires Use for Resource Benefit, Geographic Engine Academy, Northwest Fireline Safety Officer, Incident Medical Specialist training) is Geographic Area-Specific Training. This interagency training is not required for qualification for positions in the PMS 310-1 and PMS 901-1. Often the training is developed, delivered, and managed by small groups of dedicated specialists and SMEs in response to a unique geographic need. The Geographic Training Working Team may sometimes provide guiding policy for specific training in this category. Funding sources are diverse. There are eleven Geographic Areas (GA) including:

- Alaska
- Northern California
- Southern California
- Eastern Great Basin
- Western Great Basin
- Northern Rockies
- Northwest
- Rocky Mountain
- Southern
- Eastern
- Southwest

The Geographic Area Training Organizations provide and ensure quality Wildland Fire Suppression, Incident Management, Aviation Management, Fire Use and Fuels Management training responsive to the needs and direction of their respective Geographic Areas.

Figure 8 - Geographic Areas



7.1.2.1. Geographic Area Training Working Team

The Geographic Area Training Working Teams contribute toward meeting interagency fire management training needs in their respective Geographic Area. These teams maximize the benefits to all the NWCG member agencies by coordinating efforts to facilitate the development, presentation, and evaluation of interagency training.

7.1.2.2. Geographic Area Training Representatives

There are ten Geographic Area Training Representatives (GATR) – one for each Geographic Area with one GATR shared by the Eastern and Western Great Basin. Their governing Geographic Area Coordinating Groups, and/or Boards of Directors, provide cost-effective and efficient interagency wildfire management training responsive to the needs and direction of their respective Geographic Areas, and support of the National training effort. GATR duties include:

- Scheduling, coordinating, delivering, and evaluating 300-400 level training program within their GA (see Table 6 - NWCG Course Levels);
- Presenting NWCG training delivery issues/recommendations to the Geographic Area and National levels;
- Forwarding recommendations and delivery issues to the NWCG TWT;
- Coordinating with other GATR to share courses, cadres, and training materials to ensure cost-effective, efficient training delivery throughout the Geographic Areas;
- Serving as the single points of contact for their areas for training nomination coordination and dissemination among all Geographic Areas;
- Coordinating Field Reviewers for NWCG development;
- Providing an inter-Geographic Area forum to share innovative training ideas, concepts, and new ways of doing business; and
- Implementing the training workflow process of IQCS.

7.1.2.3. Geographic Areas Staffing

Staffing at the Geographic Area level varies, but generally includes the GATR and 1 to 10 interagency support staff (see Table 9 - Geographic Areas Training Staffing) often located at Geographic Training Centers, when present. More than half of the Geographic Areas have one or several training centers. Funding for these positions and centers is usually interagency, and involves diverse funding mechanisms.

Table 9 - Geographic Areas Training Staffing

Geographic Area	Primary Location	Staffing
Alaska	Fairbanks, AK	5 full time positions
Rocky Mountain	Grand Junction, CO	1 full time, 1 other
Eastern	Rhinelander, WI	2 full time positions
Southeast	Atlanta, GA	1 full time, 1 other
Great Basin (Includes East And West)	Boise, ID	5 full time positions, 1 other
Southern California	Riverside, CA and 4 additional locations	8 full time positions
Northern California	Redding, CA and 1 additional location	Included in above
Southwest	Albuquerque, NM	3 full time, 2 other
Northern Rockies	Missoula, MT	5 full time positions, 1 other
Northwest	Redmond, OR	6 full time positions, 4 other

7.1.2.4. Local and Zone Training Organization

The Geographic Areas include a number of local/zone training organizations that manage and present training within their respective area. The local/zone training organizations generally coordinate and deliver 100-, 200- and selected 300-level courses (see Table 6 - NWCG Course Levels).

7.1.2.5. Zone Training Committee

Training Zone Committees are typically made up of interagency groups in a specific sub-Geographic Area of the regional level. Their mission is to coordinate interagency training activities among member agencies. Representatives are usually the local unit training officers.

7.1.2.6. Training Officers

The majority of local/zone units have individuals performing training coordination as a collateral duty. Their responsibilities are tailored to meet the needs of the local/zone area. These individuals are referred to as local/zone training officers.

A few local/zone units have created dedicated training officer positions in response to the ever-increasing complexities and legalities surrounding fire qualifications and training.

7.1.3. Agency Specific Training

The five Federal land management agencies have National Training Officers that administer fire and aviation management training programs. They develop and refine agency and interagency policy, provide direction and oversight for their agency's training facilities and qualification and certification process, and represent their agencies on interagency working groups. The National Training Officers and their staffs are also responsible for the planning, budgeting and support of the development and delivery of agency-specific coursework. Table 10 - Federal Land Management Organization by Agency/Bureau provides a breakdown of organizational structures for each agency.

Table 10 - Federal Land Management Organization by Agency/Bureau

USDA FS	BIA	FWS	BLM	NPS
Regions	Regions	Regions	States	Regions
Forests		Zone/Districts	Districts	
Districts	Agencies/Tribes	Refuges	Field Offices	Parks

7.1.4. Support Training

Training for fire incident and systems support is interagency training and is not required for qualification for positions in the PMS 310-1 and PMS 901-1. In some cases, the training is supported by NWCG, such as Resource Order and Status System (ROSS) and IQCS Training. Often the training is developed, delivered, and managed by small groups of dedicated specialists and SMEs in response to a unique need, such as the Infrared Interpreter Training. In still other cases, the training is provided as a result of a new tool, process, or program, such as for the computerized fire modeling program—Behave—that a segment of the workforce might like to use, but needs training first. Guiding policy for specific training in this category may or may not exist. Funding sources are diverse. Delivery of this training may be coordinated through the GATR and accomplishments recorded in IQCS, but often it is not. As courses developed in this category are more broadly accepted, they are often adopted by NWCG.

7.2. Minimum Training and Certification Requirements

7.2.1. NWCG Defined Standards

The Wildland Fire Qualification System Guide (PMS 310-1), and Field Manager's Course Guide (PMS 901-1), both publications of the NWCG, establish minimum requirements for position certification. These requirements include standards for training, experience, physical fitness level, and position currency.

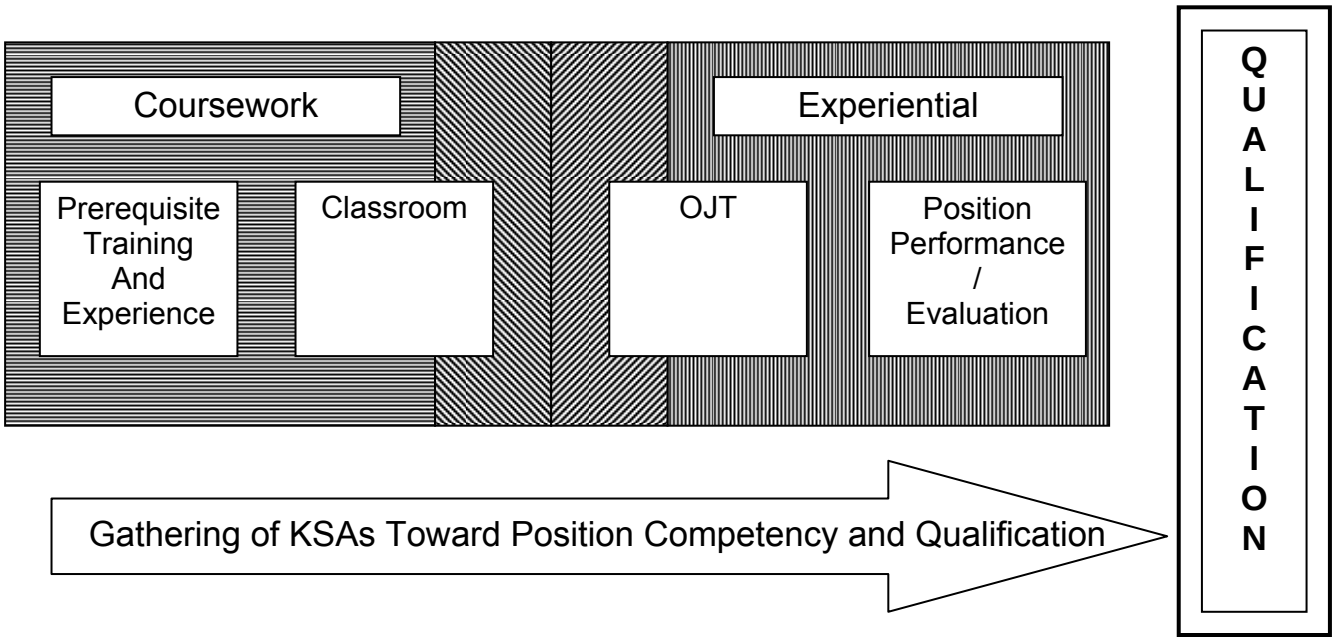
All wildland fire positions identified in the IQCS are listed in Appendix 11 – Incident Qualification and Certification System Positions.

For most positions, successful position performance is documented by completing the applicable Position Task Book (PTB) on wildland fires, events, incidents, job activities, and in simulated exercises or classroom activities.

Successful completion of all required tasks of the position, as determined by the evaluator(s), is the basis for recommending certification. Certification and documentation of completed PTB is the responsibility of the employing agency certifying that the individual is qualified to perform in a specific position.

Figure 11 - Wildland Fire Training Progression shows employee progression for attaining the Knowledge, Skills, and Abilities (KSAs) to achieve position certification.

Figure 11 - Wildland Fire Training Progression



7.2.2. Agency-Specific Training Standards

Each of the five Federal land management agencies has the ability to augment NWCG standards for their agency. They cannot detract from them. For example, much of the training recommended for a position in the PMS 310-1 is also required by the US Forest Service in the FSH 5109.17, Fire and Aviation Management Qualifications Handbook.

7.2.3. Support Training Standards

There are no overarching standards for Support Training, although support training developers generally hold themselves to a very high standard.

7.2.4. Geographic-Area Specific Training Standards

There are no overarching standards for Geographic Area-Specific Training, although the Geographic Training Working Teams may establish their own, and developers hold themselves to a very high standard.

7.3. Customer Description

Participants in the training programs include Federal, State, and county personnel as well as some international participants.

7.3.1. Interagency Wildland Fire Management Federal Participation

Wildland fire training is required for qualification through the NWCG Wildland Fire Qualification System. The higher the position in the system, the more training is required to meet the specific qualification standards for the position. The five primary Federal agencies have approximately 52,195 individuals certified in one or more qualification tracks (Table 12 - Federal Training Customers).

Table 12 - Federal Training Customers [4]

Agency/Bureau	Customers
Bureau of Land Management	5,741
U.S. Fish and Wildlife Service	1,811
Bureau of Indian Affairs	9,598
National Park Service	4,045
US Forest Service	31,000
Total	**52,195**

A large majority (estimated at 85%) of these Federal agency individuals requires training on an annual basis to maintain their qualification. At a minimum, they must have RT-130, Annual Fireline Safety Refresher Training (4 - 8 hours).

7.3.2. Other Federal and Non-Federal Customers

A number of other Federal agencies attend, conduct, and manage interagency wildland fire training. In addition, with the long history of emergency response in wildland fire, other non-fire agencies that are involved in other types of emergency response have increasingly become involved with attending and, to a certain extent, conducting training. Some of the other stakeholders include:

- Indian Tribes
- States including counties and local governments
- U.S. Department of Defense
- United States Coast Guard
- Federal Emergency Management Administration (FEMA)
- Department of Homeland Security
- Animal and Plant Health Inspection Service (USDA)
- Structural Fire Services
- International customers (e.g., New Zealand, Indonesia, Australia, Africa)

The number of customers from these organizations has increased over the years as the wildland fire organization works more closely with all hazard responses.

Ultimately, the customer is the firefighter. There are 52,195 Federal fire personnel in addition to a similarly sized State and local fire workforce. There are many local units; Oregon, for example, has nearly 500 local/zones units. If this number were expanded to include the 50 States, the total number of local units would number nearly 20,000. Each of these units uses interagency wildland fire training products and services.

[4] Source: ICQS Data

7.4. Training Locations

National and geographic training centers supporting interagency wildland fire training programs are discussed in the following sections.

7.4.1. National Advanced Fire and Resource Institute (NAFRI)

The National Advanced Fire and Resource Institute (NAFRI), located in Tucson, AZ, is a national center for strategic planning, development, and implementation of fire, fuels, resource, and incident management skills and educational processes. They are dedicated to the diverse interagency fire, fuels, resource, and incident management community to help develop and enhance learning experiences.

7.4.1.1. Prescribed Fire Training Center (PFTC)

The Prescribed Fire Training Center (PFTC), located in Tallahassee, FL, provides opportunities for Federal, State, local and tribal government agencies and other organizations to build skills and knowledge of prescribed fire, with an emphasis on field experience. The Center blends maximum field prescribed burning experience with a flexible curriculum of classroom instruction on topics of interest to prescribed fire practitioners. Attendees have the opportunity to complete portions of their National Wildfire Coordinating Group (NWCG) approved prescribed fire task books under the guidance of invited training specialists.

7.4.1.2. Fire Use Training Academy (FUTA)

The Fire Use Training Academy, located in Albuquerque, NM, is an interagency program that blends formal training and field experience to develop wise fire-use practitioners. The Academy offers numerous courses within the NWCG's prescribed fire curriculum, along with other practical training to enhance students' knowledge and proficiency in prescribed fire. The Academy's focus is on developing wise fire use practitioners by exposing the student, at an accelerated level, to different interagency prescribed fire programs and fuel types.

7.4.2. Geographic Area and Local/Zone Training Facilities

7.4.2.1. Geographic Area

Facilities at the 10 Geographic Training Areas range from large training centers, such as the Northern Rockies Training Center, to areas without dedicated facilities, such as the Rocky Mountain Geographic Area.

7.4.2.2. Zone

Typically, training zones do not have dedicated training facilities. Training completed as a zone effort is conducted at the facilities of its member local units. Training completed at this level is typically 100- and 200-level, with a few 300-level courses presented.

7.4.2.3. Local Unit

The make-up of local training facilities varies considerably, ranging from areas doing impromptu training in an outdoor setting to areas with dedicated training facilities. Often, a local unit meeting room or warehouse doubles as a location to perform training. Training completed at this level is typically at the100- and 200-level.

7.5. Interagency Wildland Fire Training Components

The following major training components support interagency wildland fire training:

- Development
- Delivery and Instruction, and
- Management and Administration

Table 13 - Training Components

Component	Description
Development	Functions performed in support of pre-delivery such as creating a new course or significantly revising an existing course.
Delivery and Instruction	Functions performed in support of preparing for and conducting a course. Functions performed in providing course instruction
Management and Administration	Functions performed in support of a training program or center that include activities such as planning, organizing, scheduling, prioritizing, budgeting, staffing, processing nominations, tuition, and travel expenses; purchasing; securing lodging; preparing contract and agreement documentation; preparing routine correspondence; photocopying; and completing other documentation.

7.5.1. Development

Training development includes activities such as conducting the needs assessments, gathering SME input, designing the course or other training product, analyzing instructional methods, crafting objectives, developing lesson plans, conducting alpha and beta testing, obtaining course/product approval, and managing the developers. It is performed in the settings/locations described in Table 14 - Training Development Organizations, listed in order of course development volume of business:

Table 14 - Training Development Organizations

Organization(s)	Description
NWCG, Boise, ID	Responsible for managing the development and revision of training courses based on input from accident reviews, the field, and the Training Working Team. Manages the development of nearly all courses required to become certified in one of the 250 fire and aviation incident positions – about 103 courses plus job aides (includes conversion to Spanish language and Distance Learning). The NWCG Training Development Group administers development/revision process, but a key portion of the process is based on bringing together Subject Matter Experts for working meetings during a 2-year period.
NAFRI, Tucson, AZ	Provides development and revision for 15 of the advanced fire management courses.
Geographic Area Training Centers various locations	Adapt curriculum and provide a limited amount of development focused on interagency training unique to one or several Geographic Areas (e.g., Wildland Fires Use for Resource Benefit, Geographic Engine Academy, Northwest Fireline Safety Officer, Incident Medical Specialist training).

Organization(s)	Description
Agency-Specific Training, various locations	Develop a few agency-specific courses they feel enhance the national curriculum.
Support Training, various locations	Course development initiatives are usually limited to enhancing products already on the market (for example, improved visual aids). At times, the field will develop a training product that clearly addresses previously unidentified needs or increases the adult learning process. These products are then elevated to the national level for potential inclusion in the national curriculum.

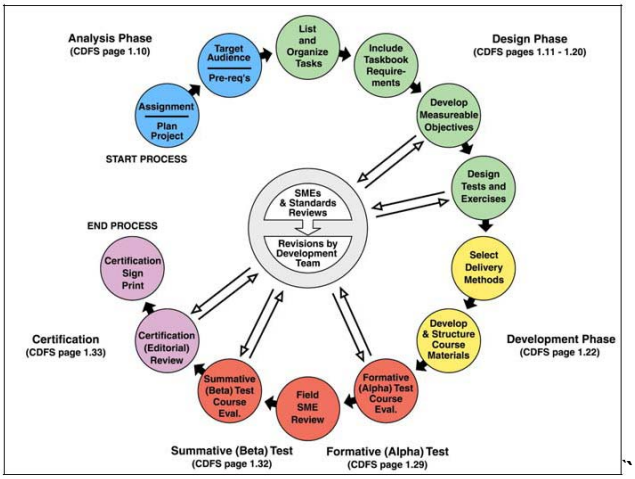
7.5.1.1. Development Processes

Training development usually follows an established training course development cycle (see figure below) for all categories of training, which varies depending on the level and complexity of training being developed or revised.

The NWCG Training Development Units use the entire process from start to finish. The process can take between 1 and 3 years to complete, depending on complexity. The stated goal is to revise each of the 103 NWCG courses (including Spanish language and on-line) once every 5 years. In its Annual Report for FY 2006, NWCG TWT reported revising 35 courses, which were in various stages of completion.

Verbal interviews with System Support and Agency Specific development personnel show that the same process is followed but may allow parts of the wheel to be altered or by-passed. Their revision schedule varies depending on specific needs and goals.

Figure 15 - Fire Training Course Development Cycle



7.5.1.2. NWCG Development

Development of NWCG Training is accomplished primarily through the efforts of four distinct units located at NIFC:

- Development Unit – staffed with a Unit Leader, Assistant, and 6 Project Leaders
- Standards Unit - staffed with a Unit Leader, 2 Instructional Systems Specialists, and 3 editors
- Instructional Media Unit - staffed with a Unit Leader, 3 Audio Visual Specialists, and 1 Illustrator
- Distance Learning Unit - staffed with a Unit Leader and 1 Training Specialist

While they are supervised by the BLM, the staff is comprised of interagency personnel employed by other Federal agencies. The NWCG TWT provides overall oversight. These organizationally separate units work as a team to design, develop, revise, and produce most of the NWCG training materials, with each having a role in the overall product. Once developed, these materials are available to the field through the fire supply cache system and in some cases on the web.

The NWCG Development Units solicit annually for Subject Matter Experts (SME) and Field Reviewers to assist with course development/revision. These individuals are critical to the success of the projects. There are usually from three to ten SMEs involved in a given course's development.

Subject Matter Experts - SMEs participate as project team members in approximately three one-week workshops (usually held in Boise), depending on the extent of development/revision required. The three workshops typically take place within a 1-year timeframe. The initial workshop determines the extent of the revision, while the two other workshops focus on actual development tasks. Many of the SMEs will be asked to participate in the subsequent Alpha and Beta Testing of the revised or new course. A SME is a person with a thorough technical knowledge and recent field experience in performing and/or supervising the position or area of expertise. He/she is also a person recognized among his/her associates as being very competent at performing the task(s).

Every effort is made to configure the project teams to represent a wide geographic area and interagency mix while also attaining the best technical expertise available.

Field Reviewer - Field Reviewers are responsible for the validation of course content as it relates to their areas of expertise. A Field Reviewer is a person who has a thorough technical knowledge of a position or area of expertise, developed through extensive field experience. They should be currently active in the position or subject area and be able to communicate well in writing.

Project Leader - The role of the Project Leader is to manage the overall development process, from selecting the SME to certifying the training products. The Project Leader often relies on assistance from the other units at various stages of the process. Given that most of the participants in this process do so as a collateral duty while performing their regular duties, considerable leadership is required to make the process successful. The NWCG Training staff must have strong political, organizational, and technical expertise to provide this leadership. The Project Leader is expected to take ownership of the process and the resulting products, and to personally ensure that the fire management community is well served as a result. Prior on-the-line fire experience is required.

7.5.1.3. NWCG Development Costs

The budget for NWCG Training Development is currently based on an interagency "fair-share" formula funded by the five Federal agencies.

With the exception of State personnel, travel and per diem for SMEs are provided by the SME's agency. The USDA FS funds State travel and per diem. In all cases, the unit that sends the SME provides salary, unless other arrangements are made. There is no travel required for Field Reviewers; all the work can be performed at the home unit.

7.5.1.4. Agency-Specific Development Costs

Agencies fund their own Agency-Specific development.

7.5.1.5. System Support Development Costs

System Support development is usually funded by the hosting agency developing the training. However, some interagency system support development is funded by fair-share agreements.

7.5.1.6. Geographic Area-Specific Training Development Costs

Geographic Area-Specific course development is usually funded by fair-share agreements or is covered by the collateral efforts of individuals already funded by their respective programs.

7.5.2. Delivery and Instruction

Delivery Includes activities such as selecting the cadre and facilities, scheduling and developing the agenda, acquiring course materials, correcting pre-course tests or evaluation of other pre-course requirements, managing the classroom during the course, evaluating students (testing, simulations, etc.) and course, and preparing course documentation. Table 16 - Course Delivery Sites (by volume) identifies sites for delivering classroom training in order of course delivery volume.

Table 16 - Course Delivery Sites (by volume)

Organization(s)	Description
Local unit, various locations	• Provides most training and requires the greatest percentage of the Federal training budget when accounting for employee time, travel, and per diem costs. • Experienced instructors are generally provided locally. Instruction is rarely identified in any individual's position description. The typical unit-level instructor is generally not engaged in training delivery for more than 2 or 3 weeks a year. • Contract trainers are not common at the unit level.
Geographic Area Training Center	• Provides Intermediate level training designed for experienced firefighters. • Generally delivers 10 and 30 courses a year, varying from 2 days to 2 weeks, using a combination of highly qualified agency personnel and contractors. • Training Center employees' primary duties are associated with course coordination and administration such as processing nomination forms, sending out course information, compiling course materials, grading pre-work, and supporting training cadres.

Organization(s)	Description
NAFRI	• Provides advanced-level training. • Uses a combination of highly qualified agency personnel and contractors to deliver approximately 15 courses per year.
Fire Use Training Academy (FUTA) and National Interagency Prescribed Fire Training Center (PFTC)	• Provide on-the-job (OJT) training at a variety of off-site locations. • Deliver courses pertaining to the treatment of fuels using fire and mechanical methods. • Many of the instructors are experienced practitioners (SMEs) from Federal agencies. • Some contract instructors are used.

7.5.2.1. Delivery and Instruction Processes

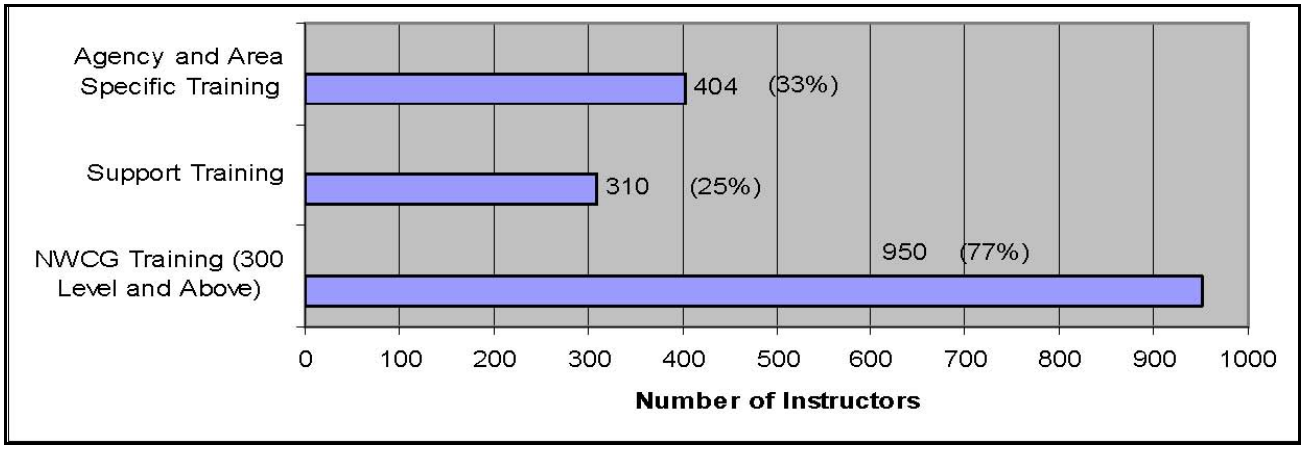
Instruction includes activities such as reviewing and updating lesson plans in accordance with agency policy; confirming the adequacy of supporting materials, facilities, and equipment; presenting classroom instruction; and supporting or conducting testing and evaluation.

Personnel from all participating stakeholder/customer groups and contractors perform instruction. The predominance of instruction for all of interagency wildland fire training comes from as many as 4,000 SMEs. More than 90% of the SMEs consist of Federal employees presenting instruction as a collateral, secondary duty. Calculations from the Instructor Data Call indicate an average of 130 hours per instructor per year.

The largest numbers of instructors instruct the NWCG courses (see Figure 7-4, Number of Instructors by Training Category).

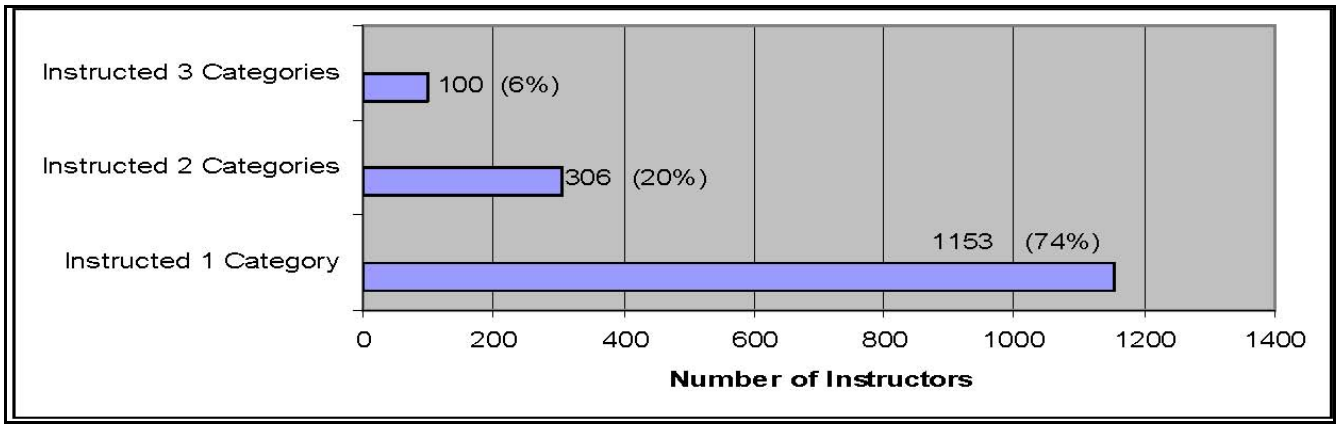
(NOTE: The data in Figure 17 - Number of Instructors by Training Category and Figure 18- Number of Instructors Teaching Multiple Courses do not include levels 100-200 instructors.)

Figure 17 - Number of Instructors by Training Category



As demonstrated the instructors often teach more than one type of training curriculum program (among the four categories included in the review). Figure 18- Number of Instructors Teaching Multiple Courses indicates that 26% of the instructors used for courses at level 300 and above teach in more than one category of training.

Figure 18- Number of Instructors Teaching Multiple Courses [5]



Data call respondents represented over 77 series/positions engaged in instruction. Over half were in Forestry or General Biological Science Series (

Table 19 - Most Frequently Used Instructor Series in Declining Order) and the majority are in 18 series/occupations.

Table 19 - Most Frequently Used Instructor Series in Declining Order [6]

Series	#	Position Title
0462	231	Forestry Technician Series
0401	197	General Biological Science Series
0460	41	Forestry Series
0301	35	Misc. Administration & Program Series
0340	16	Program Management Series
0408	12	Ecology Series
0455	11	Range Technician Series
1712	10	Training Instruction Series
2101	10	Transportation Specialist Series
1035	8	Public Affairs Series

Series	#	Position Title
1340	6	Meteorology Series
1102	5	Contracting Series
1315	5	Hydrology Series
2181	5	Aircraft Operation Series
2210	5	Information Technology Management
0486	4	Wildlife Biology Series
0560	4	Budget Analysis Series
1101	4	General Business and Industry Series
	<4	Multiple Series

[5] Source: Instructor Data Call for NWCG level 300 and above, Agency Specific, Geographic Specific, and Support Training
[6] Source: Instructor Data Call

7.5.3. Management and Administration

Training management is defined as directing a training program or center. Examples of those who conduct such activities include Training Officers, Geographic or Zone Training Representatives, and Training Center Managers. Activities under this component include program oversight and development, including planning, organizing, scheduling, and prioritizing training and activities of subordinates, budgeting, staffing, and supervision.

A significant part of training management is the career counseling, workforce planning, and succession planning conducted at all levels of the fire management organization. It is through these efforts that the long-term program needs are identified and plans developed to meet these needs. The success of implementing our interagency wildland fire training program can, in large part, be attributed to the coordination efforts at both the Geographic and the zone/local levels.

Administration is defined as the workload in support of a training program or center. Examples of those that conduct such activities include Training Officers, Zone/Local Training Representatives, Course Coordinators, Training Technicians, Office Automation Assistants, and administration support personnel. Activities under this component include initiating, receiving and processing nominations; processing budget and finance documents; collecting and processing tuition; making travel arrangements for instructors and employees from their unit attending training; managing IQCS data: drafting and processing routine correspondence: photocopying; reserving facilities; ordering course materials and supplies' documenting training accomplishments; and providing contracting support.

Collecting tuition and then using these funds to conduct training is an administrative function that involves a number of individuals, is done in many different ways, and often results in a significant workload. In many training programs, especially those conducting the higher level training courses at the Geographic Area level, there is little or no funding to cover the expenses for a given class. Coordinators and training centers often resort to collecting tuition to cover the costs of course materials, much of the administrative costs of the class, and especially the costs of instructor travel. Often this involves the use of interagency agreements, and in some locations using Government charge cards. The process is cumbersome, labor intensive, and results in no value added other than to move numerous small sums of money between agencies.

7.5.4. Training Personnel Data

Interagency wildland fire training is supported by the following major training components including development, delivery and instruction, and management and administration. There are approximately 115 personnel who perform training as a primary duty as defined in this review (>.40 FTE). The Instructor Data Call identified the positions performing this element of delivery as described in 7.5.2.1. The data collection efforts identified 30 positions performing the other component work (see Table 20 - Training Personnel by Series (Excluding Instructors)). The table provides data by total hours per series in descending order. Series performing these functions for more than .40 FTE per respondent are highlighted. There are 14 positions/series with training as a primary duty (highlighted in pink).

Table 20 -Training Personnel by Series (Excluding Instructors)

Series	Total Hours	Respondents	Average Hours Per Respondent	FTE Per Respondent	Series Title
462	68,038	140	486	0.27	Forestry Technician Series
1712	56,330	39	1448	0.82	Training Instruction Series
326	25,436	15	1702	0.96	Office Automation Clerical and Assist Series
401	25,396	57	445	0.25	General Biological Science Series
303	22,481	15	1504	0.85	Miscellaneous Clerk and Assistant Series
1702	11,265	7	1508	0.85	Education and Training Technician Series
301	7,577	17	451	0.25	Misc. Administration and Program Series
1071	7,365	4	1841	1.00	Audiovisual Production Series
460	5,735	9	614	0.35	Forestry Series
1750	5,228	3	1743	0.98	Instructional Systems Series
1105	5,081	7	680	0.38	Purchasing Series
1087	3,892	2	1946	1.00	Editorial Assistance Series
1082	3,542	2	1896	1.00	Writing and Editing Series
1035	2,556	2	1368	0.77	Public Affairs Series
1083	2,541	1	2541	1.00	Technical Writing and Editing Series
318	1,920	1	1920	1.00	Secretary Series
1020	1,810	1	1810	1.00	Office Drafting Series
2005	1,678	2	898	0.51	Supply Clerical and Technician Series
1710	1,401	2	750	0.42	Education and Vocational Training Series
1340	956	2	512	0.29	Meteorology Series
304	872	4	234	0.13	Information Receptionist Series
1101	710	4	190	0.11	General Business and Industry Series
341	673	2	360	0.20	Administrative Officer Series
856	560	2	300	0.17	Electronics Technician Series
25	493	2	264	0.15	Park Ranger Series
2101	493	6	88	0.05	Transportation Specialist
2210	448	4	120	0.07	Information Technology Management
1176	355	2	190	0.11	Building Management
18	276	4	74	0.04	Safety and Occupational Health Mgmt
1301	187	2	100	0.06	General Physical Science

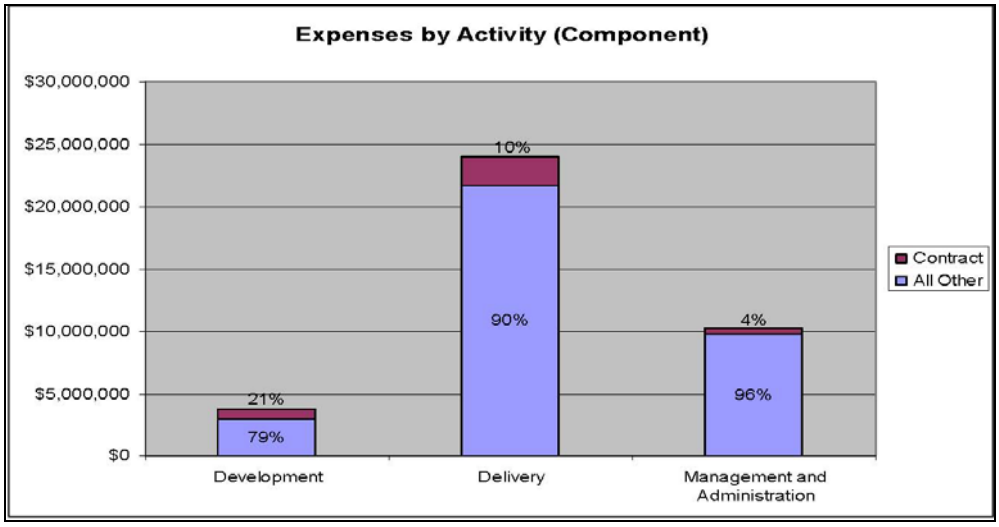
7.5.5. Current Use of Contractors

Nationally contractors have been used for many years to instruct courses. In recent years, there has been an increased use of contractors to develop specialized courses such as leadership or on-line training. Most of the individuals used have retired from one of the land management agencies and are still active in the wildland fire environment. Individuals from outside the fire environment (e.g., military, professors, and lawyers) are also used. Occasionally, a different type or level of subject matter expertise is needed to develop or instruct a NWCG courses.

The Instructor and Training Data Calls identified 163 individual contractors contributing a total of 17.80 Contractor Full Time Equivalents (CFTE) of effort. Of the total cost data collected for this Efficiency review (see section 7.6), $3,504,184 are contract costs (9% of the total). These costs break down as follows:

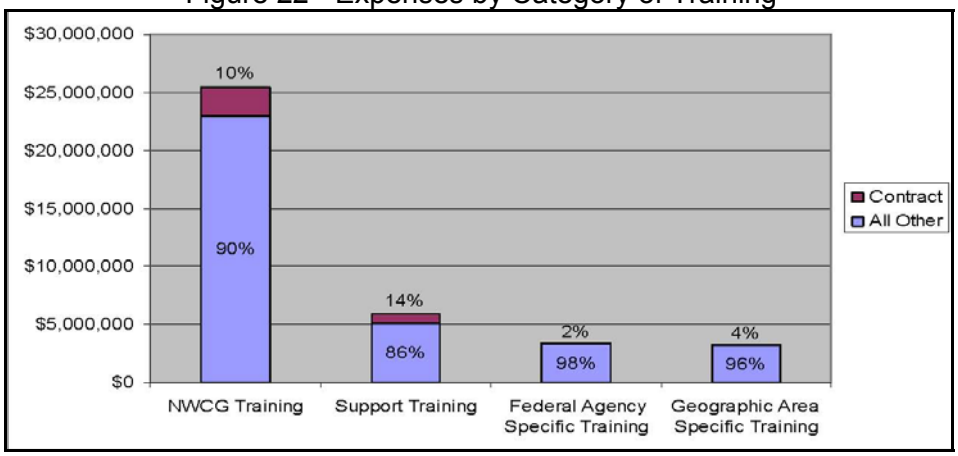
Type of Expense by Component	Cost
Instruction of 300 and above courses	$2,231,589
Course development	$498,733
Training management and administration	$773,862
Total	$3,504,184

Figure 21 - Expenses by Activity (Component)



This chart depicts the contract expenditures as a percent of total training expenditures during the review period, broken out by training component. Notice that contractors do a higher percent of the job in Training Development, but by far the greatest expenditure is for contractors in Training Delivery, mostly for contract instructors. An estimated total of $3,504,184 was spent on contractors during the period.

Figure 22 - Expenses by Category of Training



This chart illustrates the contract expenditures as a percent of total training expenditures, in each of the categories of training. Contractors do a higher percent of the job in the Support Training arena (14%), but the greatest expenditure, (approximately $2.5M), is for contractors working on NWCG Training (PMS 310-1). A relatively small amount is spent on contractors for Agency- and Geographic Area-Specific training.

7.6. Current Workload and Costs

The data collection process identified several categories of costs associated with development, delivery, instruction, management, and administration of the training curriculum. Costs collected and data sources are shown in Appendix 12 - Cost Data and Sources.

7.6.1. Workload Data

7.6.1.1. Course Deliveries

The IQCS database was queried to identify within-scope courses for the period June 2, 2006, through May 31, 2007. There is no readily accessible source for courses and sessions not entered and tracked in the IQCS. Table 23 - Course Sessions Delivered June 2, 2006 – May 31, 2007 shows the data.

Table 23 - Course Sessions Delivered June 2, 2006 – May 31, 2007

Courses	Volume Data
Number of Unique Courses Offered and Reported in IQCS	172
Number of Sessions Offered / Conducted and Reported in IQCS	5,978
Estimated Number of Sessions Offered / Conducted and not Reported in IQCS*	998
Total Sessions	6976
Number of Unique Federal Students Reported in IQCS	78,769
Estimated Number of Unique Federal Students Not Reported in IQCS**	14,178
Estimated Number of Unique Non-Federal Students	23,236
Total of Unique Students	116,183

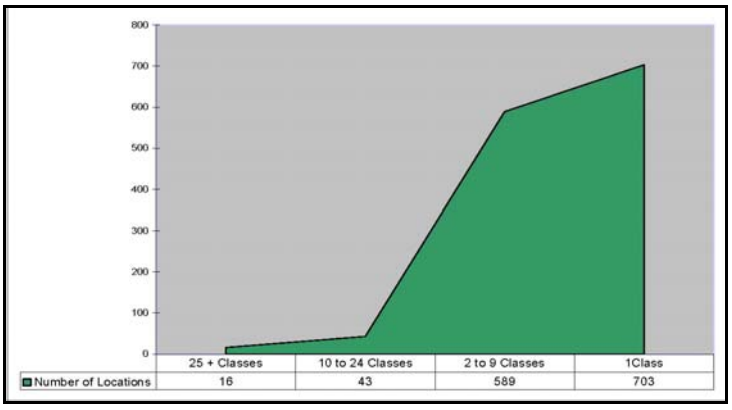
* Includes technical estimate of classes not reported or tracked of IQCS – IQCS only includes 85% of total sessions. (Data was expanded by factor of 1.8%).

** Includes technical estimate of non-Federal students.

7.6.1.2. Delivery Locations

Delivery of interagency wildland fire courses occurs in a number of dispersed locations. Courses were conducted in 1,351 known locations. 703 of those locations held a single course, while 59 locations held 10 or more course deliveries. 3,033 course deliveries that did not have a delivery location specified were also included in the data. IQCS does not require delivery location be entered in the system.

Figure 24 - Number of Locations [7]



[7] Source: IQCS Data

7.6.1.3. National Level Training Centers

The **National Advanced Fire and Resource Institute (NAFRI),** located in Tucson, AZ, supports delivery of 500- and 600-level courses.

Prescribed Fire Training Center (PFTC) - The Prescribed Fire Training Center (PFTC), located in Tallahassee, FL, provides opportunities for Federal, State, local and tribal government agencies and other organizations to build skills and knowledge of prescribed fire, with an emphasis on field experience. Field experience covers the Southern Geographic Area.

Fire Use Training Academy (FUTA) - The Fire Use Training Academy (FUTA) located in Albuquerque, NM, represents an interagency program that uniquely blends formal training and valuable field experience to develop wise fire-use practitioners. The Academy offers numerous courses within the National Wildfire Coordinating Group's (NWCG) prescribed fire curriculum along with other practical training to enhance students' knowledge and proficiency in prescribed fire. Field experience covers the Southwest Geographic Area.

7.6.1.4. Geographic Area Training Centers

Geographic Areas that have dedicated training facilities include Alaska, Northwest, Northern and Southern California, Great Basin, and the Southwest. Other Geographic Areas deliver training in facilities that are available and fit the needs of the course being presented. Examples include hotel conference centers, other Federal facilities, college campuses, and military installations. Locations of these facilities are dispersed through out the area of influence. Courses are delivered at the 300-400 level.

7.6.1.5. Local/Zone Training Centers

Local and zone units use delivery locations that are often associated with dispatch center locations and management offices. Occurrence of these facilities varies on a unit-by-unit basis. Courses are delivered at the 100-200 level.

7.6.1.6. Ad hoc Training Locations

Ad hoc training is often conducted at the field unit level. Delivery locations may include conference rooms, wildland fire guard stations, maintenance facilities, aviation facilities, and various field sites. Courses are delivered at the 100-200 level.

7.6.2. Summary Data

The categories of cost described in Table 25 - Interagency Wildland Training Costs Categories were collected for the period beginning June 2, 2006, to May 31, 2007. Data and sources are summarized in Appendix 12 - Cost Data and Sources.

Table 25 - Interagency Wildland Training Costs Categories

Category	Description
Labor	Hours associated with specified training activity described as follows (where available): Actual Office of Personnel Management (OPM) General Schedule (GS) grades – calculated at the mid-point – step 5 Accumulated into Full Time Equivalents (FTE) – 1,776 hours of productive time Including benefits and agency overhead (burdened) – 36.45%
Travel	Actual travel costs associated with activities (not including student/trainee costs)
Contracts	Actual contract expenditures

Training costs are summarized below:

Labor Instructors Other	 $16,812,533 $15,145.000
Travel	$ 2,553,304
Contracts	$ 3,504,184
Total	$38,016,042

Table 26 - All Training Costs by Component

Component	Labor Cost	Travel	Contract	Total Cost
Development	$2,806,563	$170,848	$834,224	$3,811,635
Delivery	$19,761,688	$1,964,199	$2,166,454	$23,892,341
Management and Administration	$9,390,104	$418,457	$503,505	$10,312,065
Total	$31,958,355	$2,553,504	$3,504,184	$38,016,042

Figure 27 - Federal FTE by Grade

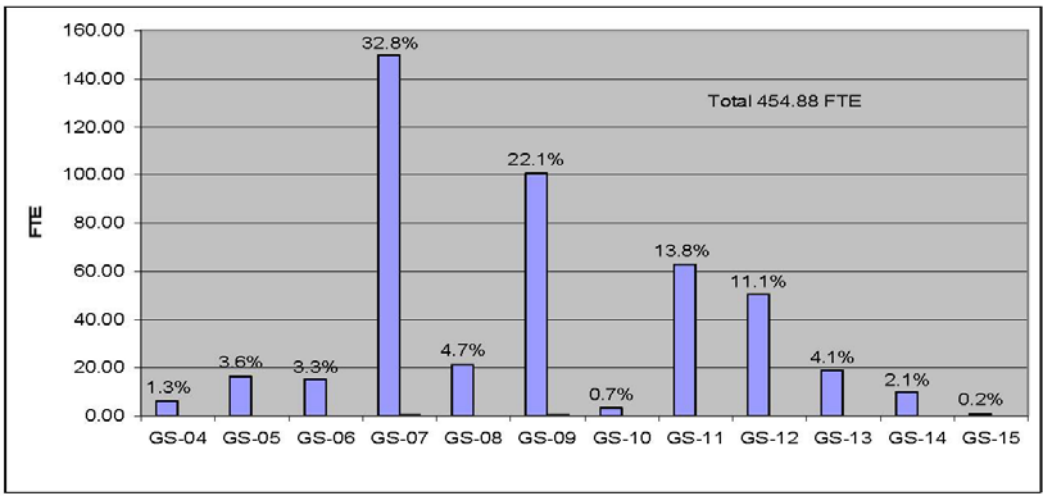


Figure 27 - Federal FTE by Grade depicts the grade levels of Federal employees involved in the overall interagency wildland fire training effort, and includes all components. The majority of these individuals are at the GS-7 to GS-9 Grades**.**

Figure 28 - Federal FTE by Component

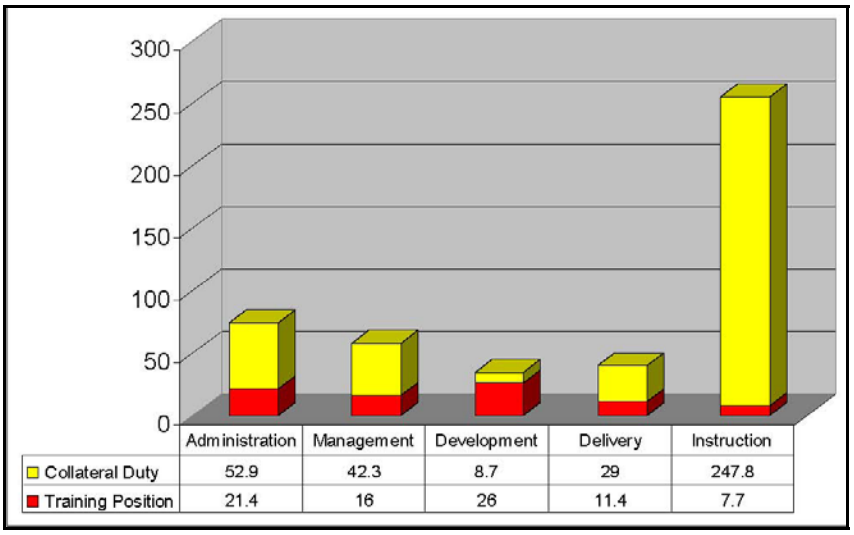


Figure 28 - Federal FTE by Component depicts the Federal FTE's involved in each of the interagency wildland fire training components. This graph demonstrates the fact that the majority of the Federal employees involved in this effort do so as a collateral duty, with an average of only 180 hours per employee annually.

7.7. Current Operations Summary

The Team concluded that interagency wildland fire training support and services is a multi-faceted, multi-agency undertaking representing many programs, processes, and resources. It is marked by a spirit of interagency collaboration among the five primary land management agencies/bureaus, who work with other Federal and non-Federal stakeholders.

Following is the Team's summary of the current environment:

- There are four primary sources of programs equipping wildland fire personnel with necessary skills and qualifications: NWCG programs, Agency-Specific programs, Geographic Area-Specific, and Support Training programs (e.g., system support, fire incident support). Training development for these courses is handled in diverse locations. The bulk of the development for NWCG courses occurs at NIFC – Boise, ID.
- Training programs are delivered in 1,351 known locations throughout the United States. There are over 6,976 class sessions delivered to over 115,000 students annually. The bulk of the training is levels 100 and 200 (77%) delivered to 80% of the students, generally at the local unit level. Training coordination and management is achieved through NWCG and agency-specific organizations working with dedicated professionals throughout the fire community using individualized systems to plan, schedule and implement the training.
- Instructors – totaling over 4,000 SMEs - represent over 77 Federal positions/series and additional non-Federal positions. Some contract instructors are used, but SMEs handle the bulk of the instruction as a collateral assignment. Instructors serve an average of 130 hours per year. The total instructor labor cost of $16,812,533 is generally assumed by the agency program offices; it is not paid for by a centralized instructional fund pool.
- Training personnel (other than instructors) – totaling over 575 – represent about 30 Federal positions/series and additional non-Federal positions. Most are collateral duty personnel serving an average of 630 hours per year. Approximately 115 are engaged primarily in the training components.
- Participants in the training programs, in addition to the five primary Federal agencies include other Federal, State, and county personnel as well as some international participants. The five primary Federal agencies currently have approximately 52,195 individuals who received an Incident Qualification Card this year.
- NWCG performs the bulk of the training development work, which is nearly all the courses required to become certified in one of the 250 fire and aviation incident positions (about 103 courses plus job aides). NAFRI provides development and revision for 15 of the advanced fire management courses. Agency-Specific, Geographic Area-Specific, and Support Training are developed in multiple locations.
- Total costs include labor, travel, and contracts equaling $38,016,042. Of that, $31,957,533 (84%) is labor, $2,553,304 (7%) is travel, and $3,504,184 (9%) is contracts. These costs exclude any training participant costs.
- The full-time equivalents (FTE) for all components are 455 FTE. Of that FTE, 56% are instructors working an average of 130 hours each annually. The balance is for personnel engaged in other training activities. Almost 70% are personnel at the GS-07 (33%). Approximately 22% are GS-09's (22%) and 14% are GS-11's.

8. Market Research

Market Research identifies the capability of the private sector to support activities within the scope of the assessment.

8.1. Description

The Team's market research explored the capability of commercial vendors to perform functions associated with interagency wildland fire training development, delivery, instruction, management and administration. The research consisted of three separate, but related, activities that included formal market research conducted in compliance with Federal Acquisition Regulation (FAR) Part 10, informal Web-based research, and assessment of current contract support. Commercial vendors respond to formal Requests for Information (RFI) by documenting information such as clients served, resources available and specific expertise, and capabilities. Commercial vendors also advertise on the Web and list their resources and capabilities. The agencies currently obtain services of commercial vendors primarily for class instruction and support of specific course development requirements.

8.1.1. Formal Market Research

The US Forest Service posted a Special Notice RFI on the Federal Business Opportunities (FBO) website on September 5, 2007, seeking to obtain information from sources capable of providing services for specified fire training categories and components The Special Notice RFI, which remained open for 30 days, requested capability in training categories and components that included PMS 310-1, fire system support training, Federal agency-specific fire training, incident support training, Geographic Area-Specific fire training, development, delivery, instruction, management, and administration.

The Request for Information resulted in 11 responses. Two responses came from the National Wildfire Suppression Association, a National Non-Profit Association with Chapter and Associate Members representing over 200 private sector contractors that have over 10,000 firefighters and equipment available for emergency response. Another response came from Human Technology, Inc., a company comprised of one individual with expertise in human resources. The remaining responses came from businesses with interest in supporting wildland fire training. A few of these vendors cited examples of performing course development activities.

Table 29 - Categories and Components Results

Categories and Training Components	Respondents Interested
1. PMS 310-1 and PMS 901-1	7
2. Fire System Support Training	0
3. Federal Agency-Specific Fire Training	6
4. Incident Support Training	2
5. Geographic Area-Specific Fire Training	4
6. Development	8
7. Delivery	5
8. Instruction	5
9. Management	4
10. Administration	3

8.1.2. Internet Market Research

The Team performed an internet search on key words such as “Interagency Fire Training” and “Training Management”. These searches returned results that included websites for businesses advertising and offering services in interagency fire training. The Team reviewed a substantial number of these websites to determine the capability of the private sector to support interagency wildland fire training.

Several of the respondents to the Special Notice also have sites on the internet: the National Wildfire Suppression Association, LLC; T & D Fire, LLP; Joshua Tree Group; Incident Management, Support, and Training, Inc.; Incident Solutions, LLC; Human Technology, Inc.; and Colorado Firecamp, Inc. The Team reviewed these sites to gain additional information regarding the capabilities of the respondents.

Internet research uncovered many other sites advertising capability to support wildland fire training. These included primarily individuals and small groups advertising that their past experience provide them the knowledge and experience ideal for instruction of wildland fire training. The sites also included several academies and educational institutions with programs and courses related to fire suppression. There are also companies specializing in information technology and human resources, but the Team disregarded those sites because the services are outside the scope of this assessment.

8.1.3. Current Contract Support

The Team included contract support in the Instructor Data Call to capture information regarding current operations. The Data Call requested preparation time, classroom time, travel time, and travel cost for each category, including PMS 310-1, Fire System Support Training, Federal Agency-Specific Fire Training, Incident Support Training, and Geographic Area-Specific Fire Training. The Team also gathered information regarding current contract support through interviews with representatives from the Agencies.

The Data Call contained 85 records representing contract support, 82 of which identified the contractor name. Three records contained a summary of contract support to the submitting unit. The support consisted of preparation and classroom presentation. Table 30 - Number of Contractors - Instruction ONLY shows the number of records reporting contract classroom instruction for each category. The table clearly shows providing instruction support for Category “NWCG” as the most predominant way contractors are used. The table shows far less use of contractors to provide support for Agency-Specific Fire Training and Support Training.

Table 30 - Number of Contractors - Instruction ONLY

Categories and Training Components	Total
NWCG	63
Support Training	18
Agency-Specific Fire Training	9
Geographic Area-Specific Fire Training	12

Interviews with representatives from the NWCG Development Team indicated that contractors provide support for training development. The contractors perform specific tasks defined in the respective contract. The contract work typically includes tasks such as course design; methods determination; objectives identification; resource requirements identification; preparation of the program of instruction, lesson plans, and supporting publications; alpha and beta testing; validation; and certification.

The contract with Mission-Centered Solutions, Inc., for L-380, Fireline Leadership, L-381, Incident Leadership, and the Teambuilding Workshop provided the Team with an example of commercial capability. The contractor accomplished all work associated with development, instruction, and administration support for theses courses.

8.2. Findings

The Team found many commercial vendor sites expressing capability to provide instruction for wildland fire training. The vendors are predominantly retired SMEs interested in instructing. The vendors also include miscellaneous academic institutions offering courses in wildland fire- related subjects.

8.3. Conclusion

The Team concluded that the private sector contractor support is being utilized effectively for instruction (including class preparation and classroom presentation). The Team found that using contractors for other aspects of training, such as development, is used on a case-by-case basis depending on the specific requirements.

9. Future Operations

The Team concluded that the current interagency wildland fire training organization works well and did not identify any future workload or customer-base needs that will require changes to the current processes or training programs. The interagency wildland fire training organization provides training products that prepare individuals to meet the needs of the customers safely and effectively. The training organization is focused on customer service and generally, these customers express satisfaction with the products being provided. The SMEs who develop and conduct training are experts in wildland fire occupations and are skilled instructors. New training is being developed, often at the grass roots level that increasingly embraces new and better training technology. The adoption of a performance-based qualification system ensures that individuals demonstrate their readiness to fully perform the functions for which they are being qualified.

The Team concluded that the NWCG and the TWT effectively lead and manage the interagency wildland fire training organization. The agency fire training leads at the national level do a good job of developing, communicating, and evaluating fire training policy. The fire community accepts and feels ownership of the process. Training centers and staff at all levels of the organization do well, especially given the many organizational and funding challenges that exist. IQCS provides the critical documentation needed for such a complex qualification and training program. The NWCG training development units are well regarded for their role in developing and maintaining and improving PMS 310-1 courses. NWCG and the TWT have regular and recurring feedback mechanisms in place through their other working teams to identify and correct deficiencies in the interagency wildland fire training curriculum, thus ensuring that customer needs are being met.

The Team believes that the strength of the wildland fire training organization and the fire training program is in its interagency cooperation. Cooperation and coordination occurs at all levels, between agencies and organizations, Federal and non-Federal, with educational organizations, and a diverse list of partners. Much of this occurs because individuals make it happen, often in spite of organizational barriers.

The Team concluded that the GATR successfully meet the needs of an extremely diverse customer base. The local/zone organizations accomplish the bulk of the training load and they do it with minimal funding. Instructors generally are not specifically funded for training, come from many organizations and disciplines, and provide the majority of interagency wildland fire training.

The Team concluded that contractors are currently being used to support interagency wildland fire training. Experienced and competent contractors are used to supplement available resources. Contractors are participating in all aspects of the interagency wildland fire training program, and their role will likely continue to expand.

In summary, the Team concluded that the current interagency wildland fire training organization meets the needs of the customers and is a credit to the many individuals who work together to make it succeed. There are no known future changes to mission, customer base, or workload that would require significant organizational/resource changes to the current operations. The Team recommends several limited areas for improvement to current operations that would enhance the overall mission.

9.1. Business Improvements

The achievement of the interagency goals in wildland fire requires a holistic workforce management strategy to provide personnel who are skilled, qualified, and available to fill the needed wildland fire positions. The goal of wildland fire training is focused specifically on the skill development portion of this need. Moreover, while the Team does propose business improvements in training, a number of the suggested improvements point to the overall workforce management plan or parts of it. For instance, analysis of IQCS data shows that approximately 75% of those who take the S-230 Crew Boss (Single Resource) course do not have a Position Task Book (PTB) initiated for any Single Resource Boss position 2 years after taking the class. Though this seems to indicate a high degree of inefficiency, at its root, the problem is not in the training portion of the workforce management formula. However, a more global perspective with a well thought-out strategic approach to workforce management and succession planning will result in more effective use of training resources.

The following issues are identified for improvement recommendations. All support the mission and goals of interagency wildland fire training:

- Training Staff Support
- Workforce and Succession Planning
- Training For PTB Trainers / Coaches / Evaluators
- Interagency Wildland Fire Training Funding

9.1.1. Training Support Staff

9.1.1.1. General Description

Nationally, there are ten Geographic Area Training areas. They are operated on an interagency basis and have multiple funding sources. The ten areas are further divided into zones. Zones typically have interagency membership. Each zone is further divided into local areas/units such as Forests or Districts. In the majority of cases, local area training activities are assigned as a collateral duty to fire managers such as Fire Management Officers and their assistants. There is significant variability in the quality of coordination between Geographic Areas and local/zone areas.

9.1.1.2. Business Needs

The efficiency and effectiveness of interagency wildland training is dependent on the ability of competent and available training support staff at all levels in the organizations to ensure completion of employee development plans; counseling, preparation, and prioritization of training nominations; and effective management of the IQCS.

9.1.1.3. Current Situation

Geographic training organizations range from large training centers staffed with several training personnel to areas with one individual without dedicated facilities. There is a need to assess the workload of the Geographic Area training organizations and staff them to meet this workload.

At the local/zone levels, training coordination is often performed as a collateral duty of fire management personnel, which limits the time commitment they can give to various training roles in support of individual and organizational training requirements. This can result in inaccurate training nominations, failures to meet individual training needs, and mismatches between classes needed and presented. Limited time is available to assess organizational needs, contributing to shortages of personnel in critical

fire positions. In recent years, various locations have hired dedicated training officers for management of wildland fire training and activities. These individuals' service areas ranging from a single Forest or District to areas serving multiple agencies in a Geographic Area. In these situations, a marked improvement in training and training related activities has been realized.
The recent implementation of the IQCS has added considerably to the complexities of training coordination. Managing the IQCS system requires expert knowledge of wildland fire training and guidelines within the ICS system as well as expert knowledge of the IQCS program itself. Currently, IQCS inputs are a collateral duty for many fire managers. This often results in a lack of uniformity and accuracy in the training nomination process or the ICS certification process.

9.1.1.4. Recommendations

An ideal state includes:

- System-wide coordination (national, Geographic Area, local/zone) to ensure most effective and efficient plans, processes, and training schedules.
- Adequate dedicated and skilled training personnel at the Geographic Area and local/zone levels to work effectively together to maintain efficient and effective processes.
- Accountability for properly identifying individual training needs as a key responsibility of supervisors/management supported by qualified training professionals.

The Team recommends the following:

- Evaluate zone and local areas to determine the need for staffing of positions with training as a primary duty. The size of the areas each staffed training officer serves could vary by location and the needs of the area. Duties may include training prioritization and coordination, employee and supervisor development plan counseling, and management of the IQCS.
- Analyze all Geographic Areas to determine the most efficient staffing for the workload of each Geographic Area.

9.1.1.5. Analysis

Costs are difficult to quantify and further analysis is needed. There is a cost associated with the creation and staffing of a training officer position. The offset or savings are realized by improved prioritization of classes presented and students nominated, as there is a substantial cost for conducting and attending training. The average cost of hosting a class is $4,900. This figure does not include any course development or student costs.

Local areas that have created stand-alone training officers have funded the positions in a variety of ways, including:

- Funding out of project dollars on an individual local area/unit (e.g., a single Forest funding a position out of their fire pre-suppression budget).
- Blended unit funding of positions using funding from multiple agencies in one local/zone or Geographic Area (e.g., a training officer for the BLM, Forest Service, and National Park Service may provide services to all member agencies and may receive funding from all the agencies involved).

Costs associated with changing the structure at all levels of the organization would need to be addressed on an individual basis after further analysis.

A potential benefits would be an increase in all agencies' abilities to fill critical position needs on incidents and more accurate individual employee development.

9.1.1.6. Recommended Next Steps

- Senior management to recommend that fire managers re-evaluate their respective training organizations and consider whether they are sufficient to achieve the goal of effectively managing the training function in their organization, particularly in light of some of the other recommendations contained within this review.
- At all levels of the interagency wildland fire organization, use existing management groups to discuss and to perform the staffing and workload analysis. Include human resource and budgeting personnel to provide their respective expertise.
- Determine the most efficient training program makeup and configuration, appropriate staffing levels, and the need for staffing of positions with training as a primary duty.
- Seek funding mechanisms to support this organization (See recommendation 10.1.4- Interagency Wildland Fire Training Funding).

9.1.2. Workforce and Succession Planning

9.1.2.1. General Description

PMS 310-1, developed under the sponsorship of NWCG, establishes minimum requirements for training, experience, physical fitness level, and currency standards for wildland fire positions that all participating agencies have agreed to meet for national mobilization. As a practice, cooperating agencies jointly agree on minimum training, experience, physical fitness level, and currency standards to meet fire management needs for wildland fire. Lastly, a set of minimum qualifications for personnel involved in prescribed fires have been established for fires of moderate complexity or higher and on which resources of more than one agency are used.

9.1.2.2. Business Needs Assessment

Training resources must be effectively used to maximize delivery of necessary training to maintain skilled roster levels and provide adequate skilled/certified individuals in all functional paths for wildland fire support at the local/zone, geographic and national levels.

9.1.2.3. Current Situation

Minimum qualification standards, outlined in the PMS 310-1, are established by functional area to include Command and General Staff, Operations, Logistics, Planning, Dispatch, Aviation, Prevention and Mitigation, and Finance/Administration. Standards for instructor qualifications and course content are identified in the Field Manager's Course Guide (PMS 910-1).

The following are challenges:

- Individuals' training and qualification development is currently based on a 'wants' based system. Individuals are allowed to selectively pursue a qualification track and the training and associated qualification without full regard to the individual's current skill set or agency or interagency needs at the local, regional, or national level.

- There is often no mechanism in place, once a qualification track has been selected, to provide monitoring and oversight through the development process and ensure completion of the track; therefore, individuals who never complete the qualification process use many training resources. Table 31 - Examples of Target Position Progress provides data about the percent of individuals who have taken a specific training course that is targeted toward completion of a qualification track. It indicates that as few as 16% have completed the initial step of initiating a Position Task Book (PTB) for that target position. This can be attributed to a number of reasons, including:
  - Incompatibility between qualification track selected and individual aptitude, and
  - Lack of monitoring, oversight and mentoring throughout the qualification process.
  - Even when fully qualified, individuals are not always made available for wildland fire assignments by local, geographic, and national level management. There is not always a management commitment obtained prior to an individual launching on a qualification track to ensure that individual's availability to pursue qualification.

Table 31 - Examples of Target Position Progress [8]

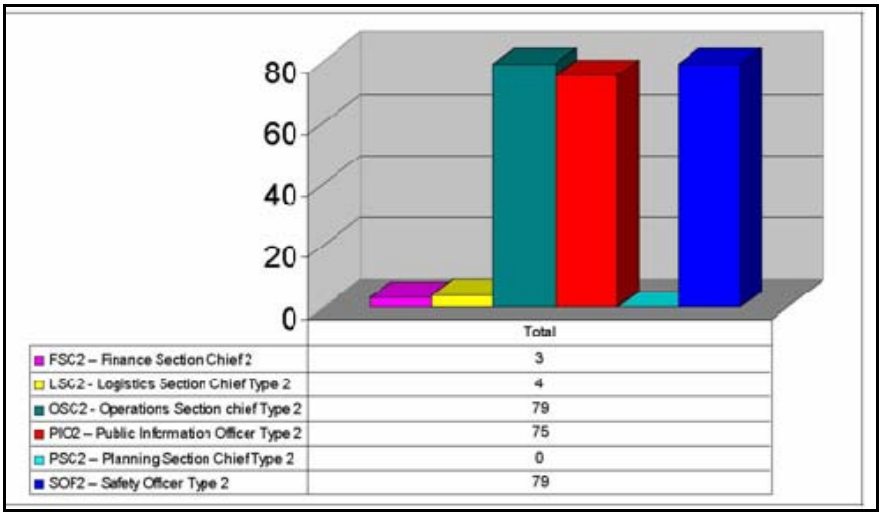
NWCG Training Course	Target Position	Description	# of Individuals Trained	% Movement toward Target Position*[1]
S-339	DIVS	Division/Group Supervisor	183	74%
S-490	RXB1	Prescribed Fire Burn Boss Type 1	2577	57%
S-230	Any Single Resource Boss		15710	24%
S-330	TFLD/STLD	Task Force Leader / Strike Team Leader	383	23%
S-271	HECM	Helicopter Crew member	1256	16%
S-200	ICT4	Incident Commander Type 4	786	33%
S-300	ICT3	Incident Commander Type 3	229	28%
S-580	FUM2/1	Fire Use Manager Type 1 or 2	113	35%
S-371	HEB2	Helibase Manager Type 2	116	54%
S-470	AOBD	Air Operations Branch Director	17	100%

*[1] For example, 183 people attended S339 between June 1, 2004 and June 1, 2005. On October 24, 2007, over 2½ years later, 26% (48) of those individuals had not even initiated a Position Task Book for the Division Supervisor position.

A large number of individuals are pursuing positions in Operations, Safety, and Information functional area (qualification) tracks. A very small number are pursuing positions in the Command, Planning, Logistics, and Finance/Administration qualification tracks. A shortage in positions in these latter qualification tracks is a trend that creates difficulties in fully staffing large incident support at the Type 1, Type 2, and Area Command Level. Recruitment of qualified candidates for S-420/520 courses in these areas has also been problematic for several Geographic Areas over the last several training seasons. Figure 32 - Number of Individuals Nationwide for Type 2 Command and General Staff Qualification Tracks in IQCS demonstrates the disparity between tracks.

[8] Sample was taken from IQCS for S courses given June 1, 2004 to June 1, 2005.

Figure 32 - Number of Individuals Nationwide for Type 2 Command and General Staff Qualification Tracks in IQCS



Number of Federal Type 2 Command and General Staff Trainees needing S-420. 10/24/2007

Recurring shortages of mid and upper level Incident Command System (ICS) positions occur annually. Individuals often complete tasks for one position and immediately move to the next logical position in that functional area, only willing to take assignments for that next position available. Again, fully staffing all necessary positions is problematic. The Resource Ordering and Status System (ROSS) is used to identify and request resources to support wildland fire incidents. Table 33 - Number of Resource Orders Not Filled by Functional Areas identifies positions ordered through ROSS by functional area, which were not filled at the regional or national level. The list is updated on a daily basis and varies depending on geographic and national incident activity.

Table 33 - Number of Resource Orders Not Filled by Functional Areas

Operations Positions	Logistics Positions	Planning Positions	Finance Positions	Command Staff Positions	Aviation Positions
88	47	6	9	24	7

Resource Orders Unable To Fill for August 15, 2007

Currently no universal mechanism based on global workforce management and succession planning is in place to:

- target needed qualification tracks;
- match individual interests and aptitude with local, geographic, and national requirements;
- encourage or guide recruits into high-need wildland fire positions;
- provide adequate monitoring, oversight, and mentoring of trainees throughout the entire qualification process;
- track completion of qualification track once started; and,
- obtain up-front commitments from leadership/management to make qualified personnel available upon completion of training.

9.1.2.4. Recommendations

A well-qualified workforce, trained in the functional areas that suit their individual aptitude and available to provide the necessary ICS staffing for large incident support (Type 1 and Type 2) and for local level support (Types 3, 4, and 5) is the desired future state.

Identification and focused development of skills based on both individual aptitude and wildland fire training needs will provide for successful completion of qualification tracks and the most appropriate use of training funds. Additionally, managers will have a greater ability to develop a workforce that fits local, geographic, and national needs.

To better populate and use the functional qualifications tracks and ensure successful completion of all requirements, the following are recommended:

- Eliminate the "wants–based" model and substitute either an aptitude testing or management assessment prior to proceeding on a functional qualification track.
- Time this assessment at set points during an individual's career. A large number of fire funded employees begin their fire experience in the Operations functional area and progress from FFT2 (entry-level fire fighting) to SRB (Single Resource Boss) and beyond. A natural place for the initial employee assessment to occur would be after achieving a SRB qualification card.
- Use this information to develop future career tracks for these individuals to best suit their individual skill sets. Additional evaluations could occur at set points in the individuals' careers to further refine the career paths.
- Use data entered into IQCS to assist in analysis and tracking at the functional path level
- Exclude technical specialists (individuals already qualified through other means such as prior experience or education) from this assessment. Individuals hold these particular qualifications as a result of skills obtained during their regular positions and by demonstrating skills during performance of regular work duties. Individuals who have these skills should be encouraged to continue participation in wildland fire and all hazard incidents.
- Implement this concept in a phased approach addressing newly developing workforce. Using the military model or a similar approach for matching people to functional areas would be beneficial in continuing to match the mission needs with development plans for the workforce.
- Target individuals with desirable skill sets and foster their development to maintain an effective and efficient incident management workforce. Position needs for the local, geographic, and national level should be used to develop target numbers of critical ICS positions in the development of this analysis.
- Coordinate between national, geographic, and local/zone training specialists to identify and address workforce gaps and succession needs on an interagency basis.
- Create incentives for individuals selecting high-need qualification tracks (e.g., Logistics, Plans, and Finance).
- Encourage the establishment of mentoring relationships between qualified individuals and position candidates. Put particular emphasis on high-need positions for the development mentor programs, whether formal or informal.
- Establish zone/local area training officers to assist with the oversight and monitoring of trainees through the qualification process (see recommendation 9.1.1 Training Staff Support).

- Obtain management commitment through a mechanism like an individual development plan that requires the line officer's approval. This would result in full management commitment to the qualification path, ensure that they perform a supportive role in helping the individual achieve their goals, and reinforce commitments to make qualified individuals available to meet mission requirements.

9.1.2.5. Cost/Benefit

Significant savings could result from implementing these recommendations:

- A reduction in the total number of students requiring any particular course would result in savings because it decreases the number of class sessions conducted (average cost of one class session = $4,900).
- Fewer resource orders that are left unfilled for incident management personnel would create efficiencies in staffing.

Less tangible savings would also accrue:

- Workforce development and maintenance will be enhanced by targeting individuals with the skill sets necessary to be successful in the position in question.

9.1.2.6. Recommended Next Steps

- Senior management recommends that fire managers convene an interagency team of stakeholders and subject matter experts to explore viable options for workforce and succession planning.
- Develop recommendations and program support requirements, (See recommendation 9.1.1 Training Support Staff).
- Secure interagency senior management approval.
- Develop implementation plan and test run within a Geographic Area or single agency.
- Modify and implement nationally.

9.1.3. Training for PTB Trainers / Coaches / Evaluators

9.1.3.1. General Description

The PMS 310-1 describes position qualification: In the performance-based Wildland Fire Qualification System, qualification is based on completing required training and demonstrated successful position performance by completing the applicable Position Task Book on wildland fires, events, incidents, job activities, and in simulated exercises or classroom activities.

The PMS 310-1 describes the importance of preparing the trainee to perform the tasks of the position prior to undertaking a position performance assignment. This includes completing required training and acquiring the knowledge and skills needed to perform the job tasks. On-the-job training assignments may assist in acquiring knowledge and skills.

Trainees gain full competency, in most cases, not directly after completion of a formal class; but, rather, after additional on-the-job (OJT) training has occurred under the guidance of a fully qualified individual acting in the role of Trainer or Coach. After sufficient OJT training has occurred, the individual is ready to be evaluated for competency in performing position tasks (position performance). The Evaluator may be the same individual who earlier acted in the role of Trainer/Coach. The PMS 310-1 describes what may be the most critical responsibility of the Evaluator and is the backbone of the Wildland Fire Qualification System. The Evaluator must "…*accurately evaluate and record the demonstrated performance of tasks.*

This is the Evaluator's most important responsibility; it provides for the integrity of the performance based qualification system."

Fully qualified individuals acting as trainer/coach/evaluator, who have received little or no training to act in those roles and are not always skilled to do this work, implement the trainee phase of the performance-based system.

9.1.3.2. Business Needs

An effective and efficient performance-based training system is necessary to develop sufficiently skilled personnel for wildland fire positions as quickly and cost-effectively as possible. To meet this goal, individuals responsible for implementing all phases of the performance-based training system, including the trainee phase, must have the skills to be effective.

9.1.3.3. Current Situation

The training continuum consists of two main phases—the coursework phase and the trainee phase (OTJ training and position performance and evaluation). Anecdotal information suggests a significant incidence of low-quality training, coaching, and evaluation of trainees during the trainee phase.

Training and evaluating personnel for wildland fire positions requires skill. That skill is not innate, nor does it come automatically with position qualification. It requires development through training. This has been recognized and addressed on the coursework side of the training continuum in the Field Manager's Course Guide (FMCG - PMS 901-1). The FMCG not only identifies position qualification requirements, but also outlines instructor training requirements for course instructors. Thirty-two hours of instructor training either is recommended (200-level unit instructors) or required (200-level lead instructors, all instructors of 300-level courses and above). Little or no specific training is provided to Trainers, Coaches, or Evaluators.

The trainee phase is a critical part of the Wildland Fire Qualification System performance-based training system. This is where the learning that has taken place in the classroom is applied and anchored to real-life situations. This is also where the trainee is evaluated before becoming qualified. Because of the importance of this phase of the training continuum, skills as a Trainer, Coach, and Evaluator are critical. Consider these two scenarios, which may not be typical, but are not uncommon:

- The "Overbearing" Trainer/Coach/Evaluator: In this case, the trainee is not allowed to demonstrate proficiency in position tasks because the Trainer/Coach/Evaluator does almost everything.
- The "Hands Off" Trainer/Coach/Evaluator: In this case, the trainee is assigned a chunk of responsibility and the Trainer/Coach/Evaluator is relatively uninvolved or not physically present to observe.

Effective evaluation of trainees is important for a number of reasons. Evaluators provide a critical feedback loop to trainees on tasks that need further work. Ineffective evaluation that does not give the trainee adequate information on what performance needs improvement or how to improve potentially prolongs the trainee phase. Evaluation that is not based on adequate or skilled observation may allow a trainee's substandard performance to go uncorrected, even into a qualified status, with the potential for catastrophic results.

9.1.3.4. Recommendations

The Team recommends the following:

- Develop and provide training at the Unit Leader/Single Resource Boss level and above to enable them to adequately perform as a Trainer/Coach and Evaluator. NOTE: The Tridata study in 1998 identified the need to train providers how to implement OJT. (Wildland Firefighter Safety Awareness Study, Part Three, Appendix B). http://www.wildfirelessons.net/documents/WFSAS_Part_3_Appendix_B.pdf
- Consistently use Training Specialists on Type 1 and 2 Incident Management Teams, to assure matching trainees with Trainer/Coach/Evaluators who have sufficient skills to be effective in those roles.

9.1.3.5. Cost/Benefit Analysis

Developing and providing Trainer/Coach/Evaluator training would entail cost of development and costs in conducting the training. However, increased effectiveness of the trainee phase of training would result in better-qualified personnel and a more uniformly skilled wildland fire workforce meeting position performance standards.

9.1.3.6. Recommended Next Steps

- Senior management recommends that NWCG develop and manage a Trainer/Coach/Evaluator Training program.
- Senior management recommends that fire managers enhance use of Training Specialists on all Type 1 and Type 2 teams.

9.1.4. Interagency Wildland Fire Training Funding

9.1.4.1. General Description

Section 9.1.1, Training Support Staff, recommends establishing appropriate local/zone and geographic training organizations. Paramount in this effort is the need to establish suitable and stable funding for these organizations. The processes for funding interagency wildland fire training at the Geographic and local/zone levels are inconsistent and often result in inadequate funding, leading to the inefficiencies described in Section 9.1.1. Current funding is the result of agency-specific budget processes, coupled with geographic and local/zone interagency efforts to piece together an organization to meet ever-expanding roles. Better funding mechanisms are needed in order to provide for all components of training (design, delivery, management and administration) at the Geographic and local/zone levels.

Funding is needed at both levels for:

- Salaries for program staff and some instructors, including contract instructors
- Supplies, equipment, and instructional materials
- Contracts for instructors and developers including travel and hotels when renting classrooms
- Facilities costs, including maintenance and leases
- Travel costs for instructors and SMEs

Course tuition is often collected from some or all training participants to cover the costs associated with supplies, materials, and instructor travel.

9.1.4.2. Business Needs Assessment

To meet the mission of Interagency wildland fire training, it is necessary to have a budgeting process that enables the training to be delivered without concerns about the adequacy of available funds, inefficiencies in securing funds, and difficulties in planning course delivery when total funding sources are unknown.

9.1.4.3. Current Situation

Funding for Geographic Area organizations and centers as well as local/zone units vary. Some examples of how these programs are funded include:

- In Northwest Geographic Area, the Forest Service Regional Office allocates most funds. The staff is 75% funded by USDA FS and one DOI staff member is funded by DOI. Tuition is charged to all out-of-region and non-Federal participants. Regional USDA FS and DOI participants are not charged tuition based on an interagency agreement.
- In Northern Rockies Geographic Area, interagency funding is apportioned based on a 3-year average student population and secured though each agency's regular budgetary processes, and then provided to the Geographic Area Training Center through agreements. In addition, tuition is charged for out-of-region and non-Federal participants and collected through Government-issued credit cards.
- In Southern Geographic Area, the Forest Service Regional Office allocates most funds. No tuition is charged, although they do use an informal process for sharing resources to conduct training (e.g., other agencies may host or fund facilities costs while another may secure training materials).
- In Rocky Mountain Geographic Area, BLM operates and funds the Training Center staff. No additional funds are allocated. All other funds are secured through a tuition process for all participants including in-region participants.
- In Great Basin Geographic Area, the Training Center staff is operated and funded by BLM. All other funds are also secured from BLM/DOI funds. Tuition is charged for all out-of-region participants as well as all non-BLM in-region participants using a Government-issued credit card.
- Funding for local/zone level programs is even more variable, but often involves variations of the methods described above. These local programs are much less costly, since much of the training conducted at these levels is done with little or no direct cost, often as a collateral duty, and with very limited travel expenses. Since costs are usually much lower, tuition is seldom an issue at the local/zone level.

The funding processes identified above often result in inadequate, inconsistent, and uncertain funding for needed training programs and create challenges affecting the efficiency of the overall interagency training programs.

- Most training organizations, at all levels, have inadequate funding (staffing) to effectively and efficiently accomplish the goals of the program.
- Collecting tuition is time-consuming and inefficient and local/zone levels have no means of collecting these necessary funds.
- Inadequate up-front funds require planning without knowledge of adequacy of funds and may result in cancellations and inability to deliver all necessary courses.

9.1.4.4. Recommendations

The Team recommends:

- On an interagency basis, determine the needed training organization and funding.
- Fund training programs at a consistent level based on Federal apportionment. Provide funding to both Geographic Areas and local/zone levels. Use the respective agency budget processes to secure this funding.
- Use interagency agreements to establish funding processes and review the processes annually.
- Adopt a consistent funding policy that minimizes the collection of tuition.

9.1.4.5. Cost/Benefit

The result of improvements would enable more efficient support for all interagency wildland fire training, including design, delivery, management and administration of training delivered through the Geographic Areas and local/zone levels. Following are benefits:

- Better utilization of staff resources to support the training programs and less time spent on administrative functions like tuition collection and accounting.
- More efficient coordination between and within Geographic Area and local/zone units supported by standard processes for funding (everyone can pay their fair share).
- Less waste and more effective use of all training resources resulting in savings that will outweigh the cost of implementing adequate funding.

9.1.4.6. Next Steps Recommended

- Senior management recommends that fire managers use existing management groups to discuss and to perform the staffing and workload analysis. (See Section 10.1.1).
- Gather data to fully understand current cost of operations and recommend required organizational needs.
- Decide how to fund this organization and how funding will be coordinated, shared, and reported.
- Work within framework of existing agency budget processes to secure the required funding. Decisions should be implemented in conjunction with budget / work-plan planning cycle.

10. Recommendations

The Team recommends further analysis of the following business areas to improve the overall effectiveness and efficiency of interagency training:

10.1.1. Training Staffing Support (Section 9.1.1)

- Evaluate zone and local areas to determine the need for staffing positions with training as a primary duty.
- Analyze all Geographic Areas to determine the most efficient staffing for the workload of each Geographic Area.

10.1.2. Workforce and Succession Planning (Section 9.1.2)

- Eliminate the "wants–based" qualification track model and replace it with one that is designed to meet both workforce succession planning needs at the local, geographic, and national levels and support the aptitude of individuals (and ability to succeed in specific tracks).
- Create incentives for individuals selecting less populated qualification tracks (e.g., Logistics, Plans, and Finance).
- Obtain management commitment to individual's qualification path, ensure that they perform a supportive role in helping the individual achieve their goals, and reinforce commitments to make qualified individuals available to meet mission requirements.

10.1.3. Training for PTB Trainers / Coaches / Evaluators (Section 9.1.3)

- Develop and provide training to the Unit Leader/Single Resource Boss level and above to enable staff to more adequately perform as Trainers/Coaches and Evaluators.
- More consistently use Training Specialists on Incident Management Type 1 and 2 Teams to help to assure matching trainees with Trainer / Coach / Evaluators who have sufficient skills to be effective in those roles.

10.1.4. Interagency Wildland Fire Training Funding (Section 9.1.4)

- On an interagency basis, determine the needed training organization. Each locality and geographic area should determine needs separately with full involvement of the interagency wildland fire community.
- Fund all programs at a consistent level based on Federal apportionment, and provide funding to both Geographic and local/zone levels. Use the respective agency budget processes to secure this funding.
- Use interagency agreements to establish funding processes and review the processes annually.
- Adopt a consistent funding policy that minimizes the collection of tuition.

Appendix 1 - Federal Wildland Fire Management Policy and Objectives

- Firefighter and public safety is the first priority of every fire management activity.
- The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
- Fire Management Plans, programs, and activities support land and resource management plans and their implementation.
- Sound risk management is the foundation of all fire management act ivies.
- Fire management programs and activities are economically viable – federal agency administrators are adjusting and reorganizing programs to reduce costs and increase efficiencies. As a part of this process, investments in fire management activities must be evaluated against other agency programs in order to effectively accomplish overall mission.
- Fire Management Plans and activities are based upon the best available science. Knowledge and experience are developed among all wildland fire management agencies.
- Fire Management Plans and activities incorporate public health and environmental quality considerations.
- Federal, state, tribal, local, interagency and international coordination and cooperation are essential. Increasing costs and smaller work forces require that public agencies pool their human resources to successfully deal with the ever-increasing and more complex fire management tasks. Full collaboration among federal agencies and between the federal agencies and international, state, tribal, and local governments and private entities results in a mobile fire management work force available for the full range of public needs.
- Standardization of policies and procedures among federal agencies is an ongoing objective. Consistency of plans and operations provides the fundamental platform upon which federal agencies can cooperate, integrate fire activities across agency boundaries and provide leadership for cooperation with state, tribal, and local fire management organizations.

Source: 2001 Federal Wildland Fire Management Policy, pages 21-22

Fire Management Objectives

- Protect human life, property and natural/cultural resources both within and adjacent to agency administered lands.
- Minimize damages and maximize overall benefits of wildland fire within the framework of land use objectives and Resource Management Plans.
- Manage the wildland fire program in accordance with congressional intents as expressed in the annual appropriations act and enabling legislation, and comply with departmental manual and agency policies and procedures.
- Promote an interagency approach to managing fires on an ecosystem basis.
- Employ strategies to manage wildland fires that provide for firefighter and public safety, minimize cost and resource damage, and are consistent with values to be protected and management objectives.
- Stabilize and rehabilitate resources and improvements lost or damaged by fire or suppression activities.
- Minimize, and where necessary, mitigate human-induced impacts to resources, natural processes, or improvements attributable to wildland fire activities.
- Promote public understanding of fire management programs and objectives.
- Organize a fire staff that can apply the highest standards of professional and technical expertise.
- Encourage research to advance the understanding of fire behavior, effects, ecology, and management.
- Integrate fire management through all levels of the planning process.
- Prevent and investigate all unplanned human-caused fires.

Source: Interagency Standards for Fire and Fire Aviation Operations, January, 2007

Appendix 2 - References

Number	Name	Description
FSH 5109.17	Fire and Aviation Management Qualifications Handbook http://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?5109.17!	Forest Service Handbook for wildland fire.
NFES 2724	Red Book – Interagency Standards for Fire and Aviation Operations http://www.fws.gov/fire/redbook/index.shtml	States, references, or supplements policy for Bureau of Land Management, Forest Service, Fish and Wildlife Service, and National Park Service fire and fire aviation program management. • For the Bureau of Land Management this document is supplemental policy. • For the USDA Forest Service this document is referenced in *Forest Service Manual 5108*. • For the U.S. Fish and Wildlife Service this document is supplemental policy. • For the National Park Service this document is supplemental policy, in addition to *Reference Manual 18*.
PMS 310-1	Wildland Fire Qualification System Guide http://www.nwcg.gov/pms/docs/PMS310-1.pdf	The purpose of the Guide is to establish minimum interagency training and qualification standards for *national mobilization* to wildland fire assignments.
PMS 901-1	Field Manager's Course Guide, http://www.nwcg.gov/pms/training/fmcg.pdf	The Field Manager's Course Guide (FMCG) is designed to provide administrative information concerning the National Wildfire Coordinating Group (NWCG) training curriculum. This document supersedes any other versions of the Guide. It is to be used in conjunction with the Wildland Fire Qualification System Guide,"PMS 310-1.
PMS 907-1	Course Coordinator's Guide http://www.nwcg.gov/pms/training/PMS907.pdf	The purpose of the Course Coordinator's Guide is to provide administrative information to training specialists, course coordinators, lead instructors and other managers presenting a training course. The content covers both National Wildfire Coordinating Group (NWCG) certified courses and other courses requiring development.
	Incident Qualification and Certification System http://iqcs.nwcg.gov/	The IQCS system is an information management system that tracks training and certifications for Wildland Firefighters
	Resource Ordering and Status System http://ross.nwcg.gov/	The National Interagency Resource Ordering and Status System (ROSS) project is a National Wildfire Coordinating Group (NWCG) sponsored information systems development project. ROSS is a computer software program which automates the resource ordering, status, and reporting process.
PMS 316	Wildland and Prescribed Fire Qualification System National Training Curriculum http://www.nimsonline.com/docs/MODULE2.pdf	Describes the Wildland and Prescribed Fire Qualification System National Training Curriculum. The curriculum has been developed by an interagency steering group. The curriculum was sponsored by the National Wildfire Coordinating Group. Development was directed and supported by the National Interagency Fire Center, National Fire & Aviation Training Support Group.

Appendix 3 – Definitions

Item	Description
Bureau of Indian Affairs (BIA)	The Bureau of Indian Affairs is responsibility is the administration and management of 55.7 million acres of land held in trust by the United States for American Indians, Indian tribes, and Alaska Natives. There are 561 federal recognized tribal governments in the United States. Developing forestlands, leasing assets on these lands, directing agricultural programs, protecting water and land rights, developing and maintaining infrastructure and economic development are all part of the agency's responsibility. In addition, the Bureau of Indian Affairs provides education services to approximately 48,000 Indian students.
Bureau of Land Management	The Bureau of Land Management is responsible for stewardship of our public lands. The BLM is committed to manage, protect and improve these lands in a manner to serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife habitat, wilderness, air and scenic quality, as well as scientific and cultural values.
Distance Learning (e-Learning)	A concept of providing access to quality wildland fire education and training using appropriate instructional technology, delivered anywhere, anytime to prepare a fire management work force to safely achieve fire management objectives
Fire and Aviation Management (USFS)	The Fire and Aviation Management part of the USDA Forest Service is a diverse group of people working to advance technologies in fire management and suppression maintain and improve the extremely efficient mobilization and tracking systems in place, and reach out in support of our Federal, State, and International fire partners.
Fire Personnel	Personnel in fire funded positions that are hired under a position description containing firefighting duties.
Fire Suppression	All the work of extinguishing or confining a fire beginning with its discovery.
Geographic Area	A boundary designated by governmental agencies (wildland fire protection agencies) within which they work together for the interagency, intergovernmental planning, coordination, and operations leadership for the effective utilization of emergency management resources within their area.
U.S. Fish and Wildlife Service (FWS)	The U.S. Fish and Wildlife Service's mission is, working with others, to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people." We are the only agency of the U.S. Government with that primary mission. The Service helps protect a healthy environment for people, fish and wildlife, and helps Americans conserve and enjoy the outdoors and our living treasures. The Service's major responsibilities are for migratory birds, endangered species, certain marine mammals, and freshwater and anadromous fish.
Geographic Area Coordination Center	The physical location of an interagency, regional operation center for the effective coordination, mobilization and demobilization of emergency management resources.

Item	Description
Geographic Areas	The United States is delineated into eleven distinct Geographic Areas for the purpose of managing wildland fires and the mobilization of wildland firefighting resources. Within each Geographic Area is a Geographic Area Coordination Center (GACC), an interagency center responsible for coordinating resource mobilization between the units within the Geographic Area, and to provide predictive services and intelligence products for decision support.
Incident	An occurrence either human-caused or natural phenomenon, that requires action or support by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.
Incident Command System	A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.
Jurisdiction	The range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, state or federal boundary lines), or functional (e.g., police department, health department, etc.).
Land Use	A set of decisions that establish management direction for land within an administrative area; an assimilation of land-use-plan-level decisions developed through the planning process regardless of the scale at which the decisions were developed.
National Advanced Fire and Resource Institute	The National level center for strategic planning, development and implementation of fire, fuels, resource, and incident management skills and educational processes.
National Advanced Fire and Resource Institute (NAFRI)	The National Advanced Fire and Resource Institute is a national level center serving the interagency wildland fire community through the development, and implementation of fire, fuels, resource, and incident management skills and educational processes.
National Association of State Foresters (NASF)	NASF is a non-profit organization that represents the directors of all 50 State Forestry agencies, the eight U.S. territories (American Samoa, the Federated States of Micronesia, Guam, the Northern Marianas Islands, Palau, Puerto Rico, Republic of the Marshall Islands, and the U.S. Virgin Islands), and the District of Columbia.
National Forest Lands	Public lands, generally forest, range, or other wildland, administered by the Forest Service, USDA
National Interagency Coordination Center (NICC)	A facility located at Boise, Idaho, jointly operated by several federal agencies, dedicated to coordination, logistical support, and improved weather services in support of fire management operations throughout the United States
National Interagency Fire Center (NIFC)	Located in Boise, ID, the National Interagency Fire Center (NIFC) believes in fighting fire with a quick and coordinated response. The NIFC coordinates support for the nation's wildland firefighting and disaster efforts. With eight federal and state agencies supporting it - including the Bureau of Indian Affairs, Bureau of Land Management, and the National Weather Service - the NIFC coordinates the response of wildland firefighting agencies, particularly in severe fire situations.
National Park	A federal reservation administered by the National Park Service of the U.S. Department of the Interior in order to conserve unique scenery, flora and fauna, and any natural and historic objects within its boundaries for public enjoyment in perpetuity.

Item	Description
National Park Service	The National Park Service cares for national parks, a network of nearly 400 natural, cultural and recreational sites across the nation. The Office of Wildland Fire Coordination (OWFC) is headed by a Director who reports to the Assistant Secretary - Policy, Management and Budget through the Deputy Assistant Secretary – Business Management and Wildland Fire. The Director carries out the functions and responsibilities of the office with assistance from support, program and policy staff.
National Wildfire Coordinating Group	The National Wildfire Coordinating Group (NWCG) is made up of the USDA Forest Service; four Department of the Interior agencies: Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Indian Affairs (BIA), and the Fish and Wildlife Service (FWS); and State forestry agencies through the National Association of State Foresters.
Non-fire Personnel	Personnel in positions not supported with fire funds and not hired under a position description containing firefighting duties. These personnel participate in wildland fire assignment as available and are often referred to as the 'militia.
Office of Fire and Aviation (Bureau of Land Management)	The Office of Fire and Aviation (OFA) is a diverse, professional organization dedicated to providing national direction, leadership, policy, standards, and operational oversight. OFA works with State and field offices to ensure a safe, cost effective and efficient fire and aviation management program in support of the national Bureau of Land Management (BLM) mission. The OFA is headquartered at the National Interagency Fire Center (NIFC) in Boise, Idaho, where it works with seven other federal agencies to manage wildland fire in the United States. BLM's fire and aviation program has three organizational levels: 1) the national office provides leadership and oversight, and develops policy, procedures and budgets for the fire and aviation program; 2) state offices are responsible for coordinating policies and interagency activities within their state; and 3) field offices are responsible for on-the-ground fire management and aviation activities, often partnering with other agencies to maximize rapid initial attack.
Prescribed Fire	A prescribed fire is any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements (where applicable) must be met, prior to ignition.
Prescribed Fire Training Center	The training site that provides opportunities for federal, state, local and tribal government agencies and other organizations.
Qualifications and Certifications	This subsystem of NIIMS provides recommended qualification and certification for those personnel responding to an incident regionally or nationally, allowing for the development of local minimum standards to meet local needs. Standards typically include training, experience, and physical fitness.
Resource Ordering and Status System (ROSS)	A national system that provides automated support to interagency and agency dispatch and coordination offices. The system will provide current status of resources available to support all-risk activities; enable dispatch offices to exchange and track resource ordering information electronically; enable dispatch offices to rapidly and reliably exchange mission-critical emergency electronic messages.
Type (Fire)	Refers to resource capability. A Type 1 resource provides a greater overall capability due to power, size, capacity, etc., than would be found in a Type 2 resource. Resource typing provides managers with additional information in selecting the best resource for the task.
Unit	The organizational element of an incident having functional responsibility for a specific activity in the planning, logistics, or finance/administration activity.
Wildland	An area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.

Item	Description
Wildland Fire	Any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.
Wildland Fire Use	The application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas outlined in Fire Management Plans.

Appendix 4 - Acronyms

Acronym	Description
ANSI	American National Standards Institute
AOBD	Air Operations Branch Director
BIA	Bureau of Indian Affairs, Department of the Interior
BIFC	Boise Interagency Fire Center
BLM	Bureau of Land Management, Department of the Interior
CRIA	Civil Rights Impact Analysis
DIVS	Division/Group Supervisor
DOI	Department of the Interior
FAIR	Federal Activities Inventory Review
FAR	Federal Acquisition Regulation
FBO	Federal Business Opportunities
FBO	Federal Business Opportunities
FEMA	Federal Emergency Management Administration
FMCG	Field Manager's Course Guide
FML	Fire Management Leadership
FSC2	Finance Section Chief Type 2
FTE	Full Time Equivalents
FUM2/1	Fire Use Manager Type 1 or 2
FUTA	Fire Use Training Academy
FWS	United States Fish and Wildlife Service, Department of the Interior
GA	Geographic Area
GACC	Geographic Area Coordination Center
GATR	Geographic Area Training Representative
GATWT	Geographic Area Training Working Team
GS	General Schedule
GS	General Schedule
HEB2	Helibase Manager Type 2
HECM	Helicopter Crew Member
ICS	Incident Command System
ICT3	Incident Commander Type 3
ICT4	Incident Commander Type 4
IG	Inherently Governmental
IMT	Incident Management Team
IQCS	Incident Qualifications and Certifications System
IT	Information Technology
KSA	Knowledge, Skills and Abilities
LFML	Local Fire Management Leadership
LSC2	Logistics Section Chief Type 2
MAI	Management Analysis Incorporated
NAFRI	National Advanced Fire and Resource Institute
NCTC	Northern California Regional Training Center
NEPA	National Environmental Policy Act of 1969
NF	National Forest
NICC	National Interagency Coordination Center
NIFC	National Interagency Fire Center
NIIMS	National Interagency Incident Management System
NIIMS	National Interagency Incident Management System`

Acronym	Description
NPS	National Park Service, Department of the Interior
NTC	Bureau of Land Management National Training Center
NWCG	National Wildlife Coordinating Group
OCFO	Office of the Chief Financial Officer
NWR	National Wildlife Refuge, U.S. Fish and Wildlife Service, Department of Interior
OJT	On the Job Training
OMB	Office of Management and Budget
OSC2	Operations Section Chief Type 2
PFTC	Prescribed Fire Training Center
PIO2	Public Affairs Officer Type 2
PMS	Publications Management System
PSC2	Planning Section Chief Type 2
PTB	Position Task Book
ROSS	Resource Ordering and Status System
RSNOD	Race, Sex, National Origin and Disability
RXB1	Prescribed Fire Burn Boss Type 1
SME	Subject Matter Experts
SOF2	Safety Officer Type 2
SRB	Single Resource Boss
SRB	Single Resource Boss
STLD	Strike Team Leader
TE	Technical Exhibit
TFLD	Task Force Leader
TWT	Training Working Team (NWCG)
USDA	United States Department of Agriculture
USDA FS	United States Department of Agriculture – US Forest Service
UTF	Unable to Fill

USDA Forest Service and Department of Interior – Wildland Fire Training Instructor Survey Instructions

- This survey is to be completed by all instructors, (federal, state, county, vendors, etc.), that taught any 300 or higher course identified in the 2006 Wildland Fire Qualification System Guide (310-1) and for all instructors who taught non-310-1 courses, (see category definitions below).
- Data collection for workload hours and travel expenses should only be entered for the one-year period beginning June 1, 2006, and ending May 31, 2007.
- Workload hours and cost data associated with 100 and 200 Level NWCG training will not be collected, but will be constructed using IQCS. Unique Skill Training conducted locally (smokejumper, hotshot, helitack, etc.), OJT, and Position Task Book administration are also excluded from the data calls.
- Instructors should report ALL applicable fire training instructor activities, (per definitions) for ALL training in ALL of the categories (below).
- Record your cumulative workload and travel hours.
- Only your travel expenses using your budget need to be reported. If another unit paid for travel you should not report that expense.

Definitions of Categories of Wildland Fire Training: *PMS 310-1* and *PMS 901-1* - Training courses required or recommended in 310-1 and Field Managers Course Guide

System Support Training - Training courses related to wildland fire management IT programs, models, and systems (e.g., ANFDRS, Fire Lab Training, FPA, ICARS, IQCS Training, I-Suite, LANDFIRE, ROSS, WFSA, WIMS)

Federal Agency-Specific Training - Other fire training courses identified in the Red or Blue Book or other Agency policy (e.g., FML, Engine Operator, Preferred Fire Planning and Implementation, Technical Specialist, Training in support of PDs)

Incident Support Training - Training courses for individuals, specialists, and processes in support of wildland fire management (e.g., Com Tech, Investigation, LFML, Radio, RAWS, Support Training [Cache Demobe Specialist, Computer Technical Specialist, hazmat])

Geographic Area-Specific Training - Training courses, with a fire training objective, unique to one or several geographic areas (e.g., Wildland Fires Use for Resource Benefit, Geographic Engine Academy, Northwest Fireline Safety Officer, Incident Medical Specialist training)

Questions:

Questions should be directed to the individual who forwarded you the email, your Geographic Area Training Representative, or the appropriate Training Team contact listed below.

Appendix 6 - Instructions for Training Data Call

USDA Forest Service and Department of Interior – Wildland Fire Training Review Training Survey Instructions

- This survey is to be completed by all "units" - local, zone, geographic area - conducting/coordinating training at the 300 Level and above, and non-310-1 courses, (see attached categories and fire training definitions).
- To adequately capture the workload, units may require multiple individuals to complete this survey.
- Data collection for workload hours and travel expenses should only be entered for the one-year period beginning June 1, 2006, and ending May 31, 2007.
- Workload hours and cost data associated with 100 and 200 Level NWCG training will not be collected, but will be constructed using IQCS. Unique Skill Training conducted locally (smokejumper, hotshot, helitack, etc.), OJT, and Position Task Book administration are also excluded from the data calls.
- Only your cumulative workload hours and travel expenses need to be reported.
- Travel costs incurred by the center, for non-center employees (i.e., instructors, detailers) should be reported by the center on the Center Director's survey response.
- The following table might be of assistance when reporting the number of hours for the various categories.

WORKLOAD HOURS			
1 Week	1 Month		1 Year
2% of annual work	8% of annual work	10% of annual work	100% of annual work
40 Hours	**160 Hours**	**190 Hours**	**1,896 Hours**
Conversions based on an average of 237 work days per year			

Definitions of Categories of Wildland Fire Training:

PMS 310-1 and *PMS 901-1* - Training courses required or recommended in 310-1 and Field Managers Course Guide

System Support Training - Training courses related to wildland fire management IT programs, models, and systems (e.g., ANFDRS, Fire Lab Training, FPA, ICARS, IQCS Training, I-Suite, LANDFIRE, ROSS, WFSA, WIMS)

Federal Agency-Specific Training - Other fire training courses identified in the Red or Blue Book or other Agency policy (e.g., FML, Engine Operator, Preferred Fire Planning and Implementation, Technical Specialist, Training in support of PDs)

Incident Support Training - Training courses for individuals, specialists, and processes in support of wildland fire management (e.g., Com Tech, Investigation, LFML, Radio, RAWS, Support Training [cache, hazmat])

Geographic Area-Specific Training - Training courses, with a fire training objective, unique to one or several geographic areas (e.g, Wildland Fires Use for Resource Benefit, Geographic Engine Academy, Northwest Fireline Safety Officer, Incident Medical Specialist training)

Definitions of Components:

Development - is pre-delivery and includes all workload hours related to creating a new course or significantly revising an existing course. Includes workload hours associated with Needs Assessments, SME input, designing the course, instructional methods analysis, crafting objectives, developing lesson plans, alpha/ beta testing, course approval, and managing the developers (SMEs) and development process.

Delivery - preparation for and conducting a course. This includes selecting the cadre and facilities, scheduling and developing the agenda, acquiring course materials, correcting pre-course tests or evaluation of other pre-course requirements, managing the classroom during the course, and preparing course documentation. These roles are primarily, but not exclusively, conducted by Course Coordinators and Lead Instructors.

Note: Delivery in this survey does NOT include preparing for instruction, instructing, or performing as a cadre member during the class. There is a separate survey to collect Instruction workload hours.
Management - directing a training program or center. Management functions include decision making, planning, organizing, scheduling, prioritizing, budgeting, staffing, and program oversight. Examples of those that conduct these activities include Training Officers, Geographic or Zone Training Representatives, and Training Center Managers.

Administration - the workload in support of a training program or center, following established procedures. This includes processing nominations, tuition, and travel expenses, purchasing, securing lodging, contracting and agreements, routine correspondence, photocopying, and completing of documentation. Examples of those that conduct these activities include Training Officers, Zone Training Representatives, Course Coordinators, Training Technicians, Office Automation Assistants, and administration support personnel.

Questions:

Questions should be directed to the individual who forwarded you the email, your Geographic Area Training Representative, or the appropriate Training Team contact listed below.

Appendix 7 - Screen Shot for Instructor Data Call

USDA Forest Service and Department of Interior Review Instructor Data Call

Put all fire training instructor/cadre activities into the most appropriate categories listed on the survey. Definitions are available through pop-up windows on the hyperlinks below. You may need to configure your browser to accept pop-ups from this site. Additionally, use of colons and quotes is prohibited.

Fields marked with an asterisk * are required.

***Last Name:** (e.g., Doe)

***First Name:** (e.g., John)

MI: (e.g., J)

***Home Unit, Training Center, Business Name:** (e.g., Boise National Forest, Acme Fire Training, Inc., Great Basin Training Center)

***Position:** (e.g., Fire Management Officer, Forester)

***Location:** (e.g., Boise, ID)

***Geographic Area:**

Tour of Duty:

***Series:** (e.g., N/A, 0401, 0455, 0463)

***Grade:**

Hourly Rate if Non-Federal or if Wage Grade:

Contract Cost:

Survey Training Covers June 1, 2006 to May 31, 2007

Training Category	Instruction			
	Hours of Preparation	Hours of Class Time	Travel (Hours)	Travel (Cost)
PMS 310-1 and PMS 901-1				
300 Level and above:				
System Support Training:				
Federal Agency-Specific Training:				
Incident Support Training:				
Geographic Area-Specific Training:				

Comment Block to enter specific Geographic area training courses:

Submit Reset Form

Appendix 8 - Screen Shot for Training Data Call

Put all fire training instructor/cadre activities into the most appropriate categories listed on the survey. Include new course development and course revision. Definitions are available through pop-up windows on the hyperlinks below. You may need to configure your browser to accept pop-ups from this site. Additionally, use of colons and quotes is prohibited.

Fields marked with an asterisk * are required.

***Last Name:** (e.g., Doe)

***First Name:** (e.g., John)

MI: (e.g., J)

***Home Unit, Training Center,**
Business Name: (e.g., Boise National Forest, Acme Fire Training, Inc., Great Basin Training Center)

***Position:** (e.g., Fire Management Officer, Forester)

***Location:** (e.g., Boise, ID)

***Geographic Area:**

Tour of Duty:

***Series:** (e.g., N/A, 0401, 0455, 0463)

***Grade:**

Hourly Rate if Non-Federal or if Wage Grade:

Contract Cost:

Survey Training Covers June 1, 2006 – May 31, 2007

	Development			Delivery			Management			Administration		
Training Category	Development (Hours)	Travel (Hours)	Travel (Cost)	Delivery (Hours)	Travel (Hours)	Travel (Cost)	Management (Hours)	Travel (Hours)	Travel (Cost)	Administration (Hours)	Travel (Hours)	Travel (Cost)
PMS 310-1 and PMS 901-1												
300 Level and Above:												
System Support Training												
Federal Agency-Specific Training												
Incident Support Training												
Geographic Area-Specific Training												

Submit Reset Form

Appendix 9 - National Wildland Coordinating Group Course Development Data Gathering

Name:												
Position:												
Organization:												
Series:												
Grade:												
Training Category	**Development**			**Delivery**			**Management**			**Administration**		
	Dev. (Hrs)	Travel (Hrs)	Travel Cost	Delivery (Hrs)	Travel (Hrs)	Travel Cost	Mgmt. (Hrs)	Travel (Hrs)	Travel Cost	Admin. (Hrs)	Travel (Hrs)	Travel (Cost)
Course:												
Course:												
Non 310-1/PMS 901-1												
Course:												
Course:												
Course:												
				SME DATA								
Course:	**Agency**	**Contract /cost**	**Retired**	**Development**			**Delivery**			**Administration**		
SME				Develop. (Hrs)	Travel (Hrs)	Travel Cost	Delivery (Hrs)	Travel (Hrs)	Travel Cost	Admin. (Hrs)	Travel (Hrs)	Travel (Cost)

Course:	Agency	Contract /cost	Retired	Development			Delivery			Administration		
SME				Develop. (Hrs)	Travel (Hrs)	Travel Cost	Del (Hrs)	Travel (Hrs)	Travel Cost	Admin (Hrs)	Travel (Hrs)	Travel (Cost)
Course:	**Agency**	**Contract /cost**	**Retired**	**Develop**			**Delivery**			**Administration**		
SME				Develop. (Hrs)	Travel (Hrs)	Travel Cost	Del (Hrs)	Travel (Hrs)	Travel Cost	Admin (Hrs)	Travel (Hrs)	Travel (Cost)
Course:	**Agency**	**Contract/ cost**	**Retired**	**Develop**			**Delivery**			**Administration**		
SME				Develop.(Hrs)	Travel (Hrs)	Travel Cost	Del (Hrs)	Travel (Hrs)	Travel Cost	Admin (Hrs)	Travel (Hrs)	Travel (Cost)
Course:	**Agency**	**Contract/ cost**	**Retired**	**Develop.**			**Delivery**			**Administration**		
SME				Develop. (Hrs)	Travel (Hrs)	Travel Cost	Del (Hrs)	Travel (Hrs)	Travel Cost	Admin (Hrs)	Travel (Hrs)	Travel (Cost)
Course:	**Agency**	**Contract/ cost**	**Retired**	**Develop.**			**Delivery**			**Administration**		
SME				Develop. (Hrs)	Travel (Hrs)	Travel Cost	Del (Hrs)	Travel (Hrs)	Travel Cost	Admin (Hrs)	Travel (Hrs)	Travel (Cost)

Appendix 10 - Fire Manager Questionnaire

Management Questionnaire

Name: _____ **Location:** _____

Phone: _____ **email:** _____

Interviewer: _____ **Date:** _____

- In your opinion, how well does the current wildland fire training program meet the needs of your program?

	Excellent program. Meets our needs well
	Meets most of the needs
	Satisfactory
	Needs improvement in many areas
	It's broken and needs a complete overhaul

- If cost were not an issue, what would be the top three things you would want to have changed in the wildland fire training program?

- What roadblocks exist to keep us from implementing these suggestions?

- In your opinion, what parts of the training program work very well today and should not be changed?

- How does the current wildland fire training program need to change in order align with the Interagency Wildland Fire long-term strategic plan?

Do you have any suggestions for streamlining or consolidating the delivery of wildland fire training?

Appendix 11 – Incident Qualification and Certification System Positions

Position	Description
AAML	Agency Aviation Military Liaison
ABRO	Aircraft Base Radio Operator
ACAC	Area Command Aviation Coordinator
ACCO	Accountant
ACCT	Accounting Technician
ACDP	Aircraft Dispatcher
ACDR	Area Commander
ACLC	Assistant Area Commander, Logistics
ACMR	Assistant Cache Manager
ACPC	Assistant Area Commander, Plans
AFUL	Aviation Fuel Specialist
AFUS	Aerial Fusee Operator
ANPA	Para-Anthropologist
ANTH	Anthropologist
AOBD	Air Operations Branch Director
AOBS	Aerial Observer
APTL	Administrative Payment Team Leader
APTM	Administrative Payment Team Member
AQSP	Air Quality Specialist
ARCH	Archaeologist
AREP	Agency Representative
ARPA	Para-Archaeologist
ASGS	Air Support Group Supervisor
ATBM	Airtanker Base Manager
ATCO	Airtanker/Fixed Wing Coordinator
ATGS	Air tactical Group Supervisor
ATIM	Aircraft Time Keeper
ATVO	All Terrain Vehicle Operator
AVIN	Aviation Inspector
BABI	BAER Biologist
BABO	BAER Botanist
BACS	BAER Cultural Resources Specialist
BADO	BAER Documentation Specialist
BAEL	BAER Team Leader
BAEN	BAER Environmental Specialist
BAES	Burned Area Response Specialist
BAFO	BAER Forester
BAGE	BAER Geologist
BAHY	BAER Hydrologist
BASS	BAER Soil Scientist
BCMG	Base/Camp Manager
BHAV	BEHAVE Specialist
BIOL	Biologist
BIOM	Biometrician
BIOT	Biological Science Technician
BNML	Battalion Military Liaison
BOTA	Botanist
BT25	Boat Operator, Craft Greater Than Twenty-Five Feet Length

Position	Description
BTOP	Boat Operator, Craft Less Than Twenty-Five Feet Length
BUYL	Buying Team Leader
BUYM	Buying Team Member
CACB	Camp Crew Boss
CAMP	Camp Help
CANH	Canine Handler
CART	Cartographer
CASC	Cache Supply Clerk
CASR	Cave Search and Rescue Specialist
CAST	Cache Supervisory Supply Clerk
CCRT	"C" Faller Certifier
CDER	Computer Data Entry Recorder
CDSP	Cache Demobilization Specialist
CHSP	Computer Hardware Specialist
CISD	Critical Incident Stress Debriefer
CLIR	Climber
CLMS	Claims Specialist
CMGR	Computer Manager
CMSY	Commissary Manager
CMTL	Comptroller
COCO	Computer Coordinator
COFB	Computer Specialist- Fire Behavior
COMC	Communications Coordinator
COML	Communications Unit Leader
COMP	Compensation/Claims Unit Leader
COMT	Incident Communications Technician
CONO	Contracting Officer
COOK	Cook
CORD	Expanded Dispatch Coordinator
COST	Cost Unit Leader
COTR	Contracting Officer's Technical Representative
CREP	Crew Representative
CRNW	Contract Representative Northwest
CRWB	Crew Boss
CS1M	Contracting Specialist- One Million
CS25	Contracting Specialist- Twenty-Five Thousand
CS99	Contracting Specialist- One Hundred Thousand
CTSP	Computer Technical Specialist
CULS	Cultural Specialist
DECK	Deck Coordinator
DINS	Damage Inspection Specialist
DIVS	Division/Group Supervisor
DMOB	Demobilization Unit Leader
DOCL	Documentation Unit Leader
DOSP	NEPA/Documentation Specialist
DOZB	Dozer Boss
DPRO	Display Processor
DPSP	Disaster Prepare/Relief Specialist

Position	Description
DRCL	Driver, Commercial Driver License
DRIV	Driver/Operator
DZIA	Dozer Operator, Initial Attack
DZOP	Dozer Operator
ECOL	Ecologist
ECOT	Ecological Technician
EDRC	Expanded Dispatch Recorder
EDSD	Support Dispatcher
EDSP	Supervisory Dispatcher
ELEC	Electrician- High Voltage
EMTB	Emergency Medical Technician- Basic
EMTI	Emergency Medical Technician-Intermediate
EMTP	Emergency Medical Technician Paramedic
ENGB	Engine Boss
ENGI	Engineer
ENOP	Engine Operator
ENSP	Environmental Specialist
EOCC	Emergency Operations Center Coordinator
EQPI	Equipment Inspector
EQPM	Equipment Manager
EQTR	Equipment Time Recorder
ESF4	Emergency Support- Function 4
EXAD	Explosives Advisor
FAAS	First Aid Station Assistant
FAAT	First Aid Station Attendant
FACL	Facilities Unit Leader
FALA	Faller, Class A
FALB	Faller, Class B
FALC	Faller, Class C
FARS	FARSITE Specialist
FASP	First Aid Station Specialist
FBAN	Fire Behavior Analyst
FCMG	Fire Cache Manager
FDUL	Food Unit Leader
FELB	Felling Boss
FEMO	Fire Effects Monitor
FFT1	Firefighter, Type 1
FFT2	Firefighter, Type 2
FHAS	Fire Helicopter Assistant Supervisor
FHCM	Fire Helicopter Crewmember
FHCS	Fire Helicopter Supervisor
FHSL	Fire Helicopter Squad Leader
FIRB	Firing Boss
FLEA	Fireline Explosive Advisor
FLEB	Fireline Blaster
FLEC	Fireline Explosives Crewmember
FLEI	Fireline Explosives- Initial Attack
FLIR	Forward Looking Infrared Operator

Position	Description
FLOP	Fork Lift Operator
FMNT	Facilities Maintenance Specialist
FOBS	Field Observer
FORS	Forester
FOTO	Photographer
FQCO	Frequency Coordinator
FRWS	Fire Remote Automated Weather Station Technician
FSC1	Finance/Administration Section Chief- Type 1
FSC2	Finance/Administration Section Chief- Type 2
FUEL	Fueling Specialist
FUM1	Fire Use Manager, Type 1
FUM2	Fire Use Manager, Type 2
FWBM	Fixed Wing Base Manager
FWCO	Fixed Wing Coordinator
FWPT	Fixed Wing Parking Tender
GEOL	Geologist
GISS	GIS Specialist
GMEC	General Mechanic
GPSP	Global Position System Specialist
GSUL	Ground Support Unit Leader
HAZM	Hazardous Material Specialist
HDSP	Heavy Drop Specialist
HEB1	Helibase Manager, 4 or more Helicopters
HEB2	Helibase Manager, 1 to 3 Helicopters
HECM	Helicopter Crewmember
HEHH	Helicopter Hover Hook-up Specialist
HEIN	Helicopter Inspector
HELB	Helicopter Boss
HELM	Helicopter Manager
HELR	Helicopter Long Line/Remote Hook Specialist
HERS	Helicopter Rappel Spotter
HESM	Helispot Manager
HESP	Helicopter Operations Specialist
HETM	Helicopter Timekeeper
HEXT	Helicopter External Loads
HIAR	Historical Architect
HLCO	Helicopter Coordinator
HPIL	Helicopter Pilot
HRAP	Helicopter Rappeller
HRSP	Human Resource Specialist
HSTD	Helicopter Support Truck Driver
HTCM	Helitorch Crew Member
HTMG	Helitorch Manager
HTMM	Helitorch Mixmaster
HTPT	Helitorch Parking Tender
HYDR	Hydrologist
IADP	Initial Attack Dispatcher
IARR	Interagency Resource Representative

Position	Description
IBA1	Incident Business Advisor, Type 1
IBA2	Incident Business Advisor -Type 2
ICSA	Incident Command System Advisor
ICT1	Incident Commander, Type 1
ICT2	Incident Commander, Type 2
ICT3	Incident Commander, Type 3
ICT4	Incident Commander, Type 4
ICT5	Incident Commander, Type 5
IHCA	Assistant Hotshot Superintendent
IHCS	Hotshot Superintendent
IMET	Incident Meteorologist
IMSA	Incident Medical Specialist Assistant
IMSM	Incident Medical Specialist Manager
IMST	Incident Medical Specialist Technician
INCM	Incident Communications Manager
INJR	Compensation for Injury Specialist
INLO	International Liaison Officer
INTL	Intelligence Lead
INTS	Intelligence Support
INVC	Investigator, Criminal
INVF	Wildland Fire Investigator
INVS	Investigator, Search
INVT	Investigator, Tort
IRCN	Infrared Coordinator, National
IRCR	Infrared Coordinator, Regional
IRDL	Infrared Downlink Operator
IRFS	Infrared Field Specialist
IRIN	Infrared Interpreter
IWF1	Investigator, Wildland Fire, Type 1
IWF2	Investigator, Wildland Fire, Type 2
IWF3	Investigator, Wildland Fire, Type 3
LEAS	Law Enforcement Analysis Specialist
LEIS	Law Enforcement Investigation Specialist
LGPA	Paralegal
LOAD	Loadmaster
LOFR	Liaison Officer
LSC1	Logistics Section Chief- Type 1
LSC2	Logistics Section Chief- Type 2
LSCT	Line Scout
LTAN	Long Term Fire Analyst
MABM	Modular Airborne Fire Fighting System Airtanker Base Manager
MABS	Modular Airborne Fire Fighting System Tanker Base Specialist
MAFC	Modular Airborne Fire Fighting System Clerk
MAFF	Modular Airborne Fire Fighting System Liaison Officer
MAFI	Modular Airborne Fire Fighting System Information Officer
MAOC	Military Air Operations Coordinator
MCAD	Military Crew Advisor
MCCO	Multi-Agency Coordinating Group Coordinator

Position	Description
MCIF	MAC Group Information Officer
MCOP	Message Center Operator
MEDL	Medical Unit Leader
MHEC	Military Helicopter Crewmember
MHEM	Military Helicopter Manager
MHMS	Military Helicopter Manager Supervisor
MILO	Military Liaison Officer
MORE	Mountain Rescue- High Altitude
MXMS	Mixmaster
NMAC	MAC Representative- National
OCSP	Oil Containment Specialist
OPBD	Operations Branch Director
ORDM	Ordering Manager
ORPA	Orthophoto Analyst
OSC1	Operations Section Chief- Type 1
OSC2	Operations Section Chief- Type 2
PA10	Purchasing Agent- Ten Thousand
PA25	Purchasing Agent- Twenty-Five Thousand
PA50	Purchasing Agent- Fifty Thousand
PACK	Packer
PARK	Parking Tender
PBOP	Probeye Operator
PCSP	Paracargo Specialist
PETL	Prevention Education Team Leader
PETM	Prevention Education Team Member
PHSP	Photogrammetry Specialist
PILO	Fixed or Rotor Wing Pilot
PIO1	Public Information Officer, Type 1
PIO2	Public Information Officer, Type 2
PIOF	Public Information Officer
PLDO	Plastic Sphere Dispenser Operator
PMEC	Pump Mechanic
PREV	Prevention Technician
PROC	Procurement Unit Leader
PROS	Procurement Specialist
PSC1	Planning Section Chief- Type 1
PSC2	Planning Section Chief- Type 2
PTIN	Pilot Inspector
PTRC	Personnel Time Recorder
PUMP	Pump Operator
PUSP	Public Health Specialist
RADO	Radio Operator
RAMP	Ramp Manager
RAVT	Radio Avionics Technician
RAWS	Remote Automated Weather Station Technician
RCDM	Receiving/Distribution Manager
READ	Resource Advisor
RECY	Recycle/Land Monitor Specialist

Position	Description
RESC	Resource Clerk
RESE	Remote Sensing Specialist
RESL	Resource Unit Leader
RESP	Rehabilitation Specialist
RIRE	River Rescue Specialist
RMAC	MAC Representative- Regional
RRAP	RERAP Specialist
RXB1	Prescribed Fire Burn Boss- Type 1
RXB2	Prescribed Fire Burn Boss- Type 2
RXB3	Prescribed Fire Burn Boss- Type 3
RXCM	Prescribed Fire Crew Member
RXM1	Prescribed Fire Manager, Type 1
RXM2	Prescribed Fire Manager, Type 2
SASP	Snow/Avalanche Specialist
SCKN	Status/Check-In Recorder
SCRD	Security Guard
SCUB	Scuba Diver
SEC1	Security Specialist- Level 1
SEC2	Security Specialist- Level 2
SEC4	Security Specialist- Level 4
SECG	Security Guard (not Law Enforcement)
SECM	Security Manager
SEMG	Single Engine Air tanker Manager
SESP	Sewage Treatment Specialist
SFPS	Structural Fire Protection Specialist
SITL	Situation Unit Leader
SMEC	Small Engine Mechanic
SMKJ	Smokejumper
SOCI	Social Science Specialist
SOCT	Social Science Technician
SOF1	Safety Officer, Type 1
SOF2	Safety Officer, Type 2
SOFR	Safety Officer, Line
SOIL	Soil Science Specialist
SOSP	Soil Conservation Specialist
SPAG	Special Agent
SPUL	Supply Unit Leader
SRT1	Swiftwater Rescue- Technician 1
SRT2	Swiftwater Rescue- Technician 2
SRTM	Search Team Member
STAM	Staging Area Manager
STCR	Strike Team Leader, Crew
STDZ	Strike Team Leader, Dozer
STEN	Strike Team Leader, Engine
STLM	Strike Team Leader, Military
STPL	Strike Team Leader, Tractor/Plow
STPS	Structural Protection Specialist
SUBD	Support Branch Director

Position	Description
SVBD	Service Branch Director
SWRM	Shower Manager
TCSP	Telecommunications Specialist
TESP	Tool and Equipment Specialist
TFLD	Task Force Leader
THSP	Technical Specialist
TIME	Time Unit Leader
TNSP	Training Specialist
TOLC	Take-Off and Landing Coordinator
TOOL	Tool Attendant
TOWR	Certified Tower Climber
TPIA	Tractor Plow Operator, Initial Attack
TPOP	Tractor Plow Operator
TRPB	Tractor/Plow Boss
TTOP	Terra Torch Operator
VESP	Vegetation Specialist
VIDO	Video Camera Operator
WEBM	Incident Webmaster
WHHR	Warehouse Materials Handler
WHLR	Warehouse Materials Handler Leader
WHMG	Warehouse Manager
WHSP	Water Handling Specialist
WMGR	Wildlife Manager
WMSP	Watershed Management Specialist
WOBS	Weather Observer
WRED	Writer/Editor
WTOP	Water Tender Operator
WTSP	Water Treatment Specialist
XEDO	Xedar Operator

Appendix 12 - Cost Data and Sources
(Period June 2, 2006 to May 31, 2007)

Cost Element	Source	Extrapolation Factor Used	Cost	Comments
Labor	Training Survey Data Call	1.87	$13,061,489	All training coordination resources
Labor	NWCG Development Group Data Call	1	2,084,332	Course development cost
Labor	Instructor Data Call	1.81	8,109,754	Instructor costs for 300 and above courses – instruction cost
Labor	IQCS 100/200 Data	1	$8,702,779	Instructor costs for below 300 courses – instruction cost
Travel	Training Survey Data Call	1.87	800,853	All training coordination resources
Travel	NWCG Development Group Data Call	1	135,238	Course development cost
Travel	Instructor Data Call	1.81	1,616,913	Instructor costs for 300 and above courses – instruction cost
Travel	IQCS 100/200 Data	1	500	Instructor costs for below 300 courses – instruction cost
Contract	Training Survey Data Call	1.87	773,862	All training coordination resources
Contract	Leadership (Mission-Centered Solutions)	1	1,023,000	Leadership curriculum - instruction cost
Contract	NWCG Development Group Data Call	1	498,733	Course development cost
Contract	Instructor Data Call	1.81	1,208,589	Instructor costs for 300 and above courses – instruction cost
Total			$38,016,042	