



**LANDFIRE**

# **Program Charter**

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## **1.0 Executive Summary**

The LANDFIRE Project successfully completed the work defined by its original charter in 2010. This new charter is a continuation of LANDFIRE as a Program to provide for maintenance and operations activities. The charter places the fire and fuels communities as the primary users and support of the program. However, the charter clearly states that the LANDFIRE Program is open to other users and support.

There are a few changes from this program charter and the project charter of 2004. The charter provides information on the authority and justification of the program. The charter articulates the roles and responsibilities of program governance, management, and oversight by the Wildland Fire Executive Council (WFEC). This charter outlines the scope, deliverables, and quality objectives for the program. The charter establishes an advisory process and an advisory group of LANDFIRE users to improve information exchange. There is an increased emphasis on communication and technology transfer for the program.

## **2.0 LANDFIRE Program Overview**

### ***2.1 Vision***

LANDFIRE provides national-level landscape-scale vegetation and fuels geospatial data products which are produced consistently to primarily support fire and fuels management planning, analysis, and budgeting to evaluate fire management alternatives and secondarily natural resources management. LANDFIRE is a cornerstone of a fully integrated national data information framework, supporting an all lands landscape conservation approach based on inter-agency / inter-organizational collaboration and cooperation. LANDFIRE is acknowledged for management excellence and effective mission delivery.

The vision of LANDFIRE provides for continued focus on information development and improvement to deliver updated vegetation and fire/fuels data products. The vision allows for participation in a transition towards a national information framework for natural resource conservation, wildland fire management, and developing programs based on the best available authoritative data and science.

### ***2.2 Program Mission***

LANDFIRE's mission is to provide agency leaders and managers with a common "all-lands" data set of vegetation and wildland fire/fuels information for strategic fire and resource management planning and analysis. LANDFIRE is a multi-agency/organization program that applies consistent methodologies to develop comprehensive geospatial data products across all 50 United States and the territories. This includes current plot/polygon, land change, vegetation, fire behavior, fire regime, and fire effects data products to support a wide range of applications and programs.

Principal purposes of LANDFIRE data products:

- Provide national-level comprehensive and consistent strategic geospatial data products to support fire and fuels management, planning, analysis, and natural resource management.

- Supplement and assist modeling of fire behavior and effects.
  - Prioritization of hazardous fuel reduction projects
  - Planning and management activities, including work such as: restoration of ecosystem resilience and monitoring and wildland fire management
  - Identification of areas across the nation at risk to wildland fire to support community and firefighter protection
- Improve collaboration between agencies with regard to fire and other natural resource management
  - Resource prioritization, allocation, and coordination between agencies and the public

The LANDFIRE program is necessary to maintain data currency, quality, and distribution services, in support of department, agency, and organization missions as foundational data set. Science, technology, and management continue to develop at a rapid pace. Fire managers need new knowledge and information to support management with full use of the best science. LANDFIRE produces data products based on science for field implementation. LANDFIRE data are critical to multiple wildland fire management initiatives and decision support applications, including the National Cohesive Wildland Fire Management Strategy, Fire Program Analysis (FPA), Wildland Fire Decision Support System (WFDSS), Hazardous Fuels Prioritization and Allocation System (HFPAS), and a number of other key landscape conservation efforts including natural resources/rangeland management and carbon/climate science initiatives.

### **2.3 Authority and Justification**

In 2000, following a landmark wildland fire season, the Secretaries of Interior and Agriculture were directed to establish the National Fire Plan. The Secretaries also established the Wildland Fire Leadership Council (WFLC). LANDFIRE was sponsored by WFLC to support elements of firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The LANDFIRE program continues to function under this same authority and functions to support the Federal Land Assistance, Management, and Enhancement (FLAME) Act and Cohesive Strategy from congressional direction in 2009.

This charter serves as a delegation of authority to the designated program managers who oversee and direct the LANDFIRE program in accordance with sponsor governance. Delegation of authority facilitates efficient management of investments, operations, maintenance, improvements, and innovation activities of the LANDFIRE program.

Strategic initiatives, studies, and policy reviews have articulated improving the effectiveness and efficiency of federal fire management. The LANDFIRE mission and actions are consistent with both USDA and DOI strategic plans. The LANDFIRE charter addresses these strategic focus areas and provides a structure for implementation to produce and provide essential data to support this leadership direction.

#### **USDA Strategic Plan for 2010-2015:**

*Goal 2. Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources.*

*Objective 2.1 – Restore and conserve the nation’s forests, farms, ranches, and grasslands.*

*Objective 2.2 – Lead efforts to mitigate and adapt to climate change.*

*Objective 2.3 – Protect and enhance America’s water resources.*

*Objective 2.4 – Reduce risk from catastrophic wildfire and restore fire to its appropriate place on the landscape.*

**DOI 2011-2016 Strategic Plan:**

MISSION AREA 1

*Provide Natural and Cultural Resource Protection and Experiences*

*GOAL #1 Protect America’s Landscapes*

*PRIORITY GOAL Climate Change*

*GOAL #2 Protect America’s Cultural and Heritage Resources*

*GOAL #4 Manage the Impacts of Wildland Fire*

MISSION AREA 2

*Sustainably Manage Energy, Water, and Natural Resources*

MISSION AREA 3

*Advance Govt-to-Govt Relationships with Indian Nations and Honor Commitments to Insular Areas*

*PRIORITY GOAL Safe Indian Communities*

MISSION AREA 4

*Provide a Scientific Foundation for Decision Making*

LANDFIRE also helps address guidance and policy related to the use of science, modeling, and allocation of resources from the following documents:

- 2009 Quadrennial Fire Review.
- Federal Wildland Fire Management Policy (2009 Guidance for Implementation of Federal Wildland Fire Management Policy).
- National Wildfire Management, Report to Congress and Cohesive Strategy (March 17, 2011).
- Elements of the Federal Land Assistance, Management and Enhancement Act of 2009 (FLAME Act).

## **2.4 Sponsorship**

The LANDFIRE program is sponsored by the Wildland Fire Leadership Council (WFLC).

## **2.5 LANDFIRE Background**

In 2004 the Landscape Fire and Resource Management Planning Tools project, also referred to as LANDFIRE, was sponsored by the Wildland Fire Leadership Council (WFLC). It was a

cooperative between the Forest Service and Department of the Interior and managed by two business leads from each organization under an Executive Oversight Committee.

LANDFIRE's first charter covered the development phase and addressed scope, quality, schedule, and management objectives. LANDFIRE mapped all 50 United States delivering 24 geo-spatial data products. This was the first effort of this magnitude completed for the nation. This charter also stipulated delivery of an "Operations and Maintenance Handoff Plan" which was completed and included the following segment plans: business plan, technical plan, and implementation plan. LANDFIRE delivered all charter elements and the project officially closed out in February 2010. Since that time LANDFIRE has been managed as an ongoing program by USDA FS Fire & Aviation Management and DOI Office of Wildland Fire Coordination. The program transitioned through a production phase to an update and refresh of the data products to update changes from a variety of disturbances and vegetation changes.

### **3.0 Program Scope**

The LANDFIRE program is organized to function as a landscape-scale comprehensive vegetation and wildland fire fuel characteristics mapping program in support of natural resources and fire management. LANDFIRE produces data products using consistent methods using the best available science, technology, and field data to provide for data timeliness, quality, and distribution services to support department, agency, and organization mission needs. The LANDFIRE program provides for periodic updates where data products reflect dynamic changes in landscape condition due to natural and human-caused environmental events. Managers are supplied with the necessary data and resources to effectively make informed decisions regarding a variety of natural resources and wildland fire issues. LANDFIRE works with departmental geospatial organizations and governance to coordinate and align deliverable products across agencies and program areas and fits within the Information Technology (IT) architecture.

### **4.0 Program Deliverables and Quality Objectives**

The LANDFIRE production schedule will be periodically updated and maintained to provide a consistent suite of deliverables. These are core requirements may be revised as technology improves and requirements evolve. The products will be publically available. Other deliverables may include intermediate map products, models, protocols and methods to be available to researchers, developers, and technical specialists. However, the LANDFIRE program generally will not produce "custom" products for specific customers. Specific data deliverables may include but are not limited to the following dependent on innovations, funding, and oversight direction:

- Reference Databases (Point and polygon)
- Land Change Databases
- Land Change Disturbances and Transitions
- Vegetation cover type and Succession class
- Biophysical Settings and Environmental Site Potential
- Existing vegetation – type, cover, and height
- Fire regime, Fire regime condition class, Vegetation condition class
- Fire behavior models – Anderson 13, Scott/Reinhardt 40, and in some cases, Canadian.
- Canopy characteristics – Canopy Bulk Density, Canopy Base Height, Canopy Height

- Fire effects models – Tree Lists, Fuel Loading, and Fuel Characteristic Classification System
- Topographic – elevation, slope, and aspect
- Data Product - Quality Agreement Assessments, Reports, and Publications
- Technology transfer and user support
- Product distribution

Data quality and objectivity are essential cornerstones of the LANDFIRE program as the data are foundational information used in a multitude of applications. LANDFIRE program deliverables will be compatible with previous products to assist in monitoring changes over time. Map data will be produced based on peer-reviewed science related to remote sensing, geospatial analysis, vegetation and fuel modeling, land change dynamics, and fire behavior/effects. Consistency across all ownerships and iterative data improvements remain key quality objectives of the program. Product quality agreement assessments will be performed at appropriate times based on available and applicable data. The target assessment quality is 60-80% agreement at the group level within the National Vegetation Classification System (NVCS) vegetation hierarchy and 70-90% agreement at the macro-group level in the hierarchy at the Geographic area or SuperZone level for existing vegetation types or cover types based on an adequate statistical sample of ground plots. Products and practices will comply with relevant Federal Geographic Data Committee (FGDC) and National Wildfire Coordinating Group (NWCG) standards.

Implementation of best practices in program management ensures effective stewardship of budgetary and human resources. Performance measures and evaluation are management tools to monitor quality objectives for LANDFIRE data products as well as effectiveness objectives in program execution and contribution to strategic and mission objectives. The LANDFIRE program will progress towards “continual” updates and improvements based on the requirements of governance, the timing of data required for inputs, and recommendations from the advisory group (described in 6.0).

## **5.0 Program Roles and Responsibilities**

LANDFIRE (LF) is comprised of program sponsors, oversight, business lead(s), program and technical management. This structure enables efficient and effective program monitoring, reporting, accountability, decision making, and risk management. Governance oversees the program roles of Operations, Maintenance, Improvement, and Innovation.

Operations: The addition of newly acquired or updated data, data archiving, documentation, technical transfer, user support, and infrastructure services for distribution of data products.

Maintenance: The actual updating of the LF data products.

Improvement: Development to enhance quality, timeliness, and defensible science that supports LF data products.

Innovation: Numerous opportunities provide capability to enlarge the original application of LF data assets for applications outside of its original scope through scientific, research and development advances. This work is coordinated with input from the program managers, advisory group.

The organization of the LANDFIRE program provides a clear hierarchy from the sponsors to the management and production teams for LANDFIRE program responsibilities. This governance structure streamlines the communication between the program the wildland fire and fuel and natural resource communities. LANDFIRE's organization supports its primary mission of providing high quality, science-based data products needed to assist wildland fire management and landscape conservation initiatives. The Roles, Responsibilities, and Governance will be adjusted to expand partnerships and program support as opportunities mature.

## **5.1 Sponsors**

The Wildland Fire Leadership Council is the sponsor of LANDFIRE and is responsible for:

- Providing and facilitating funding across program areas (FS and DOI members).
- Ensuring Congressional mandates and Agency and OMB policies are fulfilled (FS and DOI members).
- Providing strategic direction for this and related initiatives with coordination and collaboration within and between agencies.
- Providing for links between national efforts.
- Remaining informed of program status from WFEC or Business Lead(s).
- Approving and signing the charter.
- Endorsing and supporting the membership of program oversight.

## **5.2 Program Oversight**

Wildland Fire Executive Council (WFEC) members provide oversight from cross program areas that benefit from deliverables and are responsible for:

- Reviewing, accepting, and approving program plans for scope, schedule, and budget for deliverables that meet guidelines and standards.
- Facilitating and coordinating links between national efforts (e.g. reference data acquisition, national information framework, and agency participation in initiatives).
- Remaining informed of program status and relevant issues.
- Implementing strategic direction for related initiatives with the incorporation of data products into organizational business practices.
- Advising the Business Lead(s) and Program Management regarding scope, schedule, and budget tradeoffs.
- Receiving periodic (annual / semiannual) communication regarding program milestones, performance metrics, and emergent issues from the Business Lead(s).

## **5.3 Business Lead(s)**

Business Lead(s) (from FS and/or DOI) represent the business community external from the program production teams and are responsible for:

- Defining and tracking performance metrics.
- Coordinating and implementing interagency funding for the program.
- Providing strategic program direction and requirements to the Program Management and Technical Managers to ensure that stakeholder expectations are met.
- Establishing, maintaining, and communicating the business case for LANDFIRE.
- Representing LANDFIRE as spokesperson(s) to stakeholders and publics.
- Program coordination among staff units and agencies at the Washington Office and Regional/State level.
- Assisting Program Management to resolve issues on scope, time, quality, and cost.



- Providing LANDFIRE progress reports, feedback to the WFEC and/or WFLC, and elevating issues up through the organization for consideration, help, and resolution.
- Business Lead(s) communicate regularly with a LANDFIRE Advisory Group and consider recommendations from the user community.

## **5.4 Program Management**

The LANDFIRE Program Management could be a qualified manager specific to LANDFIRE or a couple of programs or projects. Program Management is accountable to the Business Lead(s) and responsible for:

- Leading, and directing in concert with the Technical management, the LANDFIRE Program Teams.
- Ensuring completion of program elements within scope, on schedule, and within budget. (i.e. completion, delivery, and acceptance of all deliverables).
- Developing, maintaining, and managing comprehensive program management plans.
- Working with Production Team Managers to develop budgets, control and track schedules, deliverables, and expenditures (i.e. regular reporting of program status).
- Reporting status and performance metrics according to sponsoring entity requirements to Business Lead(s).
- Promote improvement and innovation to enhance quality, timeliness, and defensible science that supports LF data products.
- Providing all of the above to the production team managers as well as elevating issues up through the Business Lead(s) for consideration, help, and resolution.

## **5.5 Production Team – Technical Management**

Production Team Managers direct all personnel that conduct the work to successfully implement the program. Team managers are technical in nature and may include personnel from USDA Forest Service, USGS, other agencies as needed and contracting. Technical Management is accountable to Program management and Business Lead(s) being responsible for:

- Organizing, staffing, and leading teams in operations, maintenance, improvements and innovations.
- Tracking and reporting production scope, schedule, deliverables, and budget being accountable to program milestones and complying with performance metrics.
- Developing, maintaining, and managing production plans.
- Developing and submitting budgets.
- Participating and supporting Business Leadership meetings and calls.
- Providing all of the above to program management as well as elevating issues for consideration, assistance, and resolution.

## **6.0 Advisory Group**

LANDFIRE leadership considers it important to engage advisory groups from different geographic areas promoting input, review of products, and potential applications for LANDFIRE. A two-way communication process is critical for streamlined exchanges between LANDFIRE and users. A diverse advisory group can add consistency to the product improvement process and help provide grounded decisions, to strengthen the LANDFIRE effort. Such participation also facilitates a broader understanding of LANDFIRE.

An advisory group can improve representation and communication of national and regional needs or issues helping guide future data development. The role is participatory in nature and is a collection of individuals who possess unique knowledge and skills that relate to LANDFIRE goals and objectives. The advisors are a group of technical experts from private, state, and federal agencies who benefit from LANDFIRE data products. This group may be a newly established group or leverage existing groups. The goals of the group are to identify, coordinate, and express to LANDFIRE leadership the needs and issues, provide information and knowledge from their areas of expertise, networks and organizations, and assess known information to improve LANDFIRE data products. The group also helps promote LANDFIRE and are critical to the successful implementation and delivery of the LANDFIRE data products in their respective organizations. They function as a "sounding board" by identifying needs and representing the views of the broader communities. The group shall endeavor to ensure that, as far as is feasible, adequate representation from areas across the country and appropriate groups. Final decisions on program direction and requirements will reside with LANDFIRE oversight and leadership.

### **6.1 Group Process**

The group plays an advisory role expressing the needs and issues of the organizations and areas they represent. The group's responsibilities are to:

- Advise LANDFIRE Business Lead(s) on matters of concern through annual to biennial after action reviews
- Coordinate facts, ensure all information is included, and express recommendations to the LANDFIRE leadership group
- Inform LANDFIRE Business Lead(s) about any matter that might affect the LANDFIRE mapping effort in the regional / geographic area
- Contribute to the education of area managers regarding the use and applicability of LANDFIRE data products
- Provide key information and materials, such as helping identify potential data sources (geo-referenced field and polygon data)
- Serve as a point of contact within the region(s) for obtaining and disseminating information
- Provide minutes of all meetings or conference calls held by the group

The Advisory group should have a designated chair that leads the group. The group chair will serve as the point of contact between the group and LANDFIRE leadership.

## **7.0 Program Support and Service Delivery**

LANDFIRE consolidates natural and ecological wildland fire data for use within other programs where applicable. This integrated data services approach improves customer service in conjunction with other national programs and joint ventures.

### **7.1 Partners**

The LANDFIRE program provides data products that support key landscape conservation business needs, including climate change and carbon assessments, landscape and statewide assessments, and landscape conservation planning. LANDFIRE is a major part of a national information data framework and seeks opportunities to reduce or eliminate redundant efforts.

LANDFIRE and its partner programs focus scope and responsibilities thereby improving the quality and consistency of the products used by partners and user groups across a diversity of landscape conservation activities. The complementary programs in the national framework focus on key data linked between programs. Partners provide support in the framework with both leadership and technical support in the strategic alignment of linked programs. Partners may be shareholders in the governance and oversight of linked programs to synchronize data products in a timely fashion to support multiple business needs.

## ***7.2 Communication and Marketing***

Communication and marketing services focus on improving information for the user community and supporting customer service. This strategy implements shared communication support across many wildland fire and natural resource programs and systems. The strategy includes communication to and from the organizations represented as well as internal and external communications for the program.

The LANDFIRE website is a primary medium for communicating information about the program and it serves as a foundation for communicating with potential users and partners. The website provides access to LANDFIRE information and data products. Data alerts and technical guidance regarding LANDFIRE data products are provided via the website with some information provided in the metadata of the geospatial data products.

## ***7.3 Technology Transfer***

A robust technology transfer program is fully coordinated with other wildland fire systems and organized under a common structure. Technology transfer supports multiple wildland fire applications and natural resource management applications. The National Wildfire Coordinating Group (NWCG) curriculum provides and incorporates LANDFIRE data products and on-line training. The National Interagency Fuels Technology Transfer team (NIFTT), the Fire Learning Network of The Nature Conservancy, and the Fire Modeling Institute could serve as a core group supporting technology transfer.

Technology transfer emphasizes on-line training using GIS tools to ensure appropriate application of data and use of LANDFIRE data products regarding scale and data resolution. Technology transfer can describe the utility of the LANDFIRE data products to support land and resource management planning business requirements. User forums and meetings (organized by Geographic Area Coordination Centers (GACC) or similar units) could provide a venue for discussion of program status, user needs, profile examples of proper application, and innovations. Technology transfer can also develop information and crosswalks between LANDFIRE data products and higher thematic and spatial resolution data used for project planning and assessment.

## **8.0 Accountability**

All Program leadership and staff will be accountable for their roles and responsibilities. This implies appropriate participation in meetings, support of decisions, completion of action item assignments, and fulfillment of responsibilities. Performance issues that cannot be resolved by the functional level will be elevated to the next higher level for resolution.

## **9.0 Approval Section and Duration**

This Charter builds off the first charter approved in May 2004 and establishes program direction. The LANDFIRE Program Charter will be in effect for a ten-year period from the date of signature. The Charter will be reviewed after five years from the time of signature to evaluate consistency with the program of work, continued relevancy of direction, financing, personnel, and accomplishments. Amendments are made as appropriate by WFEC direction and WFLC review. Participating units may elect to terminate the program after full discussion among all involved parties during the course of the Charter.

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Approved by: Arthur L. Blazer,

Deputy Under Secretary Natural Resources and Environment USDA  
Chair Wildland Fire Leadership Council

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Date