Climate Change and the Lake Simcoe Watershed: A Vulnerability Assessment of Nature-Based Tourism and Recreation

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1.0 Introduction

The Lake Simcoe Watershed encompasses a wealth of natural heritage assets including Lake Simcoe and other lakes, streams and rivers, significant woodlands and valleylands, numerous wetlands, and many species inhabiting a variety of aquatic and terrestrial habitats. These natural assets are used by residents, draw hundreds of thousands of visitors every year, and generate millions of dollars for the provincial and local economies. Given the projected growth of cities in the watershed (e.g., Barrie and Orillia) and its proximity to the Greater Toronto Area (GTA), demand for recreational opportunities will continue to grow.

Climate change presents a number of important challenges to planners and managers responsible for the provision of nature-based tourism and recreational opportunities. For example, warmer temperatures and altered precipitation patterns could reduce or eliminate some and increase other opportunities for a number of recreational activities currently enjoyed by people living and visiting the Lake Simcoe Watershed. Tourism is a dynamic and competitive industry requiring constant adaptation to meet changing customer needs and desires, satisfaction, safety, and enjoyment. Climate change will compound these challenges with far reaching consequences for the tourism industry throughout the 21st century.

This report explores the vulnerability of nature-based tourism and recreation to climate change using five indicators of change, ice fishing, alpine skiing, Nordic skiing, snowmobiling, and provincial park visitation patterns.

2.0 Nature-based Tourism and Recreation in the Lake Simcoe Watershed

The Lake Simcoe Watershed encompasses about 330,300 ha. Principle land uses include agriculture (encompassing about 48% of the watershed area) and transportation and urban infrastructure (encompassing about 18% of the watershed area). While 35% of the watershed is under natural cover, it is significantly fragmented (Government of Ontario, 2009). Natural heritage areas (e.g., Provincial Parks, Areas of Natural and Scientific Interest, and Conservation Areas) encompass about 6.8% of the watershed and are located on provincial, municipal, and private lands (Figure 1).

Nature-based recreational opportunities in the Watershed provide a significant draw for residents and visitors. For example, 6.2 million people visited Simcoe County in 2008, and many of these visitors participated in nature-based activities (Table 1). Total spending by visitors pursuing recreational activities exceeded $34 million in 2008, which generated a total economic impact of

$630 million and 8,000 jobs, including more than $270 million in taxes (Statistics Canada, 2007, 2008).

3.0 Methods

We used length of season for four winter activities (i.e., ice fishing, alpine skiing, Nordic skiing, and snowmobiling) and park visitation patterns to assess tourism and recreation vulnerability to climate change in the Lake Simcoe Watershed. The impact projections for ice fishing, alpine skiing, Nordic skiing, and snowmobiling using a number of climate model-scenario combinations were obtained from the literature, including work by Scott et al. (2002).

For the assessment of visitation patterns, we used a methodology similar to that of Jones et al. (2006a) who examined the impacts of climate change on visitation to a number of Ontario Provincial Parks. Six years of monthly park visitation data (2004 to 2010) were obtained from Ontario Parks. Ontario Parks reports 'visitation' as: (1) people entering parks by vehicles with daily vehicle permits (average occupants per vehicle by number of permits); (2) camper nights (number of regular and backcountry campers by nights stayed); and, (3) number of people entering for free day-use (Ontario Parks, 2010a).

The climate change scenarios developed for each natural heritage area were developed from monthly global climate models (GCMs) available from the Canadian Climate Change Scenarios Network (CCSN) project (http://cccn.ca/). Three future 30-year time periods were examined (i.e., the 2020s represent the period 2010 to 2039; the 2050s represent 2040 to 2069; and, the 2080s represent 270 to 2099). The changes projected for each future period were calculated using a 30-year baseline period (1971 to 2000). Projections were generated for A2 and B1 emissions scenarios. The A2 Scenario assumes a higher human population, less-forested land, greater pollution, and higher carbon dioxide (CO_2) levels, while the B1 scenario assumes population rising to 2050 and then declining, a shift toward a service and information economy, with reductions in material intensity, and the introduction of clean and resource-efficient technologies (Nakićenović et al., 2000).

Multivariate regression analysis was employed to develop an empirical relationship between climate and monthly visits to Sibbald Point and McCrae Point Provincial Parks for the period 2004 to 2010. Three monthly-level temperature variable (maximum, minimum, and mean temperature) and one precipitation variable (total precipitation) were used in the assessment. The regression models were then used to project future changes in visitation. The resulting regression model for each Provincial Park was applied to monthly climate data obtained from the park's climate station for 1971 to 2000 in order to establish a 30-year baseline against which future climate change scenarios could be compared. The regression model for each park was then run for both climate change scenarios (CGCM3-A2 and -B1) for the 2020s, 2050s, and 2080s to project potential changes in visitor numbers.

4.0 Results

4.1 Ice Fishing

In recent years, ice fishing in the Lake Simcoe Watershed has been severely impacted by two climate related phenomena, the pressure crack during the 1996/97 winter season on Lake Simcoe and the shortened ice fishing season during the late 1990s (particularly 1997/98 and 1998/99). Scott et al. (2002) used the 1997/98 and 1998/99 ice fishing seasons as analogues to describe the potential impact of climate change on ice fishing in Lake Simcoe. The winter of 1997/98 was the warmest on record in the Great Lakes region (+3.7°C above normal) and the Lake Simcoe ice fishing season during this winter was on average 52% shorter (based on four sample sites) than the winter of 2000/01 (during temperatures were -0.3°C below normal). The projected winter temperature change generated with version 1 of the Canadian Global Climate Model (CGCM-1) with the IS92a scenario for the 2050s, for example, is still more than 1°C warmer (+4.83°C) than 1997/98, suggesting that the ice fishing season could be further reduced. The winter of 1998/99 was 2.7°C warmer than normal, with an ice fishing season on average 32% shorter (based on five sample sites) than the winter of 2000/01. The temperature deviation from the 1961-90 normal for 1998/99 is a reasonable analogue for the CGCM2 2020s scenario (+2.97°C) and slightly higher than the HadCM3 2050s scenario (+2.06°C). While a fairly diversified economy has been established on the west side of Lake Simcoe, the smaller towns on the east side of the lake, where most ice hut operators conduct business, are more dependent on the revenue generated by the ice fishing industry (Scott et al., 2002).

4.2 Alpine Skiing

Both the CGCM2 and HadCM3 models indicate that the overall trend at the alpine ski areas located in the Lakelands Tourism Region adjacent to the western and northern boundaries of the Lake Simcoe watershed will result in shorter ski seasons (Table 2) and increased snow making costs. Even with enhanced snowmaking capabilities, the models suggest that the alpine ski industry will be increasingly challenged to achieve a 12-week ski season (Table 3), a benchmark for economic viability (Scott et al. 2002).

4.3 Nordic Skiing

Assuming that snow conditions on most winter trails will not be enhanced with snowmaking equipment, Nordic skiing and snowmobiling in the Lakelands Tourism region will be more sensitive to climate change than alpine skiing. For example, the range of average Nordic skiing season reduction in the 2020s (2010-2039) is projected to be 39% by the HadCM3 model and 55% by the CGCM1 model (Table 4).

4.4 Snowmobiling

Climate change scenarios project substantial reductions in the snowmobile season length in the Orillia Ontario Federation of Snowmobile Club (OFSC), Snowmobile District 8 (Table 2). Even in the 2010-2039 CGCM1-IS92a model-scenario (Scott et al., 2002), the snowmobile season rarely reaches the lower end of the OFSC estimated historical season range and on average is 54% shorter than the 1961-1990 baseline. The HadCM3-IS92a model-scenario projects 47% for the same time period, and on five occasions reaches or exceeds the 1961-90 baseline average. During the 2040-2069 period it is projected that there will be a 77% reduction in average season length under the CGCM1-IS92a model-scenario and a 58% reduction under the HadCM3-IS92a model-scenario. Finally, the longest scenario horizon projected an average season reduction of 80% (HadCM3) and 87% (CGCM1). In addition, changes in the duration and extent of ice cover could also increase the risk to outdoor enthusiasts who depend on lake ice for travel.

4.5 Visitation

Changes in the length and quality of recreation seasons induced by climate change will affect nature-based tourism and recreation visitation patterns, revenue, and management requirements. Two recent analyses indicate that Canada’s natural heritage areas could experience an increase in visitors under climate change due to a longer warm-weather tourism season (Jones and Scott, 2006a, 2006b). For example, Jones and Scott (2006a) found that overall visitation levels to Ontario Provincial Parks could increase 11% to 27% in the 2020s and 15% to 56% in the 2050s, with the largest increases in visitation occurring during the spring and fall months as climatic conditions conducive to warm-weather recreation activities emerge and persist for longer periods of time.

Park visitation tends to be highest during the summer months of July and August, with Sibbald Point Provincial Park receiving 72% and McRae Point Provincial Park receiving 67% of total annual visitation during these two months (Figure 2). In winter, many amenities in Sibbald Point Provincial Park are not available and McCrae Point Provincial Park is closed.

Similar to Jones and Scott (2006a), the regression analysis resulted in one-variable visitation models for both parks, with maximum temperature (T-max) as the strongest predictor of monthly visits (Table 6; Figures 3 and 4). For the 2020s, annual system-wide visits to Sibbald Point Provincial Park are projected to increase between 12.2% (B1 Scenario) and 12.9% (A2 Scenario). At mid-century, the A2 Scenario begins to diverge from the B1 Scenario and projects greater increases in visitation for the 2050s (+27.5%) and 2080s (+48%). Similar trends are projected for McRae Point Provincial Park with visitation increases of 9.6-10.0% (2020s), 14.6-20.0% (2050s), and 18.0-30.6% (2080s) projected for the B1 and A2 Scenarios, respectively.

Visitation is projected to increase during July and August in both parks (Tables 7-11; Figure 5). Any increase in visitors during the peak tourism period will potentially strain park resources, particularly if the parks are already operating at or near capacity during July and August. It raises the question, are there enough parks and other recreation areas in the watershed to meet increased demand for access to recreational opportunities and facilities during the summer months? In addition, there likely will be substantial increase in demand for access to recreational amenities during the shoulder seasons, especially under Scenario A2. Given increased demand for longer periods of time, will the ecological carrying capacity in parks and other natural heritage areas be compromised?

5.0 Discussion

Climate change has important implications for nature-based tourism and recreation because visitor use is strongly correlated to climate. Climate influences the physical resources (e.g., water levels, snow cover, and wildlife species) that provide the foundation for outdoor recreation (e.g., boating, Nordic skiing, birdwatching), defines when specific activities can take place (e.g., beach use, swimming), and influences the level of visitor satisfaction (Jones and Scott, 2006a, 2006b). Given that the Lake Simcoe Watershed provides significant opportunity for nature-based recreation, changes in ecosystem composition, structure, and function will require adaptive management.

Any changes in season length will have significant implications for both the short-term and long-term viability of nature-based tourism and recreation enterprises such as golf, alpine and Nordic skiing, snowmobiling, and hiking. While the length of the summer tourist season and associated increases in demand for access to parks and other natural heritage areas will generate additional revenue, there are ecological implications requiring research and management. Visitor management plans and trail management plans developed by Ontario Parks, the Lake Simcoe Region Conservation Authority, the County of Simcoe, and others (e.g., Ontario Federation of Snowmobile Clubs) will have to recognize the need to adapt infrastructure to meet changing user demands and reduce environmental impacts, consistent with the sustainable tourism and recreation model endorsed within the Lake Simcoe Protection Plan (Government of Ontario, 2009). Visitor tracking and monitoring of impacts and satisfaction and perception in relation to the natural environment will be important in this regard.

6.0 List of Consequences

Primary consequences of climate change for nature-based tourism and recreation in the Lake Simcoe Watershed include:

- Climate change-induced changes to ecosystem composition, structure, and function could affect visitor attractions, visitation patterns, the provision of recreational activities (e.g., ice fishing and snowmobiling), and the overall quality of the recreational experience.

- Need to determine how to manage for climate change-induced visitor behavioral responses and shifting (and emerging) destination and recreational preferences (e.g., how to adapt infrastructure, accommodate losses and emergence of destination and recreational preferences, and minimize conflicts between user groups).

- Need to ensure visitor safety in the Lake Simcoe Watershed (e.g., climate change-induced changes to water quality, duration of ice-cover on Lake Simcoe, air quality, heat stress, etc.)

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Table 1. Visits to Natural Heritage Areas and Participation in Selected Outdoor Activities in Simcoe County, 2006-2008 (Sources: Statistics Canada, 2006, 2007, and 2008).

Activity	Number of People Visiting or Participating					
	2006	**2007**	**% Change (2006-2007)**	**2008**	**% Change (2007-2008)**	**% Change (2006-2008)**
Visit to Natural Heritage Area	191,000	293,000	+53.4	290,000	-1.0	+51.8
Boating	137,000	488,000	+256.2	523,000	+7.2	+281.8
Golfing	244,000	152,000	-37.7	190,000	+25.0	-22.1
Fishing	141,000	237,000	+68.1	471,000	+98.7	+234.0
Hunting	17,000	11,000	-35.3	23,000	+109.1	+35.3
Downhill Skiing or Snowboarding	71,000	249,000	+239.4	228,000	-5.4	+221.1
Any Type of Outdoor Sports Activity	1,460,000	1,916,000	+31.2	2,126,000	+11.0	+45.6

Table 2. Ski Season Projections for Resorts in the Lakeland Tourism Region Based on Current and Improved[1] Snowmaking Technology using the Canadian Global Climate Model (CGCM1) and the Hadley Climate Model (HadCM3) (Source: Scott et al. 2002).

Ski Area and Snowmaking Technology	Simulated Baseline (Days)	Percentage (%) Change in Season Length					
		CGCM1			HadCM3		
	1961-1990	2020s	2050s	2080s	2020s	2050s	2080s
Hidden Valley	126						
Current		-14	-26	-39	-9	-16	-30
Improved		-10	-20	-30	-6	-11	-22
Sir Sam's	125						
Current		-14	-24	-38	-10	-16	-30
Improved		-10	-18	-29	-6	-12	-22
Horseshoe	118						
Current		-15	-31	-47	-8	-18	-36
Improved		-7	-20	-34	-3	-10	-25
Blue Mountain	120						
Current		-30	-52	-66	-18	-30	-54
Improved		-17	-32	-49	-10	-19	-39
Talisman	125						
Current		-22	-38	-54	-16	-25	-40
Improved		-14	-26	-38	-10	-17	-31
Average							
Current		-19	-34	-49	-12	-21	-38
Improved		-12	-23	-36	-7	-14	-28

[1]Current and improved technology refers to projected terrain enhancements and snowmaking capabilities.

Table 3. Projected Impacts of a Warmer Climate on the Probability of a 12-Week Ski Season at the Horseshoe Ski Area using the Canadian (CGCM1) and the Hadley (HadCM3) Climate Models (Source: Scott et al. 2002).

Time Period	Probability (%) of a 12-Week Ski Season Using Current Snowmaking Technology			Probability (%) of a 12-Week Ski Season Using Improved Snowmaking Technology	
	Current Climate	CGCM1	HadCM3	CGCM1	HadCM3
1961-1990	100				
2020s		93	100	100	100
2050s		55	89	86	100
2080s		3	34	38	66

Table 4. Observed and Simulated Nordic Ski Season Length (Days) in the Lakelands Tourism Region, 1980s to 2080s using the Canadian (CGCM1) and the Hadley (HadCM3) Climate Models (Source: Modified from Scott et al. 2002).

Nordic Ski Area	Simulated Seasons[1]						
	1961-90	2020s		2050s		2080s	
	Mean	Mean	% Δ	Mean	% Δ	Mean	% Δ
Horseshoe[2]	88						
CGCM1		36	-59	14	-84	8	-91
HadCM3		42	-52	31	-65	12	-86
Haliburton	94						
CGCM1		51	-46	31	-67	21	-78
HadCM3		71	-24	56	-40	35	-63
Duntroon	73						
CGCM1		29	-60	16	-78	10	-86
HadCM3		51	-30	37	-49	14	-81
Mansfield[2]	88						
CGCM1		36	-59	14	-84	8	-91
HadCM3		42	-52	31	-65	12	-86
Hardwood Hills[2, 3]	88						
CGCM1		36	-59	14	-84	8	-91
HadCM3		42	-52	31	-65	12	-86
Muskoka	102						
CGCM1		52	-49	32	-69	22	-79
HadCM3		76	-25	56	-45	29	-72
Average % Δ							
CGCM1			-55		-78		-86
HadCM3			-39		-55		-79

[1]Season length is estimated using a climate threshold based on a combination of maximum temperature, minimum temperature, rain, and natural snow depth.
[2]Analysis for Horseshoe, Mansfield and Hardwood Hills Nordic ski areas was based on a common climate station and therefore the projected season length for each climate change scenario was identical.
[3]Hardwood Hills is the only Nordic ski area with snowmaking capacity for the entire trail network.

Table 5: Snowmobiling Season Length (Days)[1] Comparison for Ontario Federation of Snowmobile Clubs, District 8 (Orillia) Using a variety of Models and Scenarios[2] Modelled by Scott et al. (2002), McBoyle et al. (2007) and Gilmour (2009).

Time	Scott *et al.* (2002)		McBoyle *et al.* (2007)		Gilmour (2009)			
	Snow Cover (15cm)		Snow Cover (15cm)		Snow Cover (15cm)		Snow Cover (30cm)	
	HadCM3 IS92a	CGCM1 IS92a	NCARPCM B21	CCSRNIES A11	INMCM3.0 B1	MIROC3.2 A1B	INMCM3.0 B1	MIROC3.2 A1B
2020s	48	42	39	22	26	12	14	3
2050s	38	21	30	1	24	7	11	2
2080s	18	12	N/A	N/A	23	5	10	1

[1]Average modelled season length for OFSC District 8 based on 1961-1990 baseline (15 cm) = 77 days (Scott et al., 2002).

[2]Models and scenarios used were:

- HadCM3 – Hadley Centre Coupled Model, Version 3, United Kingdom.
- CGCM1 – Canadian Global Climate Model, Canadian Centre for Climate Modelling and Analysis (CCCma).
- NCARPCM – National center for Atmospheric Research (NCAR), USA.
- CCSRNIES – Center for Climate Research Studies (CCSR) and national Institute for Environmental Studies (NIES), Japan.
- INMCM3.0 – National Institute of geophysics and Volcanology, Italy.
- MIROC3.2 – Meteorological Institute for Environmental Studies, Japan.
- IS92a – Medium to high emission scenario developed in 1992 by the IPCC.
- A1 – Higher emission scenarios.
- B1 – Lower emission scenarios.
- B2 – Medium emission scenarios.

Table 6: Regression Models of the Relationship between Climate and Natural Heritage Area Visitation in the Lake Simcoe Watershed.

Natural Heritage Area	Model[1,2]	Predictor of Visits	Model Type[3]	r2	Equation Used in Assessment (Visits =)
Sibbald Point	S	T-max	C	0.90	= 4.01x3 - 26.22x2 - 135.02x + 1527.60
Provincial Park	P		L	0.25	= 4609.63x - 17109.46
McRae Point	S	T-max	C	0.83	= -5.89x3 + 351.73x2 - 6169.69x + 34296.44
Provincial Park	P		L	0.22	= 952.24x - 2581.13

[1]Model: S = Shoulder Season, P = Peak Season.
[2]Methodological Note: The model was truncated at specific temperature thresholds when visitation decline to zero (7°C).
[3]Model Type: C = Cubic Regression, L = Linear Regression.

Table 7. Projected Impact of Climate Change on Annual Visitation to Sibbald Point Provincial Park (CGCM3 A2 Scenario).

Month	1971-00	2020	%	2050	%	2080	%
J	0	0	-	0	-	0	-
F	0	0	-	0	-	0	-
M	0	23	-	75	-	593	-
A	1,752	3,249	85.5	4,610	163.1	7,450	325.2
M	13,642	17,685	29.6	23,307	70.8	30,155	121.0
J	39,577	46,968	18.7	56,978	44.0	70,149	77.2
J	110,864	116,852	5.4	124,964	12.7	134,563	21.4
A	106,968	116,155	8.6	122,623	14.6	132,604	24.0
S	27,643	35,767	29.4	44,154	59.7	56,888	105.8
O	5,425	8,068	48.7	12,433	129.2	18,489	240.8
N	348	872	150.2	1,287	269.4	2,391	586.2
D	0	0		0		0	
Annual	306,218	345,639	12.9	390,432	27.5	453,282	48.0

Table 8. Projected Impact of Climate Change on Annual Natural Heritage Area Visitation to Sibbald Point Provincial Park (CGCM3 B1 Scenario).

Month	1971-00	2020	%	2050	%	2080	%
J	0	0	-	0	-	0	-
F	0	0	-	0	-	0	-
M	0	0	-	25	-	47	-
A	1,752	2,770	58.1	3,853	119.9	4,338	147.6
M	13,642	17,250	26.5	19,991	46.5	21,288	56.0
J	39,577	47,645	20.4	50,614	27.9	52,851	33.5
J	110,864	117,435	5.9	120,734	8.9	123,961	11.8
A	106,968	114,383	6.9	119,486	11.7	121,423	13.5
S	27,643	34,661	25.4	38,704	40.0	44,548	61.2
O	5,425	8,740	61.1	9,806	80.8	11,106	104.7
N	348	804	130.8	1,028	195.0	1,128	223.8
D	0	0		0		0	
Annual	306,218	343,689	12.2	364,240	18.9	380,691	24.3

Table 9. Projected Impact of Climate Change on Annual Natural Heritage Area Visitation to McRae Point Provincial Park (CGCM3 A2 Scenario)[1].

Month	1971-00	2020	%	2050	%	2080	%
M	2,720	3,755	38.0	4,989	83.4	6,233	129.1
J	7,359	7,895	7.3	8,060	9.5	7,642	3.9
J	23,855	25,092	5.2	26,768	12.2	28,751	20.5
A	23,050	24,948	8.2	26,284	14.0	28,346	23.0
S	5,776	6,906	19.6	7,720	33.7	7,991	38.3
O	723	1,243	72.0	2,390	230.6	3,961	448.0
Annual	63,484	69,840	10.0	76,211	20.0	82,924	30.6

[1]Results were truncated to reflect the operating season of the park.

Table 10: Projected Impact of Climate Change on Annual Natural Heritage Area Visitation at McRae Point Provincial Park (CGCM3 B1 Scenario)[1].

Month	1971-00	2020	%	2050	%	2080	%
M	2,747	3,691	34.4	4,327	57.5	4,631	68.5
J	7,386	7,954	7.7	8,040	8.9	8,096	9.6
J	23,855	25,212	5.7	25,894	8.5	26,561	11.3
A	23,050	24,582	6.6	25,636	11.2	26,036	13.0
S	5,803	6,842	17.9	7,302	25.8	7,655	31.9
O	750	1,428	90.5	1,708	127.9	2,059	174.6
Annual	63,592	69,710	9.6	72,907	14.6	75,038	18.0

[1]Results were truncated to reflect the operating season of the park.

Table 11. The Combined Effect of Demographic and Climate Change in the Mid-2020s for Sibbald point and McCrae Point Provincial Parks. The combined effect is projected to increase visitors levels by 29.7% to 32.7% (depending on the GCM scenario used and the natural heritage area being examined), which, combined, translates into an additional 113,329 (B2 Scenario) to 115,409 (A2 Scenario) total visitors at these two natural heritage areas in the mid-2020s[1].

Park and Climate Scenario	Total Visitors (2007)	Climate Change Only	Demographic Change	Climate Change + Demographic Change
Sibbald A2	313,216	345,639	347,983	408,282
% Change		10.4	11.1	30.4
Sibbald B1	313,216	343,689	347,983	406,332
% Change		9.7	11.1	29.7
McRae A2	61,871	69,840	68,739	82,214
% Change		12.9	11.1	32.9
McRae B1	61,871	69,710	68,739	82,084
% Change		12.7	11.1	32.7

[1]Consistent with Jones and Scott (2006a), the demographic change projections are based on a 13% increase in Ontario visitors (90% of 2007 annual visits) and a 6% decrease in American visits (10% of 2007 annual visits).

Figure 1. Natural heritage Areas and Selected Land Use Designations within Close Proximity (5km) of the Lake Simcoe Watershed.

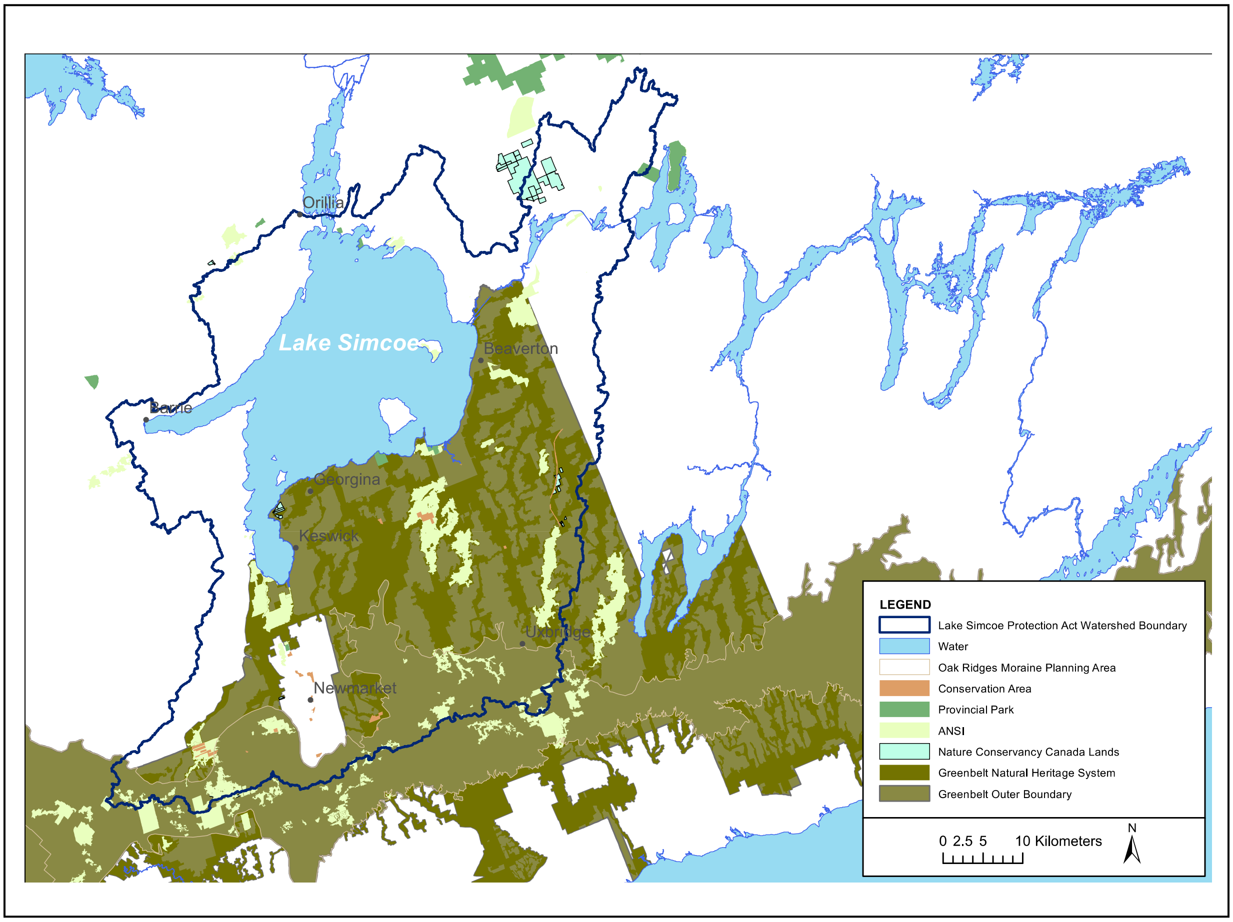

Figure 2: Monthly Park Visitation at Sibbald Point and McRae Point Provincial Parks in 2009 (Ontario Parks, 2010).

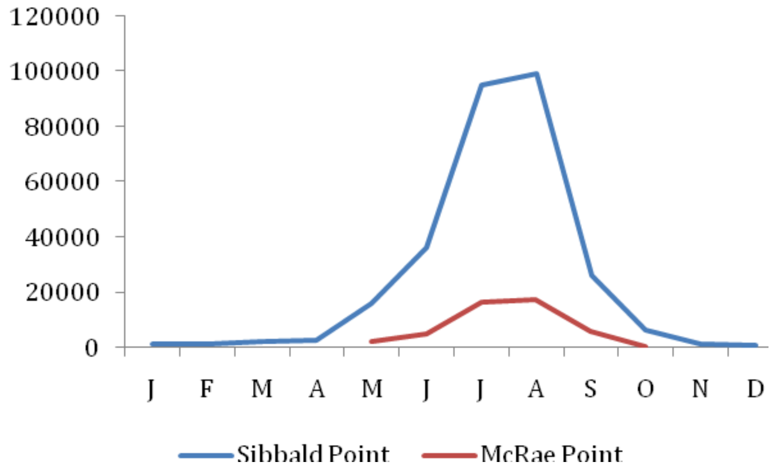

Figure 3. Observed and Simulated Visitation to Sibbald Point Provincial Park Based on a Maximum Temperature (T-max) Regression Model.

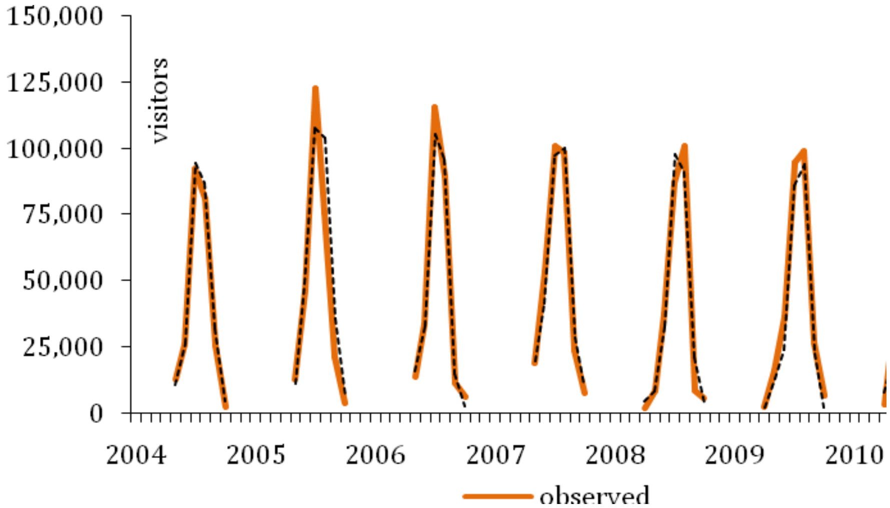

Figure 4: Observed and Simulated Visitation to McCrae Point Provincial Park Based on a Maximum Temperature (T-max) Regression Model.

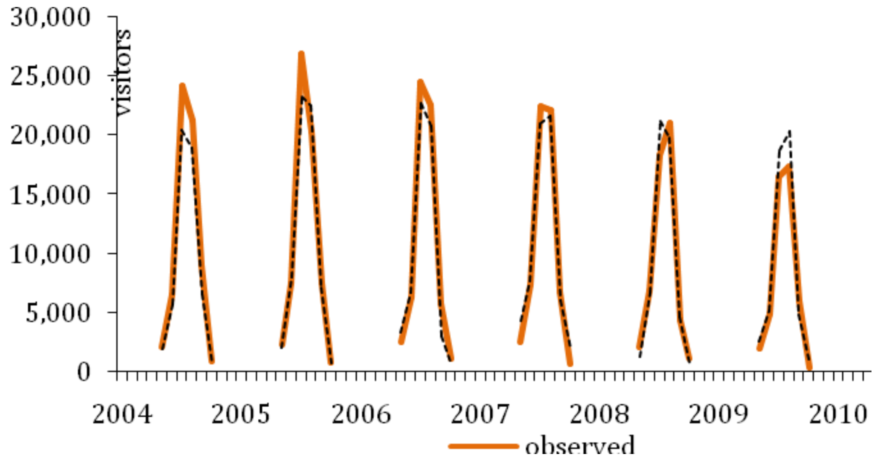

Figure 5. Examples of Projected (CGCM3 A2 Scenario) Seasonal Visitation Patterns for Three Time Periods at Sibbald Point Provincial Park.