



UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

RESOURCES AND ECONOMIC
DEVELOPMENT DIVISION

DEC 5 1972

Mr. John R. McGuire
Chief, Forest Service
U.S. Department of Agriculture
South Building
12th & Independence Avenue, S.W.
Washington, D.C. 20250



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Dear Mr. McGuire:

We have completed our review of the Forest Service's program for the surveillance and inspection of domestic water supply systems at recreation sites in Washington and Oregon. This letter summarizes the results of our review and suggests improvements in the Forest Service's monitoring program.

The purpose of our review was to evaluate the Forest Service's program for monitoring the quality of drinking water provided to the public at Forest Service public recreation sites. We reviewed pertinent records and regulations and discussed the water quality monitoring program with Regional, Forest, and District personnel. Our review covered 28 water supply systems under the administration of four National Forest offices as shown in the attachment hereto.

The Forest Service's standards for water supply systems serving recreation sites state that drinking water made available to the public on national forest lands should meet at least the minimum requirements established in the 1962 U.S. Public Health Service (PHS) Drinking Water Standards. The Drinking Water Standards include standards for bacteriological quality, chemical characteristics, radioactivity, and physical characteristics.

The Forest Service's standards require that bacteriological samples are to be taken before seasonally operated sites are opened and periodically from all systems when in use. The frequency for the periodic sampling varies from two a month to once a season depending on the size of the site and the history of previous test results. The PHS standards recommend a minimum of two samples a month during the operating season from water systems serving recreation sites.

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We found that bacteriological samples were not always taken before seasonally operated sites were opened. Of the 20 seasonally operated systems included in our review, 14 were not sampled before the start of the 1972 season.

Also, samples were not being taken periodically for all water supply systems. Of the 28 systems reviewed, nine systems in two National Forests (Ochoco and Siuslaw) had not been sampled between January and August 1972. Forest Service officials advised us that they were unaware that samples were not being taken in Ochoco National Forest. They said that sampling had been suspended in a Ranger District of the Siuslaw National Forest due to a shortage of funds. They subsequently advised us that sampling of the nine systems would be resumed. Of the remaining 19 systems, two were sampled on an irregular basis and 17 were sampled monthly or twice monthly depending on the size of the site. The sampling frequency of the 28 systems is shown in the attachment.

The Forest Service's standards state that one chemical analysis of a new source of supply is ordinarily sufficient to determine the chemical characteristics of the water and that samples of existing sources of supply should be taken when there is reason to believe that there has been a change in the chemical characteristics of the water. According to the standards the chemical analysis should include determinations of total hardness, alkalinity, pH, sulfates, and chlorides; and tests to detect the presence of any of the toxic elements listed in the PHS Drinking Water Standards which include arsenic, barium, cadmium, chromium, cyanide, fluoride, lead, selenium, and silver.

The PHS standards recommend that a chemical analysis be performed annually but that the frequency of such analyses can be reduced to once every three years when experience and laboratory records indicate that the chemical characteristics of a supply are consistently within the Drinking Water Standards.

District officials advised us that chemical analyses were not made for a number of the water systems at the time they were constructed. We found that records of chemical analyses were not available for 20 of the systems due in part to the fact that they had been constructed many years ago. Records available for eight of the systems included in our review showed that the chemical analyses that were made generally did not include tests for all toxic elements. We found that periodic chemical analyses were not being made for any of the 28 systems.

The PHS Drinking Water Standards require frequent sanitary surveys to identify health hazards such as unclean equipment, buildings, and surroundings. According to PHS, sanitary survey information is essential to the proper interpretation of bacteriological data and frequently to the interpretation of chemical analysis data. The Forest Service standards require that sanitary surveys be made of proposed water supply sources and of existing sources only when they may have been affected by changes in land use or land conditions.

Periodic sanitary surveys were not being conducted at any of the 28 water supply systems reviewed. District officials advised us, however, that operating staff in the Districts were generally aware of sanitary conditions. An inspection of one system, performed by a county sanitarian and Forest Service personnel as a result of an unsatisfactory bacteriological sample, disclosed a dead mouse in the water storage tank. If periodic sanitary surveys of this system had been made, the conditions allowing rodent entry into the storage tank might have been detected and corrected before the incident.

We believe that the Forest Service should increase its monitoring of the quality of drinking water available at public recreation sites to ensure that the water is free of potentially harmful substances. The Forest Service should ensure that periodic bacteriological tests, chemical analyses (including analyses of toxic elements), and sanitary surveys are made of its water supply systems. Without such a monitoring program, the Forest Service does not have adequate assurance that the quality of drinking water available to the public is of acceptable quality.

We plan to include the results of our review of the Forest Service's program in a report to the Congress regarding the water hygiene programs of various State and Federal agencies. We would appreciate being informed of any actions taken to improve the Forest Service's water quality monitoring program.

Sincerely yours,

Richard J. Woods
Richard J. Woods
Assistant Director

Attachment

LIST OF NATIONAL FOREST
WATER SUPPLY SYSTEMS INCLUDED IN GAO'S REVIEW

<u>NATIONAL FOREST</u>	<u>RANGER DISTRICT</u>	<u>AREA SERVED BY WATER SUPPLY SYSTEM</u>	<u>FREQUENCY OF BACTERIOLOGICAL SAMPLING</u>
Mt. Baker	Monte Cristo	Gold Basin Campground and Hemple Creek Campground (note a)	Monthly (note d)
		Verlot Campground and Turlo Campground (note b)	Monthly (note d)
	Glacier	Douglas Fir Campground	Monthly (note d)
		Nooksack Campground	Monthly (note d)
		Silver Fir Campground	Monthly (note d)
		Henther Meadows Ski Area	Every 2 months during 1971, irregularly during 1972
Ochoco	Big Summit	Walton Lake Campground	No samples since 8/71
		Scotts Camp Campground	No samples since 8/71
		Ochoco Campground	Irregularly—four samples since 5/71
	Prineville	Ochoco Divide Campground	No samples since 8/71
		Wildwood Campground	No samples since 8/71
		Carrol Campground	No samples since 8/71
		Wildcate Campground	Monthly (note d)
		Drake Creek Campground	Monthly (note d)
Siuslaw	Oregon Dunes National Recreation Area	Siltcoos Campground	Monthly (note d)
		South Eel Creek Campground	Monthly (note d)
		Tahkenitch Campground	Monthly (note d)
	Waldport	Canal Creek Campground (note c)	No samples since 8/71
		Cape Perpetua Visitor Center	No samples since 8/71
		Rock Creek Campground	No samples since 5/71
Wenatchee	Cle Elum	Crystal Springs Campground	Twice monthly
		Kachess Campground	Twice monthly
		Salmon La Sac Campground	Twice monthly
		Wish Poosh Campground	Twice monthly
	Leavenworth	Johnny Creek Campground	Monthly
		Mission Ridge Ski Area	Monthly
		Tumwater Campground	Twice monthly

^a One water supply system

^b One water supply system

^c Two water supply systems

^d Samples generally taken monthly although there were occasional omissions