



Office of Public Health

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Issue: Emergence of Zika virus infections in the Americas

Park Sites At Risk: Parks in the US, Virgin Islands and in Puerto Rico.

Other Parks At Potential Risk: Parks in Florida, Pacific Islands, and along the U.S.–Mexico border as well as others where the *Aedes* mosquito species are present.

Other Parks: For information only

Date: January 14, 2016

Background: Local transmission of Zika virus in the Americas was first confirmed in February 2014 on Easter Island, Chile. In May 2015, Brazil reported its first locally-acquired human case of Zika virus disease. By the end of 2015, Zika—a virus transmitted by the same mosquito species that can also carry dengue and chikungunya viruses—had spread to 12 additional countries/territories in South/Central America, North America (Mexico), and the Caribbean.

In December 2015, Puerto Rico reported its first confirmed Zika virus case. To date, locally-transmitted Zika virus has not been reported within the continental United States. However, cases of Zika have been reported in returning travelers. Common symptoms of Zika include fever, rash, joint pain, or red eyes. The illness is usually mild and deaths have not been reported. There is no medication to treat Zika, only supportive care. As no vaccine is currently available, the best strategy is to prevent mosquito bites. Park managers should educate employees and visitors about Zika and other mosquito-borne pathogens and support/implement appropriate prevention measures.

Current Status:

For up-to-date information on Zika and transmission in the Americas:

- [U.S. Centers for Disease Control and Prevention \(CDC\)](#)
- [Pan American Health Organization \(PAHO\)](#)

Basic facts about Zika

- Viral disease transmitted to people by infected mosquitoes (*Aedes* species), which are introduced species that bite mainly during the day and can also transmit dengue virus and chikungunya virus
 - *Aedes* mosquitoes endemic in Puerto Rico, U.S. Virgin Islands, Hawaii, Guam, and American Samoa
 - *Aedes* also established in the continental United States, as far north as Iowa and New York, west to Texas, and in scattered areas of California, Arizona, and New Mexico ([see map](#))
- Zika virus was first described in 1947 in Uganda and until recently, it had remained mainly in Africa, with small and sporadic outbreaks in Asia

Signs and symptoms

- About 1 in 5 people infected with Zika virus become ill
- Symptoms usually begin 2-7 days after being bitten by an infected mosquito
- The most common symptoms are mild fever and skin rash, usually accompanied by red eyes, muscle or joint pain, and fatigue

- Other symptoms include headache, pain behind the eyes, and vomiting
- Many symptoms similar with those caused by dengue and chikungunya

Treatment

- There is no specific treatment or vaccine
- Care consists primarily of relieving pain, fever, and dehydration

Risk for complications

- Severe disease requiring hospitalization is uncommon
- Most patients feel better within a week
- There are reports of increased numbers of [babies born with microcephaly](#) (smaller than expected head size, with incomplete brain development) in Brazil. A possible association between Zika virus infection and microcephaly and is being investigated.

Prevention measures

- Use insect repellents
 - Repellents containing DEET (preferably, 20%-30%), picaridin, IR3535, and some oil of lemon eucalyptus and para-menthane-diol products provide longer-lasting protection (<http://www.cdc.gov/westnile/faq/repellent.html>)
 - If using both sunscreen and insect repellent, apply sunscreen first
- Wear long-sleeved shirts and long pants
- Wear permethrin-treated clothing
 - DO NOT treat skin with permethrin
- Use bed nets, window/door screens, and/or air conditioning
- Empty standing water from outdoor containers (e.g. flowerpots, tires, tarps)
- If Zika infection is suspected, see a healthcare provider and mention potential exposure to mosquitoes. To help prevent others from getting sick, avoid mosquito bites during the first week of illness. During the first week, Zika virus can be found in the blood and may be passed from an infected person to others via mosquito bites.

Implications and actions for NPS managers

- Review prevention measures with employees, concessioners, and volunteers, and post alerts on websites and in visitor centers
 - [CDC Zika Poster](#)
 - [CDC Mosquito Bite Prevention for Travelers Poster](#)
 - [PAHO Zika Poster](#)
- Encourage inclusion of mosquito prevention measures in job hazard analyses
- Document locations of and eliminate (in accordance with NPS policies) manmade mosquito habitat (e.g. containers of standing water) around human-occupied areas
- Prioritize maintenance work orders (e.g. installing/fixing screens) that can reduce risk for mosquito bites
- Contact your park/regional Integrated Pest Management (IPM) coordinator for additional information on managing mosquitoes in human-occupied areas
- If cases are identified at your park, consult with Office of Public Health, Office of Risk Management and/or IPM.

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