

Reference H

REFERENCE MANUAL 83

BACKCOUNTRY SANITATION GUIDELINES

BACKGROUND

The basic NPS policies for food, water, and waste sanitation are stated in Directors Order-83, sections A, B, and C. However, there are numerous activities, which occur in the backcountry of many National Parks that sometimes create sanitation issues that require solutions different than those for more permanent facilities. Examples of such activities include but are not limited to white water rafting, horse packing, bicycle tours, jeep tours, snowmobile tours, trail crews, backcountry ranger cabins, etc. While conditions in the backcountry are often different from developed areas, the basic principles of disease prevention are the same (e.g. the need to control the growth of disease causing microorganisms by properly treating drinking water and/or by maintaining foods at proper temperature). This reference is intended to provide practical guidance to help NPS concessioners and personnel to meet the intent of DO-83, sections A, B, and C under backcountry conditions.

I. POTABLE WATER

- A. Water used for drinking and culinary purposes shall be:
1. Obtained from an approved public water system; or
 2. Obtained from a source known to be free of chemical contamination and
 - a. Bringing to a rolling boil for 1 minute (Add an additional minute for each 1,000 feet above sea level);
- or**
- b. Filtering through an "Absolute" 1 micron filter, or one labeled as meeting American National Standards Institute (ANSI/NSF) (formerly the National Sanitation Foundation) International Standard #53 for "Cyst Removal" followed by disinfection. Add 8 drops of liquid chlorine bleach per gallon of water or another approved sanitizer and let stand for 30 minutes.
- B. Water storage containers shall be free of contamination when in use and sanitized frequently between outings.

II. WASTE DISPOSAL

- A. All waste shall be disposed of in a manner consistent with park policy and all applicable health and environmental regulations.
- B. In environmentally sensitive areas such as river corridors, human feces and other solid waste shall be transported to an approved offsite disposal facility unless fixed facilities, which conform, to all applicable rules and regulations are available onsite.
- C. Urine may be disposed of onsite unless prohibited by law.
- D. Solid waste should not be burned unless such burning is in compliance with all applicable rules and regulations.

III. FOOD

A. FOOD HANDLERS

- 1. At least one guide on each excursion shall be a certified food handler. All guides are encouraged to become certified food handlers.
- 2. No persons who are ill shall be allowed to prepare food.
- 3. Guest volunteers shall not be allowed to prepare or handle food other than their own. They may be allowed to perform other duties attendant to food preparation.
- 4. Persons with cuts, abrasions, open blisters, etc on their hand(s) shall not prepare food unless the hand(s) are bandaged and covered with glove(s) so as to prevent the contamination of food.
- 5. Food handlers shall not snack while preparing meals. In order to minimize "grazing", a snack before beginning to prepare meals is suggested.

B. HANDWASHING (FOOD HANDLER)

- 1. Handwashing setups shall be conveniently located to the food prep area.
- 2. Handwashing setups, which involve repeated dipping into the clean water container may not be used.
- 3. Food handlers shall wash their hands frequently. Hands shall be washed before handling food; after handling raw meat; after eating, drinking, and/or smoking; and any other time that hands become contaminated.

4. Water used for handwashing shall be as specified in Section I A, above, or treated with at least 100 ppm chlorine. If this method is used, chlorine test strips shall be used to check the concentration.
5. In extreme circumstances where sufficient treated water is not available, hand sanitizers containing 62% ethyl alcohol should be used per directions **after** preliminarily washing with untreated water.
6. Soap shall be available and used for hand washing.
7. Paper towels shall be available and used by food handlers for drying their hands.

C. FOOD STORAGE

1. Toxic materials will be stored separately from food.
2. Potentially hazardous foods (including raw eggs) will be stored below 45°F.
3. Thermometers will be available and used frequently to check cooler temperatures.
4. Raw meat will be stored so that it will not contaminate other foods. Ideally, raw meat should be stored in separate coolers. When this is not practical, raw meat will be stored in leak proof containers at the bottom of coolers containing other foods.
5. Packaged food shall not be stored in contact with ice or water unless the packages are waterproof.
6. Unpackaged food shall not be stored in direct contact with undrained ice (except raw fruits and vegetables).

D. FOOD PREPARATION

1. Cutting boards, knives, etc. used for preparing raw meats, poultry, and fish shall be thoroughly cleaned and sanitized before being used for the preparation of other food.
2. Potentially hazardous foods will not be in the temperature danger zone (45°-140°F) for longer than 4 hours total.
3. Raw animal foods such as beef, pork, poultry, fish, eggs, and foods containing these raw animal foods shall be cooked thoroughly (especially ground beef and chicken). The minimum cooking temperatures specified in the Food Code

should always be attained.

4. Food thermometers will be available and used frequently for measuring food temperatures during cooking and holding.
5. Raw eggs shall not be pooled unless they are to be thoroughly cooked promptly after pooling. Pasteurized egg product is recommended for such use in the backcountry.
6. Potentially hazardous food left over from a meal shall not be held for reservice. Coolers used in the backcountry for maintaining food temperatures are not designed for cooling hot prepared food.
7. Frozen potentially hazardous food shall not be thawed at ambient temperature. Thawing in coolers is recommended.
8. All foods will be obtained from an approved source. Foods not prepared "on-site" shall be prepared in an inspected food establishment.
9. Raw fruits and vegetables shall be washed. This may be done before an outing in an inspected facility.

E. FOOD SERVICE

1. Guest handwashing facilities should be available near the food service area. Air drying of hands is acceptable for guests.
2. Food shall be served with sanitary utensils or gloves.
3. Sanitary utensils shall be available for all self-service arrangements.

F. SANITIZING

1. Dishes, utensils, etc. shall be cleaned and sanitized in a three-container arrangement. The washing and rinsing containers shall contain hot water which meets the specifications in Section I. A, above. The sanitizing container shall contain at least 200-ppm chlorine and test strips shall be used to check the chlorine concentration. Air-drying and the use of an additional container for prewash/scraping are encouraged.
2. Food-contact surfaces and nonfood-contact surfaces shall be cleaned and sanitized per the Food Code.
3. Wiping cloths shall be stored in a 50-100 ppm chlorine solution before and during use and washed when soiled.