

PART 522 - SNOW SURVEY AND WATER SUPPLY FORECASTING

SUBPART F –SNOW SURVEY AND WATER SUPPLY FORECASTING ACTIVITIES

WA522.5 State Operations

A. General

- (1) To provide current state policy and procedures for the work of snow survey and water supply forecasting.
- (2) The snow survey and water supply forecasting program was initiated as a federal program in the western states following the disastrous drought of 1934. Snow Surveyors provide snow data and precipitation readings to help NRCS hydrologists predict volume runoff from key Washington watersheds each season. This water supply information is of vital importance to a wide range of clientele including agricultural, hydroelectric, municipal, private, and government interests. Snow survey data is also used for drought analysis and for early flood warning (emergency management) purposes. Water supply information allows users to plan for the future by minimizing risk and maximizing potential production.
- (3) The structure of the Washington program relies on the cooperation of NRCS employees, cooperating agencies and volunteers. In some cases NRCS field office (FO) staff are responsible for manual snow course maintenance and are also asked to support snow survey staff by assisting with SNOTEL maintenance both in winter and summer. FO staff also have the responsibility of coordinating with local cooperating agencies, groups and volunteers to complete winter snow surveys in a timely and accurate manner along with communicating with local media and user groups.
- (4) Snow surveyors are advised by the State Water Supply Specialist (WSS). The WSS provides the surveyors with general instructions as to the procedures to be used during the snow survey season along with expected timelines. The surveyors independently perform assignments without specific instruction or supervision. The surveyors consult with the WSS on any deviations, problems, and unfamiliar situations. Completed work is reviewed for accuracy and established procedures by the WSS.

B. Responsibilities

- (1) Field Office Staff
 - i. Maintain assigned snow survey and SNOTEL sites. Additional help shall be requested when site maintenance cannot be completed during the normal summer season or when needs exceed local capabilities. Assist WSS and Data collection Office (DCO) staff with maintenance when requested.
 - ii. Complete assigned winter snow surveys as scheduled by WSS, DCO and National Water and Climate Center (NWCC) staff and provide information to DCO staff as instructed.

- iii. Follow all safety measures while performing snow survey and maintenance activities. Immediately report any safety deficiencies to supervisor and WSS.
- iv. Dispersing snow measurement data, water supply forecasts and related program information to local media and user groups as requested.
- v. Manage and maintain snow survey vehicles, equipment and tools as prescribed by manufactures recommendations and/or WSS/DCO requirements.

(2) Area Office and Field Office (Area Conservationist and District Conservationist)

- i. Assigning snow survey and maintenance responsibilities within the Area and Team.
- ii. Ensuring that training is provided to personnel involved in snow surveys and site maintenance.
- iii. Ensuring that safety equipment is provided and that all safety policies are followed.
- iv. Informing employees of hazardous duty and hazard pay differential policy as set forth the General Manual.
- v. Insuring employees responsible for doing snow surveys get an annual physical in accordance with policy in GM 360 Part 420, Subpart K.
<http://directives.sc.egov.usda.gov/viewerFS.aspx?hid=19346>
- vi. Meeting with local water users, groups and agencies to determine their needs for water supply forecasts and snow and climate data needs. Explore potential uses for existing data and the need for collecting other types of resource data using the SNOTEL system.

(3) Water Supply Specialist (WSS)

- i. Providing training to field office staff, cooperators and volunteers conducting snow surveys and site maintenance.
- ii. Assist field management staff in meetings with local water users, groups and agencies to determine their needs for water supply forecasts and snow and climate data needs. Explore potential uses for existing data and the need for collecting other types of resource data using the SNOTEL system.
- iii. Publishing the Washington Water Supply Outlook Report for the months of January – June. Provide mid month reports as requested and as appropriate.
- iv. Prepare a monthly news release for each outlook report as appropriate and provide information and analysis as requested by media and other interested parties.
- v. Assist FO staff with cooperator contact coordination.
- vi. Maintain the annual snow survey schedule to ensure data is collected in a timely and accurate manner to meet NRCS and user needs.
- vii. Provide FO staff with needed safety and over snow equipment and ensure the effectiveness of said equipment.
- viii. Data Collection Office (DCO) Coordination activities:
 - a. Ensure maintenance of electronic equipment at SNOTEL sites
 - b. Ensure that snow data is gathered and made available to users in a timely manner.
 - c. Ensure maintenance of accurate database of climate and hydrologic data.
 - d. Facilitate participation in NRCS and cooperator user meetings and training sessions as needed.

- (4) National Water and Climate Center (NWCC) Coordination activities:
- i. Ensure timely and accurate facts to the WSS for publication in the Washington Water Supply Outlook report along with state and national web pages.
 - ii. Ensure the review and update forecast equations as needed.
 - iii. Facilitate participation in NRCS and cooperator user meetings and training sessions as needed.

C. Safety

- (1) The FO staff will be accountable for equipment in the field office. Equipment that is tracked through the property management system will be assigned to individuals.
- (2) Equipment will be furnished consistent with the type of activity indicated in Exhibit 1. Employees may be furnished other items deemed necessary upon approval of the WSS. Employees are responsible for assuring that this equipment is maintained in good condition and is available and is used during snow survey activity in accordance with sound judgment and state operating procedures.
- (3) Insuring employees responsible for conducting snow surveys in accordance with policy in GM 360 Part 420, Subpart K, “Field Policy fro Snow Survey, Snow Pack Telemetry, Soil Climate Analysis Network”

Exhibit 1

Equipment	Road Survey and Short Foot Trips	Snowmobile or Snow cat	Helicopter
Water Proof Parka	X	X	X
Snow pants or snow suit	X	X	
Waterproof Mittens or Gloves	X	X	X
Snow or Ski Boots	X	X	X
Goggles	X	X	
SPH-5 Flight Helmet			X ¹
Nomex Flight Suit			X ¹
Hearing Protection		X	X
Skis or Snowshoes w/poles	X	X	X
Snowmobile Helmet		X	
Basic First Aid Kit	X	X	
Back Country First Aid Kit		X	X
Small Survival Kit ²	X	X	
Large Survival Kit ³		X	X
Avalanche Beacons		X ⁴	

¹ – Equipment approved by Office of Aircraft Safety

² – As per Attachment 1/WA420 in 360 GM, Part 420, Subpart k, Suppl., WA14, Trips under 3 miles one-way.

³ – As per Attachment 1/WA420 in 360 GM, Part 420, Subpart k, Suppl., WA14, Trips over 3 miles one-way.

⁴ – To be provided when areas traveled are deemed to potentially have avalanche hazards.