

U.S. National Park Service

DRAFT

Dinosaur National Monument

Fire Management Plan

2024



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EXECUTIVE SUMMARY

Dinosaur National Monument (Dinosaur, monument) is in northeast Utah and northwest Colorado and is approximately 210,282 acres. It was established in 1915 to protect dinosaur fossils and was expanded in 1938 for recreation purposes and preservation of the Green and Yampa River canyons.

This fire management plan is being revised in 2025 to conform with current policies, including the 2014 DOI Fire Management Plan framework. It is supported by a 2025 Environmental Assessment (EA) and corresponding Finding of No Significant Impact (FONSI). It outlines the goals and objectives of the Dinosaur Wildland Fire Management Program and provides operational guidance for risk management, prescribed fire, mechanical treatment, information, preparedness activities, and monitoring.

All wildfires originating in Dinosaur will receive an initial response and management strategy that is aligned with national policy and the goals and objectives defined in this plan. The entire park is considered one fire management unit. Each fire response will be dictated by the goals and objectives of this plan and the fire's potential benefits and threats to the monument. The full spectrum of wildfire response strategies may be employed. Examples include but are not limited to aggressive initial attack for full perimeter control to monitoring a portion of a wildfire burning over time and space, or a combination of strategies. Fuels treatments in the monument may include prescribed fire, manual, chemical, and mechanical treatments and will be developed by an interdisciplinary team using ecologically based information aimed at achieving fuels reduction, creating and/or maintaining desired landscapes, resource and protection objectives, or other site-specific objectives.

1.0 INTRODUCTION, LAND MANAGEMENT PLANNING, and COMMUNICATION

As part of its mission, the National Park Service (NPS) Wildland Fire Program manages wildland fire to protect the public, park communities, and infrastructure, conserve natural and cultural resources, and maintain and restore ecosystem processes ([NPS Wildland Fire Strategic Plan, NPS 2020-2024](#)). Each park unit with burnable vegetation must have an approved Fire Management Plan (FMP) that addresses the need for adequate funding and staffing to support the fire management program. ([Directors Order #18, Wildland Fire Management, NPS 2008](#)). To align with the Department of Interior (DOI) FMP Framework, the NPS developed fire management planning guidance which considers fire program complexity and efficient and effective planning direction (see [Reference Manual \(RM\) - 18, Chapter 4, Fire Management Plans](#)).

Dinosaur National Monument is located within the Rocky Mountains and straddles the border of northeast Utah and northwest Colorado. It is on the northern edge of the Colorado Plateau. It is approximately 20 miles east of Vernal, UT, and 50 miles west of Craig, CO, and 120 miles north of Grand Junction, Colorado. The monument encompasses approximately 210,000 acres and is surrounded by Bureau of Land Management (BLM) land with a small number of private inholdings within the monument.

Dinosaur was established in 1915 by a Presidential Proclamation to protect "...an extraordinary deposit of Dinosaurian and other gigantic reptilian remains of the Jurassic and Triassic period." These preserved dinosaur fossils are at the original quarry site and enclosed by the visitor center. The monument was originally 80 acres, and in 1938, a Presidential Proclamation expanded the monument to include canyons of the Green and Yampa Rivers that enlarged the jurisdictional ownership to over 210,000 acres (see Figure 1 below).

In 1978, 205,672 acres of Dinosaur were recommended to Congress for formal Wilderness designation under the provisions of the Wilderness Act. Although Congress didn't provide a formal designation, the National Park Service manages potential and recommended wilderness as Wilderness until an actual designation occurs.

The Dinosaur National Monument Fire Management Plan is a strategic plan that outlines a program of work to manage wildland fire (includes prescribed fire and wildfire) and non-fire fuels treatments and is based on directions contained in existing park unit planning documents. This Fire Management Plan provides for fire personnel and public safety and includes strategies for managing wildfires. It also addresses values to be protected and is consistent with Dinosaur National Monument's resource management objectives and environmental regulations and laws and such as the [National Environmental Policy Act \(NEPA\)](#), the National and State Historic Preservation Acts, the Endangered Species Act, and the Clean Air Act.

The Dinosaur Fire Management Officer (FMO) determines program requirements to implement land-use decisions through the FMP to meet land management objectives. The FMO is responsible for developing, maintaining, and annually evaluating the FMP to ensure accuracy and validity by completing an annual review ([Interagency Standards for Fire and Fire Aviation Operations \(Red Book\), Chapter 3, NPS Program Organization and Responsibilities](#)).

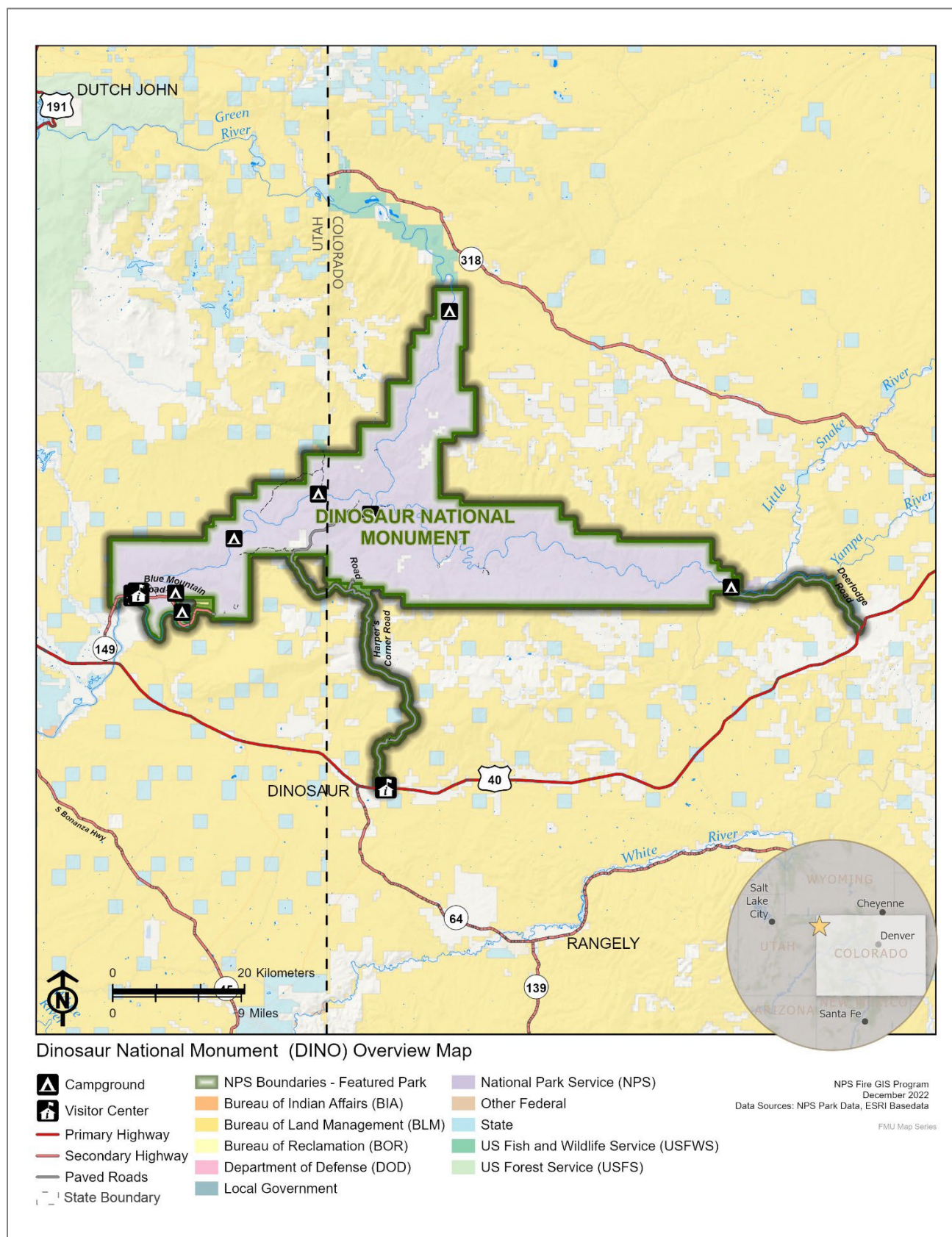


Figure 1: Overview map of Dinosaur National Monument.

1.1 Program Organization

Dinosaur is part of the NPS Northwest Colorado Fire Management Zone. This Zone also includes Colorado National Monument, Black Canyon of the Gunnison National Park, and Curecanti National Recreation Area. An inter-park agreement between the three park Superintendents (see Appendix B) is updated annually, and outlines roles, responsibilities, coordination, and funding. All fire staff for the Northwest Colorado Fire Management Zone are located at Dinosaur National Monument, including the Fire Management Officer.

The Wildland Fire Management office is its own division within the monument's organization, and the Superintendent supervises the Fire Management Officer. The Colorado Front Range Fire Ecology program, based out of Rocky Mountain National Park, provides Fire Ecology and monitoring assistance to all NPS units within the Northwest Colorado Fire Management Zone. The Colorado Fire Business Zone also supports Dinosaur, along with an IMR North Zone Fire GIS Specialist and Fire Planner.

1.2 Fire Management Actions

Dinosaur National Monument may use the full range of wildland fire management actions available under Federal wildland fire policy, which are analyzed in the 2025 Fire Management Plan Environmental Assessment (EA) and supported by the 1995 Dinosaur Resource Management Plan. Management of unplanned fires will be determined based on risk assessment, policy, and the goals and objectives outlined in this plan. Wildland fire actions include the entire gamut of wildfire response strategies, prescribed or planned fire, manual, chemical, and mechanical fuel treatments. Considerations for wildfire strategy selection include safety of fire personnel and the public, values at risk, time of year, location, fuel conditions, potential fire effects, resources available, weather, and seasonal climate and drought conditions. Prescribed fires, manual, chemical, and mechanical treatments will be used to reduce fuels, improve landscape conditions, or for other resource management purposes.

1.3 Environmental Compliance

The Dinosaur National Monument Fire Management Plan Environmental Assessment and Finding of No significant Impact (FONSI) were completed on **DATE**.

- FMP EA Planning, Environment, and Public Comment ([PEPC](#)) ID is: 120677.
- A Biological Assessment was sent to the USFWS on September 18, 2024, for Section 7 Endangered Species Act consultation. A Biological Opinion was received on October 25, 2024, and USFWS concurred with the monument's effects determinations of 'may affect, not likely to adversely affect.'
 - Species included in Section 7 consultation were: monarch butterfly, Ute ladies-tresses, bonytail (and critical habitat), Colorado pikeminnow (and critical habitat), humpback chub (and critical habitat), razorback sucker (and critical habitat), yellow-billed cuckoo, Mexican spotted owl, and the gray wolf.
- Section 106/SHPO/THPO consultation was initiated on **date** and completed on **date**.
- Programmatic MRAF was completed **on date**. It includes wildfire and all types of fuel treatments.

1.4 Park Unit/Resource Management Planning

The Dinosaur National Monument Fire Management Plan supports the following monument planning documents:

- The Dinosaur Foundation Document does not call out wildland fire specifically, however, it does state that wilderness character and biologically diverse landscapes are fundamental resources and values. Wildland fire is a part of these two fundamental resources and values. 2015. [PEPC](#) 56498.
- The Dinosaur Invasive Plant Management Plan, Environmental Assessment, and FONSI (12/20/2005, [PEPC](#) 11384). Prescribed fire was analyzed as an approved cultural method to treat invasive species and includes invasive plant mitigation measures related to wildland fire activities.
- The Dinosaur Resource Management Plan says wildland fire will be used to restore natural, pre-settlement vegetation communities over time. 1995. Not in PEPC.

1.5 Collaborative Planning

The monument is in two Geographic Area Coordination Centers (GACC), the Great Basin GACC on the Utah side, and the Rocky Mountain GACC on the Colorado side. Dinosaur National Monument is a signatory on two state agreements, two Colorado County operating plans, and two Interagency Dispatch Center operating plans. Dinosaur is surrounded by Bureau of Land Management (BLM), the Little Snake and White River Districts in Colorado, and the Green River District in Utah. Collaborative wildland fire management occurs daily with the BLM, state, and local partners.

The National Park Service (NPS) is a signatory to the following agreements:

- Colorado Cooperative Wildland Fire Management and Stafford Act Response Agreement between the Bureau of Land Management, NPS, Bureau of Indian Affairs (BIA), United States Fish and Wildlife Service (USFWS), United States Forest Service (USFS), State of Colorado Division of Fire Prevention and Control, and Colorado State University System on behalf of the Colorado State Forest Service. The purpose of this agreement is to document the commitment to improve efficiency by facilitating fire management assistance and cooperation between all agencies.
- Utah Statewide Operating Plan between the Utah Department of Natural Resources Division of Forestry, Fire, and State Lands, BLM, BIA, NPS, USFS, and USFWS. The purpose of this agreement is to provide for interagency cooperation for fire management in sustaining wildland fire management activities and defines working relationships.
- Moffat County (Colorado) Wildland Fire Operating Plan. This plan sets standard operating procedures, agreed upon procedures, and responsibilities to implement cooperative wildfire protection on all lands within Moffat County.
- Rio Blanco County (Colorado) Wildland Fire Operating Plan. This plan sets standard operating procedures and responsibilities to implement cooperative wildfire protection on all lands within Rio Blanco County.
- Craig (Colorado) Interagency Dispatch Center Local Multi Agency Coordinating Group Annual Operating Plan. This plan documents the agreement and commitment to fire management assistance and cooperation for dispatch services on the Colorado state side

of Dinosaur. Craig Dispatch is the main dispatch center for Dinosaur wildfires and resources.

- Uintah Basin (Utah) Interagency Fire Center Annual Operating Plan. This plan documents the agreement and commitment to fire management assistance and cooperation for dispatch services on the Utah state side of Dinosaur.

See Appendix C for specific documents related to collaborative planning.

1.6 Communication and Education

Providing timely and accurate information related to fire management activities is a key strategy for gaining public support and educating monument staff, visitors, and neighbors. Dinosaur will strive to be inclusive in its fire prevention and incident information efforts by employing strategies and tactics that will reach the entire community, to include non-English speaking, deaf or hard of hearing, and other significant populations.

The current fire danger is posted at the visitor centers, and during periods of high to extreme fire danger, employees will visit campgrounds to discuss fire prevention with the public. In addition, pertinent wildfire information will be posted on monument bulletin boards, visitor campsites, river permittees, and day use sites.

Fire communication and education will be an ongoing strategic effort. In addition to providing timely and accurate information during incident response, the monument will foster understanding and support among staff, visitors, neighboring communities, and partners for the wildfire, prescribed fire, fuels management, fire prevention, and aviation programs. Additional information can be found in [RM -18, Chapter 20, Communication and Education](#). NPS Regional Fire Communication and Education Specialists are available to assist fire programs with fire prevention and education materials and support.

2.0 WILDLAND FIRE PROGRAM MANAGEMENT GOALS AND OBJECTIVES

Dinosaur's programmatic wildland fire management goals and objectives encompass risk management, wildfire, prescribed fire, mechanical fuels management, the use of science, adaptation to climate change, and collaboration. They provide program direction, are aligned with monument planning documents, are forward looking for future climate scenarios, and have been analyzed through the NEPA process.

2.1 Goals and Objectives

Goal 1

Minimize risk to employees, responders, and the public during every fire management activity.

Goal 1 Objectives:

- Evaluate risks and ensure risk-based decisions are made at the appropriate level.
- Apply the most current risk management processes in all decision making.
- Update risk management and leadership training annually to incorporate current best practices.

- Utilize Operational Leadership concepts to ensure the necessary steps are taken to understand the potential risks, severity, probability, and exposure of actions before engaging in wildland fire management.

Goal 2

Minimize adverse fire effects and impacts to the monument's infrastructure and natural and cultural resources.

Goal 2 Objectives:

- Identify, map, and assess risk and impacts for highly valued resources and assets.
- Utilize wildfire strategies and tactics for fire response that prioritize the monument's resources.
- Utilize resource specialists, when necessary and possible, on planned and unplanned fires that may affect natural or cultural resources.
- Implement a wildland fire prevention program to minimize human-caused fires.
- Design and implement fuel treatments to reduce fire risk near and adjacent to infrastructure, private properties, and cultural and sensitive resources.

Goal 3

Promote ecological and social conditions that create, maintain, and restore fire-resilient landscapes in uncertain climate futures.

Goal 3 Objectives:

- Evaluate and design fuels treatments and objectives for adaptive management through monitoring.
- Use fuels treatments to simulate the desired effects of wildland fires to meet resource objectives based on the best available science.
- Manage fuels to allow wildfire to fulfill its ecological role in the monument.
- Use wildfire strategies that take advantage of natural ignitions when and where there is potential for resource benefit on the landscape.
- Manage wildfires in recommended wilderness where and when ecologically beneficial to preserve wilderness character.

Goal 4

Foster and maintain a wildland fire management program that aligns with and promotes values of shared stewardship, risk management, initiative, and pursuit of excellence.

Goal 4 Objectives:

- Maintain a wildland fire program that creates workforce capacity, promotes budget efficiencies, and enhances program administration while providing for reduced risk, efficient, and ecologically sound fire management.
- Use best available science to guide an ecologically sound, robust, and innovative fire management program.
- Respond to and manage fire incidents with strategic approaches that include interdisciplinary and interagency coordination.
- Cultivate and maintain internal and external relationships through collaboration, communication, and coordination by fostering understanding and support among staff, stakeholders, and partners.

3.0 WILDLAND FIRE OPERATIONAL GUIDANCE

3.1 Management of Wildfires

Each fire response in Dinosaur will be dictated by the goals and objectives of this plan and the fire's potential benefits and threats. Initial action on all human-caused wildfires will be to suppress the fire. Lightning-caused fires will receive a response that balances the need to meet resource objectives with the protection objectives outlined within this FMP. The full spectrum of wildfire response strategies may be used. Each fire's response will be determined based on not only goals and objectives, but also current and anticipated location of the fire, local fire danger and associated staffing levels, national preparedness level, live and dead fuel moistures, current and expected drought conditions, anticipated incident complexity level, time of year, potential conflicts with established resource management objectives, political and social climates at the time within Dinosaur and the surrounding federal, state, and local land management agencies.

The monument is one Fire Management Unit (FMU) in the Wildland Fire Decision Support System (WFDSS) and has strategic objectives and management requirements to help guide the management of wildfires.

3.1.1 Wildfire Response Planning

Expected Fire Behavior

Most fires occur in Dinosaur National Monument during the months of June through September, although fires can occur anytime there is limited snow cover. According to monument fire occurrence data from 1961-2022, 88% of fires are lightning-caused, and approximately 90% of fires burn less than 10 acres.

Three major summer weather features influence fire behavior in Northwest Colorado: monsoons, northern cold fronts, and subsidence inversions. The annual presence of the monsoon flow creates both the source of fire ignition as well as the moisture that limits fire activity.

The vegetation of the monument reflects the region's semi-arid climate and the dominant vegetation communities are sagebrush/grass, and pinyon-juniper woodlands. Most wildfires occur in pinyon-juniper, while the larger acreage fires usually occur in the sage/grass. The amount of non-native cheatgrass present in either vegetation type can also drive fire spread, size, and behavior.

Typical pinyon-juniper stands include a mix of both species, with a duff understory and little if any brush or other fine fuels. The pinyon component decreases as elevation decreases, and older stands will have significant loadings of large dead and down fuels as well as a deep duff layer. Fire behavior tends to be either a creeping surface/ground fire, or a running crown fire. The transition to crown fire is often abrupt with a brief period of individual trees torching as a warning. A relative humidity (RH) of 15% or less is the key trigger point to monitor along with wind values of 10 mph and above (i.e., normal upslope). The NFDRS fuel models often associated with these fuels tend to over-predict rates of spread and underestimate flame length. Although fuel model 7 (SH4) does not describe the fuel bed, it often comes closest in predicting fire behavior outputs.

Fire prediction in sage and grass is a little more complex due to the annual fluctuation of live fuel moisture and ratio of dead to live. The older stands of sagebrush (e.g., 35 years and older) have higher loadings of dead fuel, but often lack a grass understory. Fire carry is often through the top of the plant in the older stands. Critical indicators are live moisture values of 120% or less. Live moisture values of less than 100% will increase flame lengths. Fuel model 6 (SH2 or SH4) under predicts fire behavior at moisture values of less than 100%. For the drier conditions and when the fuel bed is four feet or deeper a fuel model 4 (SH5 or SH7) will come closer. At 120% or greater a fuel model 5 (SH1 or SH2) is representative.

Montane forests are found at high elevations (over 7000' elevation) on north facing cliffs and slopes. These montane forests are made up of ponderosa pine, Douglas-fir, and aspen. They are not a dominant vegetation type and only cover approximately 5% of the monument. Fire events of size are rare in this fuel type and usually occur during sequential drought years.

Local thresholds for increased fire behavior include:

- 1,000-hour fuel moisture content of less than 10%
- Live fuel moistures:
 - sagebrush less than 120%
 - pinyon and juniper less than 70-89%
 - ponderosa pine less than 100%
- 20' wind speeds over 10 mph
- RH less than 20%
- Temperature greater than 80°

A combination of any of these factors can greatly increase fire behavior.

Initial Response Procedures

When a wildfire is detected within the monument in Colorado, it is reported to Craig Interagency Dispatch. If the wildfire is detected within the monument in Utah, it is reported to the Uintah Basin Interagency Dispatch Center in Vernal, UT. The monument Duty Officer (DO) then notifies the Fire Management Officer (FMO) or Assistant Fire Management Officer (AFMO) of the location of the fire.

A closest resource concept is used for wildfire responses at Dinosaur; however, a determination can be made between the DO and FMO/AFMO whether personnel from the monument will also respond if the fire is accessible from the ground. If the fire is not accessible from the ground, aviation resources may be used.

Once a wildfire is located and resources are on scene, an initial size-up of the fire will be completed and relayed to the appropriate dispatch office. If the cause is determined to be natural, consultation with the Agency Administrator, Resource Stewardship and Science Program Lead and the Visitor and Resource Protection Program Lead usually occurs to determine the best initial management strategies and tactics for the wildfire based on a risk assessment and programmatic and incident goals and objectives.

More details can be found in the Dinosaur Initial Response Plan, Appendix D4, which supersedes the Craig or Uintah Basin Initial Response Plans in the Craig and Uintah Basin Fire Danger Operating Plan Appendices.

Transition to Extended Response

A fire will transition to extended response when a wildfire exceeds initial response. Incident complexity will be determined by completing a [Wildland Fire Risk and Complexity Assessment \(RCA\)](#). The RCA is included in the Craig and Uintah Basin Dispatches' incident commander organizers.

If a fire is extended beyond initial attack, the DO will contact the AA, Visitor Resource and Protection Program Leader, Program Manager for Interpretation Education and Visitor Services, and Resource Stewardship and Science Program Leader. Additionally, an email will be sent to all monument employees and external agency partners (e.g., BLM) by the DO, FMO, or AFMO.

If a wildfire exceeds initial response or includes objectives with both protection and resource benefit elements the wildfire will be entered into [WFDSS](#) and have a published decision within 48 hours of initial response.

Additional resources for the fire will be ordered through the appropriate dispatch center, depending on the GACC the wildfire is in (e.g., Craig in CO or Uintah in UT). Both dispatch centers work together to facilitate an efficient response to wildfires in both states and GACCs via the neighborhood policy within GACC Mobilization Guides.

Currently there is an Interagency Delegation of Authority in place for all qualified Type 3-5 Incident Commanders (IC) in the monument. When an incoming Type 3 IC or Incident Management Team manages a fire within the monument, a new Delegation of Authority is prepared specific to the IC and incident. These delegations spell out who has responsibility for initial attack of new fires within the monument and which current active fires within the monument will be managed by the incoming IMT.

Minimum Impact Strategy and Tactics (MIST)

MIST is the policy of the National Park Service. Agency-wide Minimum Impact Strategy and Tactics (MIST) are described in [RM - 18, Chapter 2, Managing Wildland Fire, Exhibit 1](#). All personnel responding to wildfires will use MIST throughout the monument.

3.1.2 Wildland Fire Decision Support System (WFDSS)

The Wildland Fire Decision Support System ([WFDSS](#)) will be used to document the management objectives and strategies if a wildfire escapes initial attack, exceeds initial response, or if the management objectives contain elements of protection and resource benefit. Current direction on WFDSS about the NPS can be found in the [Red Book, Chapter 3 NPS Program Organization and Responsibilities and Chapter 11, Incident Management and Response](#). The Intermountain Region has also developed [Supplemental](#)

[WFDSS guidance](#). All lands within Dinosaur are included in one parkwide Fire Management Unit (FMU).

Strategic Objectives and Management Requirements

[Strategic Objectives \(SO\)](#) and [Management Requirements \(MR\)](#) typically come from local unit management plans, as well as related compliance and consultation documents. They provide the framework, limitations, and challenges for wildfire response and are in WFDSS to provide the foundation of a wildfire decision. Dinosaur's strategic objectives are based on the park's Resource Management Plan, Foundation Document, Fire Management Plan, and NPS Management Policies. Management requirements are based in policy, environmental laws, and NEPA compliance.

Below are Dinosaur's strategic objectives and management requirements. These can also be found in WFDSS.

Strategic Objectives (where they originate):

- Minimize risk to employees, responders, and the public during all wildfires. (Programmatic Goal 1)
- Respond to and manage all fire incidents with robust risk assessment tools and utilize strategic approaches that include interdisciplinary and interagency coordination. (Programmatic Goal 1 and 4)
- Minimize adverse impacts to monument resources during fire management activities. (Programmatic Goal 2)
- Maximize potential benefits to the ecosystem when determining fire management strategies. (Programmatic Goal 3)

Management Requirements (where they originate):

- The Superintendent must approve the use of heavy equipment (e.g., dozers, plows) and off-road vehicle travel in support of wildfires unless there is an immediate threat to life and property. (2025 FMP EA)
- The Superintendent must approve the use of aircraft removing water from the Yampa and Green Rivers unless there is an immediate threat to life and property. The Yampa River is managed as a Wild and Scenic River. (Section 7 (b) of Wild and Scenic Rivers Act).
- If water must be used from the rivers, preidentified spawning bars for the CO pikeminnow and razorback sucker will be avoided. (2025 FMP EA)
- The Superintendent must approve the use of retardant unless there is an immediate threat to life and property, however, if retardant must be used, a 300 feet buffer for retardant around water bodies will be employed. (2025 FMP EA)
- Manage natural ignitions in recommended wilderness to the extent possible to preserve wilderness character. (Programmatic Goal 3)
- When possible, wash equipment and vehicles prior to entering the fire area and limit the area of ground disturbance. (2025 FMP EA)
- Contact a resource advisor if any undocumented cultural or natural resource are discovered. (2025 FMP EA)

- Use a resource advisor when possible. (2025 FMP EA)
- Notify all potentially impacted park neighbors, visitors, employees, river permit holders, and grazing lease permit holders. (2025 FMP EA)
- Always use MIST. (NPS Policy, RM-18 Chapter 2)
- Employ mitigation procedures found in PMS 444, Guide to Preventing Aquatic Invasive Species Transport by Wildland Fire Operations, or updated documents as they become available. (2025 FMP EA)
- Use ground protection for refueling and maintenance activities with vehicles, pumps, and other equipment, and refuel at least 200' from all water sources. (2025 FMP EA)
- Consider using portable toilet facilities (either outhouses or bags) for spike camps. (2025 FMP EA)
- Evaluate post-fire erosion and vegetation recovery to determine the need for watershed protection to protect threatened, endangered, or sensitive animal and plant species.

3.2 Fuels Treatments

Fuels Management Goals and Objectives

Fuels reduction treatments increase the safety of fire personnel and the public, the likelihood of perseverance of infrastructure and resilient landscapes, and the opportunity to include resource objectives along with protection objectives on wildfires. The monument's fuels management goals and objectives are incorporated into this FMP's programmatic goals and objectives found in Section 2.0.

Fuels Treatments

Dinosaur will use fuels reduction projects (manual, mechanical, chemical and/or prescribed fire) for both protection and resource management. This could include creating defensible space around highly valued resources or assets, to reduce the risk of adverse effects to resources and assets from wildfire, and for resource enhancement and sustainability. Manual treatments can include the use of powered hand tools such as chainsaws, weed trimmers, lawn mowers, and other small, powered equipment. Mechanical treatments can include large, wheeled, or tracked implements such as brush hogs, masticator, tractors, etc. Non-fire personnel may also use chemical treatments to reduce fuels; their impacts were analyzed in the 2005 Exotic Plant Management Plan and associated EA.

General Fuels Management Implementation Procedures

Activities proposed in the Fire Management Plan will be planned and implemented in accordance with [RM 18, Chapter 7, Fuels Management](#), the [NWCG Standards for Prescribed Fire Planning and Implementation](#), and the [Red Book, Chapter 17, Fuels Management](#). To implement its fuels management program safely and effectively, Dinosaur will conduct comprehensive planning consistent with best available science and its strategic direction. The AFMO will take the lead for the initial planning of fuels projects and necessary compliance, with help from the FMO, Fire Ecologist, monument resource staff, and Fire Planner.

The monument uses an Interdisciplinary Team (IDT) to discuss and prioritize proposed fuels treatment projects. The IDT will also review and provide input for treatment scopes of work; the Superintendent will have final signatory approval. The IDT consists of program managers from

disciplines including, but not limited to fire management, cultural and natural resources, and facilities.

The criteria for fire managers and the IDT to determine if an area should be treated may include the following.

- Do current fuels conditions in the wildland-urban interface developed areas need to be treated to lower the risk of high intensity fire and therefore make values at risk more defensible when threatened by a wildfire?
- Is there potential for a wildfire originating within the monument to negatively impact areas outside of the monument?
- Are there opportunities to protect high value resources and assets while at the same time enhancing cultural landscapes and viewsheds?
- Would fuels treatments enhance opportunities to manage wildfire as an ecological process within an area of the monument?
- Would vegetation, habitat, and/or fire regimes benefit from restoration?
- Do previously treated areas require periodic maintenance?

Best available science will also be used to determine treatment areas and methodology.

Once it is determined which areas of the monument need to be treated, planned fuels treatment projects will be prioritized by fire managers with input from the IDT. Examples of criteria which may be used to prioritize treatments are below.

- Fuel loading and defensible space characteristics.
- Degree of impact on natural and cultural resources.
- Proximity to past wildfires.
- Logical project sequence with other planned projects.
- Maintenance cycles for previously treated areas.
- Practicality of implementation and cost effectiveness of treatment.
- Coordination efforts with adjacent land managers.
- Cost to complete resource surveys for treatment area.

A treatment scope of work will be completed for all fuels treatments and will include the project's goals and objectives, treatment specifications, and mitigation measures. The treatment scope of work will help the IDT determine mitigation measures and the level of compliance needed for each project. Typically, this will be a Memo to File or Categorical Exclusion, which may include Section 106 and Section 7 consultation.

If it is determined that prescribed fire is the best method to treat vegetation, the most current [NWCG Standards for Prescribed Fire Planning and Implementation Guide](#) will be used. All burn plans will be developed by fire managers with input from the IDT and will be approved by the Superintendent. Pile burns are considered a type of prescribed fire, therefore if a fuels treatment takes place and the preferred method of biomass disposal is through pile burns, an approved burn plan will be used.

Fuels Documentation and Project Tracking

The Interior Fuels and Post Fire Reporting System (IFPRS) is the current approved agency application for tracking and reporting estimated and completed accomplishments. Department of the Interior agencies are required to annually submit and verify a three-year Estimated Program of Work (POW), which helps the Department formulate its annual budgetary proposals and make future funding requests to the President and Congress. The monument also completes the required Multi-Year Treatment Plan, which is typically for five years, and is in Appendix E.

Defensible Space

The NPS has adopted the [International Code Council's \(ICC's\) International Urban-Wildland Interface Code \(2021\)](#) through the parameters described in [Executive Order Wildland-Urban Interface Federal Risk Mitigation](#) (May 18, 2016). Contained in the ICC's code ([sections 603 and 604](#)) are descriptions of defensible space and maintenance requirements for wildland urban interface (WUI) areas. The basic application of these standards includes changing the continuity of fuels, removing dead, and dying plant material, mowing, and irrigating grasses, thinning live woody vegetation, herbicide applications, and pruning low branches. These treatments reduce the likelihood of a structure igniting during a wildfire incident and provide fire personnel with safe opportunities for effective suppression actions. Reference [RM - 18, Chapter 7, Fuels Management](#) for additional information.

Vegetation is cut every year around high value resources and assets throughout the monument. These treatments follow the ICC and Firewise standards and zones, and the work is typically completed with mowers, weed whips, and chainsaws. The following areas are treated annually in Firewise zone 1, 0-30 feet from the structure:

- Administrative buildings including offices and employee housing, and maintenance facilities.
- Visitor services buildings and improvements such as campgrounds, visitor centers, wayside exhibits, etc.
- Historic cabins and ranch infrastructure, and
- Other highly valued resources and assets (weather stations, life flight zones, other monitoring stations, etc.).

While the first zone is the most critical (0-30'), as time and resources allow treatments in zones 2 (30-100') and 3 (101-300') will also be completed. Work is prioritized using the Wildland Fire Risk Assessment data and the probability of wildfire to impact a structure. Current information on NPS Structure Protection needs can be found at [NPS Wildland Fire Risk Assessment](#).

3.3 Preparedness

The Craig Interagency and Uintah Basin Interagency Fire Danger Operating Plans (FDOPs), Craig Interagency Preparedness Plan, Craig Interagency Staffing Plan and Dinosaur's Initial Response Plan are in Appendices D1-D4 of this FMP. Reference the [Red Book, Chapter 10, Preparedness](#) for preparedness planning requirements.

Preparedness Activities

Dinosaur will conduct preparedness reviews on an annual basis using the approved NPS Preparedness Review Checklists. Other preparedness activities completed annually may include:

- Fire training for fire staff and non-fire funded park staff.
- Maintenance on the monument's Remote Automated Weather Station (RAWS).
- Assist with updates to the Craig and Uintah Basin FDOPs (Appendix D).
- Preseason meeting with Agency Administrator to discuss WFDSS, fire season outlook, preparedness reviews, and other fire related topics.
- Review and sign (as needed) all preparedness checklists, Delegations of Authorities, the Inter-Park Agreement, Cooperative and Interagency Agreements, Initial Response Plan, and annual Fire Management Plan update within the required timeframe.

Coordination and Dispatching

Dinosaur collaborates with two dispatch centers, the Uintah Basin Interagency Fire Center (Uintah Basin) on the Utah side located in Vernal, UT, and the Craig Interagency Dispatch Center (Craig) on the Colorado side located in Craig, CO. The following describes how dispatching duties for Dinosaur are split between the two Dispatch Centers:

- The Craig Dispatch Center processes off-unit mobilization resource orders for Dinosaur personnel and equipment.
- Wildfires on the Colorado side of the monument are reported to Craig and wildfires on the Utah side are reported to Uintah Basin. Each respective dispatch center will coordinate wildfire initial response based on what state the wildfire is in.
- Fire danger is dictated on the Utah side of the monument by the Uintah Basin FDOP, and fire danger on the Colorado side is dictated by the Craig Interagency FDOP.
- Dinosaur does daily resource status and situation reporting during the fire season with both Uintah Basin and Craig.
- Extended attack mobilization of resources is handled by Uintah Basin if the wildfire is on the Utah side of the monument, and by Craig if on the Colorado side of the monument.
- Aircraft flight following is handled by Uintah Basin if the aircraft is on the Utah side of the monument, and by Craig if on the Colorado side of the monument.

Dinosaur is surrounded by BLM land (UT - Green River District – Vernal Field Office, CO - Northwest CO District – Little Snake and White River Field Offices), with a small amount of state (Utah - Forestry, Fire and State Lands and Colorado – Department of Fire Prevention and Control) and private land interspersed. There are also private inholdings within the monument. All of these require increased coordination with local, state, and federal partners to ensure a coordinated response to wildfires.

Duty Officer

A Duty Officer is identified during the fire season and will usually be either the FMO or AFMO. The FMO and AFMO are delegated Duty Officer roles and responsibilities through a Delegation of Authority from the Agency Administrator, which is in Appendix A, for more details. If Dinosaur needs an additional Duty Officer, one will be ordered, and a Delegation of Authority signed by the Agency Administrator will be put in place for that person. More information on Duty Officer coverage and requirements are in the [Red Book, Chapter 3, NPS Program Organization and Responsibilities](#). Dinosaur's Duty Officer Manual is located within Microsoft Teams and a hard copy is shared with all incoming Duty Officers.

Agency Administrator

Dinosaur's Agency Administrator will be the Superintendent unless the Superintendent chooses to delegate another employee to this position. The Agency Administrator (or their delegate) will obtain Agency Administrator qualifications (AADM) in the Incident Qualifications and Certification System (IQCS) if not already qualified within two years of entering an Agency Administrator position. Superintendents will also follow all Superintendent performance requirements for fire operations in the [Red Book, Chapter 3, NPS Program Organization and Responsibilities](#), and will ensure a DOA is signed annually for the FMO. Designated AADMs at Dinosaur will complete the M-581, Fire Program Management course and consider taking the M-582 Fire Program Management, Leading Complex Fire Management Program course as appropriate training. The three Superintendents of the Northwest Colorado Fire Zone have a signed Agency Administrator Delegation of Authority for each other should one be unavailable during a fire incident within one of the parks; the Delegation is in Appendix A.

Prevention

Dinosaur follows the Craig Interagency Dispatch Center's Prevention Plan, which is Appendix D of the Craig FDOP. The Dinosaur AFMO oversees prevention measures as needed at the monument.

Goals of the prevention plan include:

- Complete and regular update fire risk assessments and mitigations.
- Coordination and announcement of interagency restrictions and closures.
- Prevention related activities related to all special groups and the public.
- Promotion of public and personal responsibility regarding fire prevention in the wildland urban interface.
- Assist IMTs with accomplishing objectives, sharing fire protection plans, and outreaching to the public.

All wildfire education related to fire prevention is done at the local level. For more information and a list of procedures for initiating or rescinding fire restrictions, see Appendix D of the Craig FDOP.

Safety Program

The Dinosaur National Monument Superintendent is responsible for providing a documented occupational safety and health program ([Director's Order #50B](#)). The Dinosaur National Monument Safety, Health, and Wellness Plan, which is a monument-wide plan, is reviewed annually with field fire personnel to discuss issues that could compromise safety and effectiveness during the upcoming season. It is on Dinosaur's SharePoint site. The Wildland Fire program has also created a Dinosaur National Monument NPS Fire Leader's Intent Handbook, reviewed by the Agency Administrator annually, and includes safety and health information for incoming employees. This document is reviewed annually with fire management staff to ensure all staff are familiar with operations. In the case of a serious accident or line of duty death, the IMR Fire and Aviation Serious Incident Response Guide will be followed and can be found on the IMR Fire and Aviation SharePoint under Operations.

Job Hazard Analysis

The Fire Management Officer is required to ensure the completion of job hazard analysis (JHA) for fire and fire aviation activities, so mitigation measures are taken to reduce risk ([Red Book, Chapter 3, NPS Program Organization and Responsibilities](#)). All JHAs are located electronically in Microsoft Teams, on the monument's network drive, and a hard copy is in the bullpen area of the Fire Management Office.

3.4 Post-Fire Programs and Response

Dinosaur is responsible for taking prompt action after a wildfire to minimize threats to life or property, and to prevent unacceptable degradation of natural and cultural resources. Wildfire damages are addressed through four activities:

Suppression Repair: This effort intends to repair suppression damages and is the responsibility of the Incident Commander. This activity is paid for with wildfire suppression funding.

Emergency Stabilization: the intent is to protect life and property and critical resource values and is the responsibility of the Agency Administrator. This activity is paid for with Emergency Stabilization (ES) funding.

Rehabilitation: the intent is to repair wildfire-damaged lands that are unlikely to recover naturally to management-approved conditions, or to repair or replace minor facilities damaged by wildfire. This activity is paid for from Burned Area Rehabilitation (BAR) funds.

Restoration: the intent is to continue the rehabilitation efforts started in the BAR process beyond the time limitation set by the Department of Interior. This activity is paid for by regular program funds.

Dinosaur Resource Management staff will be consulted if wildfire damages to natural and cultural resources occur. [RM - 18, Chapter 18, Post Wildfire Programs](#) and the [Red Book, Chapter 11, Incident Management and Response](#) provide direction on current processes and timeframes.

3.5 Air Quality/Smoke Management

The Clean Air Act is managed at the state level, and therefore Dinosaur must comply with two different state air quality regulations: Colorado and Utah. The NPS is required to follow these regulatory procedures along with all applicable federal, state, interstate, and local air pollution control requirements, as specified by the Clean Air Act.

In Colorado, the Colorado Department of Public Health and Environment (CDPHE) is delegated the authority to establish regulatory procedures for the discharge of air pollutants produced by prescribed fire. The NPS is required to follow these regulatory procedures along with all applicable federal, state, interstate, and local air pollution control requirements, as specified by the Clean Air Act. Regulatory procedures in Colorado include obtaining an annual smoke permit, preregistration of prescribed fires 2-48 hours in advance, notify the local air quality contact 24 hours before ignition, daily notification of ignition, and submittal of a post prescribed fire report that includes an estimate of smoke produced. There are also specific public communication requirements in Colorado before a prescribed fire may take place. More details are found here: [Communicating Prescribed Fire in Colorado \(sharepoint.com\)](#).

As with Colorado, the Utah Department of Environmental Quality, Division of Air Quality has been delegated the authority to establish regulatory procedures for the discharge of air pollutants produced by prescribed fire and wildfires. Utah has established a [State Implementation Plan](#) and a [Smoke Management Plan](#). These guidelines provide a process for evaluating the impact of smoke emissions, state review prior to ignition of prescribed fires, public notification before and during prescribed fires and wildfires, and monitoring of emissions during prescribed fires. Regulatory procedures in Utah are very similar to Colorado and include obtaining an annual smoke permit, preregistration of prescribed fires two weeks prior to burn, submittal a burn request to the State of Utah for approval two days prior to the burn, and submittal of a post prescribed fire report that includes an estimate of smoke produced the day after the burn.

Additional Smoke Management information can be found in [RM 18, Chapter 9, Air Quality and Smoke Management](#).

3.5.1 Air Quality Issues

Dinosaur is considered a Class II Airshed by the Environmental Protection Agency (EPA). Presently, there are two Class I Airsheds within 100 miles of the monument:

- Flat Tops Wilderness located approximately 55 miles southeast, on the White River National Forest.
- Mount Zirkel Wilderness, located approximately 80 miles east to northeast of Dinosaur.

Given the prevailing wind pattern from the west and southwest in this region, it is unlikely that smoke produced at Dinosaur will impact the Flat Tops Wilderness, and while it may reach the Mount Zirkel Wilderness, impacts are expected to be minor and short in duration.

All non-wilderness USFS lands are considered Class II Airsheds by the EPA.

Smoke Sensitive Areas, as designated by the EPA, exist to the south and west of Dinosaur, and are listed below.

- Highway 40 runs less than one mile to the south.
- Highway 191 is approximately 10 to the west of the monument.
- The town of Vernal, is also located approximately 10 miles to the west.

Impacts to these areas would be rare and short in duration due to the prevailing west and southwest winds.

Harper's Corner Road is the main road leading into the central part of Dinosaur National Monument. It offers expansive views of the area, and these views can become obscured by smoke during the summer months, usually originating from areas upwind of Dinosaur.

3.5.2 Smoke Management Activities

To the greatest extent possible, Dinosaur will manage the inevitable and necessary smoke events in a manner that avoids or lessens impacts to air quality and public health for any prescribed fire, including pile burning. The CDPHE Air Pollution Control Division's and Utah's Department of Environmental Quality prescribed fire permitting processes are

designed to ensure these values are protected. The mitigation measures outlined in the permits often include, but are not limited to the following:

- Burning only under fair or good smoke dispersion.
- Terminating ignitions several hours before sunset.
- Burning under wind speed and wind direction constraints.
- Notifying the public in advance.
- Limiting the volume of material ignited on any given day.
- Limiting the frequency of ignitions within a one-week period.
- Monitoring smoke density and locations prior to dissipation.
- Planning methods to stop or reduce smoke emission if it becomes problematic.
- Utilizing past smoke experiences to understand and tailor future emissions.

3.6 Data and Records Management

All wildland fire data and records are managed in accordance with NPS policy. Below is a list of wildland fire data and records, along with how they are managed and stored, and who is responsible.

Fire Reports

All wildfire incidents are supported by a fire report, which includes data about the incident, along with a geospatial fire occurrence location point. The authoritative storage location is in Interagency Fire Occurrence Reporting Modules ([InFORM](#)). Federal units are responsible to complete a fire report for all wildfires originating on their jurisdiction. Fire reports are required to be entered and certified within 10 days of the incident being declared out. A complete Incident Organizer, brief narrative, specific point of origin location (and potentially perimeter data – see below) will inform the formal fire report. The IC or AFMO is responsible for entering a fire report and data into InFORM, and the FMO or AFMO is responsible for certifying all fire reports.

Wildfire and Prescribed Fire Perimeter Polygons

All wildfire and prescribed fire perimeter geospatial data are also stored in InFORM with the fire report, and all wildfires greater than 10 acres in size are required to have a fire perimeter within InFORM. The FMO and AFMO are responsible for uploading polygons into InFORM.

All prescribed fire perimeters are stored in InFORM Fuels with fuels treatment data. See above section of Fire Reports for more information on responsibilities for wildfire and prescribed fire perimeter data.

Non-Fire Fuels Treatment Polygons

All non-fire fuels treatment polygons are stored in [IFPRS](#) along with data about the treatment. Geospatial data are required in IFPRS. The AFMO is responsible for ensuring all fuels treatment (prescribed fire and non-fire) data and polygons are entered into IFPRS in accordance with regional guidelines. More information on fuel treatment data can be found above in Section 3.2 Fuels Treatments.

Incident Management Qualifications

Incident management qualifications, experience, and training are entered into the Incident Qualifications Certification System (IQCS) by the AFMO or Zone Fire Business Assistant. A Delegation of Authority between the FMO, who is the certifying official, and Zone Fire Business Assistant is in place to be an account manager in IQCS. The FMO will certify all qualifications, position taskbooks, and qualification cards. IQCS generated qualification cards are issued annually to current park incident responders. The FMO or AFMO will initiate position taskbooks. Hard copies of qualification records are currently in the Zone Fire Business Assistant's office, and existing electronic copies are stored on the monument's network drive and within IQCS.

4.0 PROGRAM MONITORING AND EVALUATION

4.1 Monitoring

Monitoring is a fundamental NPS management activity supported by policy. Monitoring provides an avenue for evaluating whether management goals and objectives are met and whether undesired effects are occurring. When goals and objectives are not met, monitoring data can be used to facilitate management changes. This practice is part of the adaptive management cycle the monument uses to improve land management practices, which is required under NPS Management Policies ([RM-18, Chapter 7, Fuels Management](#)).

Programmatic Goal 3, above in Section 2.1, is to “Foster and maintain a wildland fire management program that aligns with the monument's core purposes and promotes values of shared stewardship, risk management, initiative, and pursuit of excellence.” This speaks directly to the monument's commitment to monitoring. In addition, monitoring supports the associated programmatic objectives:

- Use the best available science to guide a robust and innovative fire management program.
- Evaluate and adjust objectives as needed for adaptive management through monitoring.

The fire ecology program at Rocky Mountain National Park is responsible for all fire ecology and monitoring duties for the NW Colorado and Front Range Fire Management Zones. The Fire Ecologist, Lead Fire Effects Monitor, and fire effects crew travel to Dinosaur to collect data on long term monitoring plots located within the monument.

The monument's fire ecology program has adopted fire effects monitoring protocols outlined in the NPS [Fire Monitoring Handbook](#) (FMH). The Fire Monitoring Handbook describes four levels of monitoring in ascending order of complexity: Level 1 - Environmental, Level 2 - Fire Observation, Level 3 - Short-term Change (1-2 years), and Level 4 - Long-term change (3+ years). Different monitoring levels are employed to assess fire management actions.

- Levels 1 and 2, Environmental and Fire Observation - background information needed for decision making and assessment of fire behavior. This knowledge is critical for effective implementation of prescribed fire operations and management of unplanned ignitions.
- Level 3, Short-term Change (immediate post-fire effects), and Level 4, Long-term Change - address whether management objectives are being met, and if any undesirable impacts are happening.

Wildfires at Dinosaur will have Level 1 and, if possible, Level 2 monitoring completed. Priority is given to fires with stated resource benefit objectives. If monitoring plots are burned in a wildfire, they will have data collected according to the standard post-burn-treatment monitoring schedule. Prescribed fires and non-fire fuels treatments will be monitored at least at Levels 1 and 2. When treatment objectives dictate, Level 3 and 4 monitoring may also take place, specific to the objective and time frame.

All past year Rocky Mountain NP Fire Ecology Annual reports, which would include data from Dinosaur, are on the [NPS Data Store](#).

4.2 Research

The NPS requires adaptive management to be an integral part of every fire management program. Research is an important part of the adaptive management cycle and can help formulate programmatic goals and individual treatment specific objectives. The Fire Ecologist is the liaison between the Northwest Colorado Fire Management Zone and the academic research community. As research opportunities become available or necessary, studies may be undertaken to determine the effects of wildfire fire within Dinosaur on vegetation, fuel loads, and resource enhancement. Pertinent wildfire research in Dinosaur is listed below.

In 2014 a research team completed a Dinosaur Landscape Condition Analysis Report that compared General Land Office survey records from the late-1800s to early-1900s of fire and vegetation patterns, dendrochronology, and charcoal distribution to current vegetation surveys to determine historical versus current day coverage of pinyon-juniper stands and sagebrush. It was determined there was only a slight reduction of pinyon-juniper stands within the monument, while sagebrush and sagebrush-grassland areas have increased (Romme et al. 2014). This study also determined fire rotations within Dinosaur had become shorter; in pinyon-juniper it was 233 years and in sagebrush it was 76 years, which is shorter than the historical 400-500 years for pinyon-juniper in this area and 400-700 years for mountain big sagebrush. Climate, human-caused wildfires, prescribed fires, and invasive plants are all thought to contribute to the shorter fire rotations within these prominent Dinosaur vegetation types (Romme et al. 2014).

A research paper by Sherrill and Romme (2012) identified specific areas at greatest risk for postfire cheatgrass invasion, as well as other variables that further influence the potential of invasion from 0-19 years postfire within the Dinosaur area. They found that elevation was the strongest single predictor with higher cheatgrass cover occurring below 5,250', after elevation low precipitation in the year following a fire, no matter the elevation, was associated with the greatest probability of high cheatgrass cover, while fire severity also played into the probability of invasion by this non-native annual grass.

A research paper by Bishop et al. in 2019 mapped the presence and persistence of cheatgrass within Northern Colorado Plateau NPS units, including Dinosaur, over an 11-year period and identified biophysical parameters that correlated with its persistence. Cheatgrass can alter fire regimes, which is why this is important to fire managers in the monument. They found hotspots (persistent populations of cheatgrass) in areas with deeper plant available water, lower elevations, colder mean winter temperatures, flatter slopes, higher soil clay content, and lower mean fall

precipitation (Bishop et al. 2019). The results of this study, including cheatgrass invasion maps for the monument, can help managers mitigate wildfire risk in hotspot areas and reduce the potential for continued spread due to wildland fire management activities.

Lastly, the [NPSage Initiative](#) was created to help restore sagebrush-steppe ecosystems and will help inform future wildfire and fuels treatments within the monument. Dinosaur will continue to invest in research collaborations to inform wildland fire management program actions and objectives. A combination of research and monitoring is needed to prepare for shifts in vegetation communities and fire regimes with a changing climate.

4.3 Climate Change

Climate change is affecting vegetation structure, composition, function, and ecosystem processes throughout the United States and within Dinosaur. Climate change presents new challenges for managing wildfires in and near NPS units as the fire environment changes with the climate. Climate change trends point towards increases in temperature, reduced snowpack, more severe drought, increase in area burned by wildfires, tree mortality, and biome shifts (Gonzalez 2020).

The current annual average temperature in Dinosaur has already risen 6.8°F since 1970 and is predicted to increase 4-7 °F between the years 2035-2065 (NPS Climate Change Response Program 2024). Not only are wildfires burning areas more frequently, but fires are also burning at higher severities than in the past (Parks and Abatzoglou 2020). In the Western United States, human-caused climate change has doubled the area burned compared to historic levels, mainly because of drying of vegetation (Abatzoglou and Williams 2016). Under the highest greenhouse gas emissions scenario, projected climate change could increase the frequency of large fires (greater than 20 square miles) up to three times across the forests of the Western United States by 2050 (Barbero et al. 2015). Along with increases in average temperature, more extreme climate events could occur, and need to be planned for. These could be intense storms, flood events, or extended drought at frequencies or intensities not documented in recent history, all of which could impact fire management. Tercek et al. (2023) predicted the bimodal vegetation growing zone will extend north into Dinosaur under some climate scenarios, which could result in loss of native plant communities because non-natives would favor a bimodal growing season and woody species recruitment after disturbances would be poor (Tercek et al. 2023).

It's important for fire managers in Dinosaur to have an idea of how climate change may affect its goals for wildland fire management in the future. The paragraphs below outline the FMP's four programmatic fire management goals (See section 2.1), how climate may impact them, and what actions may be taken to resist, accept, or direct (Schuurman et al. 2020) climate change effects related to the programmatic goal.

Employee and public risk management in the context of fire must resist climate change. Future fire environments threaten physical safety, health, and mental wellbeing. Longer and more severe fire seasons may require visitor access management, additional staff, longer temporary employee appointments, and increased exposure to dangerous environments and stress. and. The monument will strive to maintain an adequate workforce in all aspects of the program including support positions. Employee wellness will be a core value of the organization. Public information and education about fire will need to keep pace with the amplified risk environment.

Protection of high value resources and assets will also become more challenging under projected fire environments. In preparation, fuels treatments will be designed using climate-informed risk assessments. Structures (including those that are culturally significant) can be made more fire resilient through the use of specialized construction materials and removal of burnable vegetation around them. Natural resource protection will be facilitated by pre-identification of vulnerable locations and habitats such as non-native vegetation infestations and the oldest pinyon-juniper stands. Planning for postfire emergency stabilization, recovery, and restoration will be important. This includes reducing the probability of invasive species colonization in burned areas through a variety of methods (e.g., herbicides, reseeding, pulling, etc.).

Since pinyon-juniper forests can take many decades to recover their structure and function after a stand replacing fire, maintaining them on the landscape will require the monument to take a both a resisting and directing approach to climate change. A combination of planned fuels treatments and fire response strategies will help to maintain pinyon-juniper on the landscape at Dinosaur. Locations of sensitive plant communities and fire refugia as well as areas where fire disturbance is desired will be identified for both planned and unplanned actions.

Climate change will challenge the Dinosaur fire management organization at all levels, including relationships both internally and externally. Adaptive management and a forward-looking approach will be vital for the program's effectiveness, whether they are resisting, accepting, or directing (Schuurman et al. 2020) change. Fire managers will need to be creative and collaborative in planning, fire response, and fuels management. Communication about climate adaptation with monument stakeholders and local community leaders will need to be proactive and frequent.

4.4 Evaluations, Reviews, and Updates

Fire Program Review

The National Park Service has developed a Wildland Fire Program Review Guide that describes the program review framework. For more information reference [RM - 18, Chapter 16, Evaluations, Reviews, and Investigations](#). Reviews are scheduled on a regular cycle, or when requested by monument, regional or national leadership.

The Intermountain Region conducts Annual Program Assessments that evaluate the health of a program across nine program areas. Findings and trends identified in these assessments assist regional managers in focusing their formal review schedule.

Wildland Fire Incident Review

All wildland fires and fire-related incidents will be reviewed in accordance with [RM - 18, Chapter 16, Evaluations, Reviews, and Investigations](#) and the [Red Book, Chapter 18, Reviews, and Investigations](#).

Annual Fire Management Plan Update

An annual review is required for this Fire Management Plan, and [RM - 18, Chapter 4, Fire Management Plans](#) describes the review process. Any needed updates to this FMP such as new terminology, policy references, or changes to monument specific information will be identified

and made a part of this process. After review by Regional Fire Planners, a cover sheet for this FMP will be signed by the FMO and the Dinosaur Agency Administrator.

This FMP's appendices will also be reviewed annually and replaced with current (signed, if applicable) documents as needed. Electronic copies of the FMP and required appendices with current ink or certified electronic signatures will be uploaded to the Annual Park Preparedness Docs library on the [Regional Fire and Aviation SharePoint Site](#). Fire Management Plans that have not undergone annual updates within the specified time are not considered current.

NWCG GLOSSARY

The National Wildfire Coordinating Group (NWCG) [Glossary of Wildland Fire](#) provides an extensive listing of approved terms and definitions used by the NWCG community. It contains terms commonly used by NWCG in the areas of wildland fire and incident management and is not intended to list all terms used by NWCG groups and member agencies. The NWCG has directed that all committee and subgroup product glossaries be contained within the NWCG Glossary of Wildland Fire to maintain definition consistency and clarity among documents.

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USEFUL WEB LINKS

[Communicating Prescribed Fire in Colorado, IMRO Fire and Aviation](#)

[Directors Order #18: Wildland Fire Management; National Park Service](#)

[Directors Order #50B: Occupational Safety and Health Program; National Park Service](#)

[Executive Order Wildland-Urban Interface Federal Risk Mitigation](#)

[Fire Monitoring Handbook \(FMH\)](#)

[Interagency Fire Occurrence Reporting Modules \(InFORM\)](#)

[IFPRS, Interior's Fuels and Post-fire Reporting System](#)

[Intermountain Regional Fire and Aviation SharePoint Site](#)

[International Code Council's \(ICC's\) International Urban-Wildland Interface Code](#)

[International Code Council's \(ICC's\) Sections 603 and 604](#)

[Interagency Standards for Fire and Fire Aviation Operations \(Red Book\), NFES 2724](#)

[Intermountain Region WFDSS Supplemental Guidance](#)

[National Environmental Policy Act \(NEPA\)](#)

[National Cohesive Wildland Fire Management Strategy](#)

[NPS Data Store](#)

[NPSage Initiative](#)

[NPS Wildland Fire Risk Assessment](#)

[NWCG Standards for Prescribed Fire Planning and Implementation, PMS 484](#)

[Planning, Environment, and Public Comment \(PEPC\); National Park Service](#)

[Wildfire Risk and Complexity Assessment \(RCA\)](#)

[Reference Manual #18 \(RM-18\): Wildland Fire Management; National Park Service](#)

[Utah Air Quality State Implementation Plan](#)

[Utah Smoke Management Plan](#)

[Wildland Fire Decision Support System \(WFDSS\)](#)

[Wildland Fire Decision Support System \(WFDSS\) Management Requirements](#)

[Wildland Fire Decision Support System \(WFDSS\) Strategic Objectives](#)

[Wildland Fire Strategic Plan 2020-2024](#)

APPENDICES

Appendix A1: FMO Delegation of Authority

Appendix A2: Craig Dispatch Incident Commander Delegation of Authority

Appendix A3: Duty Officer Delegation of Authority

Appendix A4: NW Colorado Superintendent WFDSS Delegation

Appendix B: Interpark Agreement between DINO, BLCA/CURE, and COLM

Appendix C1: Moffat County Annual Operating Plan

Appendix C2: Rio Blanco County Annual Operating Plan

Appendix C3: Craig Dispatch Annual Operating Plan

Appendix C4: Uintah Dispatch Annual Operating Plan

Appendix D1.1: Craig Dispatch Fire Danger Operating Plan

Appendix D1.2: Uintah Dispatch Fire Danger Operating Plan

Appendix D1.2: Uintah Dispatch Fire Danger Operating Plan Biennial Review Checklist

Appendix D2: Craig Dispatch Preparedness Plan

Appendix D3: Craig Dispatch Staffing Plan

Appendix D4: DINO Initial Response Plan

Appendix E: Multi-year Fuels Treatment Plan