

FS Agreement No.  
NPS Agreement No.  
PSW Agreement No.  
USGS Agreement No.

08-MU-11051351-021  
G8552080018  
08-MU-11272150-027

MEMORANDUM OF UNDERSTANDING  
BETWEEN  
UNITED STATES DEPARTMENT OF INTERIOR  
SEQUOIA/KINGS CANYON NATIONAL PARKS,  
UNITED STATES DEPARTMENT OF INTERIOR  
U.S. GEOLOGICAL SURVEY –WESTERN ECOLOGICAL RESEARCH CENTER,  
UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE – PACIFIC SOUTHWEST RESEARCH STATION  
AND  
UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
SEQUOIA NATIONAL FOREST/GIANT SEQUOIA NATIONAL MONUMENT

This MEMORANDUM OF UNDERSTANDING is hereby made and entered into by and between the United States Department of Interior National Park Service, Sequoia/Kings Canyon National Parks, hereinafter referred to as NPS, United States Department of Interior U.S. Geological Survey, Western Ecological Research Station hereinafter referred to as USGS, United States Department of Agriculture Forest Service, Pacific Southwest Research Station hereinafter referred to as PSW, and the United States Department of Agriculture Forest Service, Sequoia National Forest/Giant Sequoia National Monument, hereinafter referred to as FS.

A. PURPOSE:

The Sierra Nevada region is of vast importance to the well being of this country, not only for recreational opportunities that this region offers, but as the main source of for California's thriving agriculture, energy production, and domestic water use supplies to millions of people. This relatively intact ecosystem provides an array of ecosystem services to the people of California, the nation, and the world. Landscape change, including the effects of global climate change, shifting fire regimes, patterns of human land use, and other ecosystem stressors could have a significant influence on our dependency on the natural resources associated with this area. The interaction of environmental and cultural stresses with global climate change is likely to be synergistic. Understanding these changes is vital to land managers in their efforts to make informed and sound land management decisions.

The parties to this agreement recognize and agree to collaboratively develop a program of research, resources management, and public education to help mitigate the impacts from and adapt to climate change effects on ecosystems of the Southern Sierra Nevada. The lands encompassed by the Giant Sequoia National Monument, Sequoia National Forest, and Sequoia & Kings Canyon National Parks would serve as the primary land base for these efforts.

**B. STATEMENT OF MUTUAL BENEFIT AND INTERESTS:**

We mutually acknowledge that global climate change could result in significant shifts in temperature and precipitation regimes that, in turn, may affect the long-term sustainability of forest, monument, and park resources. Giant Sequoia ecosystems provide an excellent area to study global climate change. Given the proximity and integration of these giant sequoia groves and ecosystems, along with the existing working relationships between the agencies, will help to provide for a natural alliance to begin to address this challenge. By working together and using the organizational strengths of each we will have the capacity to create interagency programs to help mitigate impacts and adapt to a changing landscape.

We also acknowledge that other major drivers of ecosystem structure and function may affect the landscapes of the southern Sierra Nevada in the coming decades. Habitat fragmentation, encroaching urbanization, shifting fire regimes, invasive species, and increasing air pollution, are among the variety of significant ecosystem drivers that may change conditions on this landscape in the coming years. These drivers tend to operate over large spatial scales thus the need to be able to work over the broader landscape.

Together, we will be the leaders in land management addressing landscape change, including effects of and adaptation to global climate change in the Southern Sierra Nevada. To implement this concept, we must have a coordinated program of scientific study that systematically analyzes the impacts of climate change and other environmental stressors. We must then use that information towards the development of policy and best management strategies.

Goals to accomplish this work will center on the development a Research Learning Center which would be a facility for our respective staff and others to develop, coordinate, educate, and promote research and management practices concentrating on landscape change and its effects on these important Sierra Nevada ecosystems.

We can also benefit from examination and application of research activities conducted in adjoining areas where inferences could be made to the land base of the Sequoia national Forest and Sequoia/Kings Canyon National Parks. There are other research activities on nearby lands elsewhere in the southern Sierra that we can incorporate into the body of scientific evidence to help inform management decisions on this landbase.

The processes that are implemented need to be adaptive. We want “to learn by doing” using an iterative adaptive management approach. Collectively, we will seek financial support for the establishment and maintenance of core housing, equipment storage facilities, and the computing infrastructure necessary to support field

FS Agreement No.	<u>08-MU-11051351-021</u>
NPS Agreement No.	<u>G8552080018</u>
PSW Agreement No.	<u>08-MU-11272150-027</u>
USGS Agreement No.	<u></u>

activities and research. In addition, we will jointly develop the foundational questions that form the basis for the research questions that drive this joint program.

C. FS SHALL:

1. Provide a land base for research and management applications.
2. Participate in formulating study plans, proposals, projects, and related activities to further the mission of this instrument.
3. Provide personnel, financial, and logistical support for a Research Learning Center as agreed to by the partnering agencies.

D. NPS SHALL:

1. Provide a land base for research and management applications.
2. Participate in formulating study plans, proposals, projects, and related activities to further the mission of this instrument.
3. Provide personnel, financial, and logistical support for a Research Learning Center as agreed to by the partnering agencies.
4. Provide leadership in developing methods to educate and interpret to the public through informal and formal programs, publications, and civic engagement.

E. USGS SHALL:

1. Provide research scientists to address the variety of questions relevant to managing natural resources within a context of a changing landscape.
2. Work with land managers to iteratively craft questions that are both relevant to management and feasible from a research perspective.
3. Enable access to the broader research community; universities, other USGS Research Stations, and other research institutions to bring academic expertise to the questions that we intend to address in this program.
4. Seek outside funding for appropriate studies that contribute to the objectives of this consortium.

F. PSW SHALL:

1. Provide an interdisciplinary team of research scientists to address the variety of questions relevant to managing natural resources within a context of a changing landscape.
2. Work with land managers to iteratively craft questions that are both relevant to management and feasible from a research perspective.
3. Enable access to the broader research community; universities, other Forest Service Research Stations, and other research institutions to bring academic expertise to the questions that we intend to address in this program.

FS Agreement No.	<u>08-MU-11051351-021</u>
NPS Agreement No.	<u>G8552080018</u>
PSW Agreement No.	<u>08-MU-11272150-027</u>
USGS Agreement No.	<u></u>

4. Seek outside funding for appropriate studies that contribute to the objectives of this consortium.
5. Participate in outreach efforts to effectively transfer research findings to management and to the public.

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

1. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the agencies under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).
2. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts the FS, NPS, USGS, or PSW from participating in similar activities with other public or private agencies, organizations, and individuals.
3. COMMENCEMENT/EXPIRATION/TERMINATION. This MOU takes effect upon the signature of the FS, NPS, USGS, and PSW and shall remain in effect for 5 years from the date of execution. This MOU may be extended or amended upon written request of the FS, NPS, USGS, or PSW and the subsequent written concurrence of the other(s). The FS, NPS, USGS, or PSW may terminate this MOU with a 60-day written notice to the other(s).
4. RESPONSIBILITIES OF PARTIES. The FS, NPS, USGS, and PSW and their respective agencies and office will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives. Each party will carry out its separate activities in a coordinated and mutually beneficial manner.
5. PRINCIPAL CONTACTS. The principal contacts for this instrument are:

***FS Project Contact***

James Whitfield  
 Forest Ecosystem Manger  
 Sequoia National Forest  
 1839 So. Newcomb  
 Porterville, CA 93257  
 Phone: (559) 784-1500 x1135  
 FAX: (559) 781-4744  
 E-Mail: [jwhitfield@fs.fed.us](mailto:jwhitfield@fs.fed.us)

***NPS Project Contact***

Chief of Resource Mgt. and Science  
 Sequoia/Kings Canyon National Parks  
 47050 Generals Highway  
 Three Rivers, CA 93271-9651  
 Phone: (559) 565-3120  
 FAX: (559) 565-3744  
 E-Mail: [www.nps.gov/seki](http://www.nps.gov/seki)

FS Agreement No.	08-MU-11051351-021
NPS Agreement No.	G8552080018
PSW Agreement No.	08-MU-11272150-027
USGS Agreement No.	

***FS Administrative Contact***

Vicki Yarbrough  
 Budget Officer  
 Sequoia National Forest  
 1839 So. Newcomb  
 Porterville, CA 93257  
 Phone: (559) 784-1500 x1251  
 FAX: (559) 781-4744  
 E-Mail: vyarbrough@fs.fed.us

***NPS Administrative Contact***

Fred Picavet  
 Procurement Officer  
 Sequoia/Kings Canyon National Parks  
 47050 Generals Highway  
 Three Rivers, CA 93271-9651  
 Phone: (559) 565-3180  
 FAX: (559) 565-3700  
 E-Mail: Fred.Picavet@SEKI/NPS@NPS

***USGS Service Project Contact***

Nathan L. Stephenson  
 Research Ecologist  
 USGS Seq./Kings Cyn. Field Station  
 47050 Generals Highway #4  
 Three Rivers, CA 93271  
 Phone: (559) 565-3176  
 FAX: (559) 565-3177  
 E-Mail: nstephenson@usgs.gov

***PSW Project Contact***

Peter Stine  
 Program Manager  
 Sierra Nevada Research Center  
 2121 Second Street, Suite A-101  
 Davis, CA 95616  
 Phone: (530) 759-1703  
 FAX: (530) 747-0241  
 E-Mail: pstine@fs.fed.us

***USGS Administrative Contact***

Bill C. Handewith – Admin. Officer  
 USGS Western Eco. Research Center  
 3020 State University Drive  
 East Modoc Hall, Room 3006  
 Sacramento, CA 95819  
 Phone: (916) 278-9488  
 FAX: (916) 278-9475  
 E-Mail: bhandewith@usgs.gov

***PSW Administrative Contact***

Jacqueline Rountree  
 Accounting and Financial Management  
 Pacific Southwest Research Station  
 800 Buchanan St., West Annex Building  
 Albany, CA 94710-0011  
 Phone: (510) 559-6384  
 FAX: (510) 559-6455  
 E-Mail: jrountree@fs.fed.us

6. **NON-FUND OBLIGATING DOCUMENT.** Nothing in this MOU shall obligate the FS, NPS, USGS, or PSW to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the FS, NPS, USGS, and PSW will require execution of separate agreements and be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.
  
7. **ESTABLISHMENT OF RESPONSIBILITY.** This MOU is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

FS Agreement No. 08-MU-11051351-021  
NPS Agreement No. C8552080018  
PSW Agreement No. 08-MU-11272150-027  
USGS Agreement No. \_\_\_\_\_

8. AUTHORIZED REPRESENTATIVES. By signature below, the cooperator certifies that the individuals listed in this document as representatives of the cooperator are authorized to act in their respective areas for matters related to this agreement.

THE PARTIES HERETO have executed this instrument.

USDI NATIONAL PARK SERVICE  
Sequoia/Kings Canyon National Parks

Craig C. Axtell 17-Jan-08  
CRAIG C. AXTELL  
Park Superintendent  
Date:

USDA FOREST SERVICE  
Sequoia National Forest / GSNM

Tina J. Terrell  
TINA J. TERRELL  
Forest Supervisor  
Date: 1/17/08

U.S. Geological Survey  
Western Ecological Research Center

see attached page  
STEVEN E. SCHWARZBACH  
Center Director  
Date:

USDA FOREST SERVICE  
Pacific Southwest Research station

see attached page  
JAMES R. SEDELL  
Station Director  
Date:

The authority and format of this instrument has been reviewed and approved for signature.

Ramona L. Robertson January 9, 2008  
RAMONA L. ROBERTSON      DATE  
FS Agreements Coordinator

FS Agreement No. 08-MU-11051351-021  
NPS Agreement No. G8552080018  
PSW Agreement No. 08-MU-11272150-027  
USGS Agreement No. \_\_\_\_\_

8. AUTHORIZED REPRESENTATIVES. By signature below, the cooperator certifies that the individuals listed in this document as representatives of the cooperator are authorized to act in their respective areas for matters related to this agreement.

THE PARTIES HERETO have executed this instrument.

USDI NATIONAL PARK SERVICE  
Sequoia/Kings Canyon National Parks

USDA FOREST SERVICE  
Sequoia National Forest / GSNM

\_\_\_\_\_  
CRAIG C. AXTELL  
Park Superintendent  
Date:

\_\_\_\_\_  
TINA J. TERRELL  
Forest Supervisor  
Date:

U.S. Geological Survey  
Western Ecological Research Center

USDA FOREST SERVICE  
Pacific Southwest Research station

*Karen J. Phillips*  
\_\_\_\_\_  
67 STEVEN E. SCHWARZBACH  
Center Director  
Date: 01-14-08

\_\_\_\_\_  
see attached page  
JAMES R. SEDELL  
Station Director  
Date:

The authority and format of this instrument has been reviewed and approved for signature.

*Ramona L. Robertson January 9, 2008*  
\_\_\_\_\_  
RAMONA L. ROBERTSON DATE  
FS Agreements Coordinator

FS Agreement No. 08-MU-11051351-021  
NPS Agreement No. G8552080018  
PSW Agreement No. 08-MU-11272150-027  
USGS Agreement No. \_\_\_\_\_

8. AUTHORIZED REPRESENTATIVES. By signature below, the cooperator certifies that the individuals listed in this document as representatives of the cooperator are authorized to act in their respective areas for matters related to this agreement.

THE PARTIES HERETO have executed this instrument.

USDI NATIONAL PARK SERVICE  
Sequoia/Kings Canyon National Parks

USDA FOREST SERVICE  
Sequoia National Forest / GSNM


\_\_\_\_\_  
CRAIG C. AXTELL  
Park Superintendent  
Date:

\_\_\_\_\_  
TINA J. TERRELL  
Forest Supervisor  
Date:

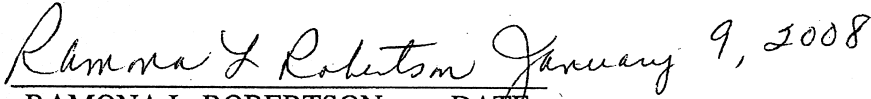
U.S. Geological Survey  
Western Ecological Research Center

USDA FOREST SERVICE  
Pacific Southwest Research station

\_\_\_\_\_  
STEVEN E. SCHWARZBACH  
Center Director  
Date:

  
\_\_\_\_\_  
JAMES R. SEDELL  
Station Director  
Date: 1/17/08

The authority and format of this instrument has been reviewed and approved for signature.

  
\_\_\_\_\_  
RAMONA L. ROBERTSON      DATE  
FS Agreements Coordinator