



FS Agreement No. [13-MU-11132652-535](#)
Cooperator Agreement No. _____

MEMORANDUM OF UNDERSTANDING
Between The
USDI, NATIONAL PARK SERVICE
And The
USDA, FOREST SERVICE
RESEARCH AND DEVELOPMENT

This MEMORANDUM OF UNDERSTANDING (MOU) is hereby made and entered into by and between the US Department of the Interior, National Park Service, hereinafter referred to as "NPS," and the USDA, Forest Service, Research and Development, hereinafter referred to as the "U.S. Forest Service."

Background: This MOU is a renewal of 06-SU-1 1132652-044.

Title: Framework for Cooperation in Inventorying and Monitoring Natural Resources

I. PURPOSE:

The purpose of this MOU is to establish a general framework for cooperation between the Forest Service and the NPS in inventorying and monitoring natural resources within the legal responsibilities of the respective agencies. Such cooperation, which brings together programmatic entities within the Forest Service research arm with individual entities within the NPS, is considered to be in the best interest of the United States Government in accordance with the following provisions.

II. STATEMENT OF MUTUAL BENEFIT AND INTERESTS:

It is recognized that the NPS, in managing lands under its jurisdiction (individual units of the National Park System, hereinafter called parks), has a need for information on the nature, distribution, status, condition, and trend of soil, water, animals, plants, plant and animal communities, and natural processes on such Federal lands, including their potential and limitations for long term preservation and tolerance to different human uses and activities.

It is recognized that the Forest Service has a need for information on the nature, distribution, status, condition, and trends in vegetation, soil, and water resources on Federal lands, including their potential and limitations for different values, uses, and activities.

The Forest Service discharges its inventory and monitoring obligations under the Forest and Rangelands Renewable Resources Research Act of 1978 (16 U.S.C. § 1642(e)), and is concerned with providing leadership for a national strategic inventory of forests across all land ownerships. This inventory, conducted by the Forest Service's Forest Inventory and Analysis Program, hereinafter called FIA, is carried out in cooperation with Federal and State agencies and private forest landowners.



The Forest Service FIA program inventory, mandated under the Forest and Rangelands Renewable Resources Research Act (16 U.S.C. § 1642(e)), is administered by the Forest Service, and on areas within park external boundaries will be conducted in cooperation with the NPS as outlined in this MOU.

Both the NPS and FIA have broad responsibilities that require detailed information and analysis to inform decisions on management of forest resources. It is beneficial to both agencies to collaborate in the collection of data, integration and synthesis of data collected independently and jointly by each agency, and to use this information to improve management of Federal lands. A goal of this MOU is to foster collaboration between FIA and the NPS that enables application of FIA data to support NPS activities and enhances the mission of FIA by integrating NPS data and information. The programs of both agencies will derive considerable benefits at both local and national levels from such cooperation.

In consideration of the above premises, the parties agree as follows:

III. THE NPS SHALL:

- A. Provide long term conceptual commitment by the NPS that the NPS generally intends to allow U.S. Forest Service establishment and long term operation of FIA sites and to have park management of the area containing these sites be in keeping with the agreed guidelines of the FIA program and this MOU, consistent with provisions of the Park general management plan and other park management documents, and the laws and regulations applicable to the management of the National Park System.
- B. Approve, as appropriate, Scientific Research and Collecting Permits, compliant with NPS requirements, which are necessary for Forest Service FIA inventory personnel to conduct mandated inventory responsibilities in accordance with park approved FIA work plans and the guidelines in Provision V.F. of this MOU.
- C. Provide park logistic and other support in keeping with agreements identified in provisions of the Scientific Research and Collecting Permit.
- D. Invite the Forest Service to participate in relevant NPS inventory and monitoring park, network, regional, and Service meetings.

**IV. THE U.S. FOREST SERVICE SHALL:**

- A. Identify program intensification opportunities that FIA is prepared to authorize, identify those opportunities it is prepared to support, and develop agreement on who pays for or conducts any intensification opportunities that both parties agree to adopt.
- B. Submit the Investigator's Annual Report electronically to the Park Superintendent according to approved NPS protocols.
- C. Invite the NPS to attend the forest inventory work-planning conferences in each State containing lands administered by the NPS, and to participate in development of annual and long-range forest inventory plans where such lands are involved as appropriate.

V. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:

- A. FGDC COMPLIANCE. All inventories pursuant to this MOU will, at minimum, meet any standards established by the Federal Geographic Data Committee (FGDC) and its relevant subcommittees.
- B. INVENTORY RESPONSIBILITY. The Forest Service FIA program inventory, mandated under the Forest and Rangelands Renewable Resources Research Act (16 U.S.C. § 1642(e)), is administered by the Forest Service, and on areas within park external boundaries will be conducted in cooperation with the NPS as outlined in this MOU.
- C. WORK PLANS. A work plan will be developed for the parks in each NPS Region where FIA or other joint inventory and monitoring will be conducted. It will set forth the efforts of cooperating agencies for that area with respect to all activities in parks pertaining to Forest Service inventory and monitoring, and with respect to the limits established by this MOU. Interagency work plans for specific areas will be signed by the NPS Regional Director, or that official's designated representative, and the Forest Service Station Director, or those officials' designated representative. It is recognized that cooperation is a matter of working together to a common end, and is not dependent on, or in proportion to, the financial contribution of the cooperating agencies.

The agencies, jointly or separately, as set forth in the interagency work plan(s) described above, will gather and analyze basic data required for soil, water, plant, animal, and habitat interpretation. Although all data will be gathered in ways that meet applicable FGDC Standards referenced in Section V.A., each agency will be responsible for the interpretive groupings of resource data as developed for use in its individual program.

- D. FIA PLOT COORDINATES. The most accurate FIA plot location coordinates and all associated data for designated NPS lands will, when requested by the NPS, be made available to staff identified by the Park Superintendent upon compliance with guidance provided by FIA privacy policy and in compliance with the National Parks Omnibus Management Act of 1998. Public disclosure of any information regarding the exact location of FIA plots is prohibited, except as is required by law. Less accurate plot location information, available in on-line FIA databases, that does not



provide the ability for the general public to identify precise plot locations may be shared freely between agencies without restriction.

- E. DISSEMINATION OF INFORMATION. Each of the cooperating agencies shall have full opportunity to cooperate appropriately in the planning, execution, dissemination, and publication of the results of all inventories conducted as a result of this MOU. It is recognized that the NPS and Forest Service individually will make in-house use of data, maps, and interpretations prior to a final report.

Parties to this MOU shall be free to use in official correspondence any of the results obtained in the inventories made under this MOU, and any work plans written hereunder, giving due credit to the other party. It is understood that the publishing of maps, reports, and data on inventories made by the cooperating agencies will be agreed upon in specific interagency work plans. However, each agency has the right to use or publish information as may be required, provided appropriate credit is given to the other agencies involved in making the inventories and provided there is no release of any specific information protected by law from release.

F. SPECIAL PROVISIONS.

The following are provided as minimum guidelines for conducting FIA inventories in units of the National Park System. Additional guidance and conditions may be established in coordination with individual Park Superintendents, but no such provisions may rescind these minimum guidelines unless by mutual written consent of both Principal Contacts listed in Provision H below.

Personnel/Equipment

- All working arrangements which might result in the temporary assignment of personnel, and/or the use of lands, buildings, and other facilities will be identified in the terms and conditions of park Scientific Research and Collecting Permits.
- Field data collection may be accomplished by Forest Service employees, State employees, and/or contractors. This may vary by regional FIA program. In all cases, data collectors will be operating as agents of the Forest Service FIA program and will be subject to Federal confidentiality requirements.
- Any equipment or supplies purchased for the conduct of this project shall remain the property of the purchasing program.

Field Access

- At least one month prior to commencement of field operations in a park, the FIA Principal Investigator named in the previously issued park permit will furnish the Park Research Coordinator with the following information:
 - a. Name and contact information for FIA supervisor who will be overseeing conduct of field work.
 - b. Approximate dates and locations of field work within park boundaries.
 - c. Identification of number and type of pack animals or type of other supplemental means of transportation involved in inventory operations.
 - d. Identification of planned overnight accommodations.



- e. Upon the start of the field work, such specific information to be identified by the park as vehicle license plate numbers, radio frequencies used by and call names or numbers of all inventory crews, etc.
- o This agreement, by itself, does not authorize any entry upon, or activities within, any lands not under the jurisdiction of the Park Manager, including private inholdings within park boundaries. Such activities must be coordinated and authorized prior to entry, through the respective agency or owner.
- o Field personnel will carry a copy of their approved Scientific Research and Collecting permit at all times when engaged in data collection activities on park lands. This permit identifies times, places, and types of activities that are permitted and authorizes only activities that apply to the timeframe and content of the approved annual plan of work.
- o NPS natural and cultural resource specialists will identify possible heritage or sensitive areas and assist Forest Service FIA personnel in developing strategies to avoid such areas while traversing to, or working within, field sample locations. This will require FIA sharing maps showing exact plot locations for planning and compliance purposes, but these maps will remain the sole property of FIA.
- o NPS personnel will perform necessary NEPA and other compliance analyses as part of the NPS Scientific Research and Collecting Permit review and approval process.

Marking Samples and Locations

- o Providing consistent and scientifically reliable resource data across all ownerships and classes of forest land in the United States is a hallmark of the Forest Inventory and Analysis research program. Measuring and recording methods on the NPS lands, however, must be sensitive to the existing character of these areas and leave as few signs of human disturbance as possible. Appropriate use of marking techniques will be identified in project-specific permit conditions, generally will include the permit number on the specified marking devices, generally will observe the following guidance, and will be enforced by FIA for field measurements in park areas:

Location Monumentation

- o It is important to be able to relocate plots, subplots, and trees measured during the inventory. On the NPS lands, the following marking strategies will be used to minimize the visibility of FR plots, recognizing that local vegetation and terrain conditions may require different strategies, and that all strategies will be addressed in the permit conditions. Detailed, concise sketches, notes, and GPS locations where possible will also make subsequent relocation easier.
 - Identifying tags/nails - Marking tags/nails should be used minimally, painted an approved color, and face away from obvious trails and roads. Tags/nails may only be used at the base of the tree.
 - Flagging - Any flagging used to facilitate entry and exit from the plot area will be removed upon completion of the plot measurements.
 - Painting/Scribing - This practice will not be used (such as to monument the plot, identify witness trees, or to mark breast height).



Sample Plot Monumentation

- o Monumentation of sample plots generally will observe the following constraints:
 - Starting point trees - Starting Point or Reference Point trees will not be painted or scribed. Instead, nail a tag marked with "SP" or "RP" to the base of the tree facing the direction of normal approach. Describe the starting point on the plot sheet notes and include reference landmarks.
 - Subplot center - Subplot centers are witnessed with a metal wire/rod in the ground as a marker which may not protrude from the ground more than 1 inch, unless local density of vegetation requires a different approach. Flagging may not be attached to the marker.
 - Subplot witness trees - Witness trees will not be painted or scribed. Nail a tag with the letter X on it to the base of the tree facing subplot center.
 - Subplot reference trees - Reference trees will not be painted or scribed. Nail a tag with the subplot number to the base of each reference tree.
 - Sample trees - Sample trees will not be painted or scribed. Each sample tree 5.0" DBH and larger may have a tag placed at ground level either facing subplot center or on the uphill side of the tree if there is a slope. If the sample tree is in view of a known path or trail, place the tag away from the path or trail and note in the field tally. If only saplings are on the subplot mark a couple of them with nails at ground level and note which are so marked.

Boring Trees

- o Boring or drilling will be done only when absolutely necessary to estimate site, age, or growth. (This will generally be the case only during initial establishment of permanent plots to assess site productivity.) Following on-site analysis, increment cores will be discarded on the ground, saved to be used and discarded after lab analysis, or saved for permanent retention in the park collection.

Cutting Vines and Moss

- o Destructive sampling will not be done. In cases where vines or moss preclude the use of diameter tapes for estimation of diameter, calipers or other estimation procedures may be used. In these cases, field notes should identify trees with estimated diameters and the method used.

Specimen Collection

- o Collecting under this MOU will be for scientific purposes only, and may not be used for personal or commercial purposes. In general, collections for scientific purposes removed from a site for more detailed analysis and classification will be destroyed following analysis. Forest Service FIA will maintain no voucher specimen collections. If any collection of voucher specimens becomes necessary, the approval to collect must be authorized in the Scientific Research and Collecting Permit.
- o No archeological or paleontological materials may be collected. Upon location of any historical or archeological remains field work will cease and the site shall be reported immediately to the Park Manager. No disturbance of such a site is permitted. NPS personnel will assist Forest Service crews in identifying possible heritage sites and



will notify Forest Service crews of any potential heritage areas prior to entry.

Site Condition

- All refuse associated with field operations shall be removed from NPS lands and the site of any data collection or encampment shall be returned to the condition in which it was found, except as authorized by the Scientific Research and Collecting Permit.
- In some cases, the permit conditions may need to require additional special provisions for preventing the introduction into FIA plots of seeds, pathogens, or other propagules of exotic species.

Soil disturbance is to be limited to necessary sampling as described in the RA inventory field instructions provided with the approved plan of work.

Soil disturbance must be authorized by the Scientific Research and Collecting Permit and must be conducted in conformity with the provisions and conditions identified in the permit. Total sample volume per location usually will be limited to 2,500 cubic centimeters and all samples will be destroyed during or following analysis.

- Temporary markers, such as flagging, usually may not remain in place for more than one week when study teams are not present on a site. Paint, or similar semi permanent markers, may not be applied to rocks, plants, or other natural surfaces.

Wildlife Interaction

- Harassment, hazing, collecting, or other disturbance of wildlife is prohibited.
- Problem encounters with wildlife, including any experienced or observed incidents of wildlife harassing humans or obtaining food or garbage from humans, shall be reported promptly to the Park Manager.
- All food and garbage will be stored in sealed containers and under specified conditions approved by the Park Manager. Field personnel will prevent wildlife from obtaining any of their food or garbage.
- In Alaska parks, where possession of firearms may be approved under special conditions identified in the Scientific Research and Collecting Permit, such possession is restricted to only approved personnel who have successfully completed Forest Service and NPS approved training in both the use and safety of firearms and proper human behavior around bears and other potentially threatening wildlife. Firearms may be carried only for defense of life during periods of field work.



G. AUTHORIZATIONS. Each agency, respectively, is authorized by one or more of the following acts to perform the above activities:

- Act of August 25, 1916, 39 Stat. 535 as amended (The National Park Service Organic Act)
- Public Law 105-391 of November 13, 1998 112 Stat. 3497 (National Parks Omnibus Management Act of 1998)
- Public Law 88-577 of September 3, 1964. 78 Stat. 890. (Wilderness Act)
- Public Law 74-46 of April 27, 1935. 49 Stat. 163 (Soil Conservation and Domestic Allotment Act)
- Public Law 93-378 of August 17, 1974. 88 Stat. 476 (Resources Planning Act)
- Public Law 94-588 of October 22, 1976. 90 Stat. 2949 (National Forest Management Act)
- Public Law 95-307 of June 30, 1978. 92 Stat. 353 (Forest and Rangeland Renewable Resources Research Act- which repealed and replaced the Forest Service inventory mandate initially set forth in the McSweeney/McNary Act of May 1928)
- Public Law 95-313 of July 1, 1978. 92 Stat. 365 (Cooperative Forestry Assistance Act)
- Public Law 99-198 of December 23, 1985. 7 U.S.C. 2276 (Food Security Act)
- Public Law 100-521 of 1988. (Forest Ecosystems and Atmospheric Pollution Research Act)
- Public Law 84-159 (Title IX Amendments of the Clean Air Act of 1990)
- Public Law 105-185 of June 13, 1998. (16 U.S.C. § 1642 (e)) (Agricultural Research, Extension, and Education Reform Act- which amended the Forest and Rangeland Renewable Resources Research Act of 1978 and authorized the FIA program).

H. PRINCIPAL CONTACTS. Individuals listed below are authorized to act in their respective areas for matters related to this agreement.

Principal Cooperator Contacts:

Cooperator Program Contact	Cooperator Administrative Contact
Name: Raymond M. Sauvajot, Deputy Associate Director Natural Resource Stewardship & Science Address: 1849 C Street NW, Room 3130 City, State, Zip: Washington, DC 20240 Telephone: 202-208-3884 FAX: 202-273-4431 Email: ray_sauvajot@nps.gov	Name: Karl Brown Biological Resource Management Division Address: 1201 Oakridge Drive City, State, Zip: Ft. Collins, CO 80525 Telephone: 970-225- 3591 FAX: 970-225-3585 Email: karl_brown@nps.gov

Principal U.S. Forest Service Contacts:

U.S. Forest Service Program Manager Contact	U.S. Forest Service Administrative Contact
Name: Richard Guldin, Director Science, Policy, Planning, Inventory & Information Address: 201 14 th Street SW, 2 nd Floor City, State, Zip: Washington, DC 20250 Telephone: 703-605-4177 FAX: 703-605-5131 Email: rguldin@fs.fed.us	Name: W. Brad Smith, Associate National Program Manager, Forest Inventory and Analysis Program Address: 201 14 th Street SW, 2 nd Floor City, State, Zip: Washington, DC 20250 Telephone: 703-605-4177 FAX: 703-605-5131 Email: bsmith12@fs.fed.us

I. NOTICES. Any communications affecting the operations covered by this agreement given by the U.S. Forest Service or the NPS is sufficient only if in writing and delivered in person, mailed, or transmitted electronically by e-mail or fax, as follows:

To the U.S. Forest Service Program Manager, at the address specified in the MOU.

To the NPS, at the Program Contact's address shown in the MOU or such other address designated within the MOU.

Notices are effective when delivered in accordance with this provision, or on the effective date of the notice, whichever is later.

J. PARTICIPATION IN SIMILAR ACTIVITIES. This MOU in no way restricts the U.S. Forest Service or the NPS from participating in similar activities with other public or private agencies, organizations, and individuals.

K. FREEDOM OF INFORMATION ACT (FOIA). Public access to this agreement and related records are subject to FOIA. Given that certain information related to this agreement may be exempt from public disclosure under FOIA, the parties agree to work to determine on a case-by-case basis whether specific information requested under FOIA can be publicly released. Accordingly, any party that receives a FOIA request related to this agreement agrees to notify the other party of the request prior to any determination to release or withhold records under FOIA.

L. NONBINDING AGREEMENT. The parties shall manage their respective resources and activities in a separate, coordinated and mutually beneficial manner to meet the purpose(s) of this MOU. Nothing in this MOU authorizes any of the parties to obligate funds or transfer anything of value.

Specific, prospective projects or activities that involve the transfer of funds, services, property, and/or anything of value to a party requires the execution of separate agreements.

Nothing in this MOU is intended to alter, limit, or expand the agencies' statutory and regulatory authority.

M. TEXT MESSAGING WHILE DRIVING. In accordance with Executive Order (EO) 13513, "Federal Leadership on Reducing Text Messaging While Driving," any and all text messaging by Federal employees is banned: a) while driving a Government owned vehicle (GOV) or driving a privately owned vehicle (POV) while on official Government business; or b) using any electronic equipment supplied by the Government when driving any vehicle at any time. All cooperators, their employees, volunteers, and contractors are encouraged to adopt and enforce policies that ban text messaging when driving company owned, leased or rented vehicles, POVs or GOVs when driving while on official Government business or when performing any work for or on behalf of the Government.

N. TERMINATION. Any of the parties, in writing, may terminate this MOU in whole, or in part, at any time before the date of expiration.

O. MODIFICATIONS. Modifications within the scope of this MOU must be made by mutual consent of the parties, by the issuance of a written modification signed and dated by all properly authorized, signatory officials, prior to any changes being performed. Requests for modification should be made, in writing, at least 30 days prior to implementation of the requested change.

P. COMMENCEMENT/EXPIRATION DATE. This MOU is executed as of the date of the last signature and is effective through **September 30, 2019** at which time it will expire.

Q. AUTHORIZED REPRESENTATIVES. By signature below, each party certifies that the individuals listed in this document as representatives of the individual parties are authorized to act in their respective areas for matters related to this MOU. In witness whereof, the parties hereto have executed this MOU as of the last date written below.



JONATHAN B. JARVIS, Director
National Park Service

6/25/14

Date

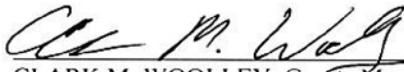


THOMAS L. TIDWELL, Chief
U.S. Forest Service

MAY 19 2014

Date

The authority and format of this agreement have been reviewed and approved for signature.



CLARK M. WOOLLEY, Grants Management Specialist
U.S. Forest Service

4/18/14

Date