



# National Park Service

Office of Public Health Year End Report 2009



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Division of Public Health**

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## National Park Service Office of Public Health Summary of Activities

Fiscal Year 10/01/2008 through Fiscal Year 09/30/2009

### **Introduction**

The NPS Office of Public Health (OPH) provides the agencies internal public health capabilities. The OPH also assists with the public health needs of the entire Department of the Interior by serving as the departments' agent for the purpose of placing US Public Health Service (PHS) officers anywhere they might be needed and requested at DOI and all of its eight bureaus.

### **Mission**

The National Park Service Park Service Public Health Program assists park managers in reducing the risk of disease transmission and improving visitor protection by:

- Determining the potential public health hazards associated with each park unit
- Evaluating the degree of control that parks have over key public health issues
- Consulting with park management and staff to improve visitor protection

### **Major program Elements**

- Disease Surveillance and Outbreak Response
- Environmental Health
  - On-site Evaluation and Consultation
    - Drinking Water Safety and Waste Water Disposal
    - Food Safety
    - Zoonotic and Vector Borne Disease Prevention
- Comprehensive Public Health Protection and Promotion
- Emergency Preparation and Response

### **Organization and Staff**

The National Park Service OPH is largely staffed by commissioned officers on assignment from the United States Public Health Service and is organized into three branches. The Commissioned Corps Operation Branch provides personnel and budget services for the entire division. The Epidemiology Branch conducts disease surveillance, coordinates responses to disease transmission events and outbreaks, and serves as the divisions' liaison with other federal and state health agencies including the Centers for Disease Control and Prevention. A Field Services Branch provides direct services and on-site consultations for all of the NPS park units and regional offices. A division director, located in Washington, DC manages the OPH. An Assistant to the Director for Science produces science guidance documents in support of the OPH mission and quality assurance activities.

In addition to the staff of this national program, four parks maintain their own public health personnel (Lake Mead National Recreation Area, Sequoia-Kings Canyon National Park, Yosemite National Park and Gateway National Recreation Area).

PHS officers are also assigned outside of the OPH and serve the NPS through direct assignments to other programs, regions or parks. Assignments include officers with expertise in engineering, Industrial hygiene, epidemiology and environmental health.

In addition, as previously mentioned, there are PHS officers on direct assignments at the Department of Interior and its offices and bureaus. For all of these public health professionals, the NPS OPH serves as their personnel office and connection to the US PHS Commissioned Corps. Current assignments include DOI, Fish and Wildlife Service and the Bureau of Land Management.



## Environmental Health: Food and Water/Waste Water Evaluation Data Summary

### Background on Environmental Health Database

The OPH began maintaining evaluation data in a standardized, electronic database in 2007. Data for most food evaluations were entered starting in May 2007; pilot efforts to capture water and wastewater evaluation data were initiated in May 2008. The database was fully implemented in fiscal year (FY) 2009. All of the following charts are based on data entered into the electronic database.

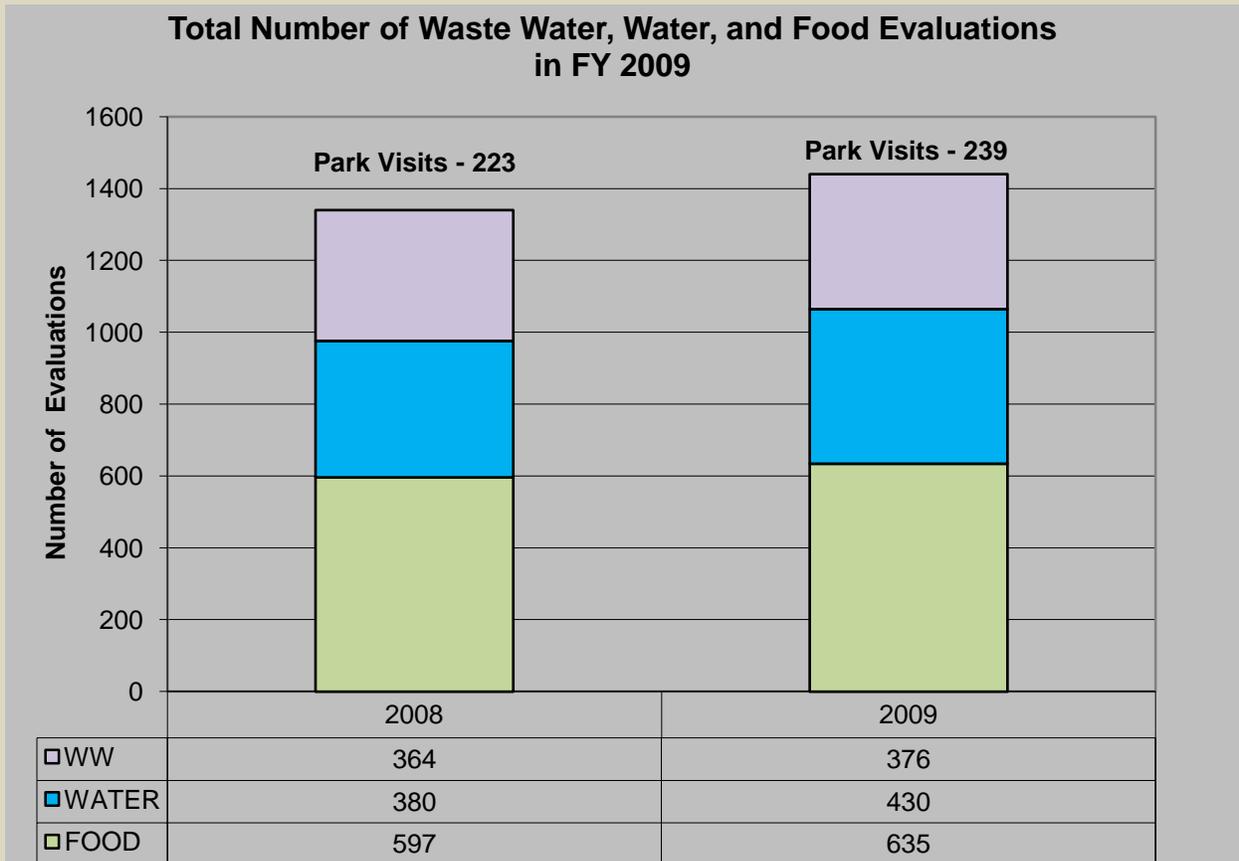
### Overall Park Visits and Evaluations

NPS PH consultants park visits FY 2009 totaled 239 (with visits where both EH survey and food evaluation occurred at the same site within the same month counted as 1 visit).

A comparison to FY 08 shows an overall:

- 7% increase in total park visits this year
- 3% increase in waste water system visits
- 13% increase in water system visits
- 6% increase in food service visits

The increase in water and waste water visits may be due to the fact that the reporting systems for both were not implemented until FY 2008.



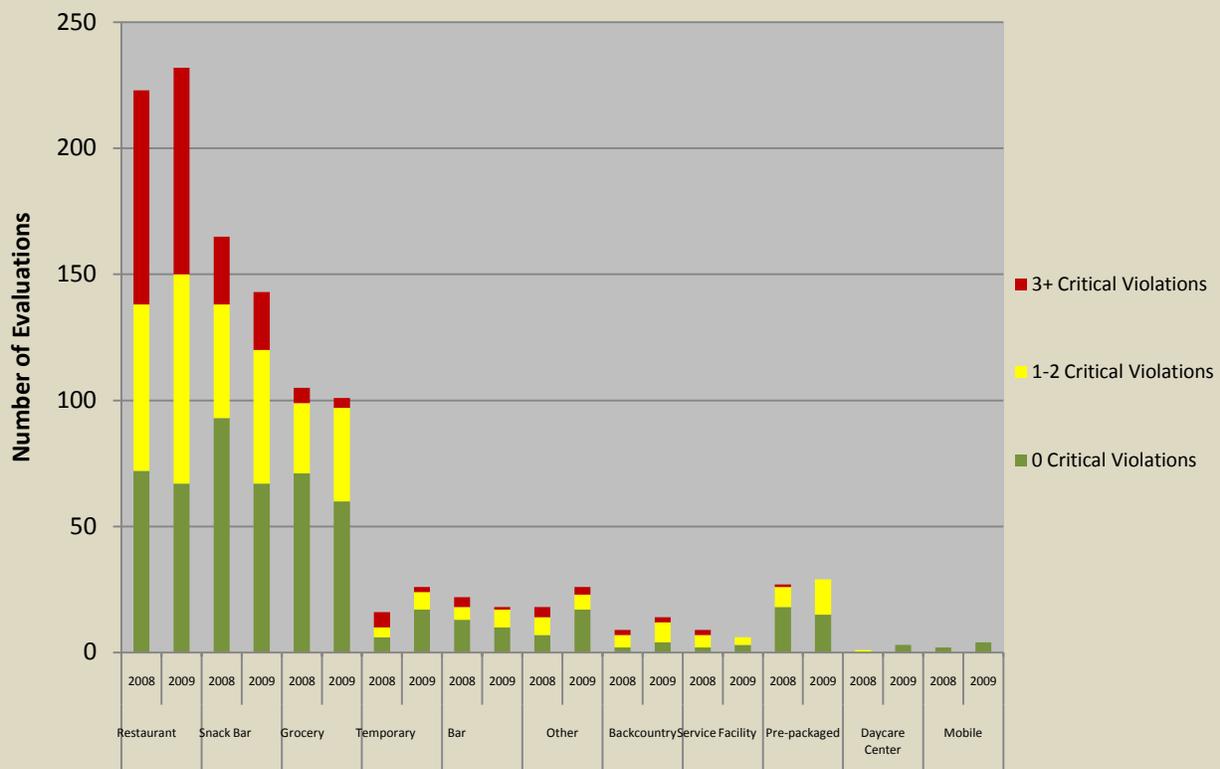
## Food Service Evaluations

602 of the 635 (95%) were entered into the environmental health reporting database.

- Of 578 food service evaluations rated, 94% were rated “satisfactory”, the highest rating possible.
- Restaurants and snack bars constituted 62% of all food service evaluations conducted and also represented the largest number of evaluations with 3 or more critical violations\*.

\*Per the 2005 Food and Drug Administration (FDA) Food Code and 2007 FDA Supplemental Food Code, a critical violation is issued if a facility is not in compliance with an item that is likely to contribute to food contamination, illness, or an environmental health hazard.

### Number of Critical Violations Per Evaluation By Facility Type



The top 5 critical food violations that were cited for all facility types are as follows:

1. Not keeping items appropriately cold (cited in 9% of all evaluations)
2. Dirty food contacting surfaces (4%)
3. Not keeping items appropriately hot (3%)
4. No expiration date on ready to eat potentially hazardous food (3%)
5. Not cooling food down in a rapid manner (3%)

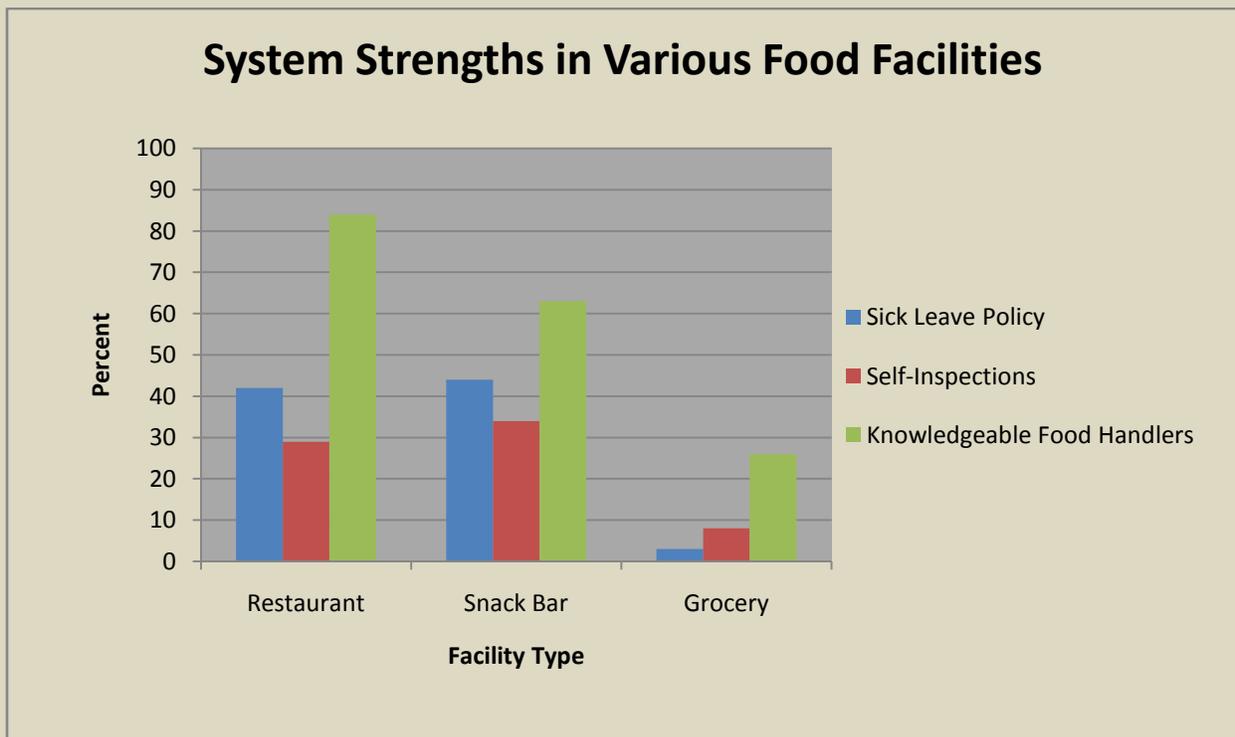
Based on food service evaluations and critical violations observed, appropriate management strategies and interventions were discussed with food facility operators, concessioners, and NPS staff.

Of the FDA risk factors commonly associated with food borne illness, the top 3 risk factors observed were:

1. Inadequate temperature control of foods (cited in 20% of all evaluations)
2. Food cross-contamination (13% of all evaluations)
3. Hand washing and bare hand contact (7% of all evaluations)

### System Strengths in Three Types of Facilities

The majority (84%) of all critical violations occur in restaurants, snack bars, and grocery stores. In those facilities, three notable strengths (sick leave policy, self-inspections, and knowledgeable food handlers) indicating facility control of food processes were noted within evaluated restaurant, snack bar, and grocery facilities. Establishment of a sick leave policy in facilities is important to prevent further spread of illness if a food handler becomes ill. Slightly less than half of snack bars (44%) and restaurants (49%) that were evaluated had sick leave policies, while only 20% of groceries had a similar policy. Self-inspections are a good indicator of a facility having grasp of their own food control processes. Snack bars (34%) and restaurants (29%) have a higher percentage of facilities that conduct their own inspections. Finally, food handlers that are trained in ways to properly handle and prepare foods can help reduce the risk of foodborne illnesses. Restaurants (84%) particularly had well-trained staff, followed by snack bars (63%) and groceries (26%).



## Water and Wastewater Recommendations

Recommendations for water and wastewater made by public health staff regarding areas for improvement are classified as:

- Major-violations that have a highly likely chance of impacting human health (e.g., primacy agency violations, not doing monitoring, etc.)
- Minor-violations that do not directly lead to a public health issue
- Unclassified

Recommendations are categorized by the area along the water or wastewater system that the observation was noted. If a problem is noted across multiple water or wastewater systems, the recommendation can be classified as system-wide, whereas if a problem is associated with a single system, then the recommendation can be classified as specific. Unclassified recommendations were not categorized into more specific steps in the treatment process.

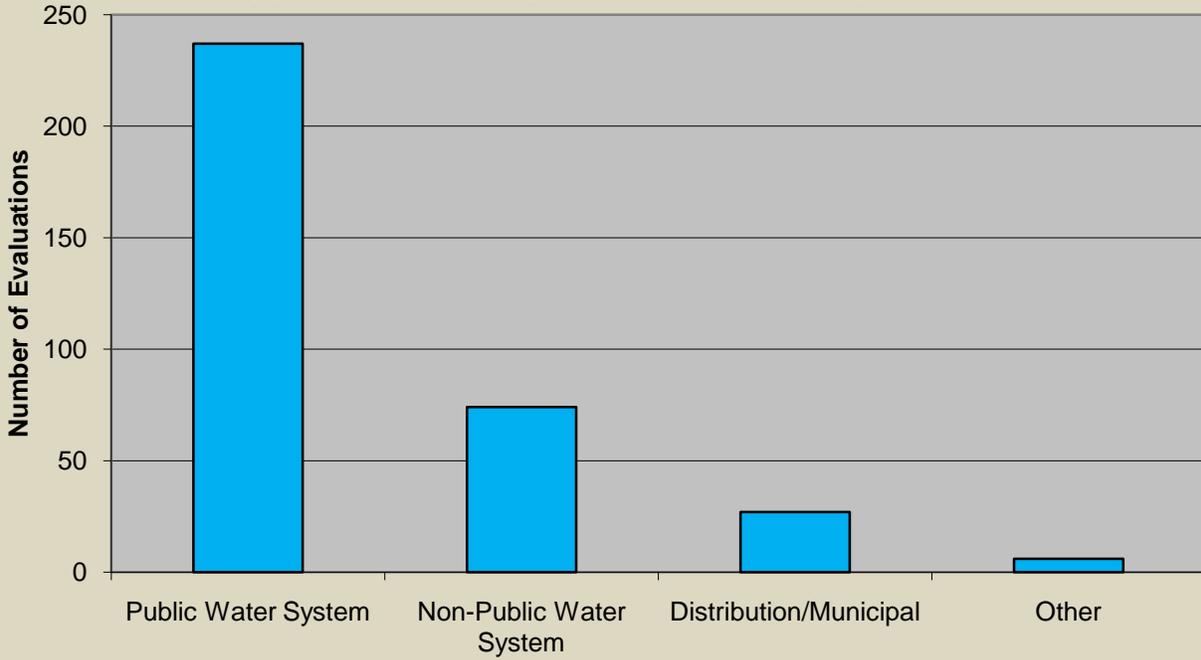
## Water Evaluations

344 of 430 (80%) water evaluations were completed and entered into the electronic database.

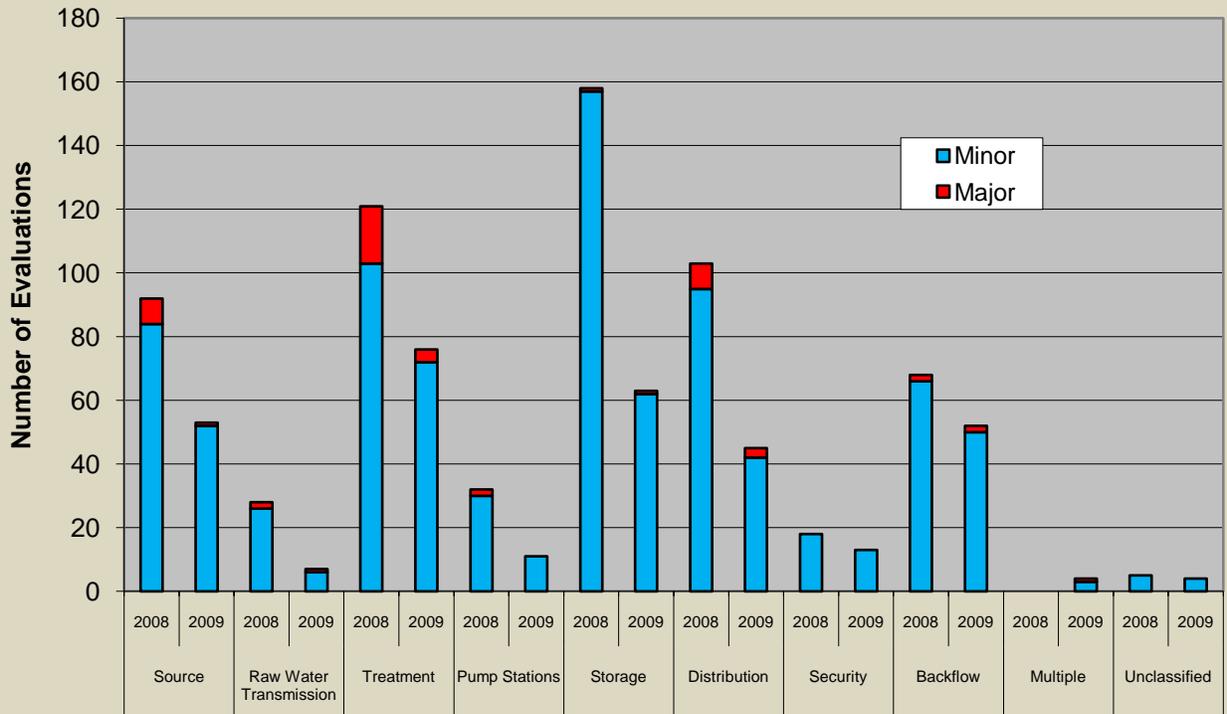
- Of 344 water systems analyzed (as shown in chart below):
  - 67% were public water systems utilized by at least 25 persons or have 15 service connections
  - Second in number of systems evaluated were small non-public water systems (e.g., small ranger station)
  - 8% of evaluations were of distribution/municipal systems where NPS units distributed water primarily maintained by non-NPS entities
  - "Other" systems constituting 2% of water systems evaluated were non-potable water systems not used by the public (e.g., fire hydrants)
- For water systems, most of the recommendations were categorized as minor. Overall recommendations fell from FY 08 to FY 09. This drop in recommendations could be attributed to PMIS project generation and park corrections made.
- Source, treatment and distribution portions of the water system had the most major problems. Source, treatment, storage and distribution had the most minor problems.



## Types of Water Systems Evaluated (N=344)



## Specific Water Recommendations by Process Area

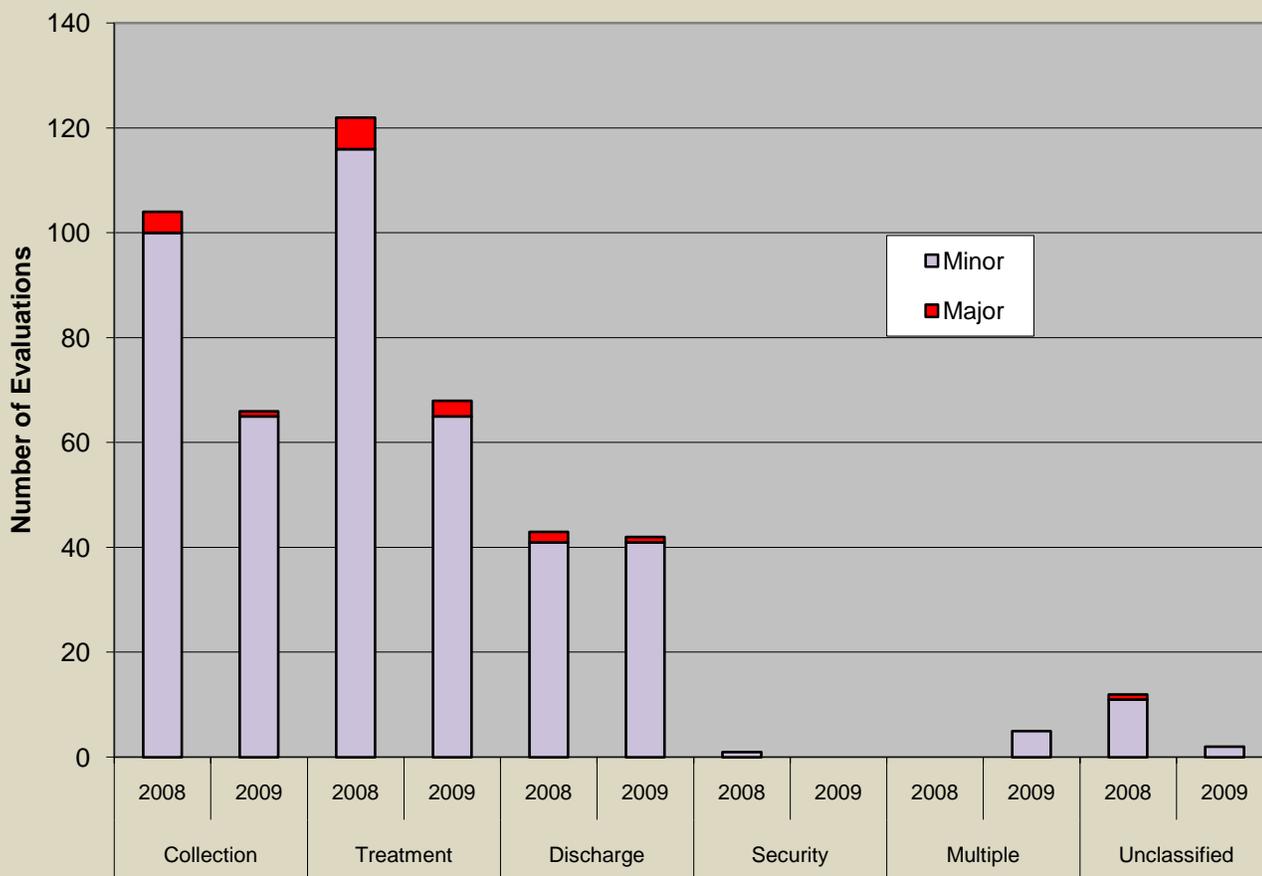


## Wastewater Evaluations

357 of 376 (95%) of the wastewater evaluations were completed and entered into the electronic database

- For wastewater systems, most of the recommendations were categorized as minor.
- Overall recommendations fell from FY 2008 to FY 2009. This drop in recommendations could be attributed to PMIS project generation and park corrections made.
- Collection, treatment and discharge portions of the waste water system represented the majority of recommendations made.

### Specific Wastewater Recommendations by Process Area



## Field Services Branch “Other Activities” in FY 2009

The public health consultants within the field services branch provide water, waste water, food service, and vector control assessments for our national parks. The consultants also provide technical assistance on any and all public health issues. These “other activities” in FY 2009 included:

### Environment Health Assessments

- Provided guidance and inspections at 522 temporary food events with the majority located on the National Mall and Memorial Parks
- Provided public health assessments of Harpers Ferry and other Job Corps Centers
- Conducted a special study to evaluate 1930’s era artesian water source systems and waste water systems at SHEN
- Provided technical assistance on recreational waters throughout the NPS

### Zoonotic and Vectorborne Disease Assistance and Outreach

- Provided hantavirus, bloodborne pathogens, zoonotic disease, backcountry sanitation, concessions, water and waste water training for park and regional staff throughout NPS
- Assisted Integrated Pest Management program with vector issues throughout NPS including guidance on Rabies, Histoplasmosis, Hantavirus, Plague, Tularemia, West Nile virus, and others
- Participated in disease outbreak and food borne illness outbreak investigations during the year

### General Public Health Assistance and Consultation

- Provided the NPS with guidance at the WASO, regional, and park levels on H1N1 influenza
- Assisted the parks with air quality guidance including mold, off gassing of fuels, carbon monoxide
- Assisted INDU with a public health booth during Bio-Blitz sponsored by NPS, State of Indiana, National Geographic, and nature groups

### Facility Assistance

- Participated in annual zone facility management meetings throughout the NPS
- Provided plan reviews and specifications reviews for concessions building modifications, Facility Management projects (PMIS and line item construction) throughout NPS
- Assisted HALE with setting up a waste water testing laboratory
- Assisted in the design and planning of new visitor center and infrastructure at MIMI
- Provided design assistance and technical planning for a new microfiltration water treatment plant at MORU to include arsenic removal

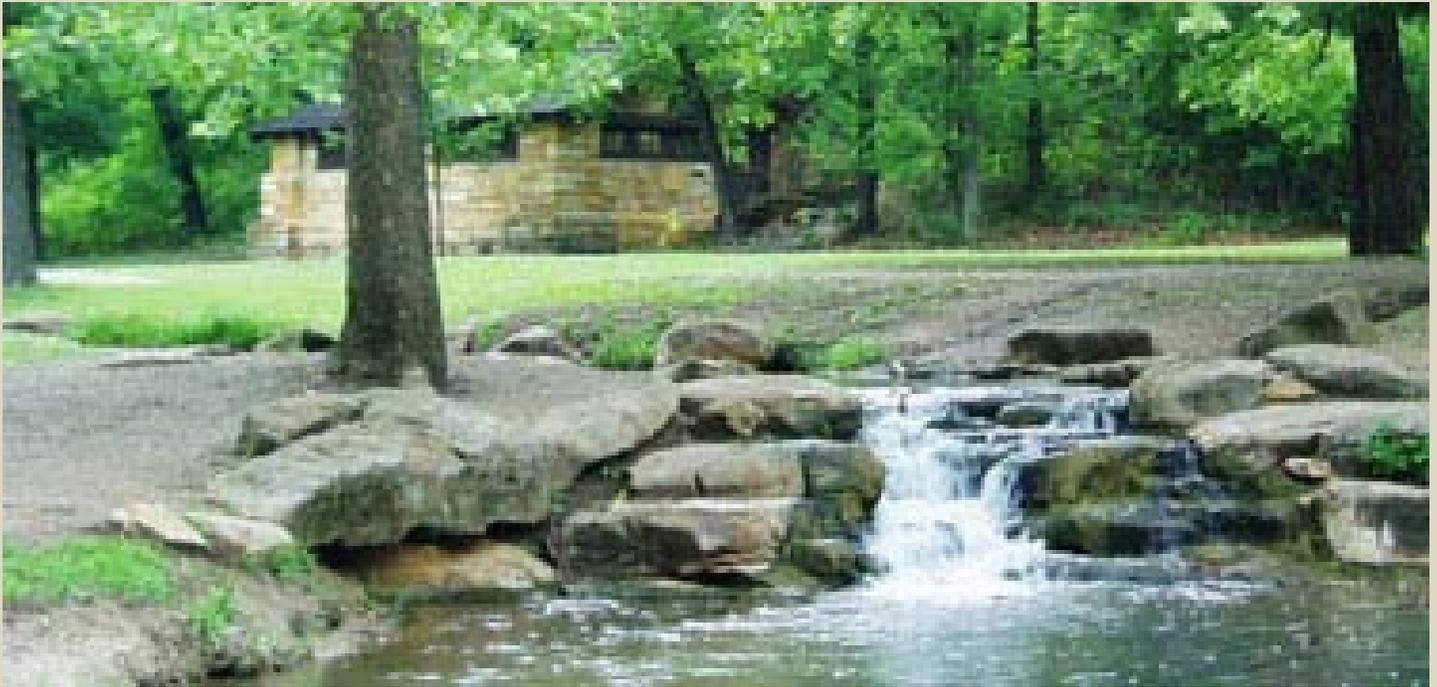
### Emergency Response

- Provided technical assistance to multiple parks during flood events in North Dakota and Georgia

## **Environmental Health – Park Unit Support Examples**

### **High Levels of *Escherichia coli* at Recreational Beaches at Chicasaw National Recreation Area**

Chicasaw National Recreation Area has had a history of elevated *E.Coli* levels at several recreational beaches in the park. In 2009, CAPT Joe Winkelmaier and OPH recommended and funded the purchase of sampling equipment that would allow faster and more extensive testing of the swim areas. Soon after the purchase and implementation of the equipment, a sewer spill was found that is suspected to be responsible for an outbreak among a group of campers. The sampling equipment allowed the park to indentify and respond rapidly to the threat, elevate the confidence level that the issue was addressed, and reopen the impacted waters in a timely manner.



### **Office of Public Health New Web Site and Utilization of Share Point**

In 2009, Paul Schwarz set up and implemented the Office of Public Health new web site for the National Park Service, Department of Interior. This web site provides public health related information to staff and the public. This new web site can be accessed through Inside NPS and has been instrumental in conveying information on H1N1 and other health related topics. Also, Mr. Schwarz was instrumental in the implementation of Share Point for our NPS Public Health core and associate staff.

### **Emphasis placed on Backcountry Sanitation at Grand Canyon National Park**

During 2009 renewed emphasis was placed on backcountry sanitation at the GRCA. CAPT Joe Winkelmaier worked closely with outfitters and park staff to clearly define what was expected and provided off-river training and awareness. The program has resulted in clear standards and well informed guides that recognize the importance of the requirements. Key elements include a back country public health “kit” carried on each trip, annual presentation to outfitters, and setting up an informational table at the annual guide training seminar.

## Chattahoochee River National Recreation Area Flood Response

Major flooding occurred in the Atlanta Metro area during the week of September 20, 2009. Sewer plants along the Chattahoochee River were overwhelmed and overflowed waste water for several days, dumping hundreds of thousands of gallons of raw sewage into the park.



In response, CAPT Theresa McDarmont travelled to Chattahoochee River NRA to consult with park staff and present information on several public health topics including personal protection equipment, cleaning materials, cleaning equipment, disposal of waste, procedures for cleaning contaminated surfaces, mold prevention, hygiene, disease prevention and sanitation. The PHC recommended that the river be closed to recreational uses due to public health risks until fecal coliform levels returned to EPA recommended normal levels.

## Electrical Cable Mold in Wind Cave National Park

In April 2009, park maintenance staff at Wind Cave found extensive mold growing on newly install electric cable throughout the cave. The electrical wiring is used to illuminate the cave for park tours. The mold was not only a health concern for the public and park staff, but also posed a threat to the cave's pristine environment. CAPT Robert Reiss worked closely with park management to come up with a cleaning plan and eventually a replacement mold resistant wiring for the cave. Technical assistance included proper personal protection equipment for cleaning the cables and eventual removal of the moldy cable. Testing protocols were implemented along with cave tour modifications so that the cave could remain open to the public.

## Olympic National Park Concessions Fire Hazards at Sol Duc and Hurricane Ridge



During routine inspection of the Sol Duc and Hurricane Ridge food service establishments in Olympic National Park, CAPT John Leffel discovered problems with both of the type 1 ventilation hoods in the concessions kitchens. The hoods were full of grease and debris and were immediate fire hazards to the facilities. The fire hazards were compounded by the remoteness of the two facilities and faulty existing fire suppression system at Hurricane Ridge.

The park and concessions were able to clean and correct the deficiency at the Hurricane Ridge facility; however the Sol Duc resort facility needed redesign and modifications. CAPT Leffel provided technical assistance to the park and concessions operation with all hazards corrected.

## "Chronic Wasting Disease" and Donating Meat for Human Consumption

In 2009, LCDR George Larsen provided direct consultation to two parks on Chronic Wasting Disease, lethal removal of deer and donation of meat (Cuyahoga Valley National Park and Catoctin Mountain Park). Discussions with the parks centered around practical ways that the parks might achieve the targeted CWD surveillance testing numbers recommended by BRMD, while also meeting the intent of the public health guidance for donation of meat.

## Field Services Branch Goals for Fiscal Year 2010

- Establish working across National Park Service regional boundaries enhancing efficiency and reducing travel costs.
- Establish a two consultant evaluation approach for our larger parks-one Environmental Health Officer and one Engineer Officer perform environmental health assessments at 1 to 5 parks per year on a multiyear cycle. This concept would provide a more in depth approach at evaluating water, waste water and food service infrastructure at our largest parks.
- Establish a training program on a national scale to include all regions in the NPS. Training to include water operator, waste water operator and food service. This training would include certified instructors providing continuing education credits for operators and travel assistance for NPS attendees.
- Update national workload data for the Field Services portion of the Public Health Program.
- Improve our existing Environmental Health Reporting System to make it user friendly and professionally presentable.
- Develop updated strategic plans for the Field Services Branch.
- Revise the Field Services Branch Standard Operating Procedures.
- Review and update DO 83 prior to sunset clause in October 2010.
- Review and investigate urban park public health issues.

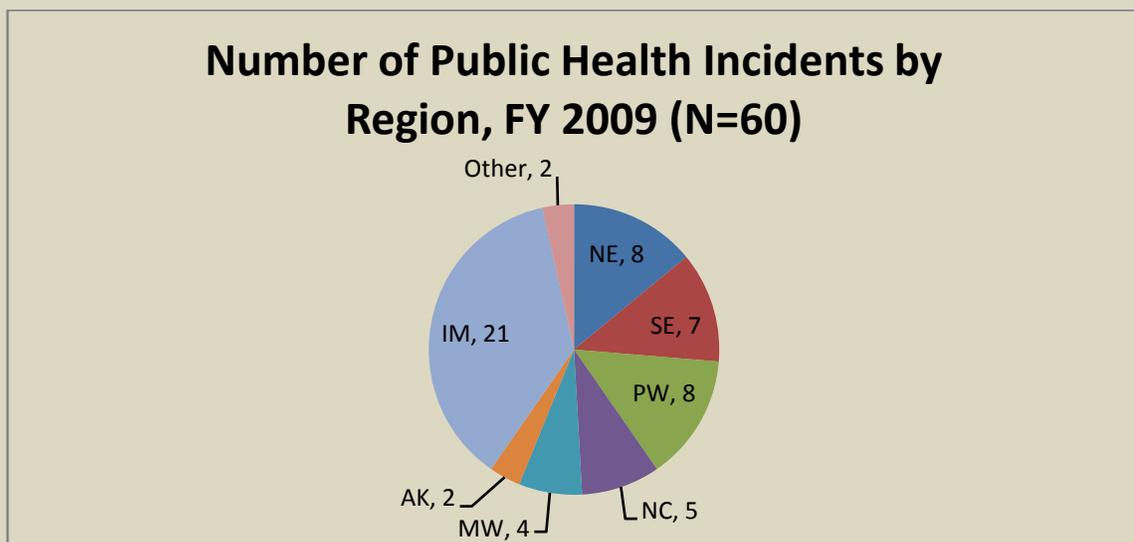


## Disease Transmission, Outbreaks and Response

All public health staff assisted in responding to infectious disease case reports, outbreaks, and other incidents potentially involving human disease transmission. These public health responses were primarily coordinated by the Epidemiology Branch Chief.

### **FY 2009 Summary**

- 60 incidents involving 35 NPS units/offices, WASO, the U.S. Park Police, the Bureau of Land Management, and the National Interagency Fire Center
  - Same number of incidents as FY 2008
- Responses included collaboration with 15 state and 13 local/county health departments
- CDC involved with 2 incidents
- 35% of incidents occurred in the IM Region
  - 5 parks/offices had 3 or more incidents (GRCA, MACA, NERO, WASO, and YELL)
- Incidents involved employees (50%), visitors (35%), visitors and employees (3%), and wildlife (13%)



### **Major responses**

- Hantavirus in Arizona (possible exposure at GRCA)
- Legionnaire's disease in a NERO employee
- Measles at GRCA
- Radiation contamination at GATE
- Vulture/opossum die-off at BICY (cause determined to be pesticide poisoning)
- Presumed water-borne outbreak at CHIC

### **Other responses (examples)**

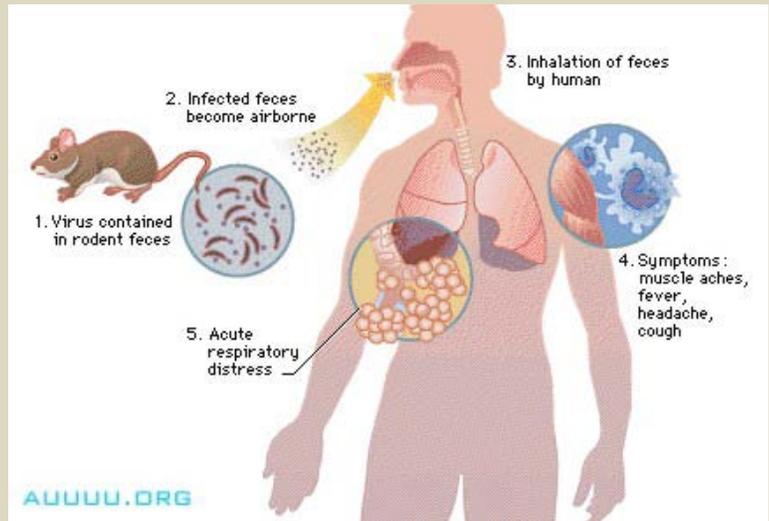
- 15 H1N1 cases/clusters (25% of all incidents)
- 8 animal bites/rabies concerns
- 7 norovirus clusters (presumed or confirmed) at 6 NPS units and NIFC
- Unexplained employee death investigation at NERO (cause of death determined to be non-infectious)

## Disease and Outbreak Response Narratives

### A. Hantavirus exposure in Arizona/GRCA

Hantavirus cardiopulmonary syndrome (HCPS) is a rare, but often fatal, viral infection considered endemic in much of the United States; more human cases occur in the West compared to other regions. In the U.S., HCPS is primarily associated with exposure to infected deer mice, which shed viruses in urine, feces, and/or saliva. When these viruses are aerosolized, transmission to humans may occur. Person-to-person transmission of hantaviruses has never been documented in the U.S.

In May 2009, an out-of-state resident visited GRCA and participated in a 15-day river rafting trip. Upon returning to her home state, the traveler developed acute respiratory failure and was diagnosed post-mortem with HCPS. Stuart Castle, the volunteer epidemiologist-in-residence at GRCA, and CDR David Wong collaborated with the Coconino County Health Department (CCHD) and the Arizona Department of Health Services to investigate the potential exposure source. Although evidence of rodent activity was noted at one of the hotels (outside of the park) where the visitor had stayed, the visitor's exposure could have occurred at many locations both within and outside the park. In response, OPH and the GRCA Safety Office developed a brochure highlighting the potential risk from HCPS and other zoonotic diseases as well as appropriate prevention measures in the backcountry. The brochure is currently being distributed to all river rafters at GRCA.



### B. Radiation contamination at GATE

Since 2005, elevated gamma radiation readings have been documented at several locations in Great Kills Park, an area within the Staten Island Unit of the Gateway National Recreation Area (GATE) in New York City. Known radiation hotspots have been remediated and/or closed to the public. The source of the radiation is presumed to be radioactive waste materials (Radium-226), which were likely deposited in Great Kills Park when much of the area was created by a massive landfill operation in the 1940s.

In March 2009, Barry Sullivan, the General Superintendent at GATE, requested that CDR David Wong, review all available radiation measurements and provide a medical opinion on potential health risks to visitors and employees. CDR Wong reviewed reports and studies conducted by the New York City Department of Health and Mental Hygiene and the Agency for Toxic Substances and Disease Registry. CDR Wong concluded that, based on the available data, there did not appear to be a significant public health risk from radiation exposure at Great Kills Park. Nevertheless, because the data were limited, CDR Wong recommended that additional studies be conducted to determine the full extent and scope of radiological contamination and to better assess human health risk. Additional radiological assessments at GATE are being planned or are underway.

### C. Legionnaire's disease in a NERO employee

*Legionella* is a bacterium that was first described in 1976 and has since been identified as a relatively common cause of community-acquired pneumonia. The bacterium is present throughout the environment, particularly in water bodies (e.g. lakes and streams). Although 80% of cases of Legionnaire's disease in the U.S. are isolated, clusters of cases can occur and may be associated with contaminated water systems, such as heating and air-conditioning systems, whirlpool baths, decorative fountains, and landscape sprinklers. Numerous cases have been associated with contaminated water in hotels or on cruise ships. *Legionella* is not transmitted person-to-person.

In November 2008, a NERO employee was diagnosed with Legionnaire's disease after attending a concessions panel at EVER. The employee recovered after being admitted to a local hospital. The employee's possible exposure to *Legionella* could have occurred in his home state or at various locations in Florida, including the hotel and/or meeting space. In collaboration with the Miami-Dade County Health Department and 2 state health departments, CDR Wong reported this case to the appropriate authorities and, upon further investigation, determined that no other cases of Legionnaire's



disease had been associated with the hotel or workplace buildings at EVER or NERO. The case was considered to be sporadic, and no environmental or building investigations were initiated.

Photo of *Legionella* and human white blood cell, courtesy of Dr. Barry Fields, CDC

### Disease Surveillance

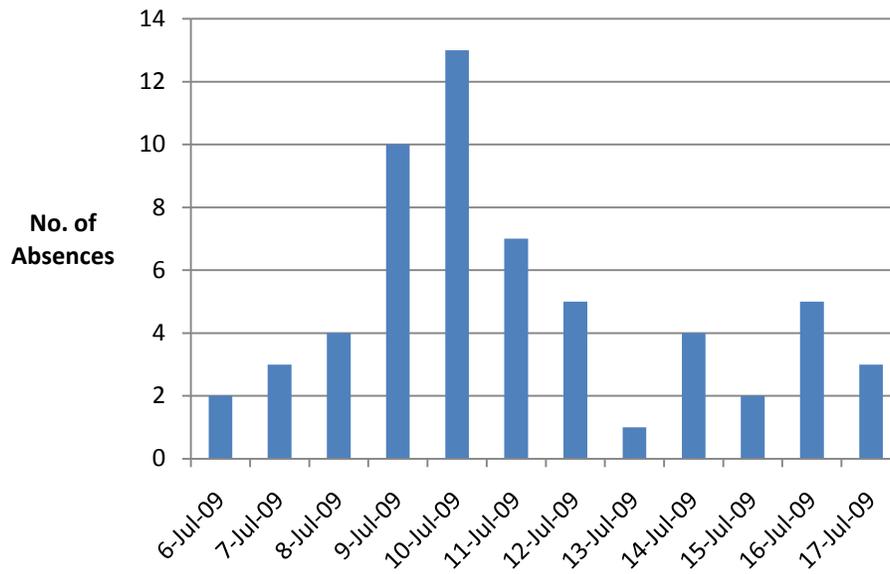
Another duty of the OPH epidemiology branch chief is to develop surveillance systems in order to improve detection of NPS-associated infectious disease case reports and outbreaks. FY09 marked the second year of formal efforts to collect and analyze health data from two different sources: 1) park-based data and 2) health department-based data (e.g. NPS-associated case reports that are reported to state health departments and the CDC). Improvements in park-based surveillance efforts at YELL are described below.

#### ***Park-Based Surveillance—Clinic data at YELL***

In May 2008, a web-based reporting system was initiated to track health-related absences among employees at Xanterra and Delaware North, the 2 largest concessioners at YELL. Through this system, park managers, concessioners, and OPH staff were able to identify and monitor clusters of gastrointestinal (GI) illness in real time.

In the Summer of 2009, surveillance of YELL clinic data was added for all patients diagnosed with acute gastroenteritis or related diagnoses. Together, data collected from the employee absenteeism and clinic surveillance systems provide a more complete picture of GI illnesses occurring park-wide among both employees and visitors. The below graph and table highlight data collected during a GI outbreak in July 2009 and indicate that, although some visitors were seen in the clinics, the outbreak primarily affected concessioner employees. These data were helpful for tailoring appropriate public health interventions and prevention messages at affected site locations.

**Daily Xanterra and Delaware North GI-Related Employee Absences during Cluster Event–YELL, July 6-17, 2009**



**Yellowstone NP Clinic Data**

**Characteristics of Patients Diagnosed with Gastroenteritis-like Illnesses from 7/6/2009 to 7/17/2009 (n = 25)**

<b>Sex</b>	Male	48.0%
<b>Age (years)</b>	Median	21
	Range	1 - 70
<b>Clinic</b>	Mammoth	24.0%
	Old Faithful	48.0%
	Lake	28.0%
<b>Patient Type</b>	Employee - NPS	N/A
	Employee - Concessioner	52.0%
	Visitor	48.0%
<b>Visitors(n = 12)</b>	International	41.7%

## Special Epidemiology Projects

### A. Volunteer Epidemiologists-in-Residence

In 2009, OPH piloted an innovative program to place volunteer epidemiologists in National Parks in order to augment park-based public health capacity.

Stuart Castle, MPH, and Leo Cropper, DVM, MPVM, DACVPM (assigned to GRCA and YELL, respectively), were the first epidemiologists hired through this inaugural Epidemiologists-in-Residence (EIR) program. In exchange for park housing and a small stipend, Mr. Castle and Dr. Cropper provided on-site public health expertise in conjunction with park managers and local/state health departments.

The 2009 EIR program was highly successful. Notable achievements included the following:

#### GRCA

- Assisted park managers in responding to human case reports of hantavirus infection and measles.
- Evaluated the risk for tick-borne relapsing fever at the North Rim and made recommendations to prevent future cases/outbreaks.
- Developed a zoonotic disease brochure that is currently being distributed to all river rafters.
- Explored the potential for emergency medical services (EMS) data to be collected as part of the OPH disease surveillance system.

#### YELL

- Developed a document outlining the response to H1N1 influenza (including distribution of H1N1 vaccine) between the park and neighboring state and county health departments.
- Coordinated a zoonotic disease roundtable with employees and managers of the Yellowstone Center for Resources.
- Hosted and organized a vector-borne disease assessment by the Air Force Research Laboratory.
- Reviewed brucellosis worker safety protocols.

The NPS Office of Public Health hopes to offer similar park-based volunteer opportunities for epidemiologists at these and/or other parks in 2010.

### B. Bioblitz at INDU

On May 15-16, 2009, the 3<sup>rd</sup> annual Bioblitz biodiversity festival, co-sponsored by the NPS and the National Geographic Society, was held at INDU. An estimated 5,000 people attended the event to conduct an inventory and learn more about the various flora and fauna species inhabiting the park.

As part of this event, OPH collaborated with the Indiana State Department of Health to host a public health booth on mosquito- and tick-borne diseases and their prevention. In addition, Bioblitz participants were encouraged to submit ticks collected after tick checks, where were then identified and tested for pathogens by Ball State University entomologists. Two species of ticks were identified; 4 of 99 (4%) American dog ticks were positive for *Rickettsiae*, the causative bacteria for Rocky Mountain spotted fever, and 2 out of 7 (29%) black-legged ticks were positive for *Borrelia burgdorferi*, the causative agent for Lyme disease. These data helped to assess the potential risk for tick-borne diseases at INDU. No tested ticks had been attached to individuals and, therefore, no participants required treatment based on our test results.

OPH plans to host educational booths at all future Bioblitzes leading up to the 2016 centennial of the NPS. The 2010 Bioblitz is scheduled for BISC.

#### Public Health Booth at INDU Bioblitz



#### **Commissioned Corps Operations Branch**

In FY 2009, the OPH assigned 6 officers and facilitated in the selection and placement of 5 Commissioned Officer Student interns to the Department of the Interior and its eight bureaus and now has a total of 43 USPHS Commissioned Officers assigned to the program.

Other highlights of the Commissioned Corps Operations Branch include:

- Establishing a recruitment process to develop a program that reflects the changing demographics of the country and one that will serve as a model program in the National Park Service, instituting a partnership and launching an on-going campus visit with North Carolina Central University, a historically black university that offers a degree in Public Health, with the purpose of educating young people about opportunities involved in the NPS and the preparation required, as well as to excite them about benefits and rewards.
- Developing new hiring guidelines and procedures, in an effort to provide an efficient and consistent competitive hiring process that promotes the recruitment, hiring, and retention of the best qualified individuals representing a broad spectrum of backgrounds.
- Creating "Pride and Distinction", a newsletter that serves as an excellent method of communication and a cost effective way of keeping all officers assigned to the Department of the Interior informed of Public Health Program information, activities, and achievements.



## Science Activities at OPH

Science activities within OPH for FY 2009 included:

- Collaborating with California (CA) Health Department to develop, implement, and conduct analysis on survey research project examining knowledge, attitudes, practices of CA National Park employees, resulting in a report to Pacific West region and possible future educational outreach to employees in that region
- Coordinating Department of Interior communication of fish advisory policy group to draft DOI-wide policy
- Conducting extensive literature search on lead issues specific to parks in a science guidance document
- Developing of a peer review guidance process to be implemented within OPH

