

Bathing Beach Sanitary Survey,
Acadia National Park, 2003

Introduction

A sanitary survey was conducted on June 2, 2003 at Echo Lake, Lake Wood, and Sand Beach. Bacterial monitoring will be conducted at these three bathing beaches in 2003. Each beach was walked to look for possible sources and pathways of contamination. Potential sources of bacterial contamination to these beaches remains essentially unchanged from last year, and no obvious problem areas were identified. A description of the area surrounding each beach with possible sources of contamination is provided below.

Sand Beach

This marine beach is located off the park loop road in Newport Cove on the East Side of Mount Desert Island. Sand Beach is a guarded beach that receives high visitor use in July and August. The beach is approximately 600 feet long. Water temperatures at Sand Beach range from the low 50's (degrees F) in early summer to low's 60's in August. The cold temperatures limit the time most bathers spend in the water. A small freshwater pond is located behind the fenced dune at the east-end of the beach. A shallow intermittent lagoon forms along the stream that flows from the pond when beach accretion seals off flow into the ocean. When the stream breaches the dune and flows into the ocean at the east end of the beach the lagoon disappears. When the shallow lagoon forms, the warm water attracts visitors including children for wading. Water temperatures in the lagoon reach the upper 70's (degree F).

Potential Sources of Contamination – The area surrounding Sand Beach is completely within Acadia National Park. The only anthropogenic sources of bacterial contamination are associated with park operations and visitor use. Possible sources of bacterial contamination include:

- 1) Direct contamination by bathers and other beach users (dogs are prohibited).
- 2) Sand Beach parking lot, capacity 140 vehicles. Storm drains channel runoff from the parking lot.
- 3) Park Loop Road (Ocean Drive).
- 4) Sand Beach restrooms and bathhouses, septic is pumped to a leach field approximately 1500 feet to the north of Sand Beach.
- 5) Sand Beach residence/septic, also located approximately 1500 feet north of the beach.

Bacterial Monitoring History - Bacterial monitoring for enterococci was conducted in 2002, and the mid-1990's at Sand Beach. Results from 2002 sampling consistently showed densities of < 10 which reflects the minimum detection limit for this lab test, and are consistent with bacterial densities from the mid-1990's monitoring.

Echo Lake Beach

This freshwater beach is located at the south end of Echo Lake, off Route 102 on the west-side of Mount Desert Island (see attached map). Echo Lake is 237 acres and has a maximum depth of 66 feet. Echo Lake beach is a guarded beach that receives high visitor use in July and August. The beach is approximately 150 feet long. Water temperature ranges from the mid-60's (degree F) in June to the high 70's in August. Lurvey Spring brook is the major inlet and flows into Echo Lake from the west-end of the beach.

Potential Sources of Contamination – Except for a single private inholding [a seasonal summer camp owned by the Appalachian Mountain Club (AMC)] the shoreline and upland portions of the watershed within 1 kilometer of Echo Lake Beach are within Acadia National Park. In addition to direct contamination by bathers other possible sources of contamination include:

- 1) Echo Lake beach parking lot, capacity 120, sheet drainage off the parking lot is to the south and east.
- 2) Echo Lake Beach restrooms.
- 3) Echo Lake Ranger residence/septic system.
- 4) Camp Beech Cliff, a day use summer camp, approximately 1.5 kilometers north of Echo Lake Beach on the west side of the lake. Private residences at the north end of Echo Lake, 2-2.5 kilometers from beach.

Bacterial Monitoring History – Single sample results for *E. coli* at Echo Lake Beach in 2002 ranged from 0 to a high of 100, with a maximum geometric mean of 12.1 colonies/100ml.

Lake Wood Beach

The primary swimming area at Lake Wood is an unguarded beach located at the north end of the lake. Lake Wood is not a designated swimming beach on any park maps, but it is relatively well known to local residents and some visitors. Access is by gravel road off of the Crooked road at the north end of Mount Desert Island. The main swimming area is a small grass and gravel beach, less than 100 feet long, located at the north end of the lake. Lake Wood is 17 acres, with a maximum depth of 11 feet. Water temperature reaches the upper 70's in mid-summer. The amount of use has not been determined but it is likely less than 40 people per 100 linear feet.

Potential Sources of Contamination

- 1) Direct contamination by bathers (dogs are prohibited from swimming).
- 2) A small parking lot (approximately 10-car capacity), is 600 feet from the beach.
- 3) A small one-person composting toilet located at the parking lot.

Bacterial Monitoring History - Single sample results for *E. coli* at Lake Wood in 2002 ranged from 0 to a high of 96, with a maximum geometric mean of 9.7 colonies/100ml.