Public perceptions and beach management.

A parks role in managing habitat, recreational opportunities and public opinion.

Dolf DeJong  B. Ed, M.E.S.
Assistant Park Superintendent
Ontario Parks- Bronte Creek Provincial Park
Abstract

Over the past 100 years, the beach at Presqu’île Provincial Park in Brighton, Ontario has been subjected to a wide range of management techniques. Recent efforts to promote sand deposition, encourage foredune growth and promote natural succession have been met with mixed reaction from interest groups. Outreach programs have been initiated and promoted significant discussion on what constitutes a “healthy” beach.
Introduction

- Background on beach management at the park
- Current practices
- Issues and Stakeholders
- Managing the issues and successes
Presqu’île Provincial Park, Ontario, Canada
Presqu’ile Provincial Park
Park usage

- 400 campsites
- Trail system
- Educational programs
- Destination campground
Park usage

- 1998 - 257,000 visitors
- 2005 - 217,000 visitors
  - Campground usage appears to be steady
  - No longer seeing line ups at the park gates for day use entry
  - Anecdotal evidence suggests use of the park beach has been declining over the past decade
Potential Causes of the decline:
- Perceived lower beach quality/aesthetic value
- Increasing number of e-coli related beach closures
- Public awareness over the dangers of the sun

Regardless of the cause, the decline is of concern to park staff and local businesses.

Management techniques are under constant scrutiny.
Beach management techniques - a brief history

- In the 1920s
  - Presqu’ile Park commission opens in 1922.
  - Begin sporadic beach maintenance and raking in the summer for aesthetics / recreational opportunities.
Beach management techniques

- In the 1950s
  - Presqu’île becomes a provincial park in 1954.
  - Images of cars lining the beach.
In the 1950s

- Regular beach raking begins in the summer for aesthetics / recreational opportunities.

- Park staff collect algae and aquatic vegetation by hand and with tractors. Collected material is transport in trucks to be stored elsewhere.
Beach management techniques

In the 1970s

- Park purchases an “beach cleaner” to collect algae, scrapped after one season.
- The quest for a “fluffy” tropical beach continues.
Beach management techniques

In the 1970s

- Raking continues to promote aesthetics / recreational opportunities
- Focus on the clean up Algae and Alewives
- 1975 beach cleaning costs are $14,400.
Beach management techniques

In the 1980s

- Significant decline in algae growth and deposition on the beach due to the regulation of phosphorus in detergents.
- Park continues to rake beach.
Beach management techniques

Early 1990s

- Park continues to rake for aesthetics / recreational opportunities.
- Zebra mussels arrive in Lake Ontario.
- Algae growth per unit area remains close to 1980’s levels, but increased clarity of water through zebra mussels opens up new habitat for algae to grow.
Beach management techniques

Early 1990s

- Establishment of dunes with marram grass to prevent having to plough sand out of parking lots.

- Snow fence the length of the beach to capture sand.
Beach management techniques

Mid to late 1990s

- Park continues to rake for aesthetics / recreational opportunities.
- Algae deposits on the beaches increase.
- Large quantities of Zebra mussels begin to be deposited in the fall.
Beach management techniques

1999

- The park collects algae deposits with tractors and trucks and store on beach- 95% of the contents is sand.
- 248 5-ton truck loads collected in one summer...
Beach management techniques

2001 to 2004

- Begin redistributing sand along littoral zone where it was collected and foredune destroyed
The scale of the task required heavy machinery.
Beach management techniques

2001 to 2004

- The new “embryo” foredune, returning the sand to where it was collected from.
Beach management techniques

2001 to 2004

- After the winter, grading the dune to reduce the slope. Note the change in water level.
Beach management techniques

2001 to 2004

- Fence erected perpendicular to dominant wind direction instead of parallel to the beach.
Beach management techniques

2001 to 2004
- Managing to provide suitable shorebird habitat
- Recognizing the importance of beach pools
Beach management techniques

2001 to 2004

- Begin reducing the width of the beach and encouraging vegetation growth at the rear of the beach.
Impacts of Beach Management

- Absence of foredune
Impacts of Beach Management

- Low profile
Impacts of Beach Management

- Waterlogged
Impacts of Beach Management

- Raking in the summer to speed drying also encourages erosion
Impacts of Beach Management

- W I D E beach
A heavily modified landform...

- Human influence has significantly altered the natural processes for almost a century.
- These changes have resulted in the “new beach” being of interest to a broad range of stakeholders.
Stakeholder Conflicts

- Each group has an agenda that alienates at least one of the other stakeholders:
  - Swimmers/kites/joggers/dogs flush shorebirds.
  - Dogs chase people and kites.
  - No one can be on the beach when waterfowl hunters present.
  - Carts run over people.
  - The geomorph’s plans will make the beach less appealing for shorebirds.
Managing the Issues

- Timing is critical—we can ensure operations suit the user groups by choosing wisely:
  - Spring: Important to migrating shorebirds / naturalists
  - remove snowfence prior to shorebird arrival
Managing the Issues

- Mid June- begin beach maintenance and “clean up”.
- Summer- Maintain for Park users
Managing the Issues

- Mid August- stop beach maintenance as it marks the return of migrating shorebirds
Managing the Issues

- Fall-
  Waterfowl hunters
- Erect
  snowfence and redistribute collected sand
Managing the Issues

- Winter - key period for sediment transport.
Managing the Issues

Other management approaches used include:

- Kites, kite carts and dogs are all prohibited on the beach.
- Redistributing sand, using snowfence and letting Owen Point naturalize has reduced the amount of “ideal artificial habitat” for shorebirds.
- Encouraging foredune growth has also promoted beach pools, good for shorebirds but....
- Beach users feel the beach is no longer maintained properly since it is smaller and “less fluffy”
- Beach management does continue at the tail end of spring migration and beginning of fall migration
- Waterfowl hunting continues
Managing the Issues

- A beach management committee was formed in 2004 to get feedback from the user groups.
- Park signage has been erected.
- Educational programs are offered on beach.
- Articles in Park tabloids and newspapers.
Education Programs

- Promoting the value of dunes and beaches as habitat
  - Guided Hikes
  - Evening Programs
  - Childrens Programs

- Modifying the public perception that a bigger beach is a better beach
Where to from here

- Encouraging natural processes and public support
- Encouraging Dune protection- from parking lot to waters edge
Where to from here

- Expanding interpretive signage / publications

Notice

This area is undergoing dune stabilization. Please follow marked walkways to beach.

These walkways guide you through a rare sand dune community. Plants that are specially adapted to withstand the rigours of this hot, dry environment, anchor and stabilize the sand. Any damage to the protective cover would result in rapid and fatal erosion.

Please help preserve Presqu’ile’s sand dunes by using the marked walkways when crossing the dunes.
Where to from here

- Research on the impacts of the management techniques
- Explore other management techniques such as artificial shorebird pools
Where to from here

- Continue to cultivate partnerships with stakeholders and researchers to update beach management strategies and incorporate them into park operating plans.
- Build on some of the successes and establish new policies.
Parks doing things well

- Inverhuron- before and after
Parks doing things well

Sensitive Area

The dunes at Inverhuron provide natural shore protection and are habitat for rare and endangered plants.

Please take special care not to disturb the dunes. Access the beach using the boardwalks.

Protecting Inverhuron’s Dunes

Coastal Dune systems are among the most fragile ecological systems in North America. Great Lakes dune systems in Ontario are extremely rare and nationally significant.

Plants found on coastal dunes have adapted to a harsh environment. They are able to withstand periodic burial, low levels of nutrients and extremes of wind, wind and temperature extremes. Dune grasses also grow on the surface, which protects the dunes against wind erosion.

Found within the dunes at Inverhuron is Pitcher’s Thistle. This endangered plant is known to exist in less than 20 locations in Ontario. Pitcher’s Thistle plants usually live from five to eight years. After flowering and producing seeds, the plant dies.

The Pitcher’s Thistle - Lake Huron Dune Grasslands Recovery project is dedicated to conserving dune habitat. This boardwalk highlights their contribution to Inverhuron Provincial Park.

Please take special care not to disturb the dunes or their vegetation.
Parks doing things well

- **Presqu’île**
  - Removal of buildings from Dune area

![2003 Image](image1.png)  ![2004 Image](image2.png)
Parks doing things well

- Presqu’ile
  - Owen Point Trail
Thank You

Any Questions?
Significant changes to local geomorphology since 1950

- A channel and marina at Owen Point has been filled in.
Significant changes to local geomorphology since 1950

- Establishment of dunes with marram grass to prevent having to plough snow out of parking lots.
Significant changes to local geomorphology since 1950

- Naturalizing south of Beach #4
Significant changes to local geomorphology since 1950

- Naturalizing south of Beach #4
Today’s Park users

- Traditional beach visitors
  - In search of the sandy, fluffy beach
Today’s Park users

- Birders / naturalists
  - In search of the large flat beach with pools
  - Need minimal disturbance by other users to ensure birds are not disturbed
Today’s Park users

- Waterfowl Hunters
  - Need everyone else out...
Today’s Park users

- Dog owners
  - Need space, issues with excrement and dogs chasing other users, shorebirds.
Today’s Park users

- Extreme sports
  - Need large, flat and open area.
  - Conflicts with other users and shorebirds
Today’s Park users

- Kite enthusiasts
  - Need open area with wind
  - Frighten shorebirds
Today’s Park users

- Joggers
  - Prefer to run along the shoreline
  - Tend to flush migrating shorebirds
Today’s Park users

- Geomorphologists
  - Trying to have a stable beach and dune system operating under natural conditions.