

Competency Descriptors for Fire and Fuels Specialist

Fire and Fuels Specialist Position Descriptor

A specialist who integrates prescribed fire, smoke management, fuels modification principles and procedures, fire effects knowledge, and knowledge of scientific data collection and analysis principles into a comprehensive prescribed fire and fuels management program.

I. Program Management:

Description

This competency element identifies the knowledge, skills, and abilities required for providing leadership and coordination in all facets of prescribed fire and fuels modification program, including policy compliance, budget development, employee development, interagency relations, and monitoring and evaluation of the mission accomplished.

Outline

1. Develop, implement and evaluate program goals and objectives in support of mission accomplishment.
2. Develop, implement and evaluate fiscal activities.
3. Supervision and development of employees.
4. Agency and interagency relations development and maintenance.
5. Program monitoring, evaluation, and implementation of corrective action.
6. Identifying research needs and applying new technologies.

Knowledge, Skills, and Abilities

Professional knowledge of natural resource management concepts, principles, and practices applicable to the full range of duties associated with fire management.

Working knowledge of various smoke management regulations including EPA, state, local, and agency specific.

Working knowledge of the ecological response to the presence or absence of fire.

Working knowledge of wildfire protection, and fire use techniques and procedures.

Comprehensive knowledge of fire use and fuels management principles and practices.

Ability to predict and interpret ecological, social, and political responses to fire or its absence, and apply sound fire management principles and practices.

Knowledge of fire effects as it relates to fuel modification and prescribed fire.

Knowledge of financial and contracting programs and procedures as they related to prescribed fire and fuel modification programs.

Ability to implement and monitor fire management budget.

Knowledge of the policies and process of personnel management.

Knowledge of the systems, methods, and techniques of personnel motivation, development, organization, supervision, and evaluation of staff, to emphasize accountability.

Working knowledge of the processes and sources of training, agency/interagency qualifications and certification standards and procedures.

Ability to apply sound personnel management skills, to include supervision, coaching, training, motivation, and evaluation.

Knowledge of cooperating agencies mission, organization and operating procedures.

Knowledge and understanding of related fields, such as: forestry, range, recreation, wildlife, soil, air, and water.

Ability to interact as a fully functional member of internal/external teams.

Knowledge of cooperative agreements, Memoranda of Understanding and Memoranda of Agreement.

Ability to develop cooperative agreements, Memoranda of Understanding and Memoranda of Agreement.

Knowledge of organization and function of cooperating interagency fire organizations such as the National Wildfire Coordinating Group, National Interagency Coordination Center, Geographic Area Coordinating Group, state and local groups.

Knowledge and understanding of relationships between environmental, social, economic, political, and resource management entities.

Knowledge of program monitoring and evaluation process and

procedures.

Working knowledge of reporting requirements and procedures.

Ability to monitor and evaluate prescribed fire and fuels management Program elements and determine their effectiveness in meeting management goals and objectives.

Ability to apply corrective actions to increase program efficiency and effectiveness.

Knowledge of existing fire research databases (Fire Effects Information System, Internet, Fire Base, WestForNet, etc).

Ability to identify and define fire related management issues.

Working knowledge of the research implementation process (issue identification, prospectus, funding, oversight, etc.)

Determine if the knowledge is available to resolve the issue. If not, develop research recommendations.

Ability to apply new and existing technology in prescribed fire and fuels management activities.

II. Planning

Description

This competency element requires a thorough background and understanding of the planning processes involved in a comprehensive prescribed fire and fuels modification program. These skill levels must be sufficient to allow for participation on interdisciplinary teams in the development of:

Unit level land management plan

Unit level fire management plan- these plans could include; management ignited prescribed fire plans, prescribed natural fire plans, fuels modification or management plans, and fire effects monitoring plans.

Annual Operating Plan- these plans could include memorandum of understanding and cooperative agreements, mobilization of prescribed fire resources, public and media contacts.

Project plans- these plans could include management ignited and prescribed natural fire project plans, and other types of fuels modification plans.

Outline

1. Environmental laws, regulations, and policies
2. Agency enabling laws, regulations, and policies.
 3. Agency Mission
4. Agency interdisciplinary planning process.
 5. Individual plan components

Knowledge, Skills, and Abilities

Knowledge of environmental laws, regulations, and policies including the National Environmental Policy Act, Clean Air Act, Threatened and Endangered Species Act, and the Wilderness Act.

Knowledge of agency specific policies sufficient to participate in the development of land use plans and operational plans.

Knowledge and ability to lead or participate in the interdisciplinary planning process.

Knowledge of the components of required plans under the area of responsibility.

Ability to write operational plans, which may include the following:

1. Prescribed fire plans
2. Annual operating plans
3. Training plans
 4. Fire Management plans
 5. Safety plans
 6. Fire effects monitoring plans
 7. Individual Project plans

Knowledge of methods of fire behavior modeling including the development of fuel models, the generation of fire behavior predictions, and the methods of integrating fire behavior predictions into the fire planning process.

III. Operations

Description

This competency element requires a thorough comprehension of operational program components necessary to achieve land management objectives as delineated for the unit. Operational area components include fire effects, prescribed fire, fuels modification, suppression, and aviation.

Outline

A. Fire Effects

1. Management and implementation of pre and post fire effects/ fuels modification data collection and analysis activities.
2. Priority setting and coordination.
3. Logistics/support.
4. Information transfer i.e: preparation of scientific documents

B. Prescribed fire

1. Management and implementation of prescribed fire activities.
2. Priority setting and coordination.
3. Logistics/support
4. Reporting and documentation

C. Fuels Modification

1. Management and implementation of fuels modification activities.
2. Priority setting and coordination.
3. Logistics/support.
4. Reporting and documentation.

D. Suppression

1. Strategy and tactics
2. Incident management
3. Rehabilitation
4. Priority setting and coordination
5. Logistics/support
6. Reporting

E. Aviation

1. Aircraft and associated equipment capabilities and limitations.
2. Tactical application of aircraft.
3. Aviation Safety Management
4. Administration

Knowledge, Skills, and Abilities

Knowledge of methods for the collection, storage, retrieval, and analysis of results from fire effects monitoring activities.

Thorough knowledge of fire behavior monitoring and documentation techniques.

Ability to set priorities involving multiple projects and allocating resources in an efficient manner..

Ability to provide required logistical support to one or more concurrent projects.

Ability to develop documents related to the operational and/or scientific analysis of fire effects or fuels modification information.

Certified at an appropriate management level to ensure that supervision and training are provided for prescribed fire and fuels modification projects.

Ability to implement approved fuels modification and prescribed fire plans.

Knowledge of fire weather, fire behavior and fire danger.

Knowledge of aerial and ground-based ignition methods and techniques.

Knowledge of prescribed fire computer programs including Geographic Information Systems, Global Positioning Systems, PCFiredat, PCSeason, Firefamily, RERAP, Behave, smoke modeling systems, etc.

Ability to set priorities between multiple projects and allocate resources.

Knowledge of Agency requirements and ability to document project daily status, fire behavior and effects, and financial obligations, etc.

Knowledge of service contracts; ability to prepare and administer service contracts i.e: mechanical hazard fuel reduction or other methods of fuel reduction other than mechanical fuel reduction.

Knowledge of the Incident Command System component of the National Interagency Incident Management System.

Knowledge of wildland and urban intermix fire suppression strategies and tactics.

Knowledge of appropriate suppression responses to include minimum impact suppression tactics.

Ability to recognize changing conditions, develop alternative strategies and take appropriate action.

Knowledge of agency rehabilitation policy, procedures, and techniques; ability to ensure appropriate implementation of rehabilitation measures.

Knowledge of capabilities, limitations and approved safety standards and operating procedures of commonly used fixed and

rotary-wing aircraft.

Knowledge of and ability to safely and efficiently utilize aviation resources in a unit's fire operations.

Ability to ensure management of aircraft utilized in unit's fire operations are conducted in a safe and efficient manner, following established standards.

Knowledge of and ability to obtain compliance with established personnel safety requirements, such as training, personal protective equipment, determination of payloads, manifesting, flight following, crash/rescue response, etc.

Knowledge of aviation administration requirements and procedures, such as contract solicitation, awarding and administration, fiscal accounting, etc.

Ability to perform duties under stressful and adverse operating conditions, such as long hours, heavy workloads, emergency situations, adverse working and environmental conditions.

IV. Safety

Description

This competency requires a thorough knowledge of the environmental and workplace hazards of the wildland fire environment. It focuses on the Fire and Fuels Specialist's ability to provide leadership and direction to subordinates in the recognition and mitigation of these hazards using all applicable laws, policies and guidelines. Instilling a passion for safety, zero tolerance for unsafe acts, and personal accountability is paramount.

Outline

A. Law, Policy, Guidelines

1. Occupational Safety and Health Act
2. Applicable State Safety Regulations
3. Department and Agency Policy and Guidelines
4. NWCG Guidelines

B. Education

1. Training
2. Certification

C. Hazard and Risk Analysis

1. Wildland Fire Environment
 - a. Fuels

- b. Weather
- c. Topography
- 2. Associated Hazards
 - a. Aviation
 - b. Mechanized Equipment
 - c. Hazardous Materials
 - d. Other

- D. Hazard and Risk Mitigation
 - 1. Wildland Fire Management
 - 2. Associated Hazards

Knowledge, Skills and Abilities

Knowledge and comprehension of the laws, policy and guidelines pertaining to safety such as the Code of Federal Regulations, National and Agency policy and guidelines, 10 standard fire orders, 18 watchout situations and other related fire safety guidelines.

Skill and ability in imparting a professional passion for safety through the effective use of educational and certification processes.

Skill in conducting hazard and risk analysis for a variety of prescribed fire or fuels modification situations utilizing fire behavior prediction skills, resulting in strategy and tactics that mitigate hazards but allow for the achievement of management goals and objectives without compromising safety.

Knowledge and skills in recognition and mitigation of a variety of miscellaneous hazards encountered within the wildland fire environment and other work environments, i.e., aviation, mechanized equipment and hazardous materials.

Knowledge of standard first aid procedures.

Knowledge of fire safety practices and procedures.

Ability to recognize and correct unsafe practices and conditions.