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Kejimkujik

National Park and National Historic Site of Canada

State of the Park and Site Report

2011

Canada

KEJIMKUJIK

NATIONAL PARK AND NATIONAL HISTORIC SITE OF CANADA

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Executive Summary

This State of the Park & Site Report for Kejimkujik National Park and National Historic Site provides a snapshot on the state of the park and site, reports on achievements in meeting Parks Canada performance expectations, reports the results of efforts to maintain or improve the state of the park and site since the 1995 management plan,[1] and identifies key issues that emerge from the report. This is the first State of the Park & Site Report (SoPSR) for Kejimkujik. It addresses both the inland portion of the park, which is also a national historic site, and Kejimkujik Seaside.

Following the introduction, Chapter 2 of the report provides a brief overview of the important relationship between Kejimkujik and the Mi'kmaq of Nova Scotia. Kejimkujik (the inland portion) is the first and only national park in Canada that has also been designated a national historic site, recognizing that Kejimkujik is a Mi'kmaw cultural landscape that attests to aboriginal occupancy since time immemorial.

Chapter 3 is the heart of the report – providing a snapshot of the condition of natural and cultural resources as well as the state of visitor experience and public appreciation and understanding through the use of indicators. This information is summarized in the State of the Park and Site Table (Table 1).

A well established ecological integrity (EI) monitoring program provides assessments on the state of four EI indicators: forest, freshwater, wetland, and coastal ecosystems. The forests and freshwater ecosystems (in Kejimkujik inland) are considered in good condition, while more information is needed to assess wetlands (also found in Kejimkujik inland). The coastal ecosystem at Kejimkujik Seaside is currently considered to be in poor condition. Since this is the first SoPSR, indicator trends cannot be reported upon at this time but will be determined for the next report based on changes in the indicators over the next five years. For the species at risk indicator, the overall condition of species at risk is currently not rated since most require additional monitoring to assess their status and trend over time. However, the information available on the status of specific species is provided. In the absence of a commemorative integrity (CI) evaluation, the indicators for commemorative integrity for the national historic site – resource condition, effectiveness of communication, and select management practices – cannot be assigned a formal rating. However, preliminary assessments have been provided for the resource condition and select management practices indicators, considered to be fair to good and fair respectively. At Kejimkujik Seaside, which is not part of the national historic site, cultural resources are considered in good and stable condition and select management practices are rated as fair (minus).[2]

In terms of visitor experience, Kejimkujik has yet to conduct research that explicitly assesses the newly developed indicators – namely visits, learning, enjoyment, satisfaction, and meaning – and for most indicators, more information is required to determine trends over time. However, existing

[1] This report assesses management activity since the 1995 management plan. A new management plan was tabled in 2010 that addresses the issues raised in this report where possible.

[2] For commemorative integrity evaluations, a plus or minus is used to indicate that "the actual state is on the high or low borderline side of the colour."

social science research does provide considerable insight into the state of visitor experience and provides some information on trends. Visitation at both Kejimkujik inland and Kejimkujik Seaside is showing a declining trend. In terms of learning, most visitors do not come to Kejimkujik to learn but the majority of visitors indicate that they are very satisfied with their "visit as a learning experience". In the instances when social science demonstrates that Agency standards have been exceeded the measures are reported as "good". The enjoyment indicator is rated as good, as visitors are very satisfied with facilities, services, activities, and staff. The satisfaction indicator is also good, as visitors express very high satisfaction ratings overall for their visits. Both the enjoyment and satisfaction indicators are showing stable trends. Qualitative evidence also suggests that Kejimkujik is meaningful to many of its visitors.

Public appreciation and understanding is a new indicator that will be measured on a national basis. At the park/site level, Kejimkujik has a well-established public outreach education program, providing learning activities for local and regional schools. Kejimkujik reaches out to Canadians more broadly through its website, publications, and other media. The support indicator is also measured at the national level. Kejimkujik is well supported by its partners and stakeholders, as demonstrated by several active partnering arrangements, stakeholder engagement, and a successful volunteer program.

Chapter 4 of this report provides an assessment of the degree to which Kejimkujik has met performance expectations over the last five years as outlined in the 2004-5 Parks Canada Corporate Plan. These expectations have been largely met (Figure 1).

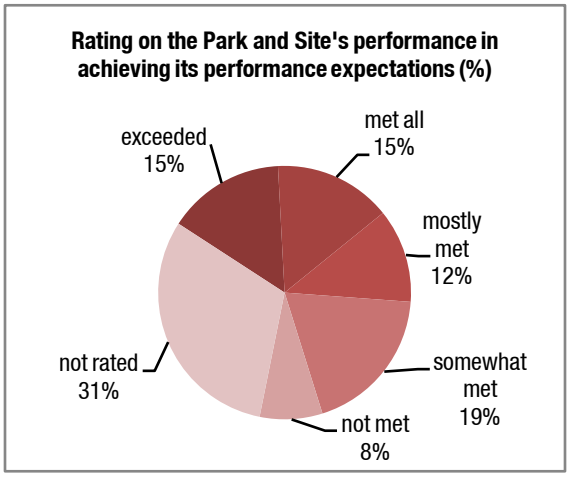

Figure 1: Rating on the Park and Site's Performance in achieving its performance expectations (%)

Chapter 5 reports on management results since the 1995 management plan. The chapter provides two success stories; namely the development of a visitor experience offer at the Seaside and the commemoration of Kejimkujik National Historic Site (the first combined national park and national historic site in Canada). It also lists key objectives from the 1995 plan and significant outcomes achieved including recovery efforts of species at risk, restoration of the Grafton and Mountain-Cobrielle Watersheds, ecological integrity and social science research projects, renewed learning opportunities, special events, and updates to the service and activity offer.

Chapter 6 briefly summarizes the key issues that have emerged from the analysis of the indicators, covering all aspects of the Agency's mandate (protection, experience, education), including the relationship with the Mi'kmaq, species at risk, declining visitation, and cultural resource management. Where possible, strategies and actions to address these issues have been developed and are included in the most recent management plan (2010).

Table 1: State of the Park and Site Summary

Indicator	State	Rationale
Resource Conservation – Ecological Integrity		
Forest		Forest ecosystems appear to be in good condition. The majority of forest measures are in good condition (nine out of eleven), one is in fair condition and one is not assessed as additional data is required to determine thresholds. Most forest measures require further monitoring before a trend can be reported. Management initiatives to maintain forest EI over the past five years have included trail restoration, research to understand forest disturbance and regeneration processes, and pilot initiatives in campground restoration and the removal of invasive plants.
Freshwater		Freshwater ecosystems are currently assessed to be in good condition. Four out of ten measures in the freshwater indicator are currently in good condition and six measures are in fair condition. Where trends have been identified, they are demonstrating stable or declining conditions of these measures over time. As a result, although this indicator is currently in good condition, it is nearing the threshold of being considered fair. Management initiatives to maintain and enhance freshwater EI have included the removal of old logging dams to restore historic water levels and fish habitat and efforts to better understand the impacts of acidification and mercury contamination at Kejimkujik.
Wetland		The overall condition of wetland ecosystems is currently not rated since three out of five measures require additional monitoring to assess their status and trend over time. Measures of the Blanding's turtle population at Kejimkujik are currently in fair and poor condition. Recovery and active management initiatives currently focus on preventing mortality and bolstering recruitment for Blanding's turtle.
Coastal		Coastal ecosystems are currently in poor condition. Three out of seven measures are currently in poor condition (piping plover population, invasive European green crab abundance, and eelgrass extent), two measures are in fair condition and two measures require additional information in order to provide status and trend assessment. In order to improve the condition of coastal ecosystems, management initiatives have focused on piping plover recovery and developing an approach to reduce European green crab populations to recover estuarine ecosystems.
Species at Risk		The overall condition of species at risk is currently not rated since most require additional monitoring to assess their status and trend. The Blanding's turtle has a stable short-term population trend, but the population is projected to decline over the long term unless significant management actions are continued. The piping plover population trend has stabilised but the population status remains poor. The short term trends for water-pennywort is also stable, however, this species has decreased over time to its current population level. Recovery actions include nest protection, population monitoring, and captive rearing for the Blanding's turtle; population and predator monitoring and restoration of nesting habitat for piping plover; monitoring stand condition and densities for water-pennywort.

Resource Conservation – Commemorative Integrity (Kejimkujik NHS)		
Cultural Resources Condition		In the absence of a Commemorative Integrity (CI) evaluation, the condition of cultural resources within the national historic site have not been assigned a formal rating but have been preliminarily assessed as being fair to good.
Effectiveness of Communication		Commemorative messages at the national historic site are delivered through a variety of programs, the Visitor Guide, and the HSMBC plaque. In the absence of a CI evaluation, this indicator cannot be rated.
Selected Management Practices		Although there is currently no formal cultural resource management strategy or monitoring program, management practices relating to the protection of cultural resources are preliminarily considered to be fair. The majority of resources have been inventoried and their significance evaluated. Staff regularly patrol culturally sensitive areas and note changes and the cultural resource manager is consulted on interventions that could impact cultural resources.
Resource Conservation – Cultural Resources (Kejimkujik Seaside)		
Condition		Cultural resources at the Seaside are considered in good and stable condition.
Selected Management Practices		Cultural resources have been inventoried and an initial assessment of their significance conducted although a Cultural Resource Values Statement has not yet been drafted. There is no formal cultural resource management strategy, however, the 2010 management plan commits to the completion of one. The field unit cultural resource manager and/or service centre archaeologist are consulted regarding the potential impact of interventions at the Seaside on cultural resources and any mitigation required.
Visitor Experience		
Visits		There is currently no Agency-wide criterion to guide the assessment of the visits indicator. However, attendance data shows that visitation at Kejimkujik inland has declined over the last decade by about 27% -- with approximately 52,000 annual visitors in the late 1990s and a low of 37,825 in 2009/10. The Seaside has had relatively stable visitation over the last few years with an average of about 14,000, but if compared to visitation 10 years ago (about18,000 visitors per year during the early 2000s), it can be seen as experiencing a decline of 22%.
Learning		The % of visitors who considered they learned at Kejimkujik has not yet been assessed. While there has been a decrease in recent years in attendance in interpretation programs at Kejimkujik inland, those who do attend provide satisfaction ratings of nearly 100% for most activities. Moreover, Kejimkujik inland has experienced a substantial increase in participation in enhanced learning opportunities such as citizen science. Although most visitors rate their visit to the Seaside as a satisfactory learning experience (79%), visitors and stakeholders note the lack of interpretation activities, particularly personal interpretation services.

Enjoyment		Although enjoyment has not been explicitly assessed, it can be inferred by the very high satisfaction levels achieved at both Kejimkujik in land and Seaside with facilities, services, activities, and staff. Satisfaction levels appear to be stable when compared to results from the late 1990s.
Satisfaction		Visitors at both Kejimkujik inland and Seaside express very high satisfaction with their visits overall (97 and 98% respectively), which are similar to results from 10 years ago. At both the inland and Seaside, visitors are moderately satisfied (76 and 73% respectively) with value for fees.
Meaning		Although meaning has not been formally assessed, qualitative analysis suggests that Kejimkujik is meaningful to many of its visitors, as evidenced by high repeat visitation and that many visitors have been coming for generations.
Public Appreciation and Understanding		
Appreciation and Understanding		This indicator has not been formally assessed at the park/site level. Public outreach education has focused on school programming for local and regional elementary and middle schools, presentations at local events (encouraging volunteerism and engagement), and special events. External communications include the park website, local publications, and regular radio interviews.
Support		Community, partner, and stakeholder engagement is a defining feature of Kejimkujik. The number of formal and informal relationships developed in recent years as well as Kejimkujik's successful volunteer program illustrates increasing cooperation among partners, stakeholders, and area residents, which suggests an improving trend for this indicator.

Condition [3]				**Trend**			
							**N/R**
Good	**Fair**	**Poor**	**Not Rated**	**Improving**	**Stable**	**Declining**	**Not Rated**

+/- The actual state is on the high/low borderline of the condition.

[3] To rate the condition of an EI indicator, every EI measure is given a score corresponding to its assessment color: green (good) = 2, yellow (fair) = 1, and red (poor) = 0. The average score for all EI measures is then calculated and multiplied by 50, which gives an indicator score between 0 and 100. When the calculated indicator score is 0-33, the *indicator* is rated as poor, 34-66 rated as fair, and 67-100 rated as good. Note that there is a special case if one third or more of the EI measures are red, in which case the precautionary principle is applied and the indicator is automatically rated as poor.

For example, the Kejimkujik freshwater indicator is composed of 4 measures rated green (each with a score of 2) and 6 measures rated yellow (each with a score of 1). The average of these ten measures is 1.4, which when multiplied by 50 gives an indicator score of 70, which is just high enough to be rated as being in good condition.

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1.0 Introduction

Park and Site Establishment

Kejimkujik National Park was acquired from the province in 1967 and formally established as a national park in 1974. It was established to protect a representative example of the Atlantic Coastal Uplands Natural Region for Canadians to discover and enjoy. Kejimkujik Seaside was acquired from the province in 1985 and designated as part of Kejimkujik National Park in 1988 to provide protection for the unique coastal attributes of the region. In 1995, the inland portion of Kejimkujik was designated as a national historic site because it is a significant Mi'kmaw cultural landscape that attests to Mi'kmaw occupancy of the area since time immemorial.

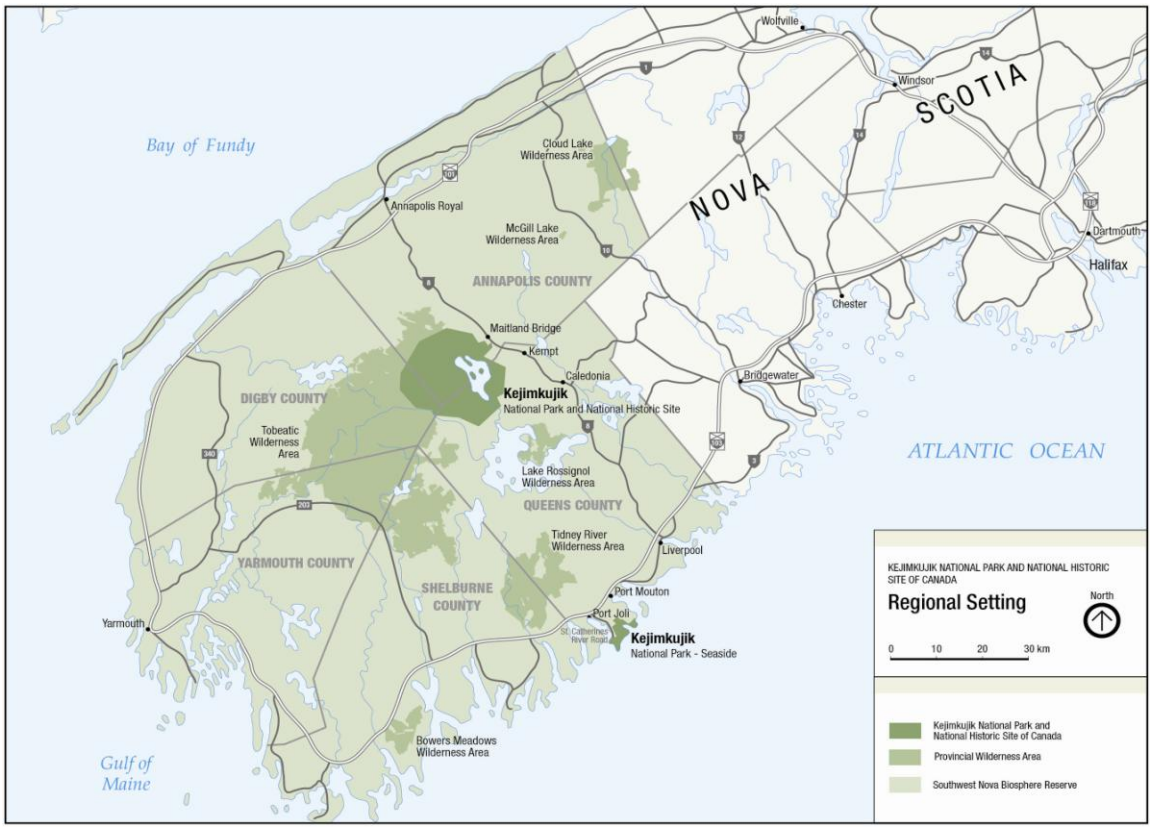
Dale Wilson.

Kejimkujik Setting

Kejimkujik is positioned within the Queens, Annapolis, and Digby regional municipalities of Nova Scotia. The inland portion (381 km^2) and Kejimkujik Seaside (22 km^2) protect a total area of 403 km^2. The inland portion is bounded by a mixture of private and Crown land, including the provincial Tobeatic Wilderness Area (900km^2). Together, Kejimkujik and the Tobeatic Wilderness Area form the largest protected wilderness area in the Maritimes. The nearest village, Caledonia, is 18 km to the east. Kejimkujik Seaside is situated on the coastline of Queens Regional Municipality and is bounded by private and Crown land with the villages of Port Joli and Port Mouton in the immediate vicinity. The nearest town, Liverpool, is 25 km to the east. Kejimkujik, the Tobeatic Wilderness (including a portion of the Shelburne River, a Canadian Heritage River) function as the core protected area for the Southwest Nova Biosphere Reserve (Map 1). Biosphere reserves represent important ecosystems and supporting cultures and are designated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as demonstration areas for innovative approaches to conservation and sustainable development. The Southwest Nova Biosphere reserve was designated in 2001 and includes five counties in the region.

Kejimkujik Context

Parks Canada works closely with the Mi'kmaq, other partners, stakeholders, and local people in support of the protection of Kejimkujik's natural and cultural heritage and in facilitating visitor experiences and public outreach education opportunities for Canadians. Kejimkujik can be divided into four ecosystem types based on terrestrial and aquatic features: forest, freshwater, wetlands (the Inland portion), and coastal (at the Seaside). Although these ecosystems are protected and relatively healthy, a number of stressors affect ecological integrity in the region including habitat disturbance and fragmentation, invasive species, legal and illegal fish and wildlife harvesting, long range transport of air pollutants, and climate change. Kejimkujik and its surrounding region are home to several species at risk listed under the *Species at Risk Act* (SARA). These include the endangered Blanding's turtle, the threatened Eastern ribbonsnake, and the threatened water-pennywort for which Parks Canada is the lead federal agency for recovery. Kejimkujik also contributes to recovery of several other species at risk, including the endangered piping plover.



Map 1: Regional Setting

In 1995, the inland portion of Kejimkujik was designated a national historic site as a Mi'kmaw cultural landscape as evidenced by numerous cultural resources of national significance including petroglyphs, habitation, fishing and burial sites; hunting territories; and travel routes. Cultural resources having local or regional significance include non-aboriginal petroglyphs, stone cairns marking historical log runs, traces of commercial fisheries, and remnants of farms, gold mines, saw mills, and recreational facilities. Kejimkujik Seaside is not part of the historic site but has its own human history, having been used as pasture land by the families that lived there or that lived nearby.

Kejimkujik plays an important role in the tourism industry of southwestern Nova Scotia. Visitors come to Kejimkujik inland to camp, relax, spend time with family and friends, and for recreational opportunities such as hiking, canoeing, and biking. Visitors discover Kejimkujik's natural and cultural heritage through opportunities including guided walks, paddles and bike rides, daytime and evening outdoor theatre presentations, a Mi'kmaw encampment program, and petroglyph tours. There are also opportunities for visitors to engage in citizen science activities, including contributing to monitoring, research, and species at risk recovery. Kejimkujik Seaside is an ideal day-hiking destination to experience a wild stretch of Nova Scotia's Atlantic Coast. Visitors enjoy walking along the beaches, wildlife viewing, bird watching, picnicking, and photography. Interpretation includes signage and telescopes along the trails, panels, and brochures. Parks Canada also reaches out to Canadians to increase awareness, understanding, and appreciation of Kejimkujik through in-school and on-site school programming, a substantial volunteer program, the Kejimkujik Web site and other public outreach education and external communications tools.

2.0 Aboriginal Context

Kejimkujik (the inland portion) is the first and only national park in Canada that has also been designated a national historic site, recognizing that Kejimkujik is a Mi'kmaw cultural landscape that attests to aboriginal occupancy since time immemorial. The Kejimkujik area was once a place of Mi'kmaw habitation and an important seasonal hunting and fishing ground. At the time of European expansion into North America, the Mi'kmaq occupied a vast territory in what is now Atlantic Canada, including a portion of the Gaspé Peninsula. According to oral traditions, their overall territory was divided into seven districts. The district of *Kespukwitk* ('land's end') covers southwestern Nova Scotia and includes Kejimkujik. The arrival of Europeans to the Americas had a profound impact on the Mi'kmaq, leading to their gradual displacement in certain areas. At Kejimkujik, during the 19th century, the Mi'kmaq became renowned for their guiding expertise for international sportsmen. Lumbering was also a major commercial employer. The Mi'kmaq have continued to hunt, fish, and gather food plants and traditional medicines in the Kejimkujik area over the years and the area is still of great importance to their communities today. There are thirteen Mi'kmaq First Nations within the province, four of which are in relatively close proximity to Kejimkujik National Park and National Historic Site: Acadia, Bear River, Annapolis Valley, and Glooscap First Nations, which have both on-reserve and off-reserve members.

There are more than five hundred petroglyph images on slate outcrops on the shores of Kejimkujik Lake – a testament to the Mi'kmaq's ancient relationship to this land. These petroglyphs are cultural resources of national significance and receive the highest level of protection. The designation of Kejimkujik inland as a national historic site includes recognition of the historical value and protection of specific locations in the park and site, including camps, villages and portages, and the role that rivers systems and plant and animal habitation played in the daily life of the Mi'kmaw people. Other cultural resources associated with the Mi'kmaw cultural heritage of Kejimkujik include a burial ground and archaeological sites and objects.

Aboriginal Advisory Relationship and Aboriginal Contributions to Kejimkujik
Building relationships with Aboriginal communities is a priority for Parks Canada. Section 35 of The *Constitution Act* (1982) recognises and affirms the Aboriginal and Treaty rights of the Aboriginal peoples of Canada. The Mi'kmaq of Nova Scotia signed Peace and Friendship Treaties with the Crown and claim that these treaties did not extinguish Aboriginal title, treaty rights, and other Aboriginal rights throughout Nova Scotia and adjacent areas of the offshore, including on the federal lands of Kejimkujik National Park and National Historic Site of Canada. The Mi'kmaq are currently involved in treaty negotiations with the Province of Nova Scotia and Canada.

Kejimkujik includes lands which were once part of the Fairy Lake Reserve which were surrendered to be sold in the early 1900s. Three lots of the larger reserve totalling 55 acres were not sold and were transferred to Canada as part of the park in the 1960s. The Department of Indian and Northern Affairs is negotiating with the Mi'kmaq of Nova Scotia to resolve outstanding specific claims, as well as addressing Aboriginal and treaty rights in Nova Scotia through the "Made-in-Nova Scotia" process.

In 1993, Parks Canada initiated consultations with the Mi'kmaq regarding designation of Kejimkujik National Park as a cultural landscape of national historic significance. The Historic Sites and Monuments Board of Canada (HSMBC) recommended Kejimkujik for national historic site designation in 1994 and this was confirmed by the Minister of Canadian Heritage in 1995. Following the designation, Parks Canada staff worked with Mi'kmaw representatives from each of the four neighbouring First Nations as well as provincial Mi'kmaw associations to draft a plaque text. A Mi'kmaw advisory committee was also created to assist in the preparation of a commemorative integrity statement for the site, which was approved in 2000.

Mi'kmaw Designation Plaque. ***Parks Canada.***

In 2001, Parks Canada approached Mi'kmaw leaders to seek guidance on establishing an advisory committee to provide advice and input in the preparation of Kejimkujik's management plan. The resulting committee, known as the Mi'kmaw Network, contributed substantially to the development of the Kejimkujik vision and the management plan that was tabled in June 2010.[4] Although the Mi'kmaw Network has not met since 2006[5], Parks Canada continues to work with the Mi'kmaq of Nova Scotia on aspects of Kejimkujik's operations, especially outreach education programs, special activities, and management of species at risk. The 2010 management plan commits to increasing this collaboration and makes several specific commitments including working with the Mi'kmaq in the development of a new Mi'kmaw advisory committee.

Over the last two decades, Parks Canada has benefited from the presence and knowledge of several Mi'kmaw staff. In 1990, a seasonal Mi'kmaq interpreter was hired to offer interpretative programs on Mi'kmaw culture. Since the designation of Kejimkujik as a national historic site, this complement of staff has increased to one year-round supervisory position and four seasonal staff who offer Mi'kmaw programs in the park and site, provide security patrols of the petroglyph sites, and deliver public outreach education programming and presentations to schools (including schools in Mi'kmaw communities and those that have high Aboriginal enrolment), communities, and other organized groups. Non-Aboriginal staff members (science staff, researchers, and interpreters) have learned about Aboriginal philosophy and how it relates to western science through retreats led by an elder from Bear River First Nation. Visitors currently have many opportunities to learn about and

[4] The Mi'kmaw Network was comprised of a representative from each of Acadia First Nation, Annapolis Valley First Nation, Bear River First Nation, Glooscap First Nation, the Confederacy of Mainland Mi'kmaq, the Union of Nova Scotia Indians, the Micmac Association of Cultural Studies, and the Grand Council.

[5] The Mi'kmaw Network was dissolved during the period that a formal process of consultation between Parks Canada and the Mi'kmaq of Nova Scotia was being developed. Parks Canada entered into a formal process of consultation on the management plan with representatives of the 13 Mi'kmaq First Nations in Nova Scotia and the Assembly of Nova Scotia Mi'kmaq Chiefs and also sought input from the Native Council of Nova Scotia. These consultations provided a good opportunity to share information and build on the collaborative relationship that exists between Parks Canada and the Mi'kmaq of Nova Scotia. During 2008 and 2009 separate consultations on species at risk management and the use of fire in Kejimkujik for ecological restoration and management were initiated and are on-going.

discover Mi'kmaq history and culture at Kejimkujik, including an exhibit at the Visitor Centre, a traditional encampment site, and the very popular petroglyph tour. An interpretation plan for the national historic site that will enhance visitor opportunities relative to Mi'kmaw cultural heritage is being developed and will be completed and implemented in cooperation with the Mi'kmaq. (An early draft of this plan which identified national historic site interpretation themes was approved by the Mi'kmaw Network. These themes are presented in the 2010 management plan.) Parks Canada hopes to position Kejimkujik as one of several quality opportunities on Mainland Nova Scotia to experience and appreciate Aboriginal history and culture.[6]

Continuing an ancient tradition – launching a birch bark canoe. ***Jean Augustine-McIsaac.***

Kejimkujik is also enriched by cultural celebrations, such as the birch bark canoe launching of 2009. This was a celebration of the making of a birch bark canoe constructed for display in the Visitor Centre. It was launched as part of a flotilla of traditional canoes. Mi'kmaw chiefs, elders, and families attended this day of fellowship and celebrations, as did many visitors.

Aboriginal People's Relationships with Kejimkujik

The Mi'kmaq's relationship to Kejimkujik needs to be expressed by Mi'kmaw voices. In the absence of a Mi'kmaq Advisory Committee for the park and site, this section of the report cannot be developed at this time. However, Parks Canada will invite the Mi'kmaq through the forthcoming advisory committee to develop this section of the next SoPSR that will be produced prior to the next management plan review in 2015. In addition, the 2010 management plan commits to working with representatives of the Mi'kmaw communities to identify and carry out Mi'kmaw Ecological Knowledge studies. If found to be mutually appropriate, Mi'kmaw Ecological Knowledge will also inform the next SoPSR in terms of the state of ecological and commemorative integrity.

It should also be noted that one expression of the Mi'kmaq's relationship to Kejimkujik is conveyed through the "Vision for the Next Generation" that was developed for Kejimkujik in the new management plan (Appendix A). Mi'kmaw representatives were highly involved in the development of the vision, which can be viewed as a melding of Mi'kmaw views and the Parks Canada's mandate. The circular format of the Mi'kmaw Medicine Wheel – an important symbol for the Mi'kmaq – was selected to present the vision. The circular shape represents the continuous cycles of life and suggests the cyclical, interconnected nature of all relationships, highlighting that a Kejimkujik nature and cultural are intertwined and inseparable. Moreover, within this wheel, the key vision elements – Protect, Respect, Connect and Collaborate – are integrated and mutually supportive.

[6] At present, the Glooscap Heritage Centre in Truro is one of the most noteworthy Aboriginal regional attractions. The Acadia First Nation has plans to house and present artefacts from the Lake Rossignol area. As well Bear River First Nation operates a small cultural centre.

3.0 State of the Park and Site

Context

The state of ecological integrity and how it is changing over time is determined by monitoring and reporting on four ecological integrity (EI) indicators – forest, freshwater, wetlands, and coastal ecosystems. The status and trend of each indicator is determined from information provided by a suite of EI measures selected to represent components of biodiversity, ecological processes, and potential stressors in their respective ecosystem. The overall status of each EI Indicator is presented in this report; trends will be presented in the next report based on changes over the next five years. To date, Mi'kmaq Ecological Knowledge has not been used in the assessment of ecological integrity.

The state of commemorative integrity for the national historic site (Kejimkujik inland) and cultural resource management at the Seaside (which is not part of the historic site) are addressed separately. A commemorative integrity (CI) evaluation[7] has not yet been conducted for the historic site as there has not been an appropriate mechanism for Mi'kmaw participation which is considered essential to the process.[8] As such, the indicators used to assess commemorative integrity – cultural resource condition, effectiveness of communication, and selected management practices – have not been assigned formal ratings[9] but have been preliminarily assessed by the Field Unit Cultural Resource Manager and Parks Canada Archaeologist according to Parks Canada's Commemorative Integrity Evaluations Rating Guide. It should be noted that given the interconnections of nature and culture at Kejimkujik, the protection of ecological integration supports the protection of commemorative integrity and vice versa. The indictors for cultural resource management at Kejimkujik Seaside (which does not require a CI evaluation) have been rated by the cultural resource manager according to the guidance provided by Parks Canada's Rating Guide for the Evaluation of Cultural Resources in National Parks.

Visitor experience is defined as the sum total of a visitor's personal interaction with the park and site, an interaction that awakens the senses, affects the emotions, stimulates the mind, and helps the visitor create a sense of personal connection to the park and site. To evaluate visitor experience five indicators are assessed – visits, learning, enjoyment, satisfaction, and meaning – based on the results of social science research including attendance data, a 2006 Visitor Information Program (visitor survey), and a 2008 Visitor Experience Assessment. When appropriate, information from a 1999 Front Country Campground survey and a 1999 Seaside visitor survey is utilized to demonstrate trends.

The level of Canadians' appreciation and understanding, and support of Parks Canada's administered places is measured at the national level. Qualitative analysis of the state of these indicators at the park/site level is provided.

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[7] A multi-disciplinary assessment of the commemorative integrity of a national historic site.

[8] A CI evaluation will occur with appropriate Mi'kmaw involvement prior to the next SoPSR.

[9] Although the indicators and measures related to commemorative integrity for the national historic site are not rated, the evaluation structure is provided in the associated tables to demonstrate how commemorative integrity will be evaluated and reported on for the next SoPSR.

FOREST ECOSYSTEM INDICATOR

The forests at Kejimkujik are representative of the Acadian forest region, a transition between southern deciduous forests and northern coniferous forest. The forest ecosystems are diverse with stands of different ages that reflect past influences of logging, agriculture, and natural disturbances from fire, wind, and insect outbreaks. The overall ecological condition of forest ecosystems is good. Currently, the most significant influences to forest ecological integrity include introduction and spread of invasive species such as glossy buckthorn, ecosystem recovery from historic alteration of the natural forest disturbance regime and regional forest change, and loss of habitat for mature forest species such as flying squirrels and American marten. Forest ecosystem management initiatives currently focus on removing high priority invasive plants, investigating forest disturbance and regeneration processes, identifying long-term objectives for forest ecosystem management, and acquiring a better understanding of landscape connectivity requirements in the Southwest Nova Biosphere Reserve.

Forest Measures	State
Forest Trees	
Salamanders	
Decay Rates	
Lichens	
Forest Birds	
White-tailed Deer	
Invasive Plants	
Infrastructure Extent	
Forest Succession	
Habitat Connectivity --- Habitat Amount	

Forest Trees: The assessment of trees and shrubs in permanently marked forest plots provides important information about the structure and composition of a forest and how it is changing over time. The health of trees at Kejimkujik is monitored in two important forest types: representative mixedwood forests and less common mature hemlock forests. Measures of tree growth, sapling regeneration and forest succession are combined into a Forest Tree Index. Thresholds to reflect the expected range of natural variability in each measure were developed using historical data from forest plots across western Nova Scotia. The status of the Forest Tree Index at Kejimkujik is currently good since all three measures are in the expected range. Evaluation of the trend over time will require collection of additional years of data.

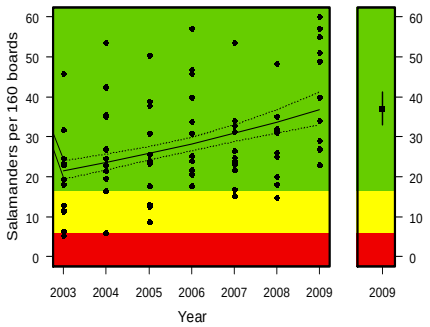
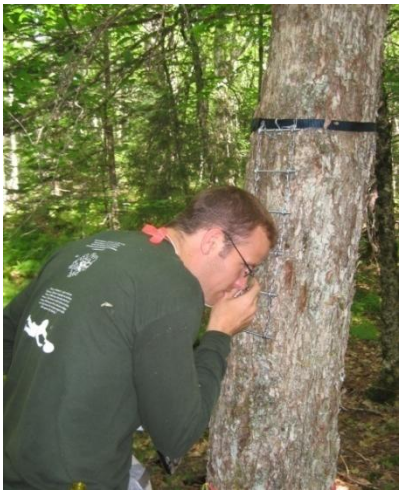


Figure 2: Status and trend in mean annual number of salamanders in hemlock and mixed forests at Kejimkujik 2003 to 2009.

Salamanders: Forest salamanders exist in high densities in forest ecosystems and play an important role as predators and in soil decomposition processes. They are also sensitive to pollutants and changes in temperature and moisture levels, which make them good indicators of forest ecological integrity. Salamanders have been monitored in mature hemlock and mixed forests at Kejimkujik since 2003 and thresholds to assess their status are based on the range of variability in these historical data. In 2009, salamanders were in good condition since numbers were within the expected range and showing an increasing trend over the past seven years.

Decay Rates: The decomposition of organic material is a critical ecological process that influences growth and productivity in forest ecosystems. Several variables may alter this process including climate change, pollution, insect outbreaks, trampling, and soil compaction. Since changes in decomposition rates are not expected to occur under natural conditions, a change of 25% in the annual decay rate from baseline conditions was established as the acceptable threshold for this measure at Kejimkujik. Annual decay rates in mature hemlock and mixed forests are currently within this acceptable range and decomposition appears to be in good condition. Thresholds will be reviewed and trends will be assessed following the collection of more data.



Identification of lichen species in 'ladder' sampling unit. ***Megan Crowley.***

Lichens: Lichens are particularly sensitive to changes in their environment and can provide an early warning of the impacts of air pollution and acid rain on forest ecosystems. Thresholds to assess this measure at Kejimkujik were developed from a range of sites across Nova Scotia that are exposed to different pollutant levels. Results of lichen surveys in mixed forests at Kejimkujik show that the mean Index of Air Purity, based on the presence of sensitive lichen species, is currently in good status. Future monitoring is required to assess trends in lichen response to air pollution and to investigate lichen species richness as a measure of biodiversity and overall forest health.

Forest Birds: Song birds are useful measures of ecological integrity in forest ecosystems because they are linked to specific forest types and they respond quickly to changes in forest condition. Twenty-two species of forest birds are monitored through point count surveys in mature hemlock and mixed forests at Kejimkujik. The measure for reporting on their status and trends is a Forest Bird Community Index, which includes an assessment of abundance and community similarity between time periods. Since forest bird communities are not expected to show significant changes in a specific location over time, thresholds reflect baseline conditions from 2003/4. In 2009, the Forest Bird Community Index was in good condition. Evaluation of the trend over time will require collection of additional years of data.

White-tailed deer. ***Jean-Marc Vallières.***

White-tailed Deer: The white-tailed deer is a major herbivore at Kejimkujik and although it is a non-native species, it is now naturalized and an important element of the forest ecosystem. Thresholds to assess status and trends in white-tailed deer abundance are based on the range of variability in historical data at Kejimkujik. The current deer population appears to be within this range of natural variability (*i.e.*, 1.4-5.9 deer per roadside survey) and the status is considered to be good with a stable trend over the past 20 years.

Invasive Plants: Invasive plants can disrupt native biodiversity and displace native plants because of their innate hardiness and the lack of natural controls. Eighteen priority invasive plants have been identified as potential concerns at Kejimkujik and the presence of these plants is monitored on trails and in interior forest plots as a measure of risk to native biodiversity and forest ecological integrity. Currently, occurrences of these plants on trails and in forest plots are relatively low and below thresholds established based on levels of acceptable risk. As a result, the Invasive Plant Index for Kejimkujik is currently in good condition. However, a substantial population of Glossy buckthorn near the park entrance currently poses a concern. Ongoing monitoring will provide information about trends and management effectiveness.

Infrastructure Extent: Infrastructure is necessary to protect and present natural and cultural resources in national parks. At Kejimkujik the goal is to make improvements to infrastructure without increasing the cumulative extent, therefore thresholds are established relative to a baseline surface weighted area of infrastructure calculated for 2003. The surface weighted area of infrastructure at Kejimkujik has decreased by 0.15% since 2003, therefore the status of this measure is considered to be good. Evaluation of the trend will require collection of additional years of data.

Forest Succession: The structure of Kejimkujik's Acadian forest is regulated by small and large scale natural disturbance events such as wind, fire, ice, disease, insects, and senescence. The forest succession measure assesses the condition of this natural disturbance regime using remote sensing and GIS and compares the mean annual change in forests to thresholds based on fire history studies in Kejimkujik. The disturbance regime at Kejimkujik currently appears to be representative of the Acadian forest however further study is required to understand other disturbance agents and the influence of European settlement on current forest seral stage distribution and amount of old forest.

Acadian Forest. ***Parks Canada.***

Habitat Connectivity and Habitat Amount: Biodiversity and populations are affected by the amount and connectivity of habitat in a region, therefore habitat loss and fragmentation are potential influences on ecological integrity at Kejimkujik. The Effective Habitat Amount Index and Effective Habitat Connectivity Index were calculated for five focal species selected for their sensitivity to habitat loss and fragmentation. As effective habitat amount was below thresholds (set by regionally applicable literature and expert consultation) for two focal species, the index is rated as fair but stable over time. As habitat connectivity was below thresholds (established relative to the amount of connected habitat in 1985) for only one species, the index is rated as good and stable over time. Results also demonstrate that habitat amount in the greater park ecosystem is declining and currently below thresholds needed to sustain long-term breeding populations for all five focal species.

FRESHWATER ECOSYSTEM INDICATOR

Freshwater ecosystems at Kejimkujik are characterized by shallow, acidic, dark water lakes, still waters, and meandering streams. These ecosystems comprise a large area of the park and site with over 40 lakes and 30 streams, all of which fall within the Mersey watershed the headwaters of which originate north of Kejimkujik's boundaries. The overall condition of freshwater ecosystems is good, however just more than half of the measures are currently in fair condition, indicating cause for concern. The most significant influences on freshwater ecological integrity at Kejimkujik include ongoing effects associated with long-range transport of air pollutants and acid deposition which alter water chemistry and influence sensitive species, mercury bioaccumulation in food webs and its effect on top predators such as fish and loons, and the presence of dams and improperly functioning road culverts that act as barriers to fish movement. Freshwater ecosystem management initiatives currently focus on improving aquatic connectivity through removing or restoring ineffective road culverts and old logging dams and continuing to better understand the impacts of acidification and mercury contamination on ecological integrity.

Freshwater Measures	State
Lake Water Quality ---------- Stream Water Quality	↔ ↓
Primary Productivity	↓
Common Loons	↓
Ice Phenology	↔
Mercury	↔
Stream Flow	↓
Benthic Invertebrates	↓
Brook Trout	↔
Aquatic Connectivity	↔

Lake Water Quality and Stream Water Quality: Water quality is a widely used measure of the condition of aquatic ecosystems. The Water Quality Index (WQI) is a tool to communicate status and trends in water quality in Canada using a single value ranging from 0 to 100. At Kejimkujik, the WQI is comprised of nine parameters including pH, calcium, aluminum, nitrogen, phosphorous, dissolved oxygen, dissolved organic carbon, nitrate, and turbidity. Thresholds for each parameter are based on either nationally accepted standards or ranges of variability in historical data from the region. In 18 lakes, the WQI is currently fair (61.9) and the trend has been stable over the last 10 years. In 22 streams, the WQI is also fair (59.9) and additional data is required to assess trend. These results demonstrate that water quality at Kejimkujik is influenced by acidification.

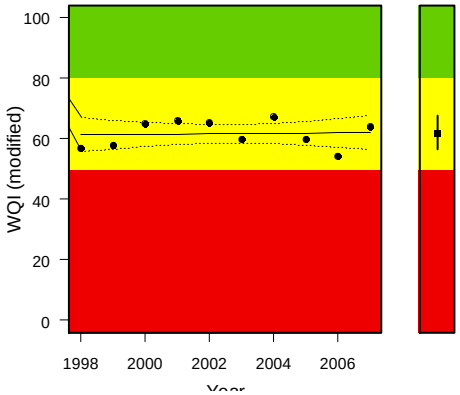


Figure 3: Status and trend for Lake WQI for 18 lakes at Kejimkujik 1998-2008.

Primary Productivity: The level of primary productivity by algae provides important information about food and nutrient availability in lake ecosystems. Primary productivity may be influenced by land use, nutrient runoff, and climate change, resulting in significant impacts to freshwater

processes and biodiversity. The status of primary productivity in lakes at Kejimkujik is currently good, since chlorophyll concentrations fall within the acceptable range for oligotrophic lakes (1-2.5 *u*g/L); however levels are significantly lower than they were in the early 1970s, indicating a declining trend over time.

Common Loons: Loons are top aquatic predators and are sensitive to a variety of stressors including acidification, mercury bioaccumulation, water level fluctuation, and human disturbance. Volunteers have been monitoring loon abundance and the number of chicks produced on 16 lakes at Kejimkujik since 1996. Loon abundance has been stable over the past 12 years and is currently above accepted thresholds for the area; however the number of loon chicks produced is declining and is currently below the established population thresholds. As a result, the status of the common loon population at Kejimkujik is currently fair with a declining trend over time.

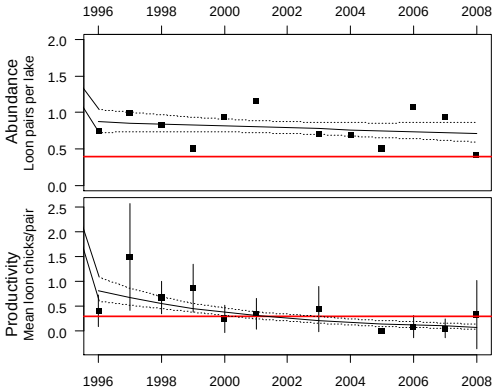


Figure 3: Abundance and productivity of Common loons on study lakes 1996 to 2008. Thresholds for each sub-measure are shown in red.

Ice Phenology: Changes in ice cover can affect freshwater ecosystems because of the importance of lake ice to breeding seasons, foraging patterns and migration cycles of many species. Ice phenology is monitored by volunteers on lakes in the Greater Kejimkujik Ecosystem through the Mersey Tobeatic Research Institute's lake monitoring program, and results are considered representative of patterns at Kejimkujik. Long-term datasets from two lakes near Kejimkujik were used to identify thresholds based on the natural range of variability for lake ice off dates in this region. In 2009, the average duration of ice cover for the sampled lakes was within the expected range (82-107 days) indicating that ice phenology is currently in good condition with a stable trend since the 1960s.

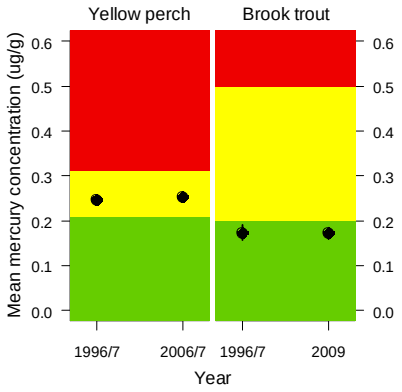


Figure 4: Status of mercury concentration in Brook trout and Yellow perch at Kejimkujik.

Mercury: Mercury enters freshwater ecosystems through natural and human sources and can concentrate up through food webs to toxic levels. Southwestern Nova Scotia has some of the highest levels of mercury in North America and concerns about mercury levels in fish have led to health advisories on fish consumption at Kejimkujik. Mercury concentrations in brook trout and yellow perch are monitored and thresholds are related to acceptable limits for human and wildlife consumption. The status of this measure is currently fair since mercury concentrations in brook trout are within acceptable limits for human consumption (<0.2 *u*g/g) but concentrations in yellow perch are above acceptable limits for wildlife (>0.21 *u*g/g). Overall, mercury concentrations in fish appear to be stable over the last 12 years.

Stream Flow: Stream flow determines what organisms can survive in stream ecosystems. It can be influenced by land use and development, road and dam construction, and regional changes in climate. Potential changes in stream flow at Kejimkujik are tracked by measuring five hydrological

parameters that are combined into a Stream Flow Index. Thresholds for each parameter are based on the range of natural variability in historical data. Stream flow in the Mersey River is currently in good condition but showing a declining trend over the past 17 years.

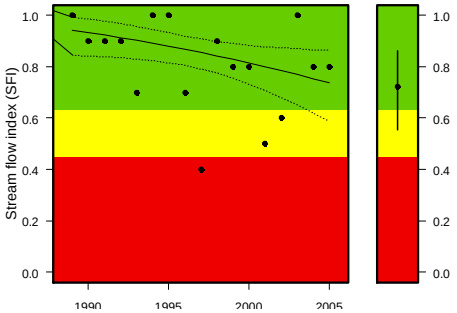


Figure 5: Status and trend of the Stream Flow Index for the Mersey River at Kejimkujik 1989-2006.

Benthic Invertebrates:
Benthic invertebrates are effective indicators of aquatic health in streams because they are sensitive to pollutants, show early warning signs of disturbance, are widely distributed, and are relatively sedentary and long-lived so they reflect the conditions of the area in which they are found. The Hilsenhoff Biotic Index is currently used to report on the health of benthic invertebrate communities at Kejimkujik. This index is developed based on the tolerance levels of different species to pollution and index values range from 0 (pristine) to 10 (highly polluted). Established thresholds reflect pollutant levels across a range of conditions. In 2005, the average Hilsenhoff Biotic Index for 22 streams at Kejimkujik was 5.6 indicating that the status of benthic invertebrates is fair, likely because of the influence of acidification on freshwater ecosystems. Trends in this measure will be assessed following collection of additional years of data.

Brook Trout: Brook trout are sensitive to habitat loss and alteration, increasing water temperatures, competition with non-native species, and overfishing. This species is monitored at Kejimkujik both as an indicator of freshwater ecological integrity and to ensure effective and sustainable management of the population. Volunteer fishers measure brook trout relative abundance and condition (mass). Thresholds for these measures are based on natural variability in historical data from the 1990s since the population is thought to have been doing well at that time. Currently, the status of Brook trout is good since abundance and condition are above established thresholds. Fish condition has improved but abundance has remained consistent since the mid 1990s and as a result, the trend for Brook trout is inferred to be stable over time.

Impassable culvert due to the outlet drop at the Canning Field Road crossing of Rogers Brook, Kejimkujik. ***Oliver Woods.***

Aquatic Connectivity: The connectivity of freshwater ecosystems can be impacted by the presence of dams and improperly functioning road culverts. This can affect populations of brook trout and other fish species that need to move throughout a watershed at different times in their life cycle. The connectivity of watersheds within Kejimkujik is tracked with the Dendritic Connectivity Index, which measure the number, location and condition of potential barriers to fish movement. Index values range from 0 (fragmented) to 100 (pristine) and thresholds reflect the proportion of sites acting as barriers that is perceived to be unacceptable in a national park setting. The status of aquatic connectivity is currently fair since 17% of stream crossings are acting as barriers to fish movement. The trend has been stable over time. Additional work is needed to assess the impact of dams and evaluate connectivity for fish between Kejimkujik and the Atlantic Ocean (diadromous connectivity).

WETLAND ECOSYSTEM INDICATOR

Wetland ecosystems at Kejimkujik are comprised mostly of peatlands, including both bogs and fens. Wetlands have a significant influence on the water chemistry, level and colour of freshwater ecosystems and provide habitat for many of the species at risk in the park, including Blanding's turtle, Eastern ribbonsnake, and Atlantic Coastal Plain flora. The overall condition of wetland ecosystems is currently not rated since most of the wetland measures are data deficient. Further monitoring is required to better understand the condition of this ecosystem and the significant influences on ecological integrity. Restoration initiatives in wetlands currently focus on the recovery of species at risk such as Blanding's turtle.

Wetland Measures	State
Wetland Water Level	◆
Wetland Water Quality	◆
Wetland Composition	◆
Blanding's Turtle populations --- Blanding's Turtle Adult survivorship	■ ▼

Wetland Water Level: The quantity of water in a wetland can be influenced by many stressors including land use change and forestry practices, acid deposition, long-range transport of air pollutant, and climate change. Water level fluctuations are important determinants of wetland condition and have been monitored in bogs at Kejimkujik since 2008. Thresholds will be developed based on the range of variability in data collected. The status and trend for this measure cannot be assessed at this time.

Atkins Brook wetland. ***Parks Canada.***

Wetland Water Quality: Water quality is an important determinant of wetland condition. Water in bogs is naturally nutrient poor and small changes in nutrient levels associated with pollution, land use change, road development, and climate change can significantly affect biodiversity and ecological processes. Parameters of water quality that have been monitored in bogs at Kejimkujik since 2008 include pH, conductivity, salinity, phosphorous, nitrogen, potassium, and calcium. Additional data is required to identify thresholds needed to assess the status and trend in this measure.

Wetland Composition: Vegetation communities are monitored as a measure of biodiversity in wetland ecosystems. Changes in the composition of vegetation communities are indicative of changes in water availability, nutrient inputs, invasive species, and climate change. Initial surveys of community composition were conducted in 2009 but with only one year of data, condition and trends in wetland vegetation communities at Kejimkujik cannot be assessed. Additional work is

required to assess the surface area of all wetlands in the park using remote sensing and to develop thresholds for evaluating broad changes in the size and distribution of wetland ecosystems.

Heber Meadow Bog. *Darien Ure.*

Blanding's Turtle populations and Adult survivorship: Blanding's turtles are endangered in Nova Scotia and are limited to the southwest region of the province. They are considered to be an umbrella species for conservation since protecting their relatively large home ranges can help ensure the viability of other wetland species in the area. Population viability analysis, which incorporates many aspects of the turtle's life history such as survivorship and abundance at different life stages, reveals that the population of Blanding's turtles at Kejimkujik is currently declining and the risk of extinction is predicted to be much higher than the threshold of 5% extinction risk over ten generations set by the Blanding's Turtle Recovery Team. Even over a shorter time frame of 2.5 generations, there is an 80.8% probability that the population would decrease by almost 40%. As a result, the population viability of Blanding's turtles at Kejimkujik is considered to be poor. Adult survivorship is currently fair and trends still need to be determined. For information on the Blanding's turtle recovery strategy, see Chapter 5.

Adult Blanding's turtle basking in spring. *Jeffie McNeil.*

COASTAL ECOSYSTEM INDICATOR

Coastal Measures	State
Piping Plover	↔
Barrier Beach Stability	◇
European Green Crab	■
Soft-shell Clam	▼
Eelgrass	↓
Salt Marsh Vegetation	◇
Estuarine Water Quality	▽

Kejimkujik Seaside's coastal ecosystems feature two highly productive lagoons, extensive headlands, tidal flats and salt marshes as well as sand dunes and beaches, which provide habitat for a nesting population of the endangered Piping plover. The overall condition of coastal ecosystems is poor. Some of the critical issues that influence coastal ecological integrity at Kejimkujik Seaside include alteration and loss of important habitat such as eelgrass beds, declining populations of Piping plover, slightly heightened nutrient levels in estuaries and broad ecological impacts associated with establishment of the invasive European green crab. Active management and restoration to support coastal ecosystem recovery currently focus on Piping plover recovery actions (such as area closures, nest exclosures and habitat management) as well as investigation into green crab population reduction and associated potential for recovery of eelgrass beds and soft-shell clam populations.

Piping Plover: The piping plover is an endangered shorebird that is sensitive to human disturbance and habitat loss. Piping plover populations have been monitored at Kejimkujik Seaside since 1986. Thresholds of at least 10 breeding pairs with productivity of 1.65 fledglings/pair were established for this measure based on historical information, established population targets and expert opinion. Currently, the abundance of breeding pairs and the productivity of piping plovers at the Seaside are below these thresholds, therefore the population status is determined to be poor. Over the last 20 years, there has been a decline in the number of breeding pairs but a slight increase in productivity, overall resulting in a stable population trend. Similar trends are observed in the broader population in southern Nova Scotia. Additional work is needed to develop thresholds and determine status and trends in suitable nesting habitat at the Seaside. For information on the piping plover recovery strategy see Chapter 5.

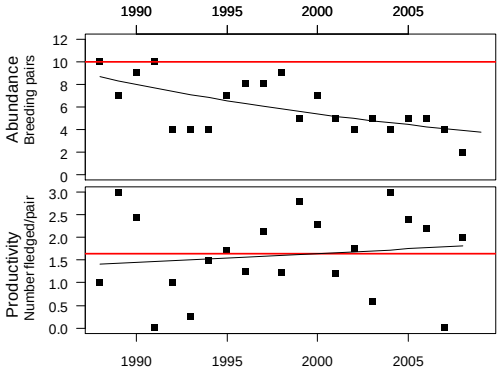


Figure 6: Abundance and productivity of breeding pairs of Piping plover at Kejimkujik Seaside 1986-2009. Red lines indicate target thresholds, black lines indicate trends

European green crab. ***Kevin See.***

European Green Crab: The European green crab is an invasive species capable of out-competing native species, impacting biodiversity, and disrupting ecological processes in coastal ecosystems. Green crabs were first reported in southwestern Nova Scotia in the 1950s, and data from monitoring in 2008 and 2009 found high densities at Kejimkujik Seaside. New genetic lineages introduced to the region may present greater ecological concerns. Catch per unit effort (CPUE) is used to assess the status in greencrabs at Kejimkujik. The threshold for green crab relative abundance is set at 50% reduction in CPUE from that observed in 2009. Since this is an invasive species, lower populations indicate better ecological integrity. The current status of the green crab measure at the Seaside is poor and additional work is required to determine population trends.

Soft-shell Clam: Bivalves are ideally suited for indicating local environmental conditions given their sedentary nature, high abundances, relatively large sizes, longevity, and hardiness. At Kejimkujik, soft-shell clams improve water quality in estuaries through removing nutrients from the water column and they are an important food source for many other species. Changes in soft-shell clam abundance could have major consequences for biodiversity and ecological processes in coastal ecosystems. Populations of soft-shell clams are monitored by examining their density at three life stages: juveniles, young adults, and older adults. Thresholds were established for each of these stages based on the highest densities observed in historical data for the area. Since the densities of juveniles and young adults were below established thresholds in 2008, the status of soft-shell clams at Kejimkujik Seaside is currently fair with a declining trend over time. This measure could be influenced by the invasive European green crab, which preys on young clams and poses a risk to clam population recruitment.

Eelgrass: Eelgrass beds perform important services in coastal ecosystems including as biological filters to improve water quality, acting as a nutrient and habitat source, and protecting shorelines from erosion. They are sensitive indicators of anthropogenic stress and climate change and are monitored as measures of near shore ecosystem health. At Kejimkujik Seaside, thresholds for this measure are based on the historical extent of eelgrass recorded during a 1987 census shortly after the area was designated as a national park. The surface area of eelgrass beds has declined by 93.1% since 1987 in Little Port Joli Estuary and has completely disappeared from St. Catherine's River Estuary, resulting in a poor status with a declining trend over time. This decline could be related to the effects of invasive species such as European green crab as well as the effects as eelgrass wasting disease.

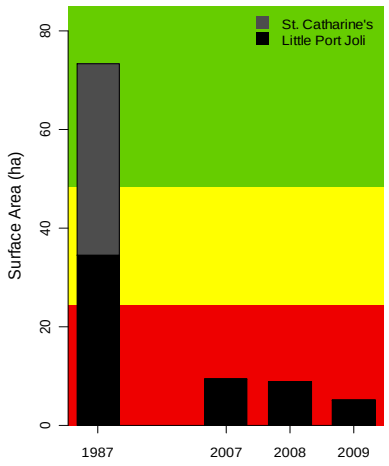


Figure 7: Areal extent of eelgrass with respect to established thresholds.

Little Port Joli Salt Marsh. ***Chris McCarthy.***

Salt Marsh Vegetation: Salt marshes perform important ecological services in coastal environments. They provide habitat for many other species, serve as a carbon sink, help improve surface water quality, and buffer coastal areas from storm and wave damage. Changes in the structure and composition of salt marsh vegetation communities may be indicative of changes in stressors such as sea level rise and nutrient enrichment. Initial surveys of community composition have been conducted but with only one year of data, condition and trends in salt marsh vegetation communities at Kejimkujik Seaside cannot yet be assessed.

Estuarine Water Quality: Good water quality is critical to the ecological integrity of estuarine ecosystems including eelgrass beds, salt marshes, benthic invertebrate communities, and the diverse wildlife that depend on them. Nutrient enrichment of the coastal zone as a result of unnatural inputs of nitrogen and phosphorus is a growing concern. At Kejimkujik Seaside, estuarine water quality monitoring began in 2008 by measuring concentrations of three main parameters: dissolved inorganic nitrogen, dissolved phosphorous, and dissolved oxygen. Thresholds for these parameters were developed from a review of conditions in other estuaries along the Atlantic shoreline of Nova Scotia. Although average dissolved oxygen and dissolved phosphorous levels are below harmful thresholds and not presently a concern, average dissolved inorganic nitrogen levels are slightly above the established thresholds (>0.02 mg/L) and as a result, the status of estuarine water quality is fair. With only one year of data, trend in this measure could not be assessed at this time.

SPECIES AT RISK INDICATOR

Kejimkujik National Park and National Historic Site and the Southwest Nova Biosphere Reserve, of which Kejimkujik is part of the core protected area, have many species at risk. The species listed under the federal Species at Risk Act (SARA) that occur in the park include Blanding's turtle, Canada warbler, chimney swift, common nighthawk, Eastern ribbonsnake, monarch butterfly, olive-sided flycatcher, piping plover, rusty blackbird and water-pennywort (Table 2). Many other species listed under the Nova Scotia Species at Risk Act also occur in Kejimkujik and the surrounding area.

Volunteers help with a Blanding's turtle trapping survey. ***Heather Reed.***

Volunteers help monitor a piping plover family. ***Duncan Smith.***

In recent years, Kejimkujik (with support from trained volunteers and partner organizations) has conducted much inventory work, detailed monitoring, and research to assess the status of these species at risk and to identify conservation priorities. An internationally standardized system of Managed Areas (MA) Ranks – ranging from critically imperilled (MA1) to secure (MA5) – has been utilized. While the designations for species at risk under the *Species at Risk Act* (SARA) are typically national or regional or scope, MA ranks are specific to the Parks Canada managed area, capturing threats specific to Kejimkujik. Although current data is insufficient to establish trends for most species, as the ranking system has just been established, changes over time in the MA ranks of species will provide a means to report to Canadians on the results of recovery and protection efforts.

Table 2: Species at Risk in Kejimkujik

Species name	SARA Designation	MA Rank*	Short Term Trend	Comments
Blanding's turtle	Endangered	MA1	⟷	This short-term trend (less than half of a generation) is based on new female sightings, an increase in juvenile turtle records, and the release of 40 reared turtles into the population. The current adult population is estimated at 120 adults. Twenty turtle nests are protected from predators each year in Kejimkujik and captive rearing program is underway to help bolster the population. Critical habitat for all life stages has been defined. It is important to note that the long-term trend suggests that the population is projected to decline over the next 10 generations, unless significant management actions are continued.
Canada Warbler	Special Concern	MA2B	N/A	Canada warblers are rarely reported in Kejimkujik, but plans are in place to develop a sightings database starting 2010.
Chimney Swift	Threatened	MAU	N/A	Chimney swifts are rarely reported in Kejimkujik, but plans are in place to develop a sightings database starting 2010.
Common Nighthawk	Special Concern	MA2B	N/A	Common nighthawks are rarely reported in Kejimkujik, but plans are in place to develop a sightings database starting 2010.
Eastern ribbonsnake	Threatened	MA2	N/A	Although it is difficult to survey for this elusive species, Parks Canada is working on defining the distribution and density of the population. It appears that Kejimkujik has a relatively sizeable population. Advancements have been made in defining critical habitat.
Monarch butterfly	Special Concern	MA1B	N/A	Monarchs are seen regularly in butterfly gardens and a captive rearing program has been established in the park, focused on community involvement and education.
Oliver-sided Flycatcher	Special Concern	MA2B	N/A	Olive-sided flycatchers are rarely reported in Kejimkujik, but plans are in place to develop a sightings database starting 2010.
Piping Plover	Endangered	MA1B	⟷	There are three or four nesting pairs on St Catherine's River Beach each year. Habitat restoration and a predator study are underway to help enhance the population.
Rusty blackbird	Special Concern	MAU	N/A	Rusty blackbirds are rarely reported in Kejimkujik, but plans are in place to develop a sightings database starting in 2010.
Water-pennywort	Threatened	MA2	⟷	Annual surveys are conducted to monitor stand condition, including distribution and density.

* MA Ranks were determined through a detailed assessment, focusing on several factors. MA Ranking are as follows: MA 1 – Critically imperilled, MA 2 – Imperilled, MA3 – Vulnerable, MA4 – Apparently secure, MA5 – Secure, and MAU - Unknown. B – Refers to known breeding populations in the park and site.

CULTURAL RESOURCE CONDITION INDICATOR (Kejimkujik National Historic Site)

Kejimkujik National Historic Site	
Measures	**State**
Landscape and Landscape Features	◆
Buildings and Structures	N/A
Archaeological Sites	◆
Objects	◆
Designated Place	◆

In the absence of a Commemorative Integrity (CI) evaluation, this indicator is not formally rated. In the interim, following is a preliminary assessment of the condition of cultural resources within the national historic site, as assessed by the cultural resource manager and a Parks Canada archaeologist. It should be noted that for the Mi'kmaq, nature and culture at Kejimkujik are inseparable and thus the protection of the natural landscape results in the protection of cultural resources.

Landscape and Landscape Features: Landscape and landscape features, which include aboriginal and non-aboriginal petroglyphs, Mi'kmaw burial ground, portage routes and trails, and resource harvesting areas, are preliminarily assessed to be in fair to good condition. The petroglyphs are slowly fading due to ice and wave action but a decision was made jointly with Mi'kmaw representatives to allow them to fade naturally.

Archaeological Sites: Archaeological sites, which include level I and II cultural resources (pre- and post-contact sites, eel weirs, remnants of gold mining, saw milling and recreational facilities, etc.), are preliminarily assessed to be in a good and stable condition.

Two stone points and a scraper from Aboriginal campsites in Kejimkujik. The different styles of tools reflect 4000 years of cultural continuity and change. The hafted reproduction shows how a point might have been used as a knife or spear point. ***Brian Townsend.***

Objects: There are nearly 4500 archaeological and curatorial objects associated with the site. Objects of national significance consist of projectile points, bifaces, adzes, gouges, ceramic pot sherds, glass beads, iron trade axes, faunal and botanical samples, and charcoal as well as seven 1869 pencil sketches. Objects not associated with the reason for designation consist of the George Creed drawings and artefacts relating to post-contact, non-Aboriginal activities in the park (i.e., lumbering and gold mining). The majority of the collection is stored at the Parks Canada conservation lab in Halifax and preliminarily assessed to be in good and stable condition.

Designated Place: The designated place for the national historic site corresponds to the boundaries of the inland portion of Kejimkujik. It is valued for providing a sense of landscape within which the Mi'kmaq have lived since time immemorial in southwestern Nova Scotia and for the range of cultural features (petroglyph, habitation, resource harvesting and burial sites; portage routes, etc.) which attest to Mi'kmaw occupancy of the area. The designated place is preliminarily assessed to be in fair to good condition, based upon the condition of the associated cultural features.

EFFECTIVENESS OF COMMUNICATION INDICATOR (Kejimkujik National Historic Site)

A key aspect of commemorative integrity is the effective communication of messages to interested visitors regarding the historic significance of the site, as assessed by the four measures shown in the adjacent table. That is, the overall heritage presentation experience needs to convey the reasons for designation of the historic site and also convey the messages not related to the designation (generally regional and local messages). This information must be presented effectively so that commemorative integrity is achieved.

Kejimkujik National Historic Site	
Measures	**State**
Reasons for Designation	◆
Messages not related to the Reasons for Designation	◆
Audience Understanding	◆
Effectiveness of presentation	◆

Since a commemorative integrity evaluation has yet to be conducted, the effectiveness of communication indicator and the associated measures have not been assigned ratings. Following, is a description of how messages are communicated.

When visitors arrive at Kejimkujik, they are given a visitor guide which provides information about its designation as a Mi'kmaw cultural landscape and outlines the various interpretive programs available. These include guided tours of the park's cultural features, like the petroglyph and encampments sites, in the company of Mi'kmaw interpreters (among the most popular interpretive programs offered). In addition to the guided tours, the site's commemorative messages are delivered through the Historic Sites and Monuments Board of Canada (HSMBC) plaque, an exhibit in the Visitor Centre, and on the website. Kejimkujik also delivers school programs which educates students about Kejimkujik's importance to the Mi'kmaq. In terms of conveying messages not related to designation, visitors are offered a self-guided walk that interprets the history of gold mining in Kejimkujik and there is information on the Web site on farming, logging, gold mining, and the resort era.

A Mi'kmaw Interpreter shares Mi'kmaw cultural heritage with visitors. ***Brian Townsend.***

SELECTED CULTURAL RESOURCE MANAGEMENT PRACTICES INDICATOR (Kejimkujik National Historic Site)

Kejimkujik National Historic Site	
Measures	**State**
Inventory and Cultural Resource Evaluation	
Respect for Cultural Resource Management Principles and Practices	
Records	
Maintenance Programs	
Monitoring and Remedial Action	

Inventory and Cultural Resource Evaluation: Most cultural resources have been inventoried and evaluated to determine their historic importance. However, a new inventory of pre- and post-contact sites is warranted.

Respect for Cultural Resource Management Principles and Practices: The cultural resource manager works with resource conservation and visitor experience staff (many of whom have participated in cultural resource management training) to ensure the responsible management of cultural resources. The cultural resource manager participates in environmental assessments of projects to ensure appropriate measures are taken to protect cultural resources and reviews interpretive planning documents to integrate commemorative messages. Overall, while management practices at the historic site have not been formalized in that there is no cultural resource management strategy, many of the measures and practices are already in place to ensure the protection of cultural resources. In addition, a commitment has been made in the current management plan to work with the Mi'kmaq and other partners to complete a comprehensive cultural resource management plan which will include strategies for conservation, maintenance, record keeping, storage, and monitoring.

Records: Records relating to archaeological surveys, investigations, and interventions are held at the conservation lab in Halifax. National historic site interpretive staff regularly patrol culturally significant sites, such as the petroglyphs, and record their findings. Copies of patrol notes are filed on site. Damage to any of the cultural resources is reported to Resource Conservation staff who also record the information.

Maintenance Programs: As there are no built structures considered to have historic value the requirement for maintenance programs is not applicable. Measures are taken to protect other types of cultural resources (landscape and landscape features and archaeological sites) and archaeological and curatorial objects are stored appropriately at the conservation lab in Halifax to protect them from environmental impacts.

Monitoring and Remedial Action: Interpretive staff regularly patrol culturally significant sites to monitor and record noticeable changes to the condition of cultural resources (e.g., petroglyphs) and measures have been put in place to protect and mitigate against potential threats to cultural resources (e.g., access is restricted in sensitive areas).

CULTURAL RESOURCE CONDITION INDICATOR (Kejimkujik Seaside)

Kejimkujik Seaside	
Measures	**State**
Landscape and Landscape Features	
Buildings and Structures	N/A
Archaeological Sites	
Objects	

Landscape and Landscape Features: Landscape and landscape features include trace evidence on the land of a canal, dyked lands, and a possible homestead. Landscape features are considered to be in a good and stable condition although the canal may be impacted by shoreline erosion.

Archaeological Sites: Archaeological sites are primarily remnants (e.g., foundations) of homesteads and other buildings associated with occupation of the land in the 18th to early 20th centuries. The archaeological sites are considered to be in good and stable condition although one homestead may be impacted by shoreline erosion.

Objects: There are approximately 1000 objects in the Seaside artefact collection which consists primarily of ceramics, glass, metal, faunal, and lithic material. It also includes a Late Archaic Projectile Point found in intertidal sands on St. Catherine's River Beach. (However, there is no evidence of associated cultural deposit.) All are stored at a Parks Canada conservation lab in Halifax and are in good and stable condition.

SELECTED CULTURAL RESOURCE MANAGEMENT PRACTICES INDICATOR (Kejimkujik Seaside)

Kejimkujik Seaside	
Measures	**State**
Inventory	
Evaluation	
Cultural Resource Management Strategy	
Monitoring Program	

Inventory: Cultural features were inventoried in 1988 by a Parks Canada archaeologist.

Evaluation: A preliminary assessment of the possible historic significance of individual cultural resources at Kejimkujik Seaside has been conducted. Parks Canada has yet to develop a Cultural Resource Values Statement (CRVS)[10] for the Seaside, which, once completed, will more formally identify and evaluate the cultural resources located there. However, Parks Canada has committed to the development of a CRVS for the Seaside in Kejimkujik's 2010 management plan.

Cultural Resource Management Strategy: There is no formal cultural resource management strategy for the Seaside. However, the 2010 management plan commits to the completion of one for both Kejimkujik inland and Kejimkujik Seaside. In the meantime, the cultural resource manager and/or service centre archaeologist are consulted regarding the potential impact of interventions at the Seaside on cultural resources and any mitigation required.

Monitoring Program: Currently, there is no formal monitoring program for Kejimkujik Seaside.

[10] A CRVS is a strategic document that identifies cultural resources and values for places, other than national historic sites, which are under the responsibility of Parks Canada.

VISITS INDICATOR

Kejimkujik inland and Seaside	
Measure	**Trend**
Attendance	↓

Although there are currently no Agency-wide criteria/thresholds to guide the assessment of the visits indicator, attendance data provides information on trend in visitation.

A**ttendance**: In recent years (2004/5 to 2009/10) Kejimkujik inland has been hosting an average of approximately 43,000 person-visits[11] per year, with a decline of 23% between 2004/5 and 2009/10. Over a 10 year period the park and site shows a decline of approximately 28% – with approximately 52,000 annual visitors in the late 1990s and a low of 37,825 in 2009/10.

Table 3: Attendance Data for Kejimkujik

	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
Keji Inland	52,223	66,472	61,668	56,763	48,929	46,632	40,813	43,903	40,668	37,825
Camping Site Nights	25,603	26,706	26,900	23,616	21,784	20,844	19,853	20,164	18,932	19,303
Keji Seaside	18,770	17,707	23,302	18,451	15,718	12,955	14,902	14,671	12,763	15,027
Total Visitation	70,992	84,179	84,970	75.214	64,647	59,587	55,715	58,574	53,431	53,301

In 2006, the year of the most current Visitor Information Program (VIP), 68% of visitors to Kejimkujik inland were repeat users from Nova Scotia, with the remaining visitors coming from overseas (13%), the U.S. (9%), and other Canadian provinces (10%). The majority of visitors (63%) camp inside the park and over half of the groups who camp include children. Many campers have been coming for generations and return frequently throughout the summer. This segment of visitors to Kejimkujik inland spends most of their time socializing, relaxing, biking, canoeing or kayaking, and participating in camping-related activities. The other main visitor segment consists primarily of people who come for a day trip. The most popular activities they engage in include walking or hiking, stopping at the Visitor Centre, and picnicking. This segment includes both local and international visitors and most are first-time visitors.

Decreased visitation to Kejimkujik inland is associated in part with a decline in visitation amongst Nova Scotians who camp in the park – the largest visitor group. There was a particularly dramatic decline in visitation among this group in the mid 2000s (between 2002 and 2006 the percentage of campers who were Nova Scotian fell from 90 to 68%) which was partially attributable to a significant increase in fees over a short period of time. In addition, over the last 10 years there has been an overall gradual decline in visitation at Kejimkujik, which is consistent with decreases

[11] Each time a person passes through the Kejimkujik entrance kiosk they are recorded as a person-visit. Same-day re-entries and re-entries by visitors staying overnight do not constitute a new person-visit.

occurring at heritage places across the Maritimes. Use by European visitors and those from other part of Canada have remained fairly stable at about 20percent.

Kejimkujik Seaside has had a relatively stable visitation rate over the last few years at an average of approximately 14 000, but if compared to visitation about 10 years ago (approximately 18 000 visitors per year during the early 2000s) it can be seen as experiencing a decline of about 22%. At the Seaside, where 70% of the use is from travelers outside Nova Scotia, American users have decreased from 36% in 2003 to 19.5% in 2009. As is the case with Kejimkujik inland, use by European visitors and those from other part of Canada has remained stable at about 20%.

Satisfaction with information: In the 2006 VIP, 88% of visitors surveyed expressed satisfaction with the information available to them prior to their visit to Kejimkujik inland. These scores exceed Parks Canada's benchmarks of 85% satisfaction. Information is available to potential visitors from a variety of sources including the Parks Canada website, the Nova Scotia travel guide, Nova Scotia Visitor Information Centres, and the Friends of Keji website, the Kejimkujik Visitor Guide, and the Kejimkujik backcountry map. The 2006 VIP found that the most frequent sources of visitor orientation information were experience gained through previous visits, friends and family, and the Parks Canada website (in that order), underscoring the importance of "word-of-mouth" advertising and of maintaining high quality visitor experiences to (re)attract visitors. Although doing well in this area for the inland, visitors to the Seaside rated pre-trip information availability below target performance measures at 63%, which is a decrease from 69% in 1999. Particularly problematic is the current lack of information on the Seaside on the Kejimkujik webpages. The 2008 Visitor Experience Assessment (VEA) suggests that the Kejimkujik website requires considerable improvement overall. Further, the VEA indicates that although Parks Canada has a very strong understanding of its current visitors (through surveys, consultation, and interaction), there is limited understanding of potential visitors and marketing/promotions are not adequately targeted to specific market audiences.

LEARNING INDICATOR

Although Kejimkujik has yet to survey visitors regarding the extent to which they feel they have learned something from their visit (and there are currently no Agency-wide measures used to assess this indicator), social science research provides considerable insight into this indicator. A variety of learning opportunities are available to visitors through interpretive programs, special events, Visitor Centre exhibits, brochures, and citizen science opportunities.

Dale Wilson.

Learning as Reason for Coming to Kejimkujik: In the 2006 VIP, visitors were asked their reasons for coming to Kejimkujik. "Learning about nature" and "learning about Mi'kmaw culture" were among the top three reasons for 19% and 14% of visitors respectively. This contrasts sharply with camping (58%), relaxation (49%) and spending time with friends in family (47%).

Nonetheless, opportunities for visitors to learn about the natural and cultural heritage was identified as a priority for many of Kejimkujik's stakeholders and visitors during management plan consultation (and through the Jeremy's Bay Campground Survey – See Appendix 2) with many stressing the importance of providing a wide range of interpretive programs and activities to meet the needs and interests of variety of audiences.

Visit as a Learning Experience: Research finds that the majority of visitors to Kejimkujik are very satisfied with their "visit as a learning experience" – with 87% satisfied at Kejimkujik inland (an increase from 80% of campers in 1999) and 79% satisfied at the Seaside (a slight decrease from 82% of Seaside visitors in 1999).

Attendance in Interpretation Programs and Participation in Enhanced Learning Opportunities: Until recently, Parks Canada assessed interpretation programs relative to attendance in and satisfaction with on-site heritage presentation programming. Approximately 43% of all visitors to Kejimkujik inland partake in interpretive programming including outdoor theatre events, guided hikes, guided canoe events, and on-site exhibits. This figure falls slightly short of the former Agency target of 50% participation rate.

Although traditional interpretation programming has seen some decrease in recent years (which is partially attributable to the fact that there is overall declining visitation), there has been a substantial increase in the number of visitors who engage in enhanced learning opportunities such as citizen science activities and the Kejimkujik youth naturalist club. In 2009, 970 visitors contributed to monitoring, research, and species at risk recovery. This figure suggests a shift in the ways in which visitors at Kejimkujik, many of whom are repeat visitors who come several times a year, are choosing to learn.

Kejimkujik has been striving to develop learning opportunities that cater to repeat visitation, such as developing new interpretation programming each year, hosting special events, and developing enhanced programming that allows visitors to deepen their experience of the park and site.

As a day-use park, Kejimkujik Seaside has very few personal or guided interpretation opportunities, but facilitates learning through exhibits and brochures. Kejimkujik Seaside exceeded the national target at 72% participation rate for learning experiences at national parks through visitors' use of interpretation brochures and panels (81%), onsite exhibit with interpreter (8%) and guided hike (4%).

Satisfaction with Interpretive Programs: The 2006 VIP indicates nearly 100% satisfaction rating for most interpretive activities at Kejimkujik inland. When visitors were asked to rate interpretive activities as learning experiences approximately 90% were satisfied. Visitor satisfaction with specific aspects of the interpretive offer at Kejimkujik Seaside received high satisfaction ratings. Visitor satisfaction with the overall interpretive offer at the Seaside is about 70% – a figure that does not meet Parks Canada's satisfaction benchmark of 85%. This result is not unexpected given Parks Canada's limited capacity to deliver personalized programs at this day-use park. Nonetheless, Kejimkujik Seaside stakeholders have stressed the importance of providing some personal interpretation services, particularly during the peak season weekends.

Visitor Experience Assessment Results: The 2008 Visitor Experience Assessment highlighted that interpretive programs are developed and delivered to meet visitor needs and that there is particularly good targeting of programs for kids and families. Concerns include that aspects of interpretive activities (including the Visitor Centre) are dated, that current interpretive programs do not target new audiences, and that there is currently no interpretation plan for the national historic site.

ENJOYMENT INDICATOR

Measures	Keji inland	Keji Seaside
Facilities		
Services		
Activities		
Staff		

Although Kejimkujik has not yet measured enjoyment in its visitor surveys, existing social research results suggest a high level of enjoyment at the park and site, as particularly evidenced by the high repeat visitation at the park and site. Visitors are extremely satisfied with Kejimkujik's facilities, services, activities, and staff, exceeding Agency standards. This indicator is thus reported as good.

Extent of Enjoyment: A survey question designed to discover visitor motivations for coming to Kejimkujik reveal that enjoyment is a strong motivator. At Kejimkujik inland top ranked reasons for visiting include relaxation and spending time with friends and family and at the Seaside the primary motivation to visit is to enjoy nature.

Dale Wilson.

Satisfaction with Facilities: Visitors at Kejimkujik are generally very satisfied with the facilities of the park and site – exceeding the Agency benchmark of 85% satisfaction and 50% very satisfied for almost all facilities. Similar results were found in the 1999 visitor surveys. The only facilities that fell slightly short of the benchmark in the 2006 visitor survey were availability of campsites at Kejimkujik inland (82%) and the condition of washrooms (Seaside) (84%).

Satisfaction with Services: Visitor satisfaction related to services at both Kejimkujik inland and the Seaside exceed the satisfaction benchmark of 85%, including service in the language of choice, time at entry gates, and time at campground registration. Although not all of the same elements were evaluated in the 1999 surveys, there seems to be an improvement in satisfaction with some services, with "ease of registration" for camping receiving 73% in 1999 while time at campground registration received 94% satisfaction rating in 2006.

Satisfaction with Activities: The overall visit as a recreational experience scored very high at 98% for Kejimkujik Inland and 97% for the Seaside, demonstrating a stable trend over 10 years. (In

1999, visitors at both Kejimkujik inland and the Seaside were 96% satisfied with their overall visit as a recreational experience.) In 2006 no individual activities were rated.

Satisfaction with staff: Three elements related to staff were measured in the 2006 survey, staff courteousness, availability of park staff, and staff knowledge. Visitor satisfaction with all three measures was above 85%. There was an increase in visitor satisfaction with staff availability at the Seaside with 56% satisfaction in 1999 and 80% in 2006. Otherwise these elements showed a stable trend.

SATISFACTION INDICATOR

Measures	Keji inland	Keji Seaside
Overall	●	●
Fees	▼	▼

Overall Satisfaction: The primary measure associated with this indicator is satisfaction with the visit overall. At Kejimkujik the level of visitor satisfaction with their overall visit is very high. In 2006, 97% of visitors at Kejimkujik inland and 98% of visitors at the Seaside were either satisfied or very satisfied with their visit. Overall satisfaction seems to have stayed relatively stable over the last 10 years – with 97% overall satisfaction for visitors at the Seaside in 1999. Amongst campers at the inland in 1999, the overall satisfaction rating was 92%.

Fees: A sub-measure associated with this indicator is satisfaction with fees. Value for entry fee received 76% satisfaction at Kejimkujik inland and 73% at the Seaside. The value for camping fee (only applies to Kejimkujik inland) received 79% satisfaction (a slight decrease from 83% in 1999).

The topic of Kejimkujik's camping offer generated significant discussion during consultation for the recently tabled management plan. Visitors (particularly campers), partners, and stakeholders expressed discontent with the current entrance and camping fees and what they perceive as insufficient services for the price. Stakeholders have also expressed discontent with the fact that camping and entrance fees are collected separately. Many have called for updated camping infrastructure to meet the needs of existing and potential markets, especially electrical services, and larger, levelled sites to accommodate recreational vehicles, larger tents, and/or other recreational equipment (such as bikes, canoes, and kayaks). Campers have also expressed support for increased enforcement of regulations (particularly those related to natural resource protection and noise) when rules and guidelines have been well communicated but not adhered to. In addition, social science research has provided insight into the current preferences and expectations of campers (Appendix 3).

MEANING INDICATOR

The meaning indicator has yet to be measured. In the next VIP, visitors will be asked the extent to which Kejimkujik is meaningful to them. To date, qualitative analysis suggests that Kejimkujik is meaningful to visitors. Parks Canada staff is working in concert towards a common strategic outcome – for Canadians to have a strong sense of connection to their heritage places. The sum of all the visitor experience indicators (visits, learning, enjoyment, satisfaction, and meaning) are expected to lead to a personal connection to the places visited.

The 2006 visitor survey included a question regarding the extent to which visitor expectations were met. Of visitors to Kejimkujik inland, 79% stated that their experience had exceeded or greatly exceeded their expectations and 83% of visitors to Kejimkujik Seaside stated that their experience had exceeded their expectations. Only 2% and 3% respectively indicated that the visit did not meet their expectations.

The fact that many of Kejimkujik's visitors have been coming for generations is also suggestive of the meaning that the place may have for these visitors. Among respondents to the 2006 VIP, seven out of ten parties indicated that two or more generations of their family have visited Kejimkujik. Additionally, more than one-third (37%) of all visitor parties stated that three or more generations of their family have visited the park.

The 2006 survey also asked visitors to name their most memorable time, place, and activity in Kejimkujik. Many of the responses indicate that a single visit or a number of visits have become a part of that individual's personal history. A number of the comments include references to personal milestones or landmarks such as honeymoon, time spent with family and holidays (such as Thanksgiving). A number of visitors responded that "all" or "all times" (or even "every minute") at Kejimkujik is memorable.

APPRECIATION AND UNDERSTANDING INDICATOR

National Level

Parks Canada aims to reach Canadians at home, at leisure, at school, and in their communities through communication and outreach education opportunities designed to increase awareness, understanding, and appreciation of the natural and historical heritage of the places administered by the Agency. The level of Canadians' appreciation and understanding is measured nationally and the results of the 2009 national survey for appreciation and understanding indicate that overall awareness of Parks Canada is high.

Park/Site Level

Public Outreach Education

Kejimkujik collaborates with numerous individuals, organizations, and institutions that share Parks Canada's public outreach education mandate including the Mi'kmaq, local communities, academic institutions, teachers and students in local schools, and non-governmental organizations.

Every autumn, Kejimkujik interpreters visit schools near the park and site. ***Jonathan Sheppard.***

Parks Canada partners with local and regional elementary and middle schools to research, develop, and deliver in-school programming and on-site educational activities for children in the region. These programs are linked to curriculum and facilitate opportunities for students to be active stewards of Kejimkujik, including contributing to monitoring and research programs. Kejimkujik has also delivered cultural heritage outreach programs to middle schools located in local and regional Mi'kmaw communities as well as other schools that have high Aboriginal student enrolment. In 2009, 20 schools were involved with Kejimkujik's public outreach education programming, reaching approximately 650 children. Although there has been no formal evaluation of this programming, response among teachers, parents, and students has been overwhelmingly positive.

In addition to reaching out to children at school, extensive outreach is conducted with local communities, particularly by encouraging and supporting local peoples' substantial volunteer contributions to Kejimkujik and the greater Kejimkujik area. For example, a member of Kejimkujik's staff visited schools (by bicycle!) and went to church suppers to talk about Blanding's turtle work and to motivate local people to become involved. Special projects on eels, piping plover, fire ecology and aquatic connectivity have allowed for focused public outreach education to targeted audiences, such as landowners and schools.

Kejimkujik staff also delivers presentations and programs at external events including speaker series at libraries and the multi-cultural festival in Halifax. Outreach efforts focused on Mi'kmaw communities include programs and presentations at Pow-wows and other cultural events. Public outreach education is also made possible through Kejimkujik's work with its partners, such as the Halifax Centre of the Royal Astronomical Society which conducts presentations in Halifax on Kejimkujik's new designation as a Dark Sky Preserve.

External Communications

While target audience planning for external communications has been limited, current target audiences include local people, the Mi'kmaq, the residents of Halifax, and Canadians more broadly. The Kejimkujik Web site is a critical tool for reaching out to Canadians – providing information on the natural and cultural heritage of the park and site, pre-trip planning, visitor experience activities and learning opportunities, public outreach education opportunities, and park management. Currently, the most visited web pages pertain to pre-trip planning. More work is required to improve the Web site to engage Canadians, particularly those who cannot visit in person.

Other communication tools include publications, such as newsletters, and other media. For example, Kejimkujik partners with the Friends of Keji, the Mersey Tobeatic Research Institute, Bear River First Nation, Bird Studies Canada, and Acadia University to produce the "Volunteers News" – a newsletter that is distributed annually throughout the region, providing updates on volunteer contributions and opportunities in Kejimkujik and the Southwest Nova Biosphere Reserve.

Kejimkujik has positive relationships with the media. Kejimkujik staff conducts regular interviews on local radio, discussing a range of activities at the site and park, including natural and cultural interpretation, citizen science, and special events. Recently, CTV did a feature story on the park and site. Despite these successes, media coverage to date has been primarily opportunistic and has not been guided by a strategic media engagement program. With the recent clarification of roles for external relations within Parks Canada and enhanced capacity in this area more detailed analyses of external communications trends will be possible in the future.

SUPPORT INDICATOR

National Level

Parks Canada plays a custodial role for these special places, fulfilling Parks Canada's protection, visitor experience, and education mandate is a shared undertaking and responsibility. At the national level, Parks Canada has recently established a performance expectation to increase the percentage of stakeholders and partners that support its heritage places and the percentage who feel that they have opportunities to influence and contribute to Parks Canada's activities by 2014.

Park/Site Level

The state of a national park and national historic site is directly affected by partner and stakeholder support. Community, partner, and stakeholder support is a defining feature of Kejimkujik National Park and National Historic Site. This indicator is measured by a qualitative assessment of how Kejimkujik has broadened support by: 1) providing opportunities for stakeholder involvement that is responsive to their interests; 2) decision-making that is informed by and responsive to stakeholder interests and perspectives; and 3) facilitating a successful volunteer programs for interested Canadians to influence and contribute to the park and site. The number of formal and informal relationships developed in recent years as well as the volunteer program illustrates increasing cooperation among partners, stakeholders, which suggests an improving trend for this indicator.

New and Active Partnering Arrangements: A partner refers to an organization that is in a working relationship with Parks Canada. This working relationship is based on mutual benefit and a clear agreement that sets out shared goals and objectives and the terms of the arrangement.

The Mi'kmaq – A Special Partner – The Mi'kmaq of Nova Scotia is a special partner with Parks Canada. Furthering a positive and collaborative relationship with the Mi'kmaq is a priority for the Agency. The many ways in which Parks Canada and the Mi'kmaq have been working together in support of Kejimkujik are outlined in Chapter 2 of this report. A discussion of how this partner relationship can be strengthened moving forward is discussed in Chapter 6.

The Friends of Keji Cooperating Association – Kejimkujik works closely with the Friends of Keji Cooperating Association – a member of the Canadian Parks Partnership. The Friends of Keji provide valuable services to visitors by operating the gift shops at the both Kejimkujik Inland and Seaside, the firewood sales at Jeremy's Bay Campground, a Web site, and the canteen at Merrymakedge day-use area. The organization also contributes to and leads research projects and leads special events which are attracting new audiences, including the annual fall pumpkin festival and a barbecue championship. Parks Canada looks forward to working with local people and interested stakeholders in the possible development of a cooperative association for the Seaside.

The Mersey Tobeatic Research Institute (MTRI) – Parks Canada was a major contributor to the creation of the Mersey Tobeatic Research Institute (MTRI) and continues to partner with MTRI towards the advancement of collaborative regional ecological research and monitoring. MTRI's work also compliments Kejimkujik's public outreach education and external communications efforts, resulting in increased involvement and support from local people who live and work in the area.

The Southwest Nova Scotia Biosphere Reserve – Parks Canada was a major partner in the creation of the Southwest Nova Biosphere Reserve and Kejimkujik is part of its core protected area. The Southwest Nova Biosphere Reserve has provided a forum for cooperative research, communications activities, and management of regional ecosystem issues. Like MTRI, the work of the Biosphere Reserve compliments Kejimkujik's public outreach education and external communications efforts, resulting in increased involvement and support from local people who live and work in the area.

Universities, ENGOs, Government Departments – Kejimkujik has developed partnerships with academic institutions, other government departments (such as the provincial Department of Natural Resources and the Canadian Forestry Service) and environmental non-governmental organizations (ENGSs) on various research, monitoring, and stewardship initiatives for the park and the region.

Teachers and Schools in Support of Public Outreach Education – Kejimkujik works closely with teachers and schools in the development and delivery of its public outreach education programs to local schools to ensure that the programs are in line with school curriculum and meet the needs of teachers and students.

Tourism Partners – Tourism is a vital activity in the southwest of Nova Scotia and Kejimkujik works actively with industry associations such as Tourism Association of Nova Scotia and Destination Southwest Nova Scotia as well as municipal councils and economic development branches by providing representation on various boards and working with these organizations on specific initiatives. These include joint promotions, experiential product development workshops involving area tourism operators (with NS Tourism), and hosting familiarization tours for travel writers.

Royal Astronomical Society of Canada – The Royal Astronomical Society of Canada is a partner with Kejimkujik in its designation as a Dark Sky Preserve. The organization was a co-sponsor on the application for the designation, will be involved in auditing and evaluating the designation, and

is involved with visitor experience programming and public outreach education relative to the designation.

Stakeholder Involvement: Stakeholders are defined as groups or individuals representing all sectors of Canadian society that have an interest in, or an influence upon Parks Canada's actions and directions. Kejimkujik's stakeholders come from cultural, environmental, tourism, recreation, and governmental sectors, among others. Opportunities for stakeholder involvement include participating in management planning consultations and in specific decision-making processes that concern them. Parks Canada benefits from the knowledge and ideas of Kejimkujik's diverse stakeholders and carefully considers and is responsive to their feedback. For instance, repeat campers and tourism industry members repeatedly expressed that they feel Kejimkujik needs to diversify its camping offer and include electricity. In consultation with stakeholders a plan was developed in 2009 to enhance the camping offer by electrifying 63 sites. Similarly, in response to concerns expressed by stakeholders regarding a proposed prescribed burn in Kejimkujik's forest, Parks Canada reviewed and modified its prescribed burn program.

Community Involvement: Parks Canada has developed numerous volunteer programs to support (and benefit from) many local people's great enthusiasm for and motivation to actively contribute to Kejimkujik. Volunteers currently contribute approximately 10,000 hours per year (an Agency record) to protection and visitor experience at the park and site. For example, as campground hosts, volunteers share their knowledge of and passion for Kejimkujik with others – contributing to visitors' sense of welcome and connection to the park and site. Through active involvement in hands-on recovery actions, volunteers have contributed significantly to the recovery of species at risk and also contribute to other ecosystem monitoring, research, and management initiatives. Local people are also the heart and soul of Friends of Keji and are engaged with the park and greater ecosystem initiatives through outreach delivered by MTRI or the Southwest Nova Biosphere Reserve Association.

4.0 Performance Rating

In order to achieve its strategic outcome, Parks Canada identifies Agency-wide expected results and performance expectations for each program that are outlined in the Parks Canada Corporate Plan. This chapter reports the extent to which Kejimkujik has achieved its park and site-level performance expectations relative to the 2004/5 Corporate Plan – reporting on the last 5 years. These results will help improve or maintain the state of Kejimkujik in areas that the Agency has an ability to influence.

Table 4: Performance Ratings
Heritage Resources Protection

Performance Expectation	Rating	Results / Rationale
All national parks have fully functioning ecological integrity monitoring and reporting systems by March 2008.	Met All	Kejimkujik has developed and implemented a fully functioning EI monitoring and reporting program, providing a solid information base for decision making about the condition of forest, freshwater, wetland, and coastal ecosystems.
Improve aspects of the state of ecological integrity (EI) in each of Canada's 41 national parks by March 2014.	Somewhat met	Please see Chapter 5 which reports on management actions and management effectiveness relative to EI since the 1995 management plan.
Minimize environmental impacts of Parks Canada's operations.	Mostly met	Keji has made a number of environmental management improvements since the 1995 management plan, including the creation of a septic field and the installation of solar-heated showers at Jeremy's Bay Campground, lighting improvements, and vehicle replacements with low or no emissions. The new operations building at the Seaside was built with composting toilets and a rain-water run-off system. Kejimkujik has also begun implementing lighting changes to support its designation as a dark sky preserve. Kejimkujik continues to identify opportunities to make environmental management improvements in several areas including green procurement, water conservation, greenhouse gas emissions, petroleum storage, and waste management.
National park plans are up to date and consistent with latest management plan guidelines by March 2010.	Met All	Management plan for Kejimkujik National Park and National Historic Site was approved by minister in March 2010 and tabled in June 2010.
Improve elements of commemorative integrity that are rated as poor.	N/R	In the absence of a CI evaluation, commemorative integrity for the national historic site has not been rated.
Improve the state of other cultural resources managed by Parks Canada by March 2014.	N/R	The cultural resources in Kejimkujik Seaside are currently rated as good and have not required improvement.
All national historic sites administered by Parks Canada have a current, management plan by December 2006.	Not Met	The management plan for Kejimkujik NP and NHS was tabled in June 2010. It was expected to have been completed several years earlier but was delayed as a formal process for consultation between Parks Canada and the Mi'kmaq of Nova Scotia was developed.

Heritage Presentation

Performance Expectation	Rating	Results / Rationale
50% of national park visitors participate in a learning experience related to natural and/or cultural heritage.	Keji Inland – Mostly Met Keji Seaside – Exceeded	The 2006 survey identified that 43% of all visitors took part in heritage presentation activities offered at Kejimkujik inland and 72% at Kejimkujik Seaside. Although attendance at traditional interpretation programs has declined somewhat, Kejimkujik has seen great increases in participation in enhanced learning opportunities such as citizen science and the youth naturalist club. In 2009, 970 visitors contributed to monitoring, research, and species at risk recovery. This figure suggests a shift in the ways in which visitors at Kejimkujik, many of whom are repeat visitors who come several times a year, are choosing to learn.
85% of visitors are satisfied, 50% are very satisfied with onsite heritage presentation programming.	Keji Inland – Exceeded Keji Seaside – Somewhat Met	90% of visitors to Kejimkujik inland were satisfied and 57% very satisfied with interpretation activities overall. 70% of visitors to Kejimkujik Seaside were satisfied and 31% very satisfied. Due to resource limitations, the interpretation offer at the Seaside is focused on signage, however, the 2010 management plan commits to bringing in some personalized interpretation. The media at Kejimkujik Seaside could be more visually captivating (a project to achieve this will be completed in 2010).
75% of visitors understand the significance of the heritage place.	Somewhat met	Keji inland – 49% of respondents answered six or more knowledge questions (of 9) correctly. Keji Seaside – 46% of respondents answered six or more knowledge questions (of 9) correctly. Research demonstrates that visitors' primary motivations for coming to Kejimkujik inland are generally not associated with learning. The Seaside does not have an extensive heritage presentation program. Moving forward, Parks Canada is focusing on utilizing social science research to understand and respond to visitors needs and preferences – specially, when, why, how, and where visitors want to learn and what they want to learn.
Canadians, visitors and stakeholders actively support the integrity of heritage places.	N/R	Kejimkujik has one of the most successful volunteer programs in the Parks Canada system with visitors and volunteers contributing over 10 000 hours annually to conservation and visitor experience. Kejimkujik collaborates closely with many partners and stakeholders who actively support and contribute to protection, visitor experience and public outreach education, including the Friends of Keji Cooperating Association, the Mersey Tobeatic Research Institute, the Southwest Nova Biosphere Reserve Association, teachers and students, Mi'kmaw organizations, universities, and NGOs.

Use and Enjoyment by Canadians

Performance Expectation	Rating	Results / Rationale
85% of visitors are satisfied and 50% are very satisfied with their visit.	Exceeded	Keji Inland – 97% satisfied, 64% very satisfied Keji Seaside – 98% satisfied, 67% very satisfied
Minimize public safety incidents.	N/R	The trend in public safety incidents from 2004 to 2009 has been stable. Kejimkujik has focused on communicating prevention and preparedness messages to visitors through media, posters, a backcountry user guide, and the reservation process. Parks Canada also ensures personnel are well trained in First Aid and emergency preparedness. A plan for campground evacuation has been developed and staff has undergone drills to execute.

Legend – Performance Rating	
Exceeded	More than 100% of the expected level of the performance was achieved
Met all	100% of the expected level of the performance was achieved
Mostly met	80-99% of the expected level of the performance was achieved
Somewhat met	60-79% of the expected level of the performance was achieved
Not met	Less than 60 % of the expected level of performance was achieved
N/R	Not rated

5.0 Management Plan Results

Success Stories

Since the tabling of the 1995 management plan, Kejimkujik has had two particularly significant success stories: the development of a visitor experience offer at Kejimkujik Seaside and the commemoration of the inland portion of Kejimkujik as a National Historic Site.

The Development of a Visitor Experience Offer at Kejimkujik Seaside

Kejimkujik Seaside is an ideal day-hiking destination to experience a wild and isolated stretch of Nova Scotia's Atlantic Coast. The primary motivations for visitors coming to the Seaside are hiking and walking, enjoying nature and coastal scenery, and opportunities for exercise (VIP, 2006). Since the 1995 management plan, Parks Canada has developed a visitor offer to support these needs and interests, including the expansion of the existing rudimentary trail, and the development of the Port Joli head trail, arrival facilities, a parking area, an operations building, viewing platforms, a kitchen shelter, and interpretive panels. These facilities were developed in concert with environmental NGOs helping to ensure that the pristine character of the Seaside was maintained. The new visitor offer was documented as a best practice example of a sustainable tourism development by Tourism Canada. The overall visitor experience opportunity has been rated as good to very good by 98% of visitors surveyed and has been achieved while maintaining a high level of protection of the endangered piping plover.

Discovering Kejimkujik Seaside's wildlife. ***Brian Townsend.***

The First Combined National Park and National Historic Site in Canada

The inland portion of Kejimkujik was designated as a National Historic Site in 1995. It is the only park the entirety of which (excluding the Seaside) is also a National Historic Site. The Historic Sites and Monuments Board plaque commemorating Kejimkujik as a Mi'kmaw cultural landscape was unveiled in 2000. Kejimkujik's position as both a national park and a national historic site presented a unique opportunity to collaborate with the Mi'kmaq in the development a vision for the park and site (Appendix A) that emphasizes how nature and culture are respected, intertwined, and inseparable. Moving forward, Parks Canada will work with the Mi'kmaq towards making this vision a reality – to seamlessly integrate approaches to ecological and commemorative integrity and to facilitate rich opportunities for visitors and Canadians to discover Kejimkujik's unique ecological and cultural heritage.

Management Plan Results

Prior to the most recent management plan (2010), Kejimkujik's last management plan was tabled in Parliament in 1995 and applied only to the national park. The 1995 plan provided useful guidance and through the implementation of its objectives significant outcomes have been realized. (Given the breadth of the plan, select overarching objectives are included here. Objectives developed for specific ecological integrity projects are also included, with their corresponding outcomes.)

Table 5: Management Plan Results

Objectives from the 1995 Plan	Significant Outcomes
To manage Park heritage resources to ensure their ecological integrity and the protection of features and species characteristic of the Atlantic Coastal Uplands Natural Region.	***Recovery Efforts for Blanding's Turtles*** **Objective**: To recover Blanding's turtles by preventing mortality at all life stages and bolstering recruitment through a headstarting (captive rearing) program. • Over 300 nests protected from predation and over 1300 hatchlings released from these nests (since 1987). • Over the past three years, 278 volunteers contributed nearly 12,000 hours to Blanding's turtle recovery. • A captive rearing program initiated in 2006. • Educational outreach programs implemented including speed limit reductions, road signs, and speed bumps. • Recovery actions ongoing and evaluation of management effectiveness will occur over the next few years. ***Recovery Efforts for the Piping Plover*** **Objective:** To increase the amount of suitable nesting area for piping plover on St. Catherine's River Beach. • Approximately 2 ha of habitat restored and maintained on St Catherine's River Beach since 2003 (successfully used by 1-3 pair of piping plovers each year). • Ongoing work in 2010 will measure the overall amount of suitable habitat in relation to population targets in order to determine management effectiveness and future directions. ***Restoration of Grafton and Mountain-Cobrielle Watersheds*** **Objective:** To restore historic water levels, water quality, and fish passage in the Grafton Lake and Mountain-Cobrielle watersheds. • Grafton Lake and Cobrielle Brook dams removed; fish passage has improved and water levels have returned to historic levels in Grafton Lake and begun to return to historic levels in Cobrielle Lake. • Water quality has not been fully restored in Cobrielle Brook but is expected to improve over time and with additional restoration work. • Overall, the project is considered to be mostly effective. ***Restoration of the Hemlocks and Hardwoods Trail*** **Objective:** To restore vegetation along the Hemlocks and Hardwoods Trail through reducing off-trail hiking. • Vegetation is regenerating along entire length of trail; however, off-trail movement is still occurring at two high-interest sites. • Overall, the project is considered to have been mostly effective. Management options for further reducing off-trail movement will be investigated in 2010. ***Re-introduction of the American Marten*** **Objective:** To attain naturally regenerating populations of the American Marten. • American Marten were reintroduced in Kejimkujik in the early 1990's. • Recent research and monitoring confirms they are still present within and around Kejimkujik and the project is considered to be effective. (It should be noted that habitat connectivity/amount research indicates that critical American marten habitat is required both inside and outside Kejimkujik to sustain a viable population.) ***Maintenance of Kejimkujik's Characteristic Vegetation*** **Objective:** To maintain Keji's characteristic forest and a quality forest experience. • Pale-winged Grey defoliation of hemlock stands was researched, monitored, and assessed for management options. The hemlock defoliation was allowed

	to proceed naturally. The dominate hemlock trees survived and a diverse understory of native species is evolving. Work to achieve this objective is on-going and effective to date. ***Mitigation of Invasive Species*** **Objective:** To mitigate the introduction, spread, and ecological impacts of highly invasive plant species. • An eradication program was implemented for glossy buckthorn and will be assessed annually with additional active management until population is completely removed. • All occurrences of purple loosestrife and Scotch broom have been removed and are assessed for re-establishment each year.
To conduct and encourage selected research and monitoring of natural and cultural resources associated with the park, the ecological changes taking place, and the effects of human activities.	***Ecological Integrity Research Program*** • A robust research program executed in collaboration with partners has enabled understanding of biodiversity, natural processes, and stressors. • Research also forms the basis for determining monitoring elements of the park/site program and is necessary to inform recovery when monitoring indicates impaired function. • Specific projects have included research on acid rain and mercury, brook trout, outbreaks of forest insects, wetland and coastal ecosystem research, forest structure and forest history. ***Ecological Integrity Monitoring and Reporting*** • A fully functioning EI monitoring and reporting program was developed and implemented by 2008 providing an information base (used for decision making) on the condition of Kejimkujik's four ecosystems. ***Research and Monitoring of Cultural Resources*** • Please see the 'Selected Management Practices Indicator' on page 21 and 22.
Ensure that programs and services continue to match evolving visitor needs and expectations.	***Social Science Research Program*** • Extensive social science research has been conducted to better understand the needs and expectations of existing visitors. ***Constantly Updated and Renewed Learning Opportunities*** • Based on social science research (in particular the knowledge of the high percentage of repeat visitors), Kejimkujik inland offers an entirely new interpretation programming offer each year. • In recent years the Kejimkujik's Visitor Guide has been transformed into a highly visual newsletter-type publication that provides updates and information – changing every year to appeal to both new and repeat visitors. • A Junior Naturalist program to engage youth was launched and has been very well received. Kids involved generally come to the park several times a summer, earning badges reflecting what they've learned. ***Rehabilitation of the Forest at Jeremy's Bay Campground*** • Based on two success pilot forest restoration projects at the campground, Kejimkujik is more broadly implementing restoration objectives to improve forest biodiversity and resilience at Jeremy's Bay Campground in order to provide a quality sustainable forested camping experience for visitors. ***Changes in the Service and Activity Offer*** • Kejimkujik is in the process of updating the services offered at campgrounds to meet the changing needs of visitor and has responded to changing demands in recreational services, including increased demands for biking and kayaking.

To encourage visitors of varying interests, skills and backgrounds to use and explore the park in all seasons.	***Revitalized Winter Program*** • In recent years Kejimkujik has revitalized its winter program by grooming skate-skiing and snow-shoeing trails for winter visitors.[12] ***Special Events*** • The annual Thanksgiving pumpkin-carving festival (hosted by Friends of Keji) has increased visitation for that weekend and attracted new visitors. • The annual "Tent Dwellers Canoe Festival" (in its 3rd year) boasts special activities to celebrate the century-old book of the same name that recounts a wilderness trip in what is now Kejimkujik. The festival promotes the area as a premiere wilderness destination and brings to life the sport and guide era. ***Responded to Interest in Internet Service and New Technologies*** • Keji is currently running the only Internet Café (free Internet) in the Parks Canada system – appealing to certain groups of visitors to great success. • Keji was also the pilot park for visitor experience opportunities using Explora hand-held devices, which also attracts visitors of specific interests. ***The Dark Sky Preserve*** • The new designation as a "Dark Sky Preserve" is geared towards attracting a new year-round audience.
To ensure that the needs of visitors with disabilities are addressed in the planning and delivery of services.	***Improvements in Barrier-Free Access*** • Kejimkujik underwent a complete analysis for barrier free access to the park and developed a number of facilities that are barrier free including trails, view points, washrooms, access to Merrymakedge beach, campsites, and shower. • Kejimkujik was the recipient of the Rick Hanson Award in recognition of the work done to address the needs of disabled visitors.
To strengthen the park's standing as an active partner in the regional tourism market.	***Active Partner in Regional Tourism Market*** • Kejimkujik has taken an active role to increase the profile of the park and site in the provincial tourism product. • Kejimkujik is an active participant with Destination Southwest Nova and the Tourism Industry Association of Nova Scotia (see the "Support Indicator"). • The visitor offer at Kejimkujik Seaside was honoured through a Tourism Canada sustainable tourism award. • The Mainland Nova Scotia Field Unit was one of the first Field Units to hire a full-time marketing person and to develop integrated marketing plans. • Kejimkujik is part of a national network of Aboriginal tourist attractions.

[12] The biggest impediment to the expansion of the winter program is insufficient local accommodation to support it, but some progress has been made.

6.0 Key Issues

This chapter concludes the report and identifies key issues raised. These issues were all considered during the planning process for the recently tabled management plan (2010). Where possible, strategies and actions to address these issues were developed and included in the plan.

Relationship with the Mi'kmaq: The partnership between Parks Canada and the Mi'kmaq of Nova Scotia has progressed considerably over recent years, particularly since the designation of the national historic site, but some weaknesses remain. Since the dismantling of the Mi'kmaw Network in 2006 (in order to establish a process for formal Aboriginal consultation), Kejimkujik has not had an active Mi'kmaq advisory committee and has been unable to move forward with a number of important initiatives, such as a commemorative integrity evaluation and interpretive planning for the national historic site. Similarly, natural resource management is not currently informed by Mi'kmaw Ecological Knowledge.

Coastal Ecosystems: Based on the results of monitoring, the coastal ecosystem at the Seaside is in poor condition, with a declining soft-shell clam population, declining eelgrass, and the endangered piping plover. One of the key threats to this ecosystem is the hyper-abundant population of the invasive European green crab.

Invasive Species: Kejimkujik faces increasing stress in all of its ecosystems from a broad range of invasive plants and animals that can displace, outcompete, or prey upon sensitive native species. Although the invasive plant index for trails and forest plots is currently rated as good, several high priority invasive plant species such as glossy buckthorn, have become established in other areas of the park and site and are cause for concern. Additionally, recent investigations at Kejimkujik Seaside have detected a hyper-abundant population of the invasive European green crab and identified a number of related impacts to the coastal ecosystems.

Species at Risk: While Kejimkujik has made some progress with species at risk recovery and has a highly successful volunteer program that supports species at risk recovery, considerable challenges remain. While the Blanding's turtle has a stable short-term population trend, the population is projected to decline over the next 10 generations unless significant management actions are continued. Similarly, the piping plover population trend has stabilised but the population status remains poor. Recovery strategies for piping plover and water-pennywort (Atlantic Coastal Plain Flora) are complete and strategies for eastern ribbonsnake and Blanding's turtle are currently being updated. An inventory of other species at risk in Kejimkujik and monitoring their occurrence in the park is required before determination of their status.

Freshwater Ecosystems: Although the freshwater ecosystems are assessed to be in good condition, they are nearing the threshold of being considered fair. Two key issues are freshwater pollution and aquatic connectivity. Long-term monitoring shows that freshwater ecological integrity has been strongly influenced by the long-range transport of air pollutants and acid deposition, which have altered water chemistry and influenced sensitive species such as benthic invertebrates and loons. Although pollutant emissions and acid deposition levels have decreased regionally in recent years, water quality at the park and site has yet to improve. In addition, mercury

bioaccumulation in fish and wildlife has led to health advisories on fish consumption at Kejimkujik. Results of monitoring surveys illustrate that the connectivity of Kejimkujik's freshwater ecosystems are impacted by the presence of dams (both inside and outside the park and site), decommissioned roads still crossing brooks, and improperly functioning road culverts which can affect water quality, water level, and populations of Brook trout and other fish species.

Forest Ecosystems: While the forest ecosystems are also currently rated as good, a couple of issues, including invasive species (discussed above) are of concern. In addition, the amount of forest habitat within the park and site requires further evaluation to ascertain if it is large enough to support viable populations of some mature forest species. Regional amounts of habitat in the greater park ecosystem have declined dramatically over the past twenty years and are currently below required amounts to sustain healthy populations over the long-term.

Cultural Resource Management: There is currently no commemorative integrity evaluation for the national historic site which is required for reporting and guiding management direction. While many of the measures and practices required to protect cultural resources are in place at the historic site, there is currently no comprehensive cultural resource management strategy. At the Seaside, there has been no formal assessment of the value of the cultural resources nor is there a management strategy or a formal monitoring program.

Declining Visitation: Visitation at Kejimkujik has declined considerably in recent years, particularly at Kejimkujik inland. Decreased visitation is associated to a large degree with a decline in visitation amongst Nova Scotians who camp in the park. Parks Canada is working hard to understand the motivations and interests of different kinds of visitors to better meet their expectations and (re)attract them to Kejimkujik. For instance, social science research and input from consultation demonstrates shifting needs amongst campers to which Parks Canada is responding with electrification of campsites and other changes. Despite this positive work, it is apparent that Parks Canada has limited understanding of the motivations, needs, and interests of potential visitors and marketing/promotions are not adequately targeted to specific markets.

Learning and Discovery: Although Kejimkujik has received very high satisfaction ratings with its interpretive programming and enhanced programming, such as citizen science, has seen significant participation increases in recent years, aspects of interpretive activities are dated and current interpretive programs do not target new audiences. While it is clear that the visitor experience offer at Kejimkujik inland has been strengthened by programming that highlights Kejimkujik's cultural resources, there is no interpretation plan for the national historic site and limited evaluation of learning relative to cultural heritage. There is room for growth relative to comprehensive planning for and marketing of visitor opportunities relative to the national historic site. Due to resource limitations, the interpretation offer at the Seaside has focused on signage. While most visitors rate their visit to the Seaside as a satisfactory learning experience, visitors and stakeholders have noted the lack of available personal interpretation services.

Scope of External Relations Efforts: Although Kejimkujik has been running a highly successful school program for local children, to date, there has been limited outreach beyond local and regional audiences. The Kejimkujik Web site is noted as requiring considerable improvements and relationships with media, although positive, have been relatively reactive.

Appendix A – Vision (2010 Management Plan)

Kejimkujik

A vision for the next generation

From the rich diversity of forests, lakes, and streams of the interior to the beaches and dunes of the rugged coast, this is a place where the people have shaped the land and the land has shaped the people since time immemorial.

Mi'kmaw heritage is respected, shared, and celebrated – Kejimkujik is a sacred place where the Mi'kmaq connect spiritually and emotionally to their ancestors, where the natural and cultural resources that attest to their legacy are respected and presented for future generations, and where Mi'kmaw culture thrives through gatherings, celebrations, and ceremonies.

We work together – Staff, Aboriginal Peoples, partners, communities, and visitors work together to plan and manage Kejimkujik for future generations. We are known for excellence in scientific, traditional and cultural research that furthers understanding of ecosystems and Mi'kmaw culture, to promote sound natural and cultural resource management and inspire stewardship in the Southwest Nova Biosphere Reserve. Our presentation and outreach programs tell the history.

Nature Flourishes – The forests, wetlands, freshwater, and coastal ecosystems that characterize this region of southwestern Nova Scotia are healthy and whole. Kejimkujik offers a protected haven for native plants and animals and the evolution of natural processes.

People connect with nature, culture, ancestors, family, and friends – Kejimkujik is a peaceful place to experience the wonders of nature and to discover the rich cultural heritage of the Mi'kmaq. Diverse, year-round opportunities offer the chance to pause and reflect, to learn and enjoy. Lifetime memories are created here through personal connections with nature and culture, which can include camping beneath towering hemlocks, travelling historical Mi'kmaw canoe routes, or listening to the pounding of the Atlantic coastal surf.

Photos, clockwise from top: Parks Canada; Jonathan Sheppard; Dale Wilson; Parks Canada

Appendix B – Description of Rating Assessments for EI and CI

Description of Rating Assessment for State of Ecological Integrity

Good		The ecosystem is presently secure, and contains a healthy composition and abundance of native species and biological communities, rates of change and supporting processes. No major active management actions are required.
Fair		The ecosystem is presently vulnerable and does not contain a completely healthy composition and abundance of native species and biological communities, rates of change and supporting processes. Active management actions are required.
Poor		The ecosystem is impaired and does not contain a healthy composition and abundance of native species and biological communities, rates of change and supporting processes. Significant and ongoing management actions are required.
Not Rated	**N/R**	There is presently not enough information available to provide a condition for the indicator.
Not Applicable	**N/A**	Not applicable; the question does not apply.

Description of Rating Assessment for State of Commemorative Integrity

Good		Good, effective, or not currently impaired.
Fair		Fair, or minor to moderate impairment.
Poor		Poor, ineffective, seriously impaired or a significant attribute missing (whether related to condition, communications or selected management practices).
Not Rated	**N/R**	Not rated or not reported on because the information is not available.
Not Applicable	**N/A**	Not applicable; the question does not apply.

Description of Trend Assessment for State Indicators

Improving		The state of the indicator/measure has improved since the last assessment.
Stable		The state of the indicator/measure has not changed since the last assessment.
Declining		The state of the indicator/measure has declined since the last assessment.

Appendix C – Summary of Social Science Research on Camping at Kejimkujik

Parks Canada has conducted significant research to assess camping trends and the needs and expectations of current campers at Kejimkujik. The 2005 Jeremy's Bay Campground Survey (2005) identified the characteristics of camping that are most important to Kejimkujik's campers. These include peace and quiet, a safe and protected natural environment, opportunities for recreation and socializing, and learning about nature. The study also identified factors that have negatively impacted visitors' experiences, which include noise from other campers and campsites being too close.

The 2008 Accommodation Pilot Project study revealed that there is substantial visitor interest in sites with electrical hook ups (47% of those surveyed). In addition, 48% of those surveyed expressed interest in alternative campground equipment provided by the park, with respondents most interested in rustic cabins with minimal services. The same 2008 study determined that 88% of visitors who utilized Kejimkujik's pilot Internet Café found the service enhanced their camping experience.

Appendix D – Acknowledgements

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