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MEMORANDUM OF UNDERSTANDING

BETWEEN THE

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

AND THE

UNITED STATES DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

This Memorandum of Understanding (MOU) is entered into by and between the United States Department of Agriculture Forest Service and the United States Department of Agriculture, Natural Resources Conservation Service (NRCS).

I. INTRODUCTION

Since the dust bowl days of the 1930s, most of the American West has come to rely on the United States Department of Agriculture's (USDA) Cooperative Snow Survey and Water Supply Forecasting Program to accurately assess vital water supplies. This Federal, State, Tribal, and local partnership, directed by NRCS, includes the States of Alaska, Arizona, eastern portions of California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, a portion of South Dakota, Utah, Washington, and Wyoming. Government entities in British Columbia and Alberta, Canada are also partners.

Snow Surveys in the West began in 1906 when Dr. James E. Church of the University of Nevada-Reno laid out the first western snow course and developed a manual measurement method to determine the amount of water in the snowpack. He later successfully predicted annual water inflows to Lake Tahoe and its outflow to the Truckee River.

Technology has changed over the years, and now the predominant method for acquiring snowpack information is through automatic data sensing and telemetry, known as SNOTEL (SNOW TELemetry), from remote sites in mountain watersheds. The watersheds, managed by the USDA Forest Service, National Park Service, and others, are estimated to provide up to 50 to 80 percent of the water which flows as the lifeblood of the western United States economy. Regional economic stability and support for our ever growing western population with its increasing demands for water, power, recreation, and transportation are directly rooted in the variable streamflows from these mountain snowpacks.

In addition to SNOTEL sites, NRCS also operates the Soil Climate Analysis Network (SCAN) in lower elevations in many of the same watersheds as SNOTEL. These sites are similar in design to SNOTEL and focus on soil moisture and soil temperature data collection, as well as other climate parameters.

The Forest Service provides use of and access to the remote survey sites on National Forest Service administered lands and applies forest management to protect the natural snowpack at these locations. The Forest Service also routinely provides personnel, equipment, and assistance in snowpack measurements. The information collected from the SNOTEL and SCAN sites has grown significantly in importance. The SNOTEL system is the largest high elevation snow and climate data network in the United States, and SCAN is the only national soil moisture network in the United States. SNOTEL and SCAN data and water supply forecasts are provided via Web services to a broad audience of water users, water managers, emergency management personnel, and watershed and climate researchers. These data are the basic source for information to manage the water flowing in the rivers and stored in the major reservoir systems in the West. The economic impacts of decisions concerning seasonal agriculture and hydroelectric power are critical in the western United States. The data also are essential for managing wildfire and maintaining natural river systems and water based habitat for endangered species.

II. PURPOSE

This MOU is to promote effective coordination and cooperation in the measurement and monitoring of snowpack and climate conditions in mountain watersheds essential for accurate forecasting of these seasonally variable stream flows from melting snowpacks. To further the purpose of the MOU, it is acknowledged that:

1. Streamlined and efficient installation, operation, and maintenance of hydro meteorological data collection station sites (snow courses, snow pillows, precipitation gages, snow depth markers, soil moisture stations, etc.) and associated radio telemetry equipment situated on National Forest Service administered lands is necessary and desirable.

2. Natural resource management responsibilities are shared among many agencies. The Forest Service is responsible for the management of the National Forest Service resource necessary to sustain the health, diversity, and productivity of the Nation's forests to meet the needs of present and future generations. NRCS, in partnership with the Forest Service, other Federal and State agencies, and private interests, administers the Cooperative Snow Survey and Water Supply Forecasting Program to monitor the snowpack and other hydrologic data parameters necessary to forecast and manage water supply throughout the western United States. Many National Forest Service administered lands are located in the snow accumulation zones that supply water for the Western United States, emphasizing the importance of cooperation between NRCS and Forest Service.

3. The NRCS snow survey data collection system, including SNOTEL sites and manual snow courses, is a significant and essential source for high elevation climatic data information in the western United States. As such, it provides critical resource data natural resource managers require to make sound natural resource decisions. Likewise, SCAN provides data on soil moisture and climate at lower elevations and allows a better understanding of the

hydrologic conditions in watersheds with these stations. The data from the snow survey data collection system provides critical information on water supply, floods, drought, fish and wildlife, energy, winter and summer recreation, reservoir operations, and research concerns such as climate shifts and global climate change. This information becomes more valuable as the data record grows and as the complexity of issues in each watershed increases with competing demands for water.

4. Cooperation and coordination is necessary to operate manually read snow courses and related automated SNOTEL data sites.

5. Management of these SNOTEL, SCAN, and manual snow course sites is critical to protect their value for data collection and radio telemetry.

6. NRCS will continue reasonable motorized access to SNOTEL and SCAN sites for data collection and site maintenance consistent with administrative uses of National Forest Service administered lands and Federal laws.

7. Collaboration is necessary to reach agreement regarding essential data collection critical to water supply forecasts and NRCS natural resource management activities, particularly in areas where public access, motorized equipment, structures, or facilities are restricted.

8. Data collected at SNOTEL, SCAN, and manual snow course sites are of high public value in such that it is the joint responsibility of the Forest Service and NRCS to ensure timely site installation and delivery of data to the public.

III. ROLES AND RESPONSIBILITIES

A. The Forest Service will:

1. Issue one Master Special Use Permit (MSUP) from each National Forest or Grassland unit or, in some cases, groups of National Forests or Grassland units to each NRCS State office or subdivision for all existing and authorized NRCS hydrometeorological data collection station sites (snow courses, snow pillows, precipitation gages, snow depth markers, soil moisture stations, etc.) and associated radio telemetry equipment sites located within National Forest Service administered land on the specified unit(s), excluding wilderness areas. The MSUP, signed by the NRCS State Conservationist and each affected Forest Supervisor, will continue authorizations of all existing hydrometeorological data collection sites, with or without radio telemetry, associated radio repeaters and the route(s) and means of access to each site. The MSUP, developed by a lead Forest Supervisor and NRCS State Conservationist, will replace existing authorizations for the use and occupancy of National Forest Service administered lands consistent with all existing laws, regulations, policies, and outstanding rights.

2. Where and when the need for additional snow courses or data sites is recognized, the Forest Supervisor will request guidance or assistance from the Snow Survey Data Collection Office Supervisor to ensure such snow courses or data sites meet accepted standards. As authorized by the Forest Supervisor,

develop and process the necessary amendments to the MSUP for the addition, removal, or modification of snow course or data sites. Snow survey installation intended to occupy National Forest Service administered land for a short-term duration of 2 years or less may be authorized by a short-term, special use permit, rather than an amendment to the MSUP.

3. Where skilled and trained personnel are available, cooperate in conducting manual snow surveys and collecting snow survey data, as detailed in mutually agreed annual snow survey schedules. Measurements are preferably made within 3 days prior to the scheduled dates. Snow-machine workloads or use of aircraft may require an extended schedule as determined by the NRCS State Conservationist. Original field notes will be sent to the NRCS State Snow Survey Data Collection Office immediately after completion of each survey.

4. Assure that snow survey personnel are adequately trained in accordance with NRCS snow survey policies and procedures. Snow survey training needs are to be determined at the time the annual schedule of measurements is established or when requested by the Forest Service and submitted to NRCS.

5. Provide a 400-foot or mutually agreed to buffer zone in all directions from sampling points and sensors at established snow courses and related hydrometeorological data sites. The dimensions of the buffer zone will be depicted and specified on data site maps or exhibits of the MSUP or addendums. Buffer zones will be established to minimize the disturbing influences that road building, timber harvest, or vegetative management may have on natural snow accumulation or measurement. SNOTEL and SCAN data sites are to be identified within applicable Forest Land Management Plans and the Land Status Records System (36 CFR 200.12) though appropriate media.

6. Conduct any management activities occurring within the designated buffer zone at each site in a manner that will not diminish the value of the site, nor restrict approved access to the site. If impairment of the site or its access cannot be avoided, the NRCS State Conservationist will be notified in advance that, if warranted by the proposed action, an alternative data site can be selected and a statistical correlation can be established with the new site. A minimum of 5-year advance notice is desired. Compatible uses of the site may continue.

7. Notify the appropriate NRCS State Snow Survey Data Collection or Water Supply Specialist Office whenever natural disturbances such as fire, insect and disease infestation, flood, avalanche, or other event affects a SNOTEL or SCAN data site. This notification will usually be from the local Forest Service Ranger District Office.

8. Notify NRCS regarding land management activities in areas having authorized snow courses or data sites. The Forest Service will solicit comments from NRCS regarding forestland and resource management plan amendments or revisions or other proposed management actions that may affect a SNOTEL or SCAN site.

9. To the extent that such access remains compliant with applicable Federal laws and regulations, assure that existing National Forest Service roads and trails used by NRCS for access to snow survey sites remain available to NRCS for operation and maintenance of sites. In the event access over a particular route becomes unavailable, other reasonable access routes or methods will be jointly identified and authorized.

10. In accordance with current management policies reopen, for routine motorized access, access routes previously closed or unintentionally restricted to data site access or jointly identify and authorize other reasonable access routes or methods.

11. Process in a timely manner those applications submitted to the Forest Supervisor by the appropriate State Conservationist requesting one or more additional snow survey installations. When an application for a new site is approved, it may be authorized with an amendment to the MSUP or as separate, short-term, special use permit for those installations intended to occupy National Forest Service administered land for a short-term duration of 2 years or less.

12. Within 12 months prior to the expiration of existing MSUP, provide NRCS with renewal options.

B. NRCS will:

1. Supply the Forest Service with specialized equipment, as required, including snow sampling sets, meters, precipitation scales, notebook forms, and related items for use in conducting snow surveys and related data collection.

2. When the need for additional snow courses or data sites is recognized, the appropriate NRCS State Conservationist will, prior to use and occupancy of National Forest Service administered lands, submit an application to the Forest Service for an amendment to the MSUP to authorize installation of one or more new snow courses and related data sites, including telemetry sites, radio repeaters, and appropriate access. NRCS will prepare and submit a Form FS 2700-10, Technical Data Sheet, with all applications where radio and telemetry equipment are to be installed. A proposal for a new site will be evaluated as an application for an amendment to the MSUP. Special snow survey installations for a short-term duration (2 years or less) may be authorized by a separate, short-term Special Use Permit when the survey requires the occupancy of National Forest Service administered land by NRCS facilities.

3. Recognize the Forest Service retains the authority to manage road and trail access on National Forest Service land and may close certain routes to motorized travel in inventoried roadless critical wildlife habitat or other areas. The Forest Service will provide NRCS with access to snow survey sites in the same manner as the Forest Service uses administratively, or the Forest Service and NRCS may establish mutually agreeable alternative access for operation

and maintenance of snow survey sites.

4. Request and receive authorization from the Forest Service prior to reconstruction or relocation of established data sites within National Forest Service administered land.

5. Maintain data and radio repeater sites in a condition acceptable to the Forest Service and in compliance with the laws and regulations application to the area or operations addressed by this MOU. Ensure that National Forest Service roads and trails authorized for use by the MSUP, amendments, or special use permits remain in a condition acceptable to the Forest Service, allowing for normal weathering and use.

6. Take all reasonable precautions to prevent forest fires. No material will be disposed of by burning in open fires without advance written consent of the Forest Service, otherwise all refuse and obsolete equipment will be removed from NRCS data collection sites.

7. Protect wildlife, scenic, and aesthetic needs and values during construction, operation, and maintenance of the authorized facilities as specified by the Forest Service.

8. Remove equipment from National Forest Service administered land or relocate to other National Forest Service administered land after discontinuing the use of a site pursuant to the site authorization. NRCS, as provided by law, may transfer ownership of its improvements to the Forest Service.

9. Immediately verify any interference and suspend operations if NRCS installations or operations are creating interference to other authorized communications systems operating within Interdepartmental Radio Advisory Committee (IRAC) tolerances. Implement corrective measures to prevent or eliminate such interference prior to resuming operations. If NRCS installations or operations are causing radio communications interference, NRCS will assume costs for mitigating measures to NRCS equipment.

10. Recognize the installation and operation of radio-electronic equipment is contingent upon the use of specific radio frequencies, types of emission, bandwidths, radio frequency power outputs, and specific radio or electronic service classifications authorized by IRAC for the specifically-named Federal agency. Data regarding the foregoing are to be in Form FS-2700-10 as requested by IRAC and subject to IRAC approval. Any and all subsequent changes in, or additions to, the specified operating frequencies, types of emission, bandwidths, radio frequency power outputs, class of service, or the named IRAC licensee will require advance notification to the Forest Service.

11. Operate each radio-electronic station in conformity with IRAC agreements.

12. Avoid installation or allowing the installation of any foreign radio-

electronic equipment on or within the structures or within the areas authorized by this MOU, amendments, or SUP without advance notification and joint-occupancy approval of the Forest Service. "Foreign" means radio-electronic equipment or installation other than those of NRCS or Forest Service which may or may not be authorized by Federal Communications System licensee or IRAC agreement.

13. Recognize the Forest Service may authorize a Federal, State, Tribal, or local agency to use a site jointly with NRCS. Such use may include auxiliary utility services installed and operated by NRCS, the housing and antenna towers, or masts. Joint use of sites may not jeopardize NRCS operations. NRCS must concur prior to the Forest Service authorizing others to jointly occupy any NRCS facility. Joint use of a site must conform to sound electronic engineering practices and requires each user to provide an equitable share of operation and maintenance costs. Joint use does not include NRCS transmitting and receiving equipment and will not degrade NRCS data quality or reporting performance standards. Other users of joint facilities will assume costs for corrective measures necessary to maintain NRCS data quality and reporting performance standards.

14. Periodically, review the SNOTEL and SCAN data collection networks and data collection activities on National Forest Service administered lands and make adjustments as necessary. NRCS will solicit comment from the appropriate Forest Supervisor regarding proposed changes in the SNOTEL network on National Forest Service administered lands.

15. Within 6 months of issuance of said amendments as described above, NRCS will provide the Forest Supervisor with one copy each of exhibits, site maps, and geospatial data to Forest Service standards for newly installed SNOTEL and SCAN site locations, snow courses, and roads and trails as primary access route for each site.

C. It is mutually agreed that:

1. NRCS will prepare and release snow survey data and streamflow forecasts to local news media as soon as they are available. Where appropriate, the Forest Service will be identified as a snow survey cooperator. Duplicate media releases should be avoided.

2. Where Forest Service personnel are involved as snow surveyors, NRCS will, by October 15 of each year, submit the annual schedule of snow survey and related data measurements for approval to each appropriate Forest Supervisor. Copies will be provided to the local Forest Service Ranger District Offices along with changes in schedules from the previous year noted. By November 1 of each year, the affected Forest Supervisors will forward concurrence or suggested schedule changes to the appropriate NRCS State Conservationists.

3. The Forest Service and NRCS, through their respective offices, will support the SNOTEL/SCAN/snow course network and utilize their own resources, including the expenditure of funds to accomplish agreed to items as listed above. Each party will carry out activities in a coordinated and mutually beneficial manner.

4. This MOU does not obligate either party to expend or transfer any funds. Specific work projects or activities, beyond previously described, that involve the transfer of funds, services, or property among the agencies will require execution of separate agreements and is contingent upon the availability of appropriated funds. Such activities must be independently authorized under appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of such agreements must comply with all applicable states and regulations. Where supplemental agreements are needed to address an exchange of funds or reimbursements, such agreements, will be made on an annual basis by use of appropriate agreements formats between the agencies, signed by the appropriate Forest Supervisor(s) and the respective NRCS State Conservationist.

5. This MOU does not, in and of itself, authorize the use and occupancy of National Forest Service administered lands with NRCS-owned facilities. Only Forest Service issued special use permits as identified herein provide for such an authorization.

6. Representatives of both agencies will cooperate on all matters relating to the use, maintenance, and administration of snow survey and related data collection activities located on National Forest Service administered lands. Representatives of the Regional Forester and the State Conservationist will meet annually to review schedules and related operations where the Forest Service personnel are involved as snow surveyors.

7. Representatives of both agencies will cooperate on all matters relating to the proposals and applications for the establishment of new snow survey and related

data sites. This includes cooperation in identifying which agency will be responsible for collecting data and conducting studies associated with environmental analyses pursuant to the provisions of the National Environmental Policy Act of 1969.

8. Joint use of NRCS and Forest Service equipment and facilities may be desirable, including readout of hydrometeorological parameters from data sites owned by one agency through the telemetry readout system owned by another agency. Data will be exchanged as requested. In such cases, appropriate arrangements will be made between the agencies.

9. This MOU supersedes previous snow survey MOUs between Forest Service Regional Foresters and NRCS State Conservationists and any supplements by either agency.

10. This MOU does not preclude NRCS State Conservationists and Forest Service Officials with responsibility for National Forest Service administered lands within their State from entering into other agreements consistent with or subsidiary to this MOU.

11. This MOU will take effect upon the signature of both parties and will remain in effect for 5 years from the date of execution. Either party may request to extend or amend this MOU. Such an extension or amendment will become effective upon written agreement by both parties hereto. Either party may terminate this MOU following a 60-day advance written notice to the other party.

IV. CONTACTS

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V. APPROVAL

The undersigned parties hereby agree to the terms and conditions specified above.

Jason A. Weller AOR
Chief
Natural Resources Conservation Service

8/13/2013
Date

Thomas L. Tidwell for
Chief
U.S. Forest Service

12-20-2013
Date

IV. CONTACTS

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V. APPROVAL

The undersigned parties hereby agree to the terms and conditions specified above.

Jason A. Weller FOR
Chief
Natural Resources Conservation Service

8/13/2013
Date

Thomas L. Tidwell for
Chief
U.S. Forest Service

12-20-2013
Date

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

Grants and Agreements Specialist

12/23/2013
Date