

APPENDIX 20

WATER TESTING LOCATIONS AND REQUIREMENTS

The following laboratories may be utilized for the testing of drinking water and swimming beach samples:

Marathon County Public Health Laboratory
Lakeview Professional Plaza
1200 Lake View Drive RM 200
Wausau, WI 54403-6797
Phone: (715) 261-1904

City of Ashland Water Treatment Plant
1901 Knight Road
Ashland, WI 54806
Phone: (715) 682-7058

Sampling of all seven of the water well systems on a monthly basis is required. The two swimming beaches water sampling will be required in June, July and August. A copy of the test results for the wells and swimming beaches need to be submitted to the permit administrator at the Washburn Ranger District office, P.O. Box 578, Washburn, WI 54891 and State of Wisconsin Department of Natural Resources, Spooner, WI.

The Forest Service requirement for drinking water are found in Forest Service Manual (FSM) 7400- Public Health and Pollution Control Facilities, Chapter 7420.

7420.2 - Objective

The objective of the Forest Service Drinking Water Program is to protect the health of the public and Forest Service personnel by ensuring that water provided by the Forest Service for human consumption at any administrative site or public-use area is both safe and protected.

7420.3 - Policy

Where objectives and standards cannot be met to the degree defined in this chapter, the Forest Service shall make such waters unavailable for human consumption. The Forest Service must comply with Federal and State regulations with respect to Federally owned public water systems. Where Federal or State regulations differ, the more stringent regulations shall apply, so long as the stricter requirements provisions are not used to justify new classes of liability and responsibility, and such requirements are applied in the same manner and to the same extent as nongovernment water systems. Where stated in this chapter, Federally owned non-public water systems shall comply with Federal and State regulations for public water systems. In addition, the Forest Service shall employ current water saving technology to the greatest extent practicable in new construction and

reconstruction of all water systems. Do not construe, either expressively or by implication, anything in this chapter as increasing or diminishing any Federal or State authorities, rights, responsibilities, privileges, or presumptions.

7420.4 - Responsibility

7420.41 - Regional Foresters, Station Directors, and Northeastern Area and International Institute of Tropical Forestry Directors

It is the responsibility of each Regional Forester, Station Director, and the Area and Institute Directors to:

1. Ensure that responsibility for preparing engineering reports, engineering design, and operation and maintenance manuals for water supply and treatment systems is delegated to qualified engineers (FSM 7420.5).
2. Ensure review and interpretation of State legislative or administrative actions that affect the Drinking Water Program and provide for full awareness and understanding of the public health aspects and requirements of these actions throughout the Region.
3. Ensure that project criteria and engineering reports for all drinking water supply and treatment facilities are reviewed and approved before design of these facilities. This responsibility may be delegated to the appropriate staff director.
4. Ensure a close working contact is maintained with all State public health agencies.
5. Ensure that an adequate number of qualified personnel (FSM 7420.5) receive necessary training in water system design, construction inspection, and water system operation and maintenance.
6. Review and approve or disapprove design drawings and construction specifications for all construction, reconstruction, and modifications of drinking water systems and ensure coordination of State review and approval as necessary. This responsibility may be delegated to the appropriate staff director. Delegation of responsibility should occur only if the requirement for a qualified independent engineering review of design drawings and specifications can be met.
7. Provide for monitoring of water system construction activities to ensure competent performance for the duration of the project.

8. Ensure the review of monitoring schedules and results of microbiological, primary contaminant, secondary contaminant, regulated and unregulated organic and inorganic chemical, radiological, and other testing to ensure performance is consistent with the laws and regulations cited herein and with applicable State regulations.

Stations without qualified personnel shall obtain the necessary professional and technical expertise from Regional Offices to carry out these responsibilities.

7420.42 - Forest Supervisors and Project Leaders

It is the responsibility of each Forest Supervisor and Project Leader to:

1. Ensure that appropriate engineering and environmental reports for drinking water facilities are prepared.
2. Provide necessary field data for the complete planning and design of water supply and treatment systems.
3. Ensure that qualified engineers complete all required sanitary surveys and qualified personnel complete all condition surveys.
4. Maintain close contact and coordinate with all State and local public health agencies.
5. Obtain and maintain all permits that may be required by State or authorized health districts or counties for public water systems.
6. Provide qualified and certified personnel (FSM 7420.5) to adequately inspect and supervise project construction (FSM 7115).
7. Ensure that qualified personnel monitor, operate, and maintain all drinking water systems in accordance with legally applicable regulations and standards. Provide certified operators when legally required by State regulations.
8. Notify the applicable State or local agency of any changes in water system status such as opening date, closing date, permanent closure date, and so forth.
9. Delegate the responsibility for sampling, monitoring, recordkeeping, and reporting to qualified and appropriate personnel.
10. Designate the location of the official permanent file for water systems. Maintain analysis results and submit records and reports as required by the NPDWR, NSDWR, State regulations, and FSM 7421.3.
11. Review corrective actions taken at the operating level to ascertain compliance with standards. Perform follow-up action, including documentation, for unsatisfactory test results.

12. Notify the public according to State and NPDWR notification procedures when Maximum Contaminant Levels (MCL) are exceeded.

7420.5 - Definitions

Average Daily Population (ADP). For classification and inventory purposes, the sum of the daily transient and daily resident population served or having access to the drinking water system, per month divided by the days per month. Where actual or sample counts are not available at recreation sites, determine ADP by multiplying Persons-At-One-Time (PAOT) by the percentage of site use where PAOT equals four people per site. At administrative sites, number of residents shall be based on three people per residence and the actual capacity of other quarters served with drinking water.

Condition Survey. An onsite review performed by the water system operator of the water source, facilities, and equipment as defined in the operation and maintenance plan for the system. Condition surveys are an integral part of the sanitary surveys and serve as a supplement to the last current sanitary survey (FSM 7413.8 and FSH 7409.11, ch. 70).

Confluent Growth. A continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete. This does not necessarily include coliform growth. Non-coliform growth is often called heterotrophic growth.

Drinking Water System. A system for providing water suitable for human consumption via service connections (including hand pump wells).

E.coli and fecal coliforms. Escherichia coli and fecal coliforms are a subset of the total coliform group and represent disease causing organisms.

Human consumption. Use of water for drinking, food preparation, dishwashing, oral hygiene, and bathing/showering.

Maximum Contaminant Level (MCL). The maximum permissible level of a contaminant in water that is delivered to any user of a public water system.

Non-Public Water System. A system not meeting the public water system definition. A non-public water system is subdivided into the following two categories:

- a. Non-Public, Non-Transient (NPNT). A system serving less than 25 year-round residents or serving less than 25 of the same persons ADP more than 180 days per year (for example, smaller Forest Service Ranger Stations or housing sites).
- b. Non-Public, Transient (NPT). A system serving less than 25 individuals ADP and not meeting the requirements of NPNT water system (for example, smaller recreation sites and guard stations/work centers).

Other Water System (O). A water system where the Forest Service is not the "supplier" per EPA rules; for example, municipal, special use, and other systems.

Public Water System. As defined in the NPDWR (State definitions may be more stringent), a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily 60 days or more per year. A public water system is subdivided into one of the following three categories:

- a. Community (C). A public water system regularly serving year-round residents.
- b. Non-Transient, Non-Community (NTNC). A public water system operating at least 180 days per year and regularly serving at least 25 of the same individuals.
- c. Transient, Non-Community (TNC). A public water system not meeting the requirements for a community or a non-transient, non-community water system.

Qualified Engineer/Personnel. An engineer or person having the required training and experience, or certification, who is assigned by a Forest Supervisor, Regional Forester, Station, Area, or Institute Director to perform certain specific technical functions within the authorizing line officer's delegated authority. Technical qualifications should be appropriate for the technical requirements of the functions assigned. Consider the consistency of qualifications with engineers or other personnel assigned similar work in State and private activities.

Repeat samples. A set of samples taken when a routine sample is total coliform-positive or when a repeat sample is total coliform-positive. Repeat samples must be collected within 24 hours of being notified of a positive result.

Routine sample. A sample that is representative of the water throughout the distribution system, taken by properly trained personnel on a routine basis when the system is operational, which is used to determine the microbial quality of the water.

Sanitary Survey. An onsite review performed by the State or qualified Forest Service engineer (FSH 7409.11, ch. 70) of the water source, facilities, equipment, operation, and maintenance of a public water system for the purpose of evaluating the adequacy of the source, facilities, equipment, operation, and maintenance for the purpose of producing and distributing safe drinking water (FSH 7409.11, ch. 70).

Service Connection. The piping connection by which drinking water is conveyed from the distribution system to the user. Piping, fixtures, and adjacent development indicate that water is suitable for human consumption. Examples of service connections include: an individual building (residence, crew quarters, office, or mobile home--not including utility hose bibs stubbed from building plumbing); a building exterior drinking fountain provided for public use; an individual yard or campground hydrant; a handpump on a well; a building containing a toilet and wash basin or shower, which is equipped with a drinking water service.

Special sample. Special samples are collected to determine the success of corrective actions. Special samples may also be taken to determine whether seasonal systems are ready to be opened, or whether disinfection practices are sufficient following pipe or tank repair or replacement. Special samples must be marked as such when sent in to the laboratory for analysis, so that the results are not forwarded to the enforcement agency.

Total coliforms. A group of bacteria used as the primary measure of the degree of microbial contamination in drinking water. Although total coliforms are usually not pathogenic themselves, their presence in drinking water indicates that fecal pathogens may also be present.

7421 - DRINKING WATER SYSTEMS

Classify all operating drinking water systems in accordance with State definitions and FSM 7420.5. Operate all federally owned systems in compliance with FSM 7420.3. All public water systems shall comply with the requirements of the NPDWR, NSDWR (FSM 7420.1), applicable State regulations, and these Forest Service standards. Non-public water systems shall conform to these standards and to State regulations when applicable and where stated in this chapter.

Where compliance with NPDWR, NSDWR, State regulations, and these standards is physically infeasible, such as in wilderness areas, cross-country trails, or roadside springs, keep water sources in an undeveloped condition indicating the water source is unprotected. When providing the public with information about these water sources through trail guides, brochures, or maps, include a warning statement as to portability of undeveloped water sources. Do not identify water sources on maps or brochures in a way that may mislead users into thinking the water is protected and safe.

Do not apply requirements of this chapter to range or wildlife water systems if their design and construction features clearly indicate they are not for human use. If range or wildlife water systems are an integral part of a drinking water system, such integral parts must meet the requirements for drinking water, and protection measures shall separate non-drinking water portions from the drinking water portions.

Do not consider piped water systems used exclusively for nonconsumptive purposes at administrative sites (where all water for human consumption, including water used in

cooking and bathing, is either hauled, boiled, or otherwise adequately treated) as drinking water systems. Utilize this exception only in limited situations with controlled access to minimize inadvertent human consumption and in accordance with Regional direction.

For emergency water supply procedures, see FSM 7422 and FSH 6709.11, chapter 7.

7421.1 - Protection of Water Supplies

Protect water supplies by using the following means:

1. Physical protection and treatment as provided by designed and constructed features (FSM 7410 and FSH 7409.11, chs. 10, 20, and 40).
2. Proper operation and maintenance of the facilities (FSM 7413.9 and FSH 7409.11, ch. 70).
3. Sanitary surveys (FSM 7420.5).
4. Condition surveys (FSM 7420.5).

7421.11 - Physical Protection

1. Design and Construction. Base the design and construction of water supply facilities on State regulations and sound, accepted environmental health engineering codes and practices, and modify as necessary to meet any unique Forest Service requirements (FSH 7409.11). Do not compromise the health and safety objective stated in FSM 7420.2 for reasons of economy.

2. Operation and Maintenance. Ensure operations follow the procedures established in the design. Maintenance must ensure continued protection. Make no changes that would compromise the health and safety objective stated in FSM 7420.2. Provide certified water treatment plant operators as required by State regulations.

7421.12 - Treatment and Disinfection

Disinfect and filter all drinking water systems having surface water sources or groundwater sources under the direct influence of surface water as required by State regulations and 40 CFR Parts 141 and 142. Direct influence of surface water for individual sources shall be determined by the State and/or qualified Forest Service Engineer. The determination is based on State criteria which may include site-specific measurements of water quality and/or documentation of source construction, characteristics, and geology.

Disinfect all water systems utilizing groundwater sources not under the direct influence of surface water if there is a history of microbiological contamination, or when a condition or sanitary survey determines that microbiological contamination could occur.

Additionally, disinfect any public system when Federal or State regulations require disinfection.

Disinfection and/or filtration are not effective substitutes for the correction of system deficiencies or for an adequate public health surveillance program.

7421.13 - Sanitary Surveys

1. Initial Survey. Perform and document sanitary surveys for each new drinking water supply source and system before it becomes available for public use. Identify any system deficiency that would result in noncompliance with applicable provisions of the NPDWR, NSDWR, State regulations, and FSM 7421, before using the system. If deficiencies are found, the Forest official shall prepare a corrective action plan and submit it to the Forest Supervisor for approval (FSM 7420.42). Do not open the system for use until corrective action is completed or another alternative is authorized. Conduct surveys in accordance with the outlines and formats in:

- a. EPA's "Manual of Small Public Water Supply Systems," Publication #570/9-91/003, May 1991.
- b. EPA's "Manual of Individual and Non-Public Water Supply Systems," Publication #570/9-91/004, May 1991.
- c. FSH 7409.11, chapter 70.
- d. Procedures recommended and offered by the Regional Office or State and district/county health departments.

2. Subsequent Surveys. Perform and document sanitary surveys for all systems in accordance with applicable State regulations, at an interval not to exceed 5 years, or more frequently if there are recurring deficiencies. When problems develop, provide a report to the appropriate line officer to ensure management is kept informed.

7421.14 - Condition Surveys

Perform and document whenever:

- a. Routine bacteriological analysis indicates, and a bacteriological repeat sample analysis confirms, that coliform bacteria exist.
- b. A seasonal system is opened for the year.
- c. There is a significant change in conditions that may affect the supply or system (such as a significant earthquake).

7421.2 - Monitoring and Follow-up Actions

Sample and analyze Forest Service drinking water systems to determine the level of primary contaminants (regulated and unregulated organic and inorganic chemicals, turbidity, radio nuclides, and microbiological) and secondary contaminants.

7421.22 - Microbiological Monitoring

Monitor non-public water systems for microbial contamination in the same manner as required for public non-community systems. Follow-up actions for non-public systems differ from public systems (FSM 7421.22b).

7421.22a - Routine Sampling

Perform microbiological testing for total coliform bacteria at a minimum frequency of one routine sample per month for every full or partial calendar month of operation for all systems. Consider each handpump a separate water system.

This minimum frequency assumes that monthly tests are taken at approximately 30-day intervals. Take samples early in the month to allow sufficient follow-up time.

A higher frequency of routine sampling is required by NPDWR and the State if the average number of daily users is greater than 1,000 persons per day.

Take at least one special sample and ensure it tests total coliform-negative, before opening all seasonally operated systems. Special samples do not count in determining Maximum Contaminant Level (MCL) violations or in meeting the monthly sampling requirements.

Develop a written sample sitting plan for each public water system with a distribution system. The sitting plan should be designed to ensure that the system is routinely sampled at varied representative locations and that contamination in any portion of the distribution system is eventually detected.

Testing laboratories must be EPA and/or State approved. Collect and handle samples in compliance with laboratory requirements.

Arrange for the lab to report results to the appropriate staff as soon as possible if a test result is total or fecal coliform-positive.

7421.22b - Follow-up Actions

1. Public Systems. Whenever a routine sample result is total coliform-positive, take a set of four repeat samples within 24 hours of notification by the lab or State. Take the samples at locations as directed by the State, in accordance with the sample sitting plan, or as follows:

- a. One at the same tap where the contamination occurred.

- b. One at a downstream tap.
- c. One at an upstream tap.
- d. One within five service connections of the original sample.

If the system has only one service connection (such as a handpump), sample according to State direction or collect a single 400-milliliter sample.

For any routine sample that is total coliform-positive, perform five routine samples during the next month the system is open.

2. Nonpublic Systems. Whenever a routine sample result is total coliform-positive, take one repeat sample within 24 hours of notification by the lab or State.

3. All Systems. Temporary closure of a water system for the purpose of performing corrective action or seasonal closure does not relieve the responsibility for compliance with repeat sampling, additional routine sampling, reporting to EPA or the State, and public notification as set forth in the NPDWR and State regulations.

At sites with water-carried sewage systems, if follow-up action is to close the system, the toilet supply may be left open if all points of drinking, including sinks and showers, can be isolated and shut off. Otherwise, shut off the entire system.

In the case of a waterborne disease outbreak at a Federally owned water system, contact the Regional Environmental Engineer and the State for special provisions for public notification and monitoring.

See exhibit 01 for follow-up actions to be initiated within 24 hours based on the results of repeat sampling.

7421.22b - Exhibit 01

Follow-up Actions For Microbiological Sampling

Based on the results of the repeat sampling, initiate the appropriate follow-up actions within 24 hours:

<u>SAMPLE RESULT</u>				
<u>ROUTINE SAMPLES</u>	<u>REPEAT SAMPLE(S)</u>	<u>MCL VIOLATION</u>	<u>ACUTE VIOLATION</u>	<u>FOLLOWUP ACTION</u>
TC-	None	No	No	None. Quality satisfactory.
TC+ FC-/EC	TC-	No	No	Public systems must have five routine samples taken the next month the system is open.
TC+ FC-/EC	TC+ FC-/EC	Yes	No	See Action 1.
TC+ FC-/EC	TC+ FC+/EC	Yes	Yes	See Action 2.
TC+ FC+/EC	TC-	No	No	Public systems must have five routine samples taken the next month the system is open.
TC+ FC+/EC	TC+ FC-/EC	Yes	Yes	See Action 2.
TC+ FC+/EC	TC+ FC+/EC	Yes	Yes	See Action 2.
Confluent Growth	None	No	No	Sample invalid. See Action 3.
TC = Total Coliform EC = E. Coli FC = Fecal Coliform		- = Negative test results + = Positive test results		

ACTION 1: MCL VIOLATION

- A. Public systems. Notify, consult, and coordinate with the State within 48 hours of being notified of the positive result. Take five routine samples the next month the system is open.
- B. Public and non-public systems. Notify users within 14 days according to appropriate State or NPDWR notification procedures including: posting, hand delivery, or media (newspaper, radio, or television), depending on the classification of the system and corresponding State direction. For non-public systems where State or EPA regulations have not established public notification procedures, notify users by posting signs at the facility, visitor information site, District Office, or any other site deemed appropriate. For systems serving resident populations, make notification by letter, in addition to posting signs.
1. Administrative systems. Search for the source of contamination by doing a condition survey (FSM 7421.14). Take corrective action when the source of contamination is found. Take daily special samples until two consecutive special samples are TC negative. If three samples are TC positive (routine, repeat, and one special sample), issue a temporary boil water notice or close the system. The temporary boil notice shall include water used for drinking, food preparation, and bathing. Boiling water shall be a temporary measure (not to exceed 30 days).

If the need for boiling will exceed 30 days, obtain appropriate engineering approval. Rescind the notice or open the system only after the problem has been corrected and two consecutive daily special samples are TC negative.

2. Recreation systems. Search for the source of contamination by doing a condition survey (FSM 7421.14). Take corrective action when the source is found. Take daily special samples until two consecutive special samples are TC negative. If three samples are TC positive (routine, repeat, and one special sample), close the system. At sites with water-carried sewage systems, the toilet supply may be left open if all points of drinking, including showers and sinks, can be isolated and shut off. Otherwise, shut off the entire system. Open the system only after the problem has been corrected and two consecutive daily special samples are TC negative.

ACTION 2: ACUTE VIOLATION

- A. Public systems. Notify, consult, and coordinate with the State within 48 hours of being notified of the positive result. Take five routine samples the next month the system is open.
- B. Public and non-public systems. Notify users within 72 hours according to appropriate State or NPDWR notification procedures including: posting, hand delivery, or media (newspaper, radio or television), depending on the classification of the system and corresponding State direction. For non-public systems where State or EPA regulations have not established public notification procedures, notify users by posting signs at the facility, visitor information site, District Office, or any other site deemed appropriate. For systems serving resident populations, make notification by letter, in addition to posting signs.
1. Administrative systems. Issue a temporary boil water notice or close the system. The temporary boil notice shall include water used for drinking, food preparation, and bathing. Boiling water shall be a temporary measure (not to exceed 30 days). If the need for boiling exceeds 30 days, obtain appropriate engineering approval. Search for the source of contamination by doing a condition survey (FSM 7421.14). Take daily special samples. Rescind the notice or open the system only after the problem has been corrected and two consecutive daily special samples are TC negative.
 2. Recreation systems. Close the water system. At sites with water-carried sewage systems, the toilet supply may be left open if all points of drinking, including showers and sinks, can be isolated and shut off. Otherwise, shut off the entire system. Search for the source of contamination by doing a condition survey (FSM 7421.14). Take corrective action when the source is found. Open the system only after the problem has been corrected and two consecutive daily special samples are TC negative.

ACTION 3: CONFLUENT GROWTH

The sample is invalid. Take another routine sample at the same location within 24 hours of being notified of the invalid result. If the second sample has confluent growth, search for the cause and correct it. Continue sampling until a valid sample is obtained. If the valid sample is TC positive, follow actions as outlined in FSM 7421.22b.

7421.23 - Disinfectant

Perform residual disinfectant monitoring in compliance with NPDWR and State regulations for all public and non-public systems requiring disinfection (FSM 7421.12).

Failure to maintain the required residual disinfectant levels for public systems with filtration is a treatment technique violation that requires public notification.

Report residual disinfectant measurements for public systems monthly to the State.

7421.24 - Turbidity

Perform turbidity monitoring in compliance with NPDWR and State regulations for all public systems and non-public systems using surface water sources or groundwater sources determined to be under the direct influence of surface water, or systems designated by the State.

Failure to maintain the required turbidity levels as required on public systems is a treatment violation that requires public notification.

Report turbidity measurements on public systems monthly to the State.

7421.25 - Primary Contaminants, Secondary Contaminants, Regulated and Unregulated Organic and Inorganic Chemicals, and Other Contaminants

The level of required monitoring varies based upon system classification. All public water systems are required to be monitored for primary and secondary contaminants in accordance with the NPDWR, NSDWR, and applicable State regulations. Comply with State and Federal monitoring schedules for all contaminants in public systems.

Perform one baseline sampling, as a minimum, for the primary and secondary contaminants shown in exhibit 01 on all non-public systems and public transient non-community systems. For new systems, conduct the sampling and analyses before opening the system. If the one-time test results exceed the MCL established for public systems, perform follow-up monitoring and take action in accordance with public system regulations (NPDWR and State regulations), except for reporting to the regulatory agency.

7421.25 - Exhibit 01

Primary and Secondary Contaminants

PRIMARY CONTAMINANTS

Arsenic
Barium
Cadmium
Chromium
Fluoride
Lead
Mercury
Nitrate
Nitrite
Selenium
Sodium

SECONDARY CONTAMINANTS

Aluminum
Chloride
Color
Copper
Foaming Agents (Surfactants)
Iron
Manganese
Odor
pH
Silver
Sulfate
Total Dissolved Solids
Zinc

Whenever the maximum level of a contaminant is exceeded, analyze a repeat sample for confirmation of the test results.

Judge the acceptability of the water quality using the Maximum Contaminant Levels (MCL's) established in the NPDWR and NSDWR. These MCL's apply to both public and non-public systems.

For public and non-public systems serving resident populations, correct any deficiency in water quality that would result in noncompliance with the NPDWR, NSDWR, State regulations, and FSM 7421. Report any system with a contaminant in excess of established MCL's to the Regional Environmental Engineer for review on a case-by-case basis.

For public systems, send sampling results to the State and follow the public notification requirements if there is an MCL violation. For non-public water systems, follow public notification requirements for public non-community systems if contaminants exceed the MCL's.

7421.26 - Radionuclide

Perform radionuclide monitoring on public community and public non-transient, non-community systems in accordance with NPDWR and applicable State standards.

7421.3 - Documentation

1. Establish and maintain a computer-based Drinking Water System Inventory showing each drinking water system, including physical data, treatments, and monitoring results. Keep the inventory updated by data entry at the Forest level where possible. Annually, transmit an updated copy of the inventory for changes that have occurred to the Region, Station, Area, or Institute Offices.

2. Maintain original documents of records in the following categories as required by 40 CFR 141.33:

- a. Sanitary Survey Reports,
- b. Condition Survey Reports,
- c. Contaminant and chemical test results,
- d. Bacteriological analysis,
- e. Records of corrective actions for violations,
- f. Records of variances or exemptions, and
- g. Disinfection and turbidity test results.

Refer to FSH 6209.11 for record retention and disposal periods.

3. Establish a permanent file for each inventoried drinking water system. Retain records at the location designated in FSM 7413.9.

7422 - HAULED DRINKING WATER

Hauled drinking water can be used in emergency situations (for example, fire situations). Hauled drinking water may be used for other limited situations with appropriate engineering approval. The drinking water supplied shall meet State and local regulations as well as the following:

1. Water Sources. Obtain hauled drinking water from a source that complies with public system standards.

2. Water Uses. Provide hauled drinking water for drinking as well as food preparation and bathing at sites where all of these activities are necessary (for example residences).

3. Chlorine Residual. Maintain a free chlorine residual level of 0.2 parts per million (ppm) up to 1.0 ppm at all times (1/3 cup household bleach to 1,000 gallons of water may achieve 1.0 ppm chlorine residual level).

4. Water Haulers/Suppliers. Ensure that water haulers/suppliers:

a. Have chlorine residual test kits available at all times.

b. Test for free chlorine residual levels when:

(1) Loading drinking water for transport;

(2) After adding any disinfectant, if the addition of disinfectant is necessary;

(3) When unloading; and

(4) Every 24 hours the water is in use.

c. Maintain records showing source, dates, and times of loading, unloading, chlorine residual test results, and other operational items as deemed necessary.

5. Water Hauling Containers. Ensure that these containers are:

a. Used exclusively for drinking water or food-grade related products. Do not use containers which have been previously used for toxic substances;

b. Clearly and conspicuously labeled "For Drinking Water Use Only";

c. Disinfected before being put into service after a period of 72 hours or more of non-use. Clean the tank thoroughly and disinfect it by filling it with a 50 ppm chlorine mixture (one gallon of bleach to 1,000 gallons water). After 24 hours, drain and flush the tank with drinking water. Other disinfection methods may be used as approved by a qualified engineer;

d. Made of non-toxic, non-corrodible materials or coated with non-toxic coatings. Surfaces that come in contact with water shall be smooth, without pits, dents, or crimps that may hold contaminating matter;

e. Enclosed except for a screened or filtered air vent;

f. Equipped with a drain that provides complete tank drainage; and

g. Equipped with a filler/inspection port at the top of the tank with a lockable watertight cover.

6. Hoses and Similar Equipment. Hoses shall have a smooth interior surface made of food-grade standard materials. Keep pumps, hoses, fittings, valves, and similar equipment clean and disinfected. Operate and handle such equipment in a manner which prevents contamination, and keep it capped or closed when not in use.

7. Microbiological Testing. Perform microbiological testing for total coliforms a minimum of once per month. For temporary or emergency water systems, perform microbiological testing at least one time for each container.

7423 - SPECIAL-USE AND OTHER PERMITTED DRINKING WATER SYSTEMS

Title 40, Code of Federal Regulations, Parts 141 and 143, and State and local regulations apply to public water systems operated on National Forest lands under permit (FSM 7420.1). Permittees are responsible for achieving compliance with these regulations, as well as any other Federal and State laws and regulations relating to public water systems. This includes developing, operating and maintaining, and conducting drinking water testing (including: microbiological, contaminant, chemical, and public notification, and so forth) in accordance with Federal and State requirements, or as directed by health officials. Permittees are also responsible for taking prompt and appropriate action to correct any deficiencies causing unsatisfactory test results and are required to maintain a file of test results and corrective actions taken.

When the permit is authorized under the Granger-Thye Act, where the Federal government acting through the Forest Service owns all or part of the public or non-public water system, the Forest Service shall be listed as the water supplier with the State and shall ensure that the permittee maintains all required records (for example: bacteriological, turbidity, and disinfection). All monitoring and follow-up action required under FSM 7421.2 shall apply and permittees are required to forward a copy of all test results to the authorized officer (FSM 7420.5).

To check for permittee compliance with required Federal and State regulations, authorized officers shall perform administrative monitoring and investigations (FSM 2716).