



CHAPTER 4

State of Conservation and
Factors Affecting the Property

4. State of Conservation and Factors Affecting the Property

A. Present State of Conservation

The following table describes the present state of conservation of the cultural resources of the nominated property. The information on the condition of the cultural resources of the Rideau Canal is a product of the canal's asset monitoring program, undertaken by professional engineers working in the asset management function. Each year, one-third of the canal's assets are thoroughly inspected and the results are entered into the Asset Management System. The information on the fortifications at Kingston is based on the Parks Canada Agency's 2002 evaluation of the state of commemorative integrity of these cultural resources. The evaluation was part of the Parks Canada Agency's program to systematically assess the state of commemorative integrity of all of the sites that it administers. It was undertaken by a multi-disciplinary team of experts qualified to judge the condition of the cultural resources. The condition of each cultural resources is described as good, fair, or poor, as defined in the adjacent table.

Rating	Criteria
Good	<ul style="list-style-type: none"> Asset is in near like-new condition with few, if any defects. No risk of accelerated deterioration. Any defects can be rectified through routine maintenance.
Fair	<ul style="list-style-type: none"> Asset is in normal condition; there is some wear and tear. Little or no risk of accelerated deterioration. Any defects can be rectified through routine maintenance.
Poor	<ul style="list-style-type: none"> Asset is below normal condition. Evidence or risk of accelerated deterioration. Defects cannot be rectified through routine maintenance.

Information on recent major repair projects covers the years from 1995 to 2005. Information on forthcoming major repair projects is taken from the Eastern Ontario Field Unit's Long Term Capital Plan for the period 2006 to 2016.

Baseline Data: Condition of Cultural Resources September 2005

Cultural Resource	Condition	Comments
Ottawa Lockstation		
Eight locks	Locks 1, 2, 5, 6, 8: Good Locks 3, 4, 7: Fair	The lower sill on Lock 8 was repaired in 2005. Routine maintenance.
Commissariat building	Fair	Repairs to wooden components and painting scheduled for 2006. Routine maintenance.
Lockstation office	Fair	Routine maintenance.
Archaeological features	Fair	Routine maintenance.

Cultural Resource	Condition	Comments
Hartwells Lockstation		
Two locks	Fair	Routine maintenance.
Defensible lockmaster's house	Fair	Routine maintenance.
Storehouse	Fair	Routine maintenance.
Lockman's house	Good	Routine maintenance.
Stoplog weir	Fair	Routine maintenance.
Hogs Back Lockstation		
Two locks	Fair	Routine maintenance.
Earth embankment dam	Fair	Routine maintenance.
Lockstation office	Good	Building painted and major repairs to roof in 2001. Routine maintenance.
Storage shed	Good	Routine maintenance.
Black Rapids Lockstation		
One lock	Fair	Routine maintenance. Gate replacement scheduled for 2006. Concrete repairs 2010.
Lockmaster's house	Fair	Routine maintenance.
Spillway dam	Fair	Routine maintenance.
Weirs	Fair	Routine maintenance.
Long Island Lockstation		
Three locks	Fair	Lock 15 stabilized in 2003. Routine maintenance.
Stone arch dam	Fair	Routine maintenance.
Manotick Dam	Fair	Routine maintenance.
Lockmaster's house	Fair	Routine maintenance.
Swing bridge	Fair	Routine maintenance. Conservation of abutments and stringers, and painting, in 2006.
Burritts Rapids Lockstation		
One lock	Fair	Routine maintenance.
Spillway dam	Fair	Routine maintenance. Minor pier and abutments repairs in 2006.
Weir	Poor	Routine maintenance. Stabilization and repair in 2006.
Swing bridge	Good	Complete conservation in 2005. Routine maintenance.
Dam ruins	Not rated	Archaeological resource, no conservation planned.
Nicholsons Lockstation		
Two locks	Fair	Routine maintenance. Lock 19 grout repairs planned for 2006.
Excavated channel	Not Rated	Routine maintenance.
Spillway dam	Fair	Routine maintenance.
Weir	Good	Routine maintenance. Minor repairs to log checks and wall in 2007.
Defensible lockmaster's house	Fair	Routine maintenance.
Swing bridge	Fair	Routine maintenance.

Cultural Resource	Condition	Comments
Clowes Lockstation		
One lock	Fair	Emergency repair to masonry in lower sill in 2005. Routine maintenance.
Stone arch spillway dam	Fair	Routine maintenance.
Weir	Fair	Routine maintenance.
Defensible lockmaster's house	Fair	Routine maintenance.
Merrickville Lockstation		
Three locks	Fair	Lock 23 stabilized and conserved in 2002. Routine maintenance.
Original dam	Not Rated	Archaeological resource, no conservation planned.
Water control dams and weirs	Good	Routine maintenance.
Lower and upper basins	Fair	Conservation of upper basin stone masonry in 2002. Routine maintenance. Upper basin walls conservation in 2010.
Blockhouse	Fair	Routine maintenance.
Storehouse	Fair	Routine maintenance.
Merrickville Industrial Complex	Foundry: Good Industrial Ruins: Poor	Routine maintenance. Routine maintenance and monitoring will continue. Possible conservation within 10 years based on monitoring.
Kilmarnock Lockstation		
One lock	Fair	Routine maintenance.
Earth embankment dam	Fair	Routine maintenance.
Defensible lockmaster's house	Good	Routine maintenance. Porch repairs within 3 years.
Swing bridge	Fair	Routine maintenance.
Edmonds Lockstation		
One lock	Fair	Routine maintenance. Rake, point and grout in 2013.
Spillway dam	Fair	Routine maintenance. Rake, point and grout 2012.
Weir	Good	Routine maintenance.
Earth embankment dam	Fair	Routine maintenance.
Lockstation office	Fair	Routine maintenance.
Old Slys Lockstation		
Two locks	Good	Routine maintenance.
Stone arch dam	Fair	Routine maintenance.
Defensible lockmaster's house	Good	Routine maintenance.
Smiths Falls Combined		
Three original locks	Locks 28, 29: Good Lock 30: Fair	Routine maintenance.
Replacement single chamber lock	Fair	Routine maintenance. Gates and operating system repair 2007.
Stone arch dam	Good	Routine maintenance.
Defensible lockmaster's house	Fair	Routine maintenance.
Canalman's house	Fair	Routine maintenance.
Smiths Falls Detached Lockstation		
One lock	Fair	Routine maintenance.
Lockstation office	Fair	Routine maintenance.

Cultural Resource	Condition	Comments
Poonamalie Lockstation		
One lock	Fair	Routine maintenance. Rake, point and grout in 2009.
Earth embankment dams	Fair	Routine maintenance.
Defensible lockmaster's house	Good	Routine maintenance.
Beveridges Lockstation, Tay Canal		
Two locks	Fair	Upper lock conserved in 1998. Routine maintenance. Minor repair to lower lock in 2006.
Earth embankment dam	Fair	Routine maintenance.
Lockmaster's house	Fair	Routine maintenance.
Perth, Tay Canal		
Bridge	Fair	Routine maintenance. Painting in 2008.
Bridgeman's house	Fair	Routine maintenance.
Turning basin	Fair	Routine maintenance.
The Narrows Lockstation		
One lock	Fair	Routine maintenance. Rake, point and grout in 2011.
Earth embankment dam	Good	Routine maintenance.
Blockhouse	Fair	Routine maintenance.
Swing bridge	Fair	Routine maintenance.
Newboro Lockstation (The Isthmus)		
One lock	Fair	Routine maintenance.
Blockhouse	Fair	Routine maintenance. Roof repairs 2009.
Excavated channel	Not rated	Routine maintenance.
Archaeological Resources	Good	Routine maintenance.
Chaffeys Lockstation		
One lock	Fair	Routine maintenance. Rake, point and grout in 2007.
Defensible lockmaster's house	Fair	Routine maintenance.
Lockstation office	Fair	Routine maintenance.
Weir	Good	Routine maintenance.
Davis Lockstation		
One lock	Good	Routine maintenance.
Earth embankment dams	Fair	Routine maintenance.
Weir	Good	Routine maintenance.
Defensible lockmaster's house	Fair	Routine maintenance.
Lockstation office	Good	Routine maintenance.
Jones Falls Lockstation		
Four locks	Lock 39: Good Locks 40, 41 & 42: Poor	Routine maintenance. Stabilization and conservation of locks 40, 41, and 42 by 2009.
Stone arch dam	Fair	Routine maintenance.
Defensible lockmaster's house	Good	Routine maintenance.
Blacksmith's forge	Fair	Routine maintenance.
Lower lockstation office	Poor	Routine maintenance. Continue to monitor and repair.

Cultural Resource	Condition	Comments
Upper Brewers Lockstation		
Two locks	Lock 43: Good Lock 44: Fair	Routine maintenance. Rake, point and grout, 2010–2012.
Earth embankment dams	Fair	Routine maintenance.
Defensible lockmaster's house	Good	Routine maintenance.
Canalman's house	Good	Routine maintenance.
Lower Brewers Lockstation		
One lock	Fair	Routine maintenance. Rake and point in 2014.
Defensible lockmaster's house	Good	Routine maintenance.
Swing bridge	Fair	Routine maintenance.
Kingston Mills Lockstation		
Four locks	Locks 47, 48 & 49: Fair Lock 46: Poor	Routine maintenance. Lock 46, work identified and awaiting funding.
Stone arch dam	Fair	Routine maintenance.
Two earth embankment dams	Good	Major stabilization work in 2004. Routine maintenance.
Weir	Fair	Routine maintenance.
Blockhouse	Fair	Routine maintenance.
Lockmaster's house	Good	Routine maintenance.
Lockstation office	Good	Routine maintenance.
Fort Henry, Kingston		
Redoubt	Poor (conserved sections-good)	Major conservation program 2004 – 2007. Routine maintenance.
Advanced battery and glacis	Fair	Routine maintenance.
West and east branch ditches	Fair	Routine maintenance.
West and east branch ditch towers	Poor	Conservation planned in 2008.
West and east commissariat stores	Good	Roof conservation in 2003. Routine maintenance.
Fort Frederick, Kingston		
Martello tower	Good	Major conservation program completed in 2000, including roof repairs. Routine maintenance. Painting of wooden portions in 2007.
Earthworks	Fair	Routine maintenance. Masonry repairs pending.
Masonry curtain wall.	Good	Masonry repairs completed in 2004. Routine maintenance.
Fortified guard house	Good	Routine maintenance.
Cathcart Tower, Cedar Island		
Martello tower	Poor	Design specification documents completed. Awaiting funding. Twice-yearly monitoring for stone movement.
Shoal Tower, Kingston		
Martello tower	Good	Major conservation program completed 1997. Routine maintenance. Twice-yearly monitoring for stone movement.
Murney Tower, Kingston		
Martello tower	Good	Multi-year conservation program completed in 2004. Routine maintenance. Twice-yearly monitoring for stone movement.

B. Factors affecting the property

(i) Development Pressures

Development pressures related to private nearby lands affect some areas along the route of the Rideau Canal. Since the 1950s, residential development has taken place on sections of shore lands, particularly immediately south of Ottawa. During the same period, the Rideau Lakes area has experienced considerable cottage and, more recently, housing development. However, almost half of the canal's shore lands remain in a natural state and are subject to minimal development pressures.



Extensive sections of the canal's shoreline retain their 19th century appearance.

Individually, Fort Henry and the four Kingston Martello towers, within their buffer zones, are not subject to development pressures. An issue of potential concern arises in connection with their having been planned as a defensive system with overlapping fields of fire. Ensuring a clear visual understanding of their interconnectedness, given the urban setting in which they are found,

The strategic relationship of the Martello towers and Fort Henry is still clearly visible.



entails protecting the existing views from the construction of inappropriately placed modern structures.

(ii) Environmental Pressures

The slackwater sections of the Rideau Canal, although generally healthy, are subject to a variety of ecological stresses such as storm water discharge, agricultural run-off, and the effects of the spread of exotic species. The long-term cumulative impact of these stresses is, however, estimated to be moderate, as many are being brought under control by provincial regulation and municipal actions. As the regional population continues to increase, effective management of environmental issues and pressures will be required.



Farming is an important activity in the region of the canal between Ottawa and Smiths Falls.

For the canal engineering works and the fortifications in Kingston, the principal environmental pressure arises from the difficult climatic conditions of the area. The climate is hard on limestone construction. The risk of water infiltration combined with the typical freeze/thaw cycle during the winter must constantly be guarded against.



The climate of the area requires regular monitoring and repair of the limestone structures of the canal.

(iii) Natural Disasters

The nominated property is located in a geographic area that is not prone to natural disasters such as earthquakes and violent storms. The only natural disaster that could constitute a significant threat to the Rideau Canal is a major flood that could damage the dams and, to a lesser extent, buildings and locks. Given the water management regime of the canal, the likelihood of such a damaging flood is remote. In the spring, when flooding is most

Water management is an important activity particularly during the spring run-off.

likely to occur, water levels in the system are reduced prior to the spring run-off, providing the canal with an increased capacity to handle the additional water. The canal has protocols in place to respond quickly to sudden heavy precipitation, directing the adjustment of water flows and levels. Also, a program is now being implemented to study the stability of dams and other water control structures, to ensure that they meet modern dam safety requirements. If structural weaknesses are identified, they will be dealt with through a prioritized investment program. Interventions will be consistent with cultural resource management policies and practices.

(iv) Visitor / Tourism Pressures

The nominated property does not experience unmanageable visitor/tourism pressures that could negatively impact its cultural resources. The major tourism attractions, such as Fort Henry and Ottawa Lockstation, can easily serve more visitors without detrimental effects. In most parts of the canal corridor, tourism occurs at a low to moderate level of activity and most slackwater sections and lockstations of the Rideau Canal can accommodate increased boat traffic. The visitation levels at Fort Frederick and Murney Tower are relatively low. Neither Shoal Tower nor Cathcart Tower is open to the public.





The “locking through” of boats is popular with visitors to the canal’s lockstations.

There are, however, some high-volume locations along the canal, mostly on the Rideau Lakes. The Parks Canada Agency has taken steps to attract boaters away from them by promoting slackwater sections and lockstations with a lower volume of traffic and offering additional services at these alternate locations. Shore power, for example, has recently been installed at certain less busy lockstations, to better disperse boat use in the peak season, mid-June to September.

(v) Number of Inhabitants within the Property and the Buffer Zone

Estimated population located within:

Area of nominated property: 12

Buffer zone - Rideau Canal

Because of recent municipal limitations on development, there are now very few people living in the 30-m buffer zone for the Rideau Canal route. The exact number is not known.

Buffer zone – Kingston Fortifications: 0

Total: 12+

Year: 2005