Glossary

Active Crown Fire   Crown fire is actively spreading along the surface and from tree crown to tree crown.

Adaptive Management   A system of management practices based on 1) clearly identified outcomes, 2) monitoring to determine if management actions are meeting desired outcomes, and 3) facilitation of management changes that will best ensure predetermined outcomes are met or re-evaluated. Adaptive management recognizes that knowledge about natural resource systems is sometimes uncertain, that management actions may need to change to meet desired outcomes, or that outcomes may need readjusting. Scientific findings and society's needs may also indicate the need to adapt resource management to new information. (Source: Departmental Manual 516 DM 4.16)

Administrative Record   The paper trail documenting an agency's decision-making process and decision basis. It includes all materials directly or indirectly considered by persons involved in the process, including opinions or information considered but rejected. If the NEPA planning process is challenged, a judge may review these documents to determine that the process and resulting decision were proper. Future managers may also use the administrative record to understand the evolution of issue(s) and how decisions were made.

Appropriate Management Response   The response to a wildland fire is based on 1) evaluation of risks to firefighter and public safety, 2) circumstances under which the fire occurs, including weather and fuel conditions, 3) natural and cultural resource management objectives, 4) protection priorities, and 5) values to be protected. The evaluation must also include analysis of the specific fire's context in overall local, geographic, or national wildland fire situation. Fire management can range from full suppression to monitoring, or a mix of actions.

Appropriate Use   Use suitable, proper, or fitting for a particular park, or to a particular park location.

Archeological Resource   Any material remains or physical evidence of past human life or activities including the record of effects of human activities on the environment. An archeological resource can reveal scientific or humanistic information through archeological research.

Backcountry   Primitive, undeveloped areas.

Backing fire   A backing fire is one which moves into the wind. Flames lean over already-burnt ground and ignite fuel at the bottom of the fuel bed. Rate of spread of a backing fire is quite slow and independent of wind speed. Combustion is often very efficient and complete, resulting in less smoke than a heading fire and, in some fuel types, a fine white ash residue.

BAER   (Burned Area Emergency Response) A program addressing post-fire rehabilitation and stabilization in or near the burned area with the goals of protecting life, property, water quality, and deteriorated ecosystems from further damage after the fire is out.
   BAER objectives are to
   • Determine if an emergency condition exists after the fire
   • Alleviate emergency conditions to help stabilize soil; control water, sediment and debris movement; prevent ecosystem impairment; mitigate significant threats to health, safety, life, property, and downstream values at risk
   • Monitor implementation and effectiveness of emergency treatments
   BAER spending authority granted for each project covers only the most urgent treatments that cannot await normal funding processes. Special funds are authorized for these activities, and costs vary with fire-season severity. On average, BAER expenses have been about 12% of fire suppression cost.

Best Management Practices   Practices applying current means and technologies to not only comply with mandatory environmental regulations, but also maintain a superior level of environmental performance.

Burned Area Rehabilitation   The full range of post-fire activities that rehabilitate and restore fire damaged lands including protection of public health and safety.

Canopy   The part of tree stands represented by tree crowns. Usually refers to the uppermost foliage layer, but can be used to describe lower layers in a multi-storied forest.

Carrying Capacity   The maximum population of a particular species that a particular region can support without hindering future generations' ability to maintain the same population. Pertaining to

visitor use, carrying capacity is the type and use level that can be accommodated while sustaining the desired resource and visitor-experience conditions.

Control Lines   An inclusive term for all constructed or natural barriers and treated fire edges used to control a fire.

Controlled Burn   See Prescribed Fire.

Critical Habitat   Specific areas occupied by a threatened or endangered species which contain physical or biological features essential to species conservation, and which may require special management considerations or protection; specific areas outside the immediate geographical area occupied by the species at the time of its listing, upon a determination by the Secretary of the Interior that such areas are essential for the conservation of the species.

Crown Fire   Flames extend into the forest canopy and burn overstory tree crowns.

Cultural Landscape   A geographic area, including cultural and natural resources and wildlife or domestic animals therein, associated with a historic event, activity, or person, or exhibiting other cultural or esthetic values. There are four nonmutually exclusive cultural landscape types: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Cultural Resource   An aspect of a cultural system valued by or significantly representative of a culture, or that contains significant information about a culture. A cultural resource may be a tangible entity or cultural practice. Tangible cultural resources are categorized as districts, sites, buildings, structures, and objects for the National Register of Historic Places, and as archeological resources, cultural landscapes, structures, museum objects, and ethnographic resources for NPS management purposes.

Defensible Space   Space needed by firefighters to adequately defend structures from oncoming wildland fires or stop a structural fire from igniting wildland vegetation. Defensible space is the desired result of planning, siting, landscaping, and constructing facilities to minimize wildfire vulnerability and maximize wildfire protection.

Derogation   See impairment.

Desired Conditions   A park's natural and cultural resource conditions that the NPS aspires to achieve and maintain over time, and the conditions necessary for visitors to understand, enjoy, and appreciate those resources. These conditions are identified through a park's planning process.

Developed Area   An area managed to provide and maintain facilities (e.g., roads, campgrounds, housing) serving visitors and park management functions. Includes areas where park development or intensive use may have substantially altered the natural environment or the setting for culturally significant resources.

Directives System   NPS policy guidance system established in 1996 by Director's Order 1. The system replaces and updates guidance documents formerly known as NPS Guidelines, Special Directives, and Staff Directives. The system consists of three levels
   Level 1   NPS Management Policies   Primary policy document for managing national parks.
   Level 2   Director's Orders   Operational policies and procedures supplementing Level 1.
   Level 3   Reference Manuals and other detailed guidance on how to implement Servicewide policies and procedures.

Economic Impact   Changes in economic activity in local community and regional economies. A dollar spent by a park visitor is re-spent by the business that receives it. Some of that dollar is spent outside the local economy and some is paid to local businesses, governments, and households that, in turn, re-spend their incomes. In this way the effect of visitor spending is multiplied in the local economy.

Ecosystem   System formed by the interaction of a community of organisms with their physical and biological environment considered as a unit.

Environmental Assessment   A brief NEPA document prepared with public involvement 1) to determine if impacts of a proposed action (or its alternatives) could be significant; 2) to evaluate a proposal that will have no significant impacts, but may have measurable adverse impacts; or 3) to evaluate a proposal either not on the list of categorically excluded actions, or is on the list, but exceptional circumstances apply.

Environmental Impact Statement A detailed NEPA analysis document prepared with extensive public involvement when a proposed action or alternatives have potential for significant impact on the human environment.

Ethnographic Resources Objects and places including sites, structures, landscapes, and natural resources, with traditional cultural meaning and value to associated peoples. Research and consultation with associated people identifies and explains the places and things found culturally meaningful. Ethnographic resources eligible for the National Register of Historic Places are called traditional cultural properties.

Exotic Species Species that occupy or could occupy park lands directly or indirectly as the result of deliberate or accidental human activities. Exotic species are also commonly referred to as nonnative, alien or invasive. Because an exotic species did not evolve in concert with species native to place, exotic species are not a natural component of the natural ecosystem at that place. (NPS Management Policies 2006)

Fire Behavior Fire intensity (how hot or high the flame), spread rate (how fast it moves) and fire type (surface or crown). Fire behavior occurs while the fire is burning. Increased Fire Behavior refers to increased intensity (temperature and flame height), faster moving (higher rates of spread), and more crown than surface fire.

Fire Exclusion Areas All unwanted wildland fires are aggressively suppressed due to proximity to human developments and consequent human safety risk.

Fire Intensity The rate fire produces thermal energy or heat output while burning. The higher the fire intensity, the hotter it is. In addition, the hotter or more intense a fire is, the greater the flamelength. There are no standard definitions for low-, moderate-, or high-intensity.

Fire Island Fire Islands consists of isolated mesas or plateaus, completely surrounded by the canyon. Little management action (fire suppression or otherwise) has altered ecosystem processes on these remote areas, thus they are invaluable resources for understanding park pre-Euro-American forests (e.g., Fulé 2003). Their generally flat summits range from a few hundred acres atop Wotans Throne to thousands of acres on Powell Plateau. Forest communities include ponderosa pine on Wotans Throne, Shiva Temple, and higher elevations of Powell Plateau, and piñon-juniper communities on lower reaches of Powell Plateau and Fishtail Mesa.

Fire Management Plan A plan that identifies and integrates all wildland fire management and related activities in the context of approved land/resource management plans and defines a program to manage wildland fires (wildfire, prescribed fire, and wildland fire use). The plan is supplemented by operational plans, including, but not limited to preparedness plans, preplanned dispatch plans, and prevention plans. Fire Management Plans assure that wildland fire management goals and components are coordinated.

Fire Management Unit A land management area defined by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, and major fire regime groups, etc., that set it apart from an adjacent FMU. A FMU may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

Fire Regime Fire frequency, intensity, timing, and distribution for a particular vegetation type. Historic fire regimes refer to past fire patterns. Historic fire frequency and timing can be inferred from fire scars on old trees, especially ponderosa.

Fire Regime Groups Classification of fire regimes into a discrete number of categories based on frequency and severity. The national, coarse-scale classification of fire regime groups commonly used includes five groups

Group I	Frequent (0-35 years), low severity
Group II	Frequent (0-35 years), stand-replacement severity
Group III	35-100+ years, mixed severity
Group IV	35-100+ years, stand-replacement severity
Group V	200+ years, stand-replacement severity

Fire Return Interval Number of years between two successive fire events in a specified area.

Fire Severity Magnitude of fire effect on the environment including vegetation, soil, watersheds, wildlife habitat, and human life and property.

Fire Type   Surface, crown, active crown fire, passive crown fire.

Fire-Use Fire   Natural ignitions allowed to burn, and used to achieve resource management objectives; previously known as prescribed natural fire.

Fuels   Above-ground organic biomass that can contribute to a wildland fire. Fuels are usually classified by size and whether live or dead, woody or herbaceous.

Gateway Community   Human community in close proximity to an NPS whose residents and elected officials are often affected by decisions made in the course of managing the park, and whose decisions may affect park resources. Thus shared interests and concerns regarding decisions exist. Gateway communities usually offer food, lodging, and other services to park visitors, opportunities for employee housing, and a convenient location for park administrations to purchase goods and services.

General Management Plan   A plan clearly defining park resource preservation and visitor use direction, and serving as the basic decision-making foundation. GMPs are developed with public involvement.

Handline   An inclusive term for all constructed or natural barriers and treated fire edges used to control a fire.

Head Fire   A fire spreading, or set to spread, with the wind. A heading fire is one where flames are blown toward unburnt fuel. The fuel bed is ignited at the top, and progressively burns into lower layers. A heading fire, particularly under extreme conditions, can be quite combustion inefficient, resulting in thick black smoke and partially burnt fuel. Large envelopes of burning gas are seen as flame flashes well above average flame height.

Heterogeneity, Spatial Complexity, Patchiness   Fire or vegetation pattern variation across an area. A high complexity or heterogeneity refers to high variation in different fire patterns or vegetation conditions. Generally, these would be patchy.

High-Severity Fire Effects   Fire-killed above-ground parts of all vegetation, changing forest structure substantially. All foliage and fine materials on vegetation consumed. Most large logs as well as all organic material on the ground consumed. All forest litter and duff consumed, exposing bare mineral soil. Usually results from crown fire or large-scale (greater than 15 trees) group torching.

Historic Property   A district, site, building, structure, or object significant in the history of American archeology, architecture, culture, engineering, or politics at the national, state, or local level.

Hydrography   Scientific description and analysis of physical conditions, boundaries, flow, and related characteristics of the earth's surface waters.

Hydrophobicity   The property of being water-repellent; tending to repel and not absorb water.

Impact   The likely effect of an action or proposed action on specific natural, cultural, or socioeconomic resources. Impacts may be direct, indirect, individual, cumulative, beneficial, or adverse. (Also see Unacceptable Impacts).

Impairment   An impact that, in the professional judgment of a responsible NPS manager, would harm integrity of park resources or values and violate the 1916 NPS Organic Act's mandate that park resources and values remain unimpaired.

Implementation Plan   A plan that focuses on how to implement an activity or project to achieve a long-term goal. An implementation plan may direct a specific project or an ongoing activity.

Invasive Plant   An aggressive exotic plant known to displace native plant species in otherwise intact native vegetative communities. Invasive plant species are unwanted plants harmful or destructive to humans or other organisms. Not all exotic plants are invasive.

Ladder Fuels   Fuels that provide vertical continuity between forest strata, thereby allowing fire to carry from surface fuels to tree crowns or shrubs with relative ease. Ladder fuels help initiate and assure crowning continuation.

Low-Severity Fire Effects   Fire non-lethal to dominant vegetation. Fire did not alter dominant-vegetation structure. Scattered small, unburned patches intermix in burn area. Vegetation scorching generally less than 10% or limited to three feet (one meter) high or less. Small organic material on ground scorched, but not entirely consumed. Most foliage and twigs are intact. Mineral soil not exposed. Usually results from low-intensity surface fire; torching extremely rare.

Management-Ignited Prescribed Fire   Application of fire to wildland fuels under specified environmental conditions. These conditions confine fire to a predetermined area while producing the intensity required to attain planned resource management objectives.

Management Action Points   Geographic points on the ground, or specific points in time, where an escalation or alternative of management actions is warranted. These points are defined and management actions to be taken are clearly described in an approved Wildland Fire Implementation Plan or Prescribed Fire Plan. Timely implementation of actions when the fire reaches the action point is generally critical to successful objective accomplishment.

Maximum Management Area   The maximum extent a wildland fire-use fire will be allowed to burn.

Minimum Requirement Analysis   A documented NPS process to determine appropriateness of all actions affecting wilderness.

Minimum Tool   A use or activity determined to be necessary to accomplish an essential task that makes use of the least intrusive tool, equipment, device, force, regulation, or practice that will achieve the wilderness management objective.

Mitigation   Modification of a proposal to lessen intensity of impact on a particular resource.

Mixed-Severity Fire Regime   A fire regime in which fire severity varies across a landscape such that the same fire can burn as a high-severity crown fire in some areas of the landscape and as a low-severity surface fire in other areas, depending on fuel conditions. Mixed-severity fires include patchy, mosaic-creating fires and other fires that are intermediate in effects.

Moderate-High Severity Fire Effects   Considerable scorching, with partial consumption of foliage and fine materials on above-ground vegetation. Minimal green vegetation remains in overstory. Some overstory tree mortality likely. Consistent patches in burn area have large logs as well as all organic materials consumed to bare mineral soil. Most woody debris consumed. Mineral soil generally exposed but intact. The Moderate/High category may include up to 10%stand-replacing fire with extremely vigorous vegetative regrowth. Usually results from moderate-to high-intensity surface fire with single tree and small-scale group torching.

Moderate-Low Severity Fire Effects   Partial scorching (10-70 percent) of foliage and fine materials on aboveground vegetation. Minimal consumption of foliage and fine materials on aboveground vegetation. Some green vegetation remains in overstory. Limited overstory tree mortality. Few, if any, unburned patches within the burn area. Most fine organic materials partially consumed, with minimal consumption of large logs. Rotten wood scorched to partially burned. Bare mineral soil not exposed. Usually results from low- to moderate-intensity surface fire with isolated single tree torching.

Native American   Of or relating to a tribe, people, or culture indigenous to the United States.

Native Species   Species that have occurred, now occur, or may occur as a result of natural processes on lands in a place. Native species in a place are evolving in concert with each other. (NPS Management Policies 2006)

NEPA Process   Objective analysis of a proposed action to determine degree of impact on natural, physical, and human environment; alternatives and mitigations that reduce impact; and the full and candid presentation of the analysis to, and involvement of, interested and affected public as required of Federal agencies by the National Environmental Policy Act of 1969.

Non-fire Fuel Treatments (mechanical or manual)   Hazardous fuel reduction or removal. Mechanical removal involves wheeled- or tracked-vehicle use. Manual removal involves chainsaws, other portable hand-held equipment like gas-powered trimmers and hand tools. Specific laws prohibit use of some mechanical fuel-reduction techniques in specific areas. For example, use of wheeled or tracked vehicles in wilderness is prohibited.

Organic Act   1916 law (and subsequent amendments) that created the National Park Service and assigned it responsibility to manage national parks.

Passive Crown Fire   Crown fire where individual trees or tree groups burn through crowns but fire spread from crown to crown is limited. Fire spread occurs primarily on the surface.

Planned Event   All fires ignited under guidance of a prescribed fire burn plan (see unplanned event).

Preparedness Level   Increments of planning and organization readiness commensurate with increasing fire danger.

Preparedness Plan   A written plan providing timely recognition of approaching critical fire situations, priority setting, deployment of forces, and other response actions.

Prescribed Fire   Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist prior to ignition.

Prescribed Fire Burn Plan   Plan required for each fire application ignited by management. Plans are prepared by qualified personnel, approved by agency administrators, and include conditions criteria under which fire will be conducted (a prescription). Plan content varies among agencies.

Prescribed Natural Fire   Deliberate fire ignition to accomplish specific resource management objectives under an identified range of conditions documented in a prescribed burn plan. Prescribed natural fire is now called fire-use fire.

Prescription   Measurable criteria that define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions.

Public Involvement (also called public participation)   Active public involvement in NPS planning and decision-making processes. Public involvement occurs on a continuum ranging from providing information and building awareness, to decision-making partnering.

Record of Decision   Document prepared to substantiate a decision based on an analysis of a range alternatives (e.g., an EIS). When applicable, includes a detailed discussion of rationale and reasons for not adopting all mitigation measures analyzed.

Social Effects   Emotional and psychological consequences of experiences with fire and fire management. Include changes to personal and community identity, the way people interact with each other, social systems structure, and relationship of fire management actions and effects to community values and established ways of doing things.

Soundscape (natural)   Aggregate of all natural, non-human-caused sounds that occur in parks, plus the physical capacity for transmitting natural sounds.

Stakeholder   An individual, group, or other entity with a strong interest in decisions concerning park resources and values. Stakeholders may include recreational user groups, permittees, and concessioners. In the broadest sense, all Americans are stakeholders in national parks.

Stand-Replacement Fire   The majority of above-ground, dominant vegetation is either consumed or dies as a result of fire.

Suppression   The work of extinguishing or confining a fire beginning with its discovery.

Surface Fire   Fire consumes litter, low-growing plants, and dead herbaceous plants accumulated on the surface. Surface fire can ignite snags, and consume shrubs and seedlings. Surface fire does not burn in tree crowns. Flame heights and intensity can vary widely.

Surface Fuel   Fuels lying on or near the ground surface consisting of leaf and needle litter, dead branch material, downed logs, bark, tree cones, and low-stature living plants.

Traditional Cultural Property   Property associated with cultural practices, beliefs, sense of purpose, or existence of a living community rooted in that community's history, or important in maintaining cultural identity and development as an ethnically distinctive people. Traditional cultural properties are ethnographic resources eligible for listing in the National Register.

Turbidity   Having sediment or foreign particles stirred up or suspended; muddy.

Unacceptable Impacts   Impacts that individually or cumulatively would
  • be inconsistent with a park's purposes or values, or
  • impede attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
  • create an unsafe or unhealthful environment for visitors or employees, or
  • diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values, or
  • unreasonably interfere with
      • park programs or activities, or
      • an appropriate use, or
      • the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park.
  • NPS concessioner or contractor operations or services.

Unplanned Event   All fires not intentionally ignited under guidance of a prescribed fire burn plan. Unplanned events require a management response. These events include, but are not limited to, lightning fires, arson fires, fires begun by other activities like those ignited by sparks from railroad cars (See Planned Event).

Values At Risk   Property, structures, physical improvements, natural and culture resources, community infrastructure, and economic, environmental, and social values that could be damaged or destroyed by a fire.

Visitor Experience   Many different Grand Canyon visitor experiences exist. Visitors create their own experiences using resources they bring combined with resources they find at the park. Some experiences, such as an extended backcountry trip below the rim, require a great deal of management by the visitor. A guided bus tour requires less visitor management. Visitor experience quality depends on visitor knowledge, skills, experience, resources, and on park's natural resource characteristics people incorporate into their experiences.

Water Bar   A ridge of compacted soil, loose rock, or gravel constructed across a disturbed sloping area.

Watershed   Entire geographical area drained by a river and its tributaries; an area characterized by all runoff conveyed to the same outlet.

Weather Information Management System   Centralized weather data processing system at which daily fire danger ratings are produced.

Weather Percentiles   Weather conditions for a given percent of fire season or defined length of time. 97th percentile weather, occurs during 3% of the defined length of time. For fire season, this weather includes very hot temperatures, very low humidities, and high winds. 90th percentile weather occurs during 10% of the defined length of time. For fire seasons, this weather includes hot temperatures, low humidities, and high winds but not as high as 97th percentile winds. 50th percentile weather occurs during 50% of the defined length of time. For fire seasons, this weather is considered mild or average.

Wilderness (designated)   Federal land designated by Congress as a component of the National Wilderness Preservation System.

Wilderness (eligible, study, proposed and recommended)   Federal lands found to possess wilderness character based on Wilderness Act criteria. The four categories reflect different wilderness review process stages. All categories are managed to preserve wilderness resources and values that make them eligible for wilderness designation.

Wilderness (potential)   Federal lands surrounded by or adjacent to lands proposed for wilderness designation but that do not qualify for designation due to temporary, nonconforming uses or incompatible conditions. Potential wilderness is a subset of other wilderness categories and can be eligible, study, proposed, recommended, or designated potential wilderness.

Wildland   An area where development is essentially non-existent, except for roads, railroads, powerlines, and similar transportation facilities. Structures, if any, are widely scattered.

Wildland Fire   Any non-structural fire that occurs in wildland. Three distinct wildland fire types include wildfire, wildland fire use, and prescribed fire. Wildland fires occur from both natural and human ignition sources, and may contribute to or hinder achievement of park management objectives.

Wildland Fire Use   Management of naturally ignited wildland fires (begun by lightning) to accomplish specific resource objectives in a pre-defined area. Objectives can include maintaining healthy environments and supporting ecosystem diversity. Monitoring ensures fire stays in prescribed boundaries and meets objectives. Operational management is described in the Wildland Fire Implementation Plan.

Wildland Fire Implementation Plan   A progressively developed assessment and operational management plan documenting analysis and describing appropriate management response for a wildland fire.

Wildland Fire Situation Analysis   A decision-making process that evaluates alternative wildfire suppression strategies against selected environmental, social, political, and economic criteria, and provides a record of those decisions.

Wildland-Urban Interface   The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. WUI is

- Any area where wildland fuels threaten to ignite combustible structures
- Any wildland area where wildland fire ignitions may reach structures in one burning period.
- Areas where flammable wildland fuels meet or intermingle with structures and other human development.