NPS Office of Public Health
Visitor and Resource Protection Directorate

National Park Service
U.S. Department of the Interior

Public Health Update

Monday, April 16, 2007

Zoonotic and Environmentally-transmitted Diseases

By CAPT Charles Higgins, Director, Office of Public Health

Zoonotic and environmentally-transmitted diseases present potential public health, resource, and economic risks. Managing the risks to resources, employees, visitors, and the environment from disease agents and reservoirs and developing control strategies is a shared responsibility of the natural resource, risk management and public health programs.

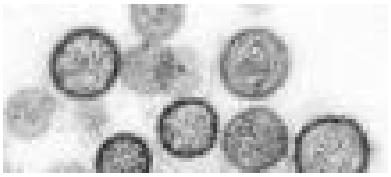
Because of the inter-programmatic nature of these issues, NPS formally established a Zoonotic and environmentally-transmitted diseases (ZED) steering committee and mission.

Steering Committee
Mission

Utilize a National Park Service (NPS) interdisciplinary coordinated approach to detect and manage the risk of zoonotic, vector-borne and environmentally-transmitted diseases (ZED's) and their associated management actions on NPS visitors, employees, and resources, as well as the environment.

Objectives

- Accurately determine and prioritize ZED's that require interdisciplinary direction for prevention, management and tracking.
- Utilize a work group approach to effectively address ZED's in need of management protocols, interdisciplinary coordination, long-term monitoring, emergency response, and/or emergency protocols.
- Utilize a task force and/or Incident Management Team to effectively address ZED's determined to be urgent in nature. (Example: Response to FMD, etc.)
- Initiate and maintain clear and consistent communication between groups affected by a particular ZED.
- Ensure NPS consistency and coordination in the area of ZED's by coming to consensus on the appropriate leader on interdisciplinary issues (IPM, Wildlife, Public Health, and Risk Management).
- Provide national guidance that will result in interdisciplinary consistency when addressing ZED's.



Sin Nombre virus, one of the Hanta viruses

Web Resource

The ZED steering committee maintains a web site where NPS managers and staff can access coordinated information and guidance about issues connected to ZED related diseases. This site and the issues discussed in it will continue to be updated and expanded.

ZED web site:
http://www.nps.gov/public_health/zed/zed.htm

To Refer a New Issue

If anyone has a new ZED related issue, not already addressed on the web site, you may contact any of the following:

Integrated Pest Management (IPM)
202-513-7183 (East)
970-225-3542 (West)

Public Health
202-513-7224

Risk Management
202-513-7214

Wildlife Health
970-225-3593

Public Health in the Parks—Competitive Grants for Divisions of Interpretation

By LCDR David Wong, MD, Medical Epidemiologist

The Office of Public Health recently announced the Public Health in the Parks program, an initiative to encourage the development of public health-focused ranger interpretive programs. Ten grants (up to $10,000 each) will be awarded during FY07. Applications are due April 30, and grant awardees will be notified by May 7. For questions, please contact LCDR David Wong, MD, at david_wong@nps.gov.

Expanded Gastroenteritis Surveillance at Select National Parks

By LCDR David Wong, MD, Medical Epidemiologist

After the successful implementation of gastroenteritis surveillance systems at GRCA and YELL in FY06, the Office of Public Health is planning to expand surveillance activities to DENA and possibly YOSE during FY07. At DENA, we are developing a secure website where gastroenteritis data can be viewed by park officials and other stakeholders (e.g. cruise ship officials). At YOSE, we hope to develop a surveillance system which will include clinic and employee absenteeism data.

Spring Startup for NPS Water Systems

By CAPT Bob Reiss, MW Public Health Consultant

Spring time to a National Park Service water system operator means startup for

systems shut down during the winter months. Your water operators should inspect their systems, activate water sources and treatment systems, disinfect and flush the systems and sample for bacteria to assure the drinking water systems are safe for staff and the public. The following is a quick guide to help identify startup action items for your water operators:

Startup Inspection for Water Systems

1. The water source whether it is a well or surface water should be inspected.
   a. Check for structural integrity.
   b. Check the well head for proper vent, screen and electrical conduit.
   c. Is there a sample tap at or near the well or surface water intake?
   d. Are rodents and/or insects present? Clean around your water source.
   e. Clean the pump house.
   f. Check the pressure tanks. Recharge air if pressure tanks are water logged, check pressure relief and air release valves.
   g. Exercise pump house valves and repair if necessary.

2. Inspect the storage tanks.
   a. Check physical integrity of the tank.
   b. Inspect the interior and exterior for cleanliness.
   c. Inspect the tank vent. Is it screened to prevent pest intrusion?
   d. Is the overflow piping screened and functional?
   e. Are the tank hatches closed and locked for security?

3. Inspect the distribution system.
   a. Walk your system. Repair any broken lines.
   b. Exercise all of your distribution line valves. Repair valves.
   c. Activate your treatment and disinfection systems.
   d. Throw old chemical feed solution away and mix fresh feed solution for treatment and disinfection systems.
   e. Clean and provide maintenance on chemical feed pumps and equipment.
   f. Check water meter flow rates and chemical feed pump flow rates.

4. Disinfect and flush the system.
   a. Notify all your water users that you are disinfecting and flushing.
   b. Dose your well or surface water system with chlorine. Use 3.5 cups of 5 % chlorine bleach for every 1000 gallons of water for 5.0 mg/l dose. Draw water through the distribution system and measure free chlorine residual.
   c. Disinfect your storage tanks by adding chlorine while filling the tank.
   d. After 24 hours, flush your distribution system. De-chlorinate by discharging to the sewer system, prolonged storage, chemical de- chlorination or natural degradation.

5. Collect bacteriological samples after flushing your system.
   a. Collect one sample from your water source before treatment.
   b. Collect a minimum of two samples in your distribution system.
   c. Collect two weeks prior to opening the park water system.
   d. Do not open the water systems to staff or the public until safe bacteriological tests are received.

6. Spring time maintenance.
   a. Test all backflow prevention valves.
   b. Conduct water quality monitoring to ensure treatment is sufficient.
   c. Check water flow rates, chemical feed rates and system pressures.
   d. Calibrate all equipment and instruments.
   e. Inventory and order supplies.
   f. Clean and repair treatment operations.

Contact your Regional Public Health Consultant for more information on spring startup for your specific water systems.

Note: See full page attachment for advice on spring start- up of waste water systems.

Regional Public Health Consultants

Northeast
CAPT Barry Hartfield (978) 970- 5033

National Capital
CAPT Richard Durrett (202)619- 7070

Southeast
CAPT Theresa McDarmont
(404) 562- 3124 ext 549

Midwest
CAPT Robert Reiss (402)- 661- 1718.

Intermountain
CAPT Joe Winkelmaier (505) 988- 6040
LT George Larsen (307) 344- 2273
LTJG Adam Kramer (928) 226- 0168

Pacific West
CDR Paul Robinson (510) 817- 1375
CAPT John Leffel (206) 220- 4270

Alaska
CAPT John Leffel (206) 220- 4270

WASO Staff
Director, Office of Public Health
CAPT Chuck Higgins (202) 513- 7217
Deputy Director for Environmental Health
CAPT David Bleicher (202) 513- 7224
NPS Medical Epidemiologist
LCDR David Wong, MD (202) 513- 7160
Program Analyst
Sonya Coakley (202) 513- 7215

Individual Park Public Health Staff
GATE LCDR Craig Ungerecht (718) 354- 4693
SEKI Paul Schwarz (559) 565- 3144
LAME J. Shannon Swann (702) 293- 8985
YOSE Bernice Dommer (209) 379- 1033

In Partnership for nearly 100 years, the National Park Service and the United States Public Health Service have worked together to protect the health of visitors in Americas Parks!

Program Websites:

Internal:

http://www.nps.gov/public_health/intra/index.htm

External:

http://www.nps.gov/public_health/

Spring Startup for NPS Wastewater Systems

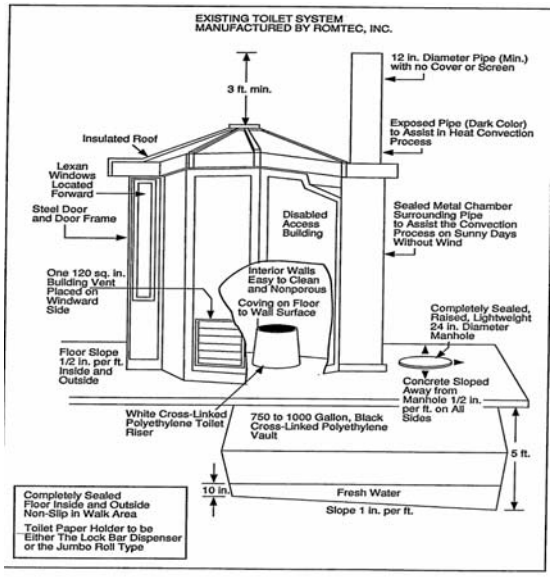
By CAPT John Leffel, AK/Pacific Northwest Regional Public Health Consultant

It is that time of year again when Park managers and operators begin reopening seasonal systems. The Public Health Program is providing the following information as a reminder for staff. Prior to opening seasonal systems not only think about the system but remember worker safety with regards to wastewater operations. Remember to air out buildings and review Hantavirus Risk Reduction Guidelines on our web site *http://www.nps.gov/public_health/intra/illness/illness.htm*. Once worker safety (contact your local safety program manager for assistance) has been reviewed the systems should be inspected. Please use the following information as a guidance to strengthen your pre-opening inspection program. If you have any questions please contact your regional public health program representative or park sanitarian.

Start –up inspection for wastewater systems:

Vault Toilets

1. If vault toilet is empty add approximately 100 gallons of water to help reduce/mask odor prior to season start-up.
2. Maintain trash can to minimize dumping of trash in vault.
3. Visually check cone level and redistribute if needed, if more then ½ full schedule pumping prior to season opening.
4. Visually check structure for clear vent stack and floor vent, self closing doors operational, presence of rodents, etc.
5. Check wall vent to make sure there are no rips or large openings in screen.
6. Check roof for leaks, tree damage, and stinging insect nests (inside and out).
7. Record maintenance information for park records particularly pumping and repairs.



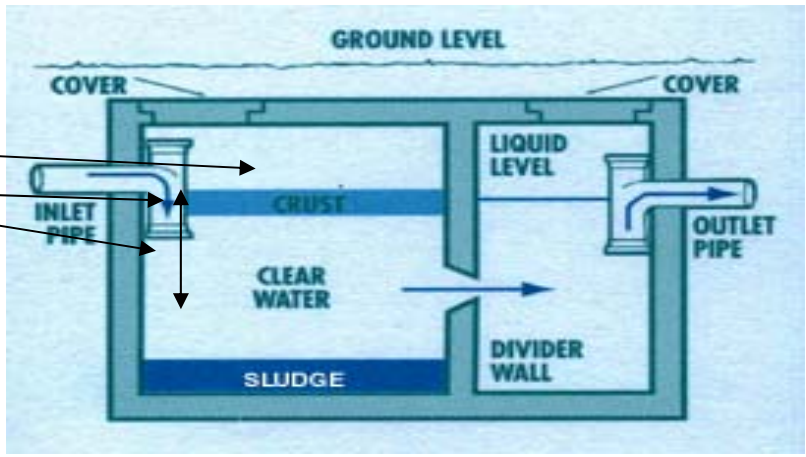
Sewage Collection System

1. Collection system map is up-to-date and available.
2. Check infiltration is non-excessive; frequent bypassing problems resolved.
3. Storm water drains, basement drains, and roof drains are not connected to the collection system.
4. Walk system and inspect manholes (seals) and see if channels are clear and condition of grout/seals.
5. Note any problems with water in building's basement – should be documented and resolved.
6. Freezing problems have been resolved.
7. Type of river crossings and condition of the pipes on bridges and over crossings.
8. Are pretreatment septic tanks used and are they being serviced regularly.
9. Collection system being cleaned regularly and is there a records management program.
10. General condition and the capacity of the collection system is adequate.

11. Lift station check valves, shutoff valves, hour meters, junction box seals, auxiliary vents, floats, and alarm system functioning properly. Wet well being cleaned annually.
12. Grinder pumps functioning properly.
13. Sand, wood, hydrogen sulfide, grease/scum, or rags causing downstream problems.
14. Are decants/supernates, filtrates, and backwashs metered in or dumped in.
15. Pump down Lift station and look for grit accumulation – wash down interior walls and floor from above and pump through system if needed.

Septic tank

1. Observe flow to septic tanks, if it is not consistent check for surfacing sewage.
2. Open manholes and inspect inlet T & outlet T to ensure they are functioning (water is flowing in and out at same rate).
3. Measure scum - if the distance from the bottom of the scum to the bottom of the inlet inverted T is 3" or less pump tank
4. Measure sludge levels - if top of sludge is 8 inches or less from bottom of inlet pipe pump tank.
5. Make sure risers are sealed.



Drainfield

1. Check for even flow distribution through distribution box.
2. Valves and distribution box correctly channeled for season.
3. Infiltration rate adequate (not excessive and not too slow), check French drain if installed.
4. Vegetation should be cut and trees removed to prevent root damage to pipes.
5. Check for any unusual odors, dark mats, or dead vegetation.
6. Load and rest cycles adequate.
7. Inspection ports opened and water level monitored and recorded.

Lagoon Systems

1. Parallel or series operation.
2. Adequate settling cell or zone.
3. Adequate baffles.
4. Can operating depth be varied. Is system operating with at least 3 feet of freeboard on the dikes?
5. Condition of dikes and liner.
6. No oil sheens, anaerobic or excess sludge accumulation conditions in the lagoons.
7. No weeds, rodents, or erosion.
8. Fencing structurally sound, signs posted, gates locked, and security adequate.
9. Aeration, diffusers, blowers, and DO operational and adequate.
10. Valves exercised and operational.