4 Social and Economic Environment

The Muskoka River system has provided a means of commercial and recreational transportation of people and goods for the past 150 years. Early settlement of the district started in 1861 and was first encouraged by the growth of the lumber and farming industry. Waterways played an important role as transportation corridors for timber and early visitors to the watershed.

In the mid reaches of the watershed, the construction of dams first occurred in the late 1800's to aid in the movement of logs in the spring freshet for the lumber industry. In the 1870's, dams were constructed on the Muskoka Lakes (Muskoka, Rosseau and Joseph), the Huntsville Lakes (Mary, Fairy, Peninsula and Vernon) and Lake of Bays to improve water levels for commercial navigation. Construction of locks in Port Carling (1871) and Huntsville (1877) opened the lakes to commercial navigation by steam ship. Resorts grew, and hundreds of private cottages followed.

Hydropower resources were investigated in the late 1800's, with the first power generating stations constructed at Bracebridge Falls on the North Branch and at South Falls on the South Branch in 1892. Eventually another seven generating stations were constructed, the last being Matthias Falls power plant in 1950.

In the 1950's the transportation network grew and Highways 11 and 69 opened access from the southern more populated areas and thousands of cottages were constructed. The steam ship business ended in the 1950's and was reestablished in the 1980's as a commercial tour operation. Today, private cottages are found along almost every shoreline on the system, and there is an increasing trend to convert them for year-round residence use.

Land ownership within the watershed is approximately 65% patent and 35% Crown land. The lower portion of the watershed (west of Bala) and the eastern uplands (east of Dorset) are predominantly comprised of Crown land (Figure 4.1). The Wahta Mohawk Territory comprises a land base of 5993 ha[*] in the lower watershed and both the Moon and the Musquash Rivers flow through their territory (Figure 4.1). Private land predominates the entire midsection of the

[*] Land area as of 2002, an additional area of approximately 3300 ha was added to the Reserve in February 2005 as part of a land claim settlement with the Ontario government.

watershed, including the Muskoka Lakes, the Huntsville Lakes, the North and South Branch of the Muskoka River and Lake of Bays.

The major economic activities in the watershed are related to tourism, forestry and some limited agriculture. Tourism has grown substantially and provides the largest source of employment. The forestry industry is more prevalent in the upper reaches of the watershed (Algonquin Highlands) where Crown lands dominate land ownership patterns. Agriculture land use is limited to areas around Huntsville, Bracebridge, east of Port Carling, and north of Gravenhurst and west of Baysville.

4.1 Community Profile and Infrastructure

4.1.1 Municipal Structure

The Muskoka River Watershed crosses 3 districts, 1 county, 33 geographic townships and Algonquin Park. Table 4.1 provides a list of these municipalities and geographic townships, while Figure 4.1 shows their boundaries. About 75% of the watershed is in the District Municipality of Muskoka.

About 15% of the watershed is within the District of Nippissing (Algonquin Park) and contains the headwaters to both the North Branch and South Branch of the Muskoka River.

4.1.2 Economic Profile/Employment

According to the "Muskoka Tourism 2000 Strategic Plan" (Parnell Kerr Forster Consulting Inc., 1999), the District of Muskoka has "a primarily service based economy, with 38.8% of the 1996 Muskoka labor force employed in retail/service sectors, including accommodation, food and beverage and retail sales". Despite efforts to diversify the economy, the District of Muskoka continues to rely heavily on the tourism industry. Since 1991, those employed in the service sectors has increased 3.8% to 37.6% of the total labor force.

Table 4.1
Municipalities, First Nations,
Geographic Townships and Communities

Municipality	Geographic Township	Communities in Watershed
District Municipality of Muskoka		
Town of Bracebridge	Macaulay, Monck, Oakley, Draper	Bracebridge, Fraserburg
Town of Gravenhurst	Muskoka, Wood	Gravenhurst
Town of Huntsville	Stisted, Chaffey, Stephenson, Brunel	Huntsville, Port Sydney
Township of Georgian Bay	Freeman, Gibson, Baxter	MacTier
Township of Lake of Bays	Sinclair, Finlayson, Franklin, McLean, Ridout	Baysville, Dorset, Dwight
Township of Muskoka Lakes	Cardwell, Watt, Medora, Wood, Monck	Port Carling, Bala
District of Parry Sound		
Township of The Archipelago	Conger	None in watershed
Township of Sequin	Humphrey, Conger	Humphrey, Rosseau
Township of Perry	Perry	None in watershed
Township of McMurrich Monteith	McMurrich, Monteith	None in Watershed
The Town of Kearney	Bethune	None in Watershed
District of Nippissing		
Town of Kearney	McCraney	None in watershed
County of Haliburton		
Municipality of Dysart et al	Havelock, Eyre	None in watershed
Municipality of Algonquin Highlands	Sherbourne, McClintock, Livingstone	Dorset
First Nation		
Wahta Mohawks	Gibson	

Selected demographic, social and economic statistics for the Muskoka River "custom geography" extent was retrieved by Statistics Canada and other surveys the agency administers (Statistics Canada, 2005). This data indicates that as well as service sectors (hotels, motels, resorts and restaurants), residential construction and trade sectors are the largest industries based on establishment count and employee size range in the Muskoka River extent.

The greatest increase in terms of employment in the District of Muskoka has been a result of spending by seasonal residents. Statistics Canada indicates that Haliburton has one of the highest unemployment rates in the Province of Ontario due to its dependency on seasonally driven business in both the tourism and forestry sectors. It has been projected that unemployment can reach highs of 30% to 50% between December and the end of February

In the District of Muskoka there has been a direct expenditure of $475 million and an estimated 7000 jobs generated in the tourism industry, which are seen to be vital to the economic well being of the district. On average, expenditures on tourism have increased by 54% between 1991 and 1998 (Parnell Kerr Forster Consulting Inc., 1998).

4.1.3 Demographics

The total population within the Muskoka River watershed in 2001 was estimated to be 185,674, of which 31% (56,725) was permanent and 69% (128,949) was seasonal (Table 4.2). About 85% of the total watershed population was located within the District of Muskoka. The estimated number of households is 47,255, of which 20,939 were permanent and 26,316 were seasonal. Within the watershed the greatest concentration of permanent and seasonal population is located on the Muskoka lakes (Joseph, Muskoka and Rosseau), the Huntsville lakes (Mary, Peninsula, Fairy and Vernon) and Lake of Bays. It is expected that the permanent population will increase from 50,305 in 1996 to 75,040 in 2016 (Marshall Macklin Monaghan, 1997) (Table 4.3).

Demographic information for the Muskoka River extent indicates that the total population within the Muskoka River 'custom geography' extent is approximately 50,000 and of this population, the largest populated group (10% of the total population) are aged 65 to 74 (Statistics Canada, 2004).

Table 4.2
Population and Households in Muskoka Watershed - 2001

Location	Households			Population		
	Total	Permanent*	Seasonal*	Permanent	Seasonal	Total
Municipalities						
District of Muskoka [7]	40,939	19,312	21,627	53,106	105,972	159,078
Bracebridge [7]	6,832	4,770	2,062	13,751	10,104	23,855
Georgian Bay [7]	5,359	932	4,427	1,991	21,692	23,683
Gravenhurst[7]	6,700	3,586	3,114	10,899	15,259	26,158
Huntsville[7]	7,773	5,982	1,791	17,338	8,776	26,114
Lake of Bays[7]	4,561	1,309	3,252	2,900	15,935	18,835
Muskoka Lakes[7]	9,714	2,733	6,981	6,042	34,207	40,249
County of Haliburton						
Algonquin Highlands[1]	4,262	891	3,371	1,836	16,518	18,354
Dysart[2]	-	-	-	-	-	-
District of Parry Sound						
Archipelago[2]	-	-	-	-	-	-
Kearney[2]	-	-	-	-	-	-
McMurrich/Monteith (estimated)[3]	110	50	60	103	294	397
Perry (estimated) [4]	472	200	272	630	1,333	1,963
Seguin (estimated) [5]	1,472	486	986	1,104	4,831	5,935
Subtotal	47,255	20,939	26,316	56,594	128,949	185,543
First Nation						
Wahta[6]	-	-	-	131	-	131
Totals				**56,725 (31%)**	**128,949 (69%)**	**185,674 (100%)**

Source A&A, 2003a

Notes:

1- 2000 Ontario Municipal Directory, Association of Municipal Managers, Clerks and Treasurers of Ontario. Estimated Population is based on 2.06 persons per permanent household and 4.9 per seasonal household.

2- Only a small portion of The Archipelago (Healey and Kapikog Lakes) and Dysart (Southeast corner of Kawagama Lake) is located within the Muskoka watershed. Most of these lands are either crown owned or remotely developed private lands. The population is estimated to be 0.

3- McMurrich Monteith – Total population is 666 and total household is 736[2]. For the purposes of providing general population statistics the population is estimated, based on the number of households and household size as per note 1 (primarily Round, Axe and Buck Lakes).

4- Perry Township – Total Population is 1,907 and total households are 1,431. For the purposes of providing general population statistics the population within the watershed is estimated to be 1/3 of the total population.

5- Seguin Township – Total population is 3,346 and total household is 4,460. For the purposes of providing general population statistics the population within the watershed is estimated to 1/3 of total Township population (primarily Lake Joseph, and Village of Rosseau).

6- On Reserve Population - Registered Indian Population by Sex and Residence 2000, Department of Indian Affairs and Northern Development (March 2001).

7- District of Muskoka – Census Canada 2001, District of Muskoka Assessment Information (DOM Website).

* Permanent households reside within the area on a full-time basis; seasonal households reside within the area on an intermittent basis, potentially totalling up to 6 mo/yr.

Table 4.3
Population Projections – District of Muskoka

Municipality	1996	2001	2006	2011	2016
Bracebridge	13,220	15,336	17,488	19,819	22,532
Georgian Bay	2,230	2,244	2,261	2,245	2,213
Gravenhurst	10,030	10,803	11,402	11,947	12,540
Huntsville	15,915	18,163	20,429	22,852	25,658
Lake of Bays	2,850	3,256	3,622	4,007	4,452
Muskoka Lakes	6,060	6,345	6,774	7,186	7,646
Totals	**50,305**	**56,148**	**61,976**	**68,056**	**75,040**

Source: Marshall Macklin Monaghan, 1997

4.1.4 Land Use and Settlement Patterns/Communities

Local municipal Official Plans generally recognize three types of private land settlement patterns: communities, waterfront and rural. The three largest urban centres in the watershed are all located on Highway 11 in the middle of the watershed; Gravenhurst, Bracebridge, Huntsville. Waterfront areas include lands that physically and functionally relate to lakes and rivers. These areas are scattered across the entire watershed and are primarily comprised of shoreline residential (permanent and seasonal) and commercial resorts, campgrounds, marinas and the construction service industry. Table 4.4 identifies those lakes that are mostly affected by water level management and provides an estimate of the number of shoreline lots. The three most heavily populated waterfront areas are the Muskoka lakes (Muskoka, Rosseau and Joseph), the Huntsville lakes (Mary, Fairy, Peninsula and Vernon) and Lake of Bays. Other lakes with substantial development include Skeleton, Three Mile and Kawagama. Private septic and water systems service all of these areas, with few exceptions. The rural areas include the remaining land areas and are generally not affected by water level management.

Shoreline Infrastructure

Table 4.5 shows the number of shoreline structures by lake and by river reach for a number of lakes in the Muskoka watershed. Not all lakes have been surveyed.

Table 4.4
Number and Development Status of Lots by Lake

Lake/Reach	Developed	Vacant	Commercial	NDP*	Total
Lower Watershed					
Go Home Lake	382	12	2	71	467
Moon River	36	8	1	47	92
Subtotal	**418**	**20**	**3**	**118**	**559**
Lake Muskoka	3,398	778	31	75	4,282
- North Basin	1,118	248	11	14	1391
- South Basin	1,589	380	19	24	2012
- Bala Bay	190	25	0	9	224
- Dudley Bay	250	29	0	8	287
- Whiteside Bay	92	11	0	0	103
- Muskoka Bay	159	85	1	20	265
Lake Joseph	1,128	188	8	3	1,327
- Cox Bay	70	13	4	0	87
- Main Body	938	157	4	3	1102
- Little Joseph	120	18	0	0	138
Lake Rosseau	1,612	352	17	15	1,996
- Brackenrig Bay	49	9	0	1	59
- Humphrey Twp	238	24	0	0	262
- Main Body	1,190	279	17	10	1496
- Portage Bay	73	20	0	0	93
- Skeleton Bay	62	20	0	4	86
Skeleton Lake	414	106	4	17	541
Muskoka River	272	54	1	4	331
- N. Branch M. R. Bay	93	16	0	1	110
- Bracebridge to Lake Muskoka	179	38	1	3	221
Subtotal	**6,824**	**1,478**	**61**	**114**	**8,477**
North Branch					
North Muskoka River	842	489	10	67	1,408
- Muskoka R. North	388	230	4	41	663
- S. Branch	290	231	5	25	551
- N. Branch Fairy to Mary	164	28	1	1	194
Mary Lake	253	118	4	1	376
Fairy Lake	182	23	7	3	215
Peninsula Lake	272	62	4	5	343

Table 4.4
Number and Development Status of Lots by Lake

Lake/Reach	Developed	Vacant	Commercial	NDP*	Total
- East Peninsula Lake	84	12	2	0	98
- West Peninsula Lake	188	50	2	5	245
Lake Vernon	340	145	4	9	498
- Hunters Bay	34	6	0	0	40
- Main Basin	202	107	3	5	317
- North Basin	104	32	1	4	141
Fox Lake	70	24	1	1	96
Buck Lake	27	7	0	0	34
Axe Lake	0	0	0	2	2
Big East River	96	82	1	48	227
- Huntsville	90	61	1	4	156
- East River	6	21	0	44	71
Subtotal	**2,082**	**950**	**31**	**136**	**3,199**
South Branch					
South Muskoka River (Spence to Confluence)	26	17	0	3	46
Spence Lake	21	8	0	4	33
Wood Lake	199	57	2	6	264
Lake of Bays	898	267	6	19	1,190
Kawagama Lake					900
Subtotal					
TOTAL					**13,963**

* NDP – No Development Potential.

Source: Muskoka Lakes Limnology CD, District Municipality of Muskoka (2000).

Table 4.5
Number of Shoreline Structures by Lake

Lake	Boathouse	Docks					Shorewalls
		Crib	Pole	Floating	Other	Total	
Muskoka [1]	1805	2586	312	209	619	3726	1129
Joseph[1]	677	697	48	53	104	902	238
Rosseau[1]	887	804	77	121	142	1144	366
Fairy [2]	70	267	25	25	-	317	-
Peninsula [2]	86	310	50	37	-	397	-
Brandy [3]	16	8	8	85	1	102	-
Totals	3541	4672	520	530	866	6588	1733

Source
1. District of Muskoka. 2000.
2. Cornelisse & Evans. 1999.
3. District of Muskoka Planning Department. 2002.

Waste Treatment Infrastructure

There are many private and municipal facilities that treat wastewater and release treated water into waterbodies in the Muskoka River watershed. These facilities are required to obtain permits and provide annual reports to the MOE. Some industries release water that has not been altered and is therefore not treated, however, a permit and annual report are still required. Table 4.6 provides the total daily outflow from private sources. The only major industrial user is the Kimberly Clark mill, requiring 2.8 m^3/s (100 ft^3/s) flow for dilution of effluent on the Big East River.

Table 4.6
Private Outflows

Receiving Waterbody	Use of Outflowing Water	Daily Total Outflow (L)
Muskoka River – North Branch	Industrial cooling water	380,000
Paint Lake (St. Mary's Lake)	Rinse bottles and wash analytical equipment (reverse osmosis water)	1,275
Paint Lake (St. Mary's Lake)	Fish culture station	30,000

Source: Ministry of Environment, Barrie Office (2002).

Table 4.7 indicates the general location of private seasonal retention lagoons and the timing and volume of their discharge as determined from MOE files (i.e., Certificate of Approval issued). There are five resorts in the Muskoka watershed having private sewage lagoons that are treated on site and released into the nearest waterbody. The release of water from these private lagoons can only occur after ice out and before May 15, or after October 15 and before ice in.

Table 4.7
Private Seasonal Retention Lagoons

Receiving Waterbody	Discharge Timing	Total Discharge (m^3)
Clearwater Lake	Before May 15 and after October 15	4,533
Lake Muskoka	Before May 15	12,560
	After October 15	6,047
Saw Lake	After October 15	1,068
Skeleton Lake	After October 15	8,500
Lake Vernon	Before May 15 and after October 15	1,250

Source: Ministry of Environment, Barrie Office (2002).

There are six local wastewater pollution control plants (WPCP) within the Muskoka River watershed, which discharge into various portions of the river/lake system. Only one municipal lagoon facility is in the watershed, and it is located in Bracebridge on Lagoon Lane. This municipal sewage lagoon's contents are transported to the local WPCP for treatment prior to release into the Muskoka River (see Table 4.8 for discharge details).

4.1.5 Water Taking Infrastructure

There are many private and municipal organizations that take water for domestic and commercial purposes. All surface water taking is subject to approval by MOE, and a water-taking permit is required. The consumptive use of water for water supply purposes in the basin is relatively small and no significant problems have been reported in meeting the demand.

Table 4.8
Municipal Wastewater Discharge
(Data from 2001 Reports)

Receiving Water Body	Site Name/ Location	Yearly Total (m^3)	Monthly Effluent (m^3)	Average Daily Effluent (m^3/d)	Peak Daily Effluent (m^3/d)	Highest Monthly Effluent (m^3)
Muskoka River	District of Muskoka – Lagoon Lane WPCP	1,085,778*	85,439	2,975	3,325	April – 101,880
Moon River	Bala – Indian Road WPCP	89,425	7,452	244	367	April – 10,044
Lake Muskoka	Gravenhurst – Beach Road WPCP	886,156	73,846	2,422	3,229	April – 93,877
N. Muskoka River	Huntsville – Mountview WPCP	869,057	72,421	2.381	3,254	April – 94,257
Fairy Lake	Huntsville – Golden Pheasant WPCP**	799,481	66,623	2,190	2,993	April – 79,333
Indian River	Port Carling – Medora Road WPCP	132,286	11,024	363	522	April – 15,413

Source – District of Muskoka Public Works Department

* Lagoon Lane WPCP also discharges from its lagoons in April and May with a total effluent equaling 60,510 m^3, which is included in the above "Yearly Total".

** Golden Pheasant WPCP provides irrigation for the Grandview Clublink Golf Course from April through to October. The Monthly Irrigation Flow for 2001 totaled 185, 098m^3, which is not included in the above data totals.

There are eight municipal water treatment plants, servicing seven communities (see Table 4.9).

Water supplies for most residential development outside of the communities is provided by drilled wells, dug wells or adjacent surface water. Water supplies for many commercial operations also depend on drilled wells, dug wells or adjacent surface water. Table 4.10 identifies those establishments where water-taking permits have been issued by the MOE.

Table 4.9
Municipal Water Intake

Water Treatment Plant Location	Lake Supplying Water	Peak Daily Flow Rate (m^3)	Yearly Total 2001 (m^3)
Gravenhurst – Muskoka Beach Rd.	Lake Muskoka	N/A	1,287,175
Huntsville	Peninsula Lake	5,260	1,193,613
Huntsville – Hidden Valley	Fairy Lake	1,285	282,860
Port Sydney	Mary Lake	83	14,595
Port Carling – Stephens Rd.	Lake Rosseau	8,591	218, 590
MacTier – MacTier Beach Ave.	Stewart Lake		107,122
Bala – Minto Street	Lake Muskoka		1156,690
Bracebridge – Kirby's Beach	Lake Muskoka	6,506	1,313,420

Source: District of Muskoka Public Works Department.

Table 4.10
Private Water Taking

Source Name	Use of Inflowing Water	Maximum Amount Taken/Day (L/d)	Maximum No. of Days Taken/Year
Big East River	Industrial – cooling water	9,467,000	365
Fairy Lake	Irrigation – golf course	3,960,000	150
Lake of Bays	Commercial – public supply	1,632,960	365
Mary Lake	Commercial – camp/retreat	50,000	365
Mayflower Lake	Domestic Water Supply	163,380	365
Muskoka River	Commercial – amusement attraction	327,312	100
	Commercial – tent/trailer park	40,000	60
	Industrial	13,082,300	365
Lake Muskoka	Industrial	392,774	153
	Irrigation – golf course	1,308,500	153
	Irrigation/Commercial – golf course/resort	2,725,488	100
	Commercial – resort water supply	300,000	365
	Irrigation – golf course	68,200	30
Nutt Lake	Irrigation – golf course	382,200	30
Lake Rosseau	Commercial – youth camp	252,000	365
	Irrigation – golf course	1,226,470	180
	Irrigation – golf course	1,816,992	150
Skeleton Lake	Commercial – camp	408,000	210
Lake Vernon	Industrial – cooling water	654,624	365
Ponds with unnamed creek Muskoka Ward	Industrial – irrigation	163,800	365

Source: Ministry of Environment, 2002.

4.1.6 Major Infrastructure

Three major highway corridors run through the Muskoka River watershed (Figure 4.1); Highways 11, 69/400 and 60. Highway 11 runs in a north/south direction, and bisects the watershed near its midpoint connecting the towns of Gravenhurst, Bracebridge and Huntsville. It provides a major corridor connecting Toronto to North Bay. Highway 69/400 (TransCanada Highway) runs north/south through the western reaches of the watershed and connects Toronto to Sudbury. Highway 60 runs east/west along the north shore of the Huntsville Lakes and crosses Oxbow Creek and Oxtongue River before crossing the entire width of Algonquin Park from east to west. A short section of Highway 35 passes through the southeast corner of the watershed and crosses the Hollow River at Dorset. There are numerous other paved highways (including District roads 169, 118, 141 and 117) that are maintained by the local municipalities. There are no roads that travel the entire length (east/west) of the watershed. As well, there are many gravel side roads and forest access roads that provide access to rural and remote areas.

There are three major railway lines that cross the Muskoka River watershed (Figure 4.1). TransCanada Pipeline has twin natural gas high-pressure transmission pipelines which run virtually parallel to Highway 11. A twin (two 500-kV) electric transmission line runs north/south through the lower reaches of the watershed crossing the Moon, Gibson and Musquash rivers (Figure 4.1). There are dozens of other single transmission lines that cross the North and South Muskoka River as well as the narrows on Lake of Bays.

4.2 Water Power Generation

Water management in the Muskoka River watershed is very important in relation to hydroelectric power production. Hydroelectric generation provides a significant source of revenue and supports the recent initiative to produce “green” power. Recent government renewable energy initiatives recognize decreasing respiratory illness and disease, reduction of smog and load flowing ability (i.e., the ability of waterpower to make quick changes in generation output to meet consumer needs). Waterpower, as a form of “green” power, achieves these objectives by reducing smog and greenhouse gases and associated health and ecosystem effects.

There are 10 hydroelectric stations totaling 28.3 MW and generating about 150,000 MWh/yr (see Section 5 for details). Five of the plants are owned and operated by OPG, and represent over 80% of the energy produced on the entire system. More than 50% of energy production is from two OPG sites located below Bala (Big Eddy and Ragged Rapids). About 40% of the energy production occurs along the South Branch, and 7.5% is produced on the North Branch by Bracebridge Generation. Other waterpower companies on the system are Orillia Power Corporation and Algonquin Power.

Looking at the potential for developing more water power on the Muskoka River, there are some sites that show potential for small development. Upward of 25 MW of undeveloped waterpower is noted for the river (Small Hydro Atlas, 2005). In March 2005, MNR released the Bala North site for development proposals. In conjunction with a development at the Bala North site, the successful developer would also be required to take over operation of the Bala South dam. As of January 2006, one group had submitted a proposal for future waterpower development at the site.

4.3 Forest Industry

Eighty five percent of the Crown land forests in the Muskoka River watershed are within the French-Severn Management Unit, which includes all Crown lands within the MNR District of Parry Sound. The remaining 15% are in Algonquin Park, under the Algonquin Forest Authority. Commercial forestry activities also occur on private lands throughout the watershed and only the District Municipality of Muskoka has a tree cutting by-law to regulate these activities. There are seven operators that work in the Muskoka River Watershed, however, almost all primary materials are transported to larger sawmills and pulp mills outside the watershed. The products are primarily saw logs destined for Tembec Inc. in Huntsville and Mattawa, Roy's Lumber in Britt, Agawa Forest Products in Sault Ste. Marie and Fryer Forest Products in Monetville. Fuelwood and pulpwood markets are relatively small. The removal of sunken logs has occurred in many locations across the watershed in the past 10 years.

4.4 Agriculture

The Muskoka River Watershed is located on the Precambrian Shield and there are only limited areas that provide adequate soil conditions for agricultural use.

Ninety percent of land in the Muskoka River watershed is classified as having no capability for arable culture or permanent pasture. Agriculture operations are centralized around the communities in the middle reaches of the watershed: Huntsville, Bracebridge, east of Port Carling, north of Gravenhurst, and west of Baysville. The only crop that may be detrimentally affected by water level is the production of cranberries. However, no commercial operations are affected by the management of the dams within the scope of this study.

4.5 Hunting and Trapping Activities

The watershed is part of six provincial Wildlife Management Units (WMU♠s). These units are the geographical basis for the setting of seasons for wildlife harvesting. Hunting has been, and continues to be a traditional activity in the region. Harvests of both moose and deer are regulated by lottery draw systems. The bear hunt is managed by outfitters operating in 11 bear management areas (BMA♠s).

Trapping, especially adjacent to Algonquin Park and in the more remote areas of the upper and lower watershed, is managed by MNR on Crown land. There are 38 registered traplines: 16 in the upper watershed and 22 in the lower watershed. As well, there are a number of private land trappers. Furbearers such as beaver and muskrat still provide a small trapping industry, but trapping activity is reduced. There is no indication that current water level management regimes are having a negative impact on furbearer populations in the Muskoka Watershed.

4.6 Navigation and Boating Use

Commercial and recreational boating activity on the waterway runs from about mid-May to mid-October. Contracting barges are in operation during most ice-free months. There are three general areas where commercial navigation has occurred in the past and are currently buoyed: the Muskoka Lakes (Muskoka, Rosseau and Joseph), Huntsville Lakes (Vernon, Fairy, Peninsula and Mary) and Lake of Bays (see Figure 4.2). Three navigation locks are located on the system; two in Port Carling and one just south of Huntsville. The Port Carling Locks are owned by the District Municipality of Muskoka and operated by the Township of Muskoka Lakes. There are two locks at this location, with a lift of 0.65 m. The small lock is for average sized recreational boats, and the large lock handles contractor's barges, tourist boats (such as the Segwun) and other large vessels.

The Brunel Lock, located south of Huntsville, was built from 1873 to 1877 to overcome the difference in height between Fairy Lake and Mary Lake. Today Brunel Lock Park is a popular picnic area from which one can watch boats making their way through the system. The lock is operated by the Town of Huntsville, and draws an annual activity of about 2000 boats. The difference in height of water levels is about 3 m (10 ft).

Seaplane Bases

There are four seaplane bases in the Muskoka watershed:

- Lake Vernon
- Lake Rosseau (near Port Carling)
- Smoke Lake (Algonquin Park)
- Lake Muskoka (Mortimer's Point).

The four airbases are not affected by water management strategies.

4.7 Recreation/Tourism and Parks

4.7.1 Recreation and Tourism

Resort development was initiated on Muskoka, Rosseau and Joseph lakes as early as 1871 aided by the steamship era and the connection to the Northern Railway at Gravenhurst. The first private cottages started on these lakes in the 1870s and 1880s. The same trend occurred on Mary, Fairy, Peninsula and Lake of Bays in the late 1880s and 1890s as train and steamship services took longer in coming to this area. Over the years, tourism has changed in Muskoka from an industry that was totally dependent on steamship navigation to one that uses the Muskoka River system for recreational boating. After World War II with easier access to cars and the growth of the transportation network as well as the gas-powered motorboats, fewer relied on the steamers for passage or supplies and the steamship era ended in 1981.

Tourism and associated recreational activities are extremely important to the Muskoka watershed area. The eastern portion (headwaters) is used primarily for wilderness camping and canoe tripping while the central and western portion of the watershed are used extensively by private cottaging and resort operators. Tourism activities are summarized in Figure 4.2. Table 4.11

indicates the number of resorts, marinas and campgrounds on waterbodies throughout the watershed.

Table 4.11
List of Total Commercial Operations by Lake/Reach

Lake/Waterbody	Number of Resorts	Number of Marinas	No. of Tent and Trailer Parks
Moon River	6	1	
Go Home Lake		1	
Healey Lake		2	
Lake Muskoka	31	14	2
Lake Rosseau	13	5	1
Lake Joseph	6	6	
Medora Lake			1
Skeleton River			1
Gull Lake	1	2	
Gullwing Lake			1
Three Mile Lake	7		2
Butterfly Lake	1	1	1
Bass Lake	1	1	
Skeleton Lake	3		1
Muskoka River	14	1	1
Bonnie Lake			1
Deer Lake			1
Mary Lake	8	1	
Lake Vernon	2	1	-
Fairy Lake	8	1	
Peninsula Lake	8		
Big East River	-	-	2
Lake of Bays	22	2	1
Kawagama Lake		2	
Total	**131**	**41**	**16**

Source: Tourism Guides and local telephone books, includes inns, resorts, cottage resorts, bed and breakfasts, etc.

The attractions that rely on the physical features of the Muskoka watershed include:

- the Muskoka Lakes (Lake Muskoka, Rosseau Lake and Lake Joseph)
- Lake of Bays

- the Huntsville Lakes (Peninsula Lake, Fairy Lake, Mary Lake and Lake Vernon)
- downhill skiing (Hidden Valley Highlands, Peninsula Lake)
- cross-country skiing
- snowmobiling (about 2,000 km of groomed trails)
- the many waterfalls and chutes for sightseeing.

The most significant man-made attractions and events that directly relate to water include:

- lake cruises on the RMS Segwun and Wenonah II (Gravenhurst, Lake Muskoka)
- lake cruises on the Lady Muskoka (Bracebridge, Muskoka River and Lake Muskoka)
- Santa's Village (Bracebridge, Muskoka River).

Recreation

Water related recreational activities include:

- summer – swimming, sailing, boating, water skiing, canoeing, fishing
- winter – snowmobiling, skiing and ice fishing.

The major recreation lakes are Muskoka, Rosseau, Joseph, Lake of Bays, Mary Lake, Fairy, Peninsula, Lake Vernon, and Kawagama. Canoeing is a popular recreational activity throughout the entire watershed. Figure 4.2 shows the location of published canoe routes in the watershed. Major canoe routes and wilderness camping are more prevalent in the headwaters of the watershed, especially within Algonquin Park. There are ten active snowmobile clubs in the watershed area that are members of the Ontario Federation of Snowmobile Clubs (OFSC). Figure 4.2 - Recreational Opportunities, indicates the location of the trails that are maintained by these groups. There are 24 golf courses in the Muskoka watershed. The boom in golf course development in the 1990's resulted in 11 new courses or expansions. In some cases, construction activities resulted in increased soil and sediment transport to Muskoka water bodies. Water intakes and out flows for these golf courses are included in Section 4.3.1.

4.7.2 Provincial Parks and Wildlife Reserves

Federal Reserve

Eleanor Island is the only Federal Reserve located in the watershed and is designated a national wildlife area. Herring gulls and great blue herons nest there in large numbers and have painted the island white with their droppings. The island is located about 1.5 km from the nearest mainland and is in the southern portion of Lake Muskoka. Access to the island is strictly prohibited and it is administered by the Canadian Wildlife Service and the MNR.

Provincial Parks

There are nine provincial parks located within the Muskoka River Watershed (Figure 4.1). The most important of the parks is Algonquin which contains the headwaters of the Muskoka watershed and comprises about 10 to 15% of the Muskoka River watershed. Algonquin Park is a major destination for national and international travelers who are seeking opportunities for a diversity of low intensity recreational experiences. The park attracts over half a million visitors annually, from all over the world. The majority (85%) of visitors originated from the immediate vicinity of the park and southern Ontario, and the remainder from outside of the province. Their principal activities while in the park include; canoeing, camping, fishing, picnicking, sightseeing, cross-country skiing and hiking.

There are six water control structures in the park. Any proposal to alter lake level regulations would need to be evaluated on its effect on canoeing activities from May to September. Management of downstream sections of the Muskoka River could be improved by allowing more flexibility in the operation of lakes within Algonquin Park.

Within the Muskoka River watershed of Algonquin Park, there are three main reaches where Park and private recreation facilities exist: Burnt Island, the Joe Lake System and Tea, Smoke and Canoe Lakes. Table 4.12 provides the total number of private facilities (lodges, youth camps and private cottages) and Park run facilities (campgrounds and interior camp sites) located within the Muskoka River watershed portion of Algonquin Park. All private facilities are managed through a lease agreement and none of the facilities would be classified as a significant water taker.

Conservation Reserves

The recent Ontario's Living Legacy (MNR, 1999) exercise proposed 13 Conservation Reserves within the Muskoka River Watershed, 10 of which have been subsequently approved. Five conservation reserves are located on waterways affected by water management, however the impact on the conservations reserves should be minimal (see Figure 4.1).

Table 4.12
Algonquin Park
Private and Park-Operated Tourist Facilities

Lake/ Waterbody	Lodges	Youth Camps	Private Cottages	Major Access Points	Campgrounds	Interior Camp Sites
Burnt Island	0	0	0	0	0	52
Joe Lake System	1/125*	1/300*	6	0	0	61
Tea, Smoke and Canoe	0	3/805*	162	1 (Smoke) 1 (Canoe)	1/250** (Tea)	0
Total	**1/125***	**4/1105***	**168**	**2**	**1/250****	**113**

* Capacity of people that can be accommodated.
** Number of individual campsites.

Source: Henry Checko, Algonquin Park Staff, 2003.

Natural Heritage Areas

The Muskoka Heritage Areas are regionally significant natural areas and features within the District of Muskoka. The Natural Heritage Evaluation study was a result of a District of Muskoka led project in cooperation with the Muskoka Heritage Foundation and the MNR. These areas cover a total of 25,500 ha or 6% of the land base of Muskoka District. Approximately half of this total area occurs on public lands. There are 68 heritage sites within the Muskoka watershed. The goal of the Natural Heritage Program is to protect the designated areas from incompatible activities by means of municipal land use policy and Crown land management.

4.8 Commercial Fishing

Commercial fishing is restricted to the harvest of baitfish under licence from the MNR. Much of the baitfish harvesting activity occurs away from the main stem

of the Muskoka River. Licensed areas contain parts of the river and associated lakes, and some harvesting activity can be expected to occur in these areas. There is no requirement of the harvesters to report their catches by waterbody, just by zone, so the impact of baitfish harvesting on the Muskoka River is unknown.

4.9 First Nations

4.9.1 Wahta Mohawks (Gibson Territory)

In 1881 the Ontario government sold a block of land in Gibson Township to the federal government to be set aside as a reserve for the Mohawks of Gibson. The establishment of the Gibson reserve was confirmed by an Order-in-Council dated June 18, 1918 (see Figure 4.1). The Wahta Mohawks journeyed from Kanesatake (Oka, Quebec) in 1881 to the present territory of 5983 ha near Bala, Ontario. With a membership of approximately 550 people, Wahta's elected Council consists of four Councilors and a Chief. Services offered include: social services, health, children's program, economic development, library, home support for the elderly, public works and education assistance and counseling.

Mixed forests, rocks, lakes, and marshes make up the Wahta Territory. Maple trees are abundant, and the Mohawk word "Wahta" means the sugar maple. The Mohawks main industry is cranberry production. The low lands enabled the development of Iroquois Cranberry Growers, which is the largest cranberry operation in Ontario. This internationally known community business has been used to help finance other community economic development since 1969. Private businesses at Wahta vary, and most are geared to the service industry.

4.9.2 Port Carling Site

Wahta Mohawks and Chippewas of Rama co-own the Indian River Reserve, 2.5 acres of land in the middle of the village of Port Carling. The waterfront property is used primarily for craft outlets in summer, just as it was earlier in the 1900's.

4.10 Archaeological and Heritage Resources

Although the Muskoka River watershed was not permanently inhabited by First Nations, the area was used for hunting and fishing and was considered part of the territory of the Algonquin Indians. While it is suspected that the Muskoka River was visited by French explorers and fur traders, there is no written record until 1826. At that time, Lieutenant Henry Briscoe was the first to report on the Muskoka River when interest arose to find a connection from the Ottawa River and Georgian Bay. Early settlement of the district started mainly after 1860 with the growth of the lumber industry. Water control structures were soon constructed thereafter to provide commercial navigation of the major lakes and log driving within the headwaters of the watershed.

A Stage 1 Cultural Heritage Assessment of the Muskoka River was undertaken by Archaeological Services Inc. (ASI). Their complete report is presented in Appendix G4 of the Background Information Report (A&A, 2003a). A total of 87 archaeological sites have been registered within the project study area. The general paucity of archaeological/heritage sites in the study area is due to the lack of detailed archaeological survey in the area, rather than any lack of inhabitation or land use, either before or after European settlement. Considering the nature of the terrain and the reliance of the population on water base activities, the areas with highest potential for archaeological sites are in, or in close proximity to, water. Numerous ships are known to have been wrecked in the major lakes and rivers of the study area and represent one type of archaeological resource.

The potential for submerged archaeological/heritage sites throughout the study area is considerable. Submerged sites take one of two basic forms: underwater or inundated resources. Underwater sites are those that have formed through the deliberate or inadvertent deposition of material in bodies of water. Canoe spills and refuse disposal are typical processes which lead to the formation of such sites. Inundated sites, on the other hand, are those which were formerly terrestrial, such as shoreline occupation sites, which have subsequently been submerged due to changes in local hydrology.

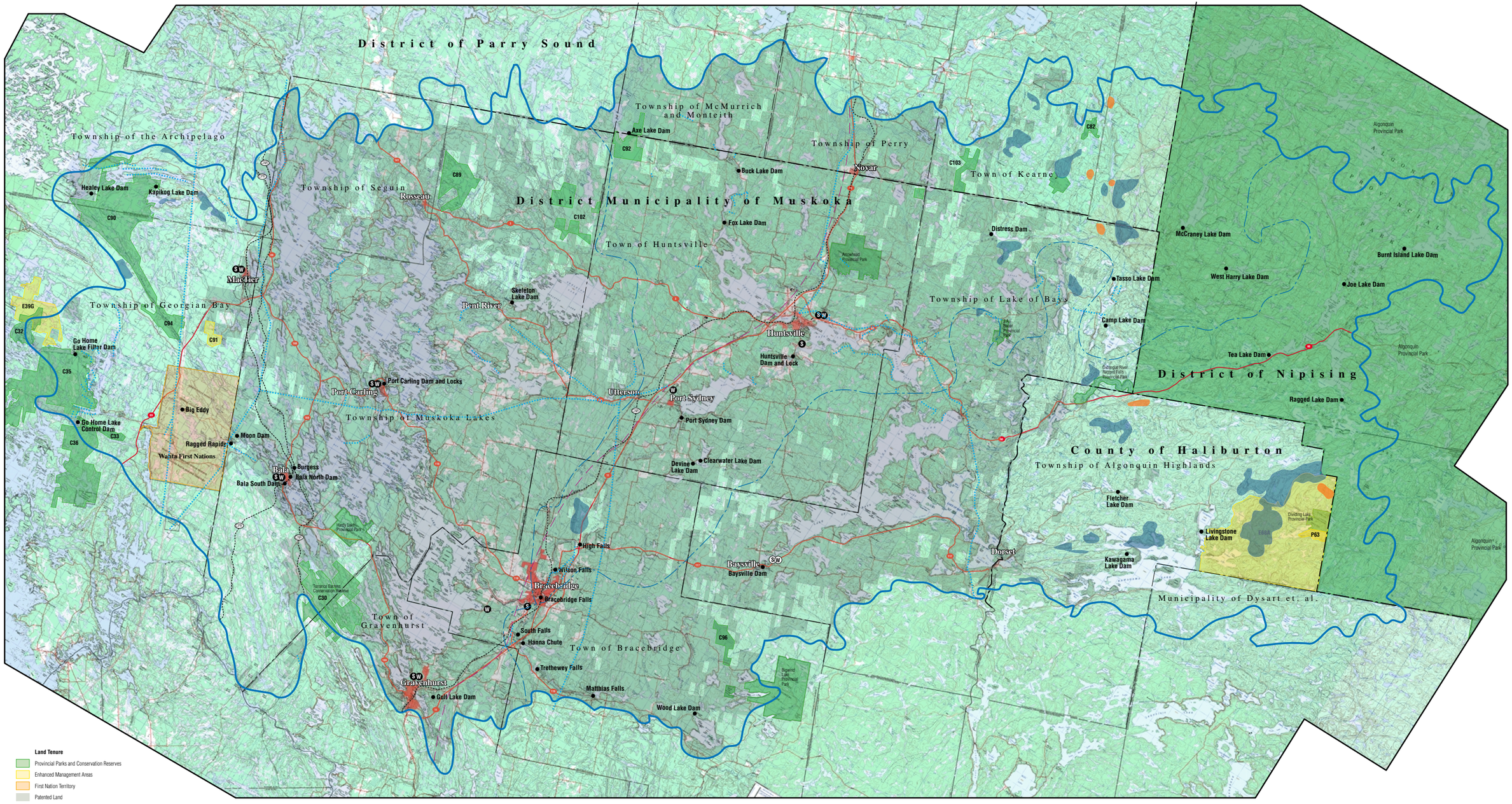


Figure 4.1
Muskoka River Water Management Plan
Land Tenure and Major Infrastructure

ACRES International

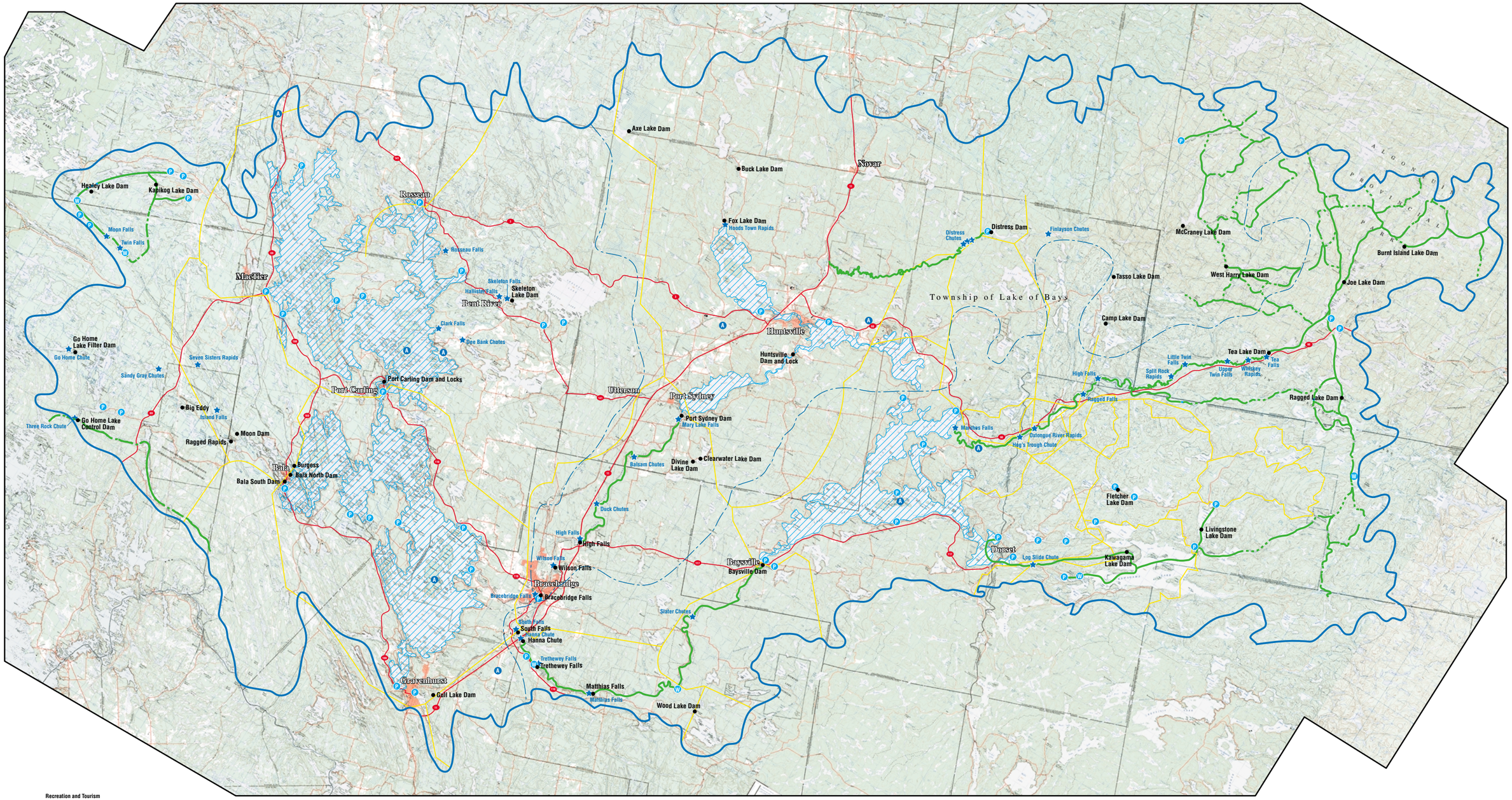


Figure 4.2
Muskoka River Water Management Plan
Recreation and Tourism

ACRES International