

***Baskahegan Stream Watershed Recreation
Use & Resource Analysis***

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**Andrea Ednie, Ph.D.
Assistant Professor of Environmental Recreation & Tourism Management
University of Maine at Machias**

**Chad Everett
UMM Student, Recreation Resource Management
University of Maine at Machias**

**John Daigle, Ph.D.
Associate Professor of Parks, Recreation & Tourism
University of Maine**

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INTRODUCTION

The purpose of this study was to illuminate the characteristics of recreation use patterns and site conditions around the Baskahegan watershed area. The goal was to obtain and present accurate information that will serve as a foundation for informed decision-making pertaining to the planning and management of the area's resources and the recreational opportunities provided. A related goal was to establish a baseline of information to be used for comparison with future research initiatives.

To fulfill the purpose and goals of the study, the research concentrated on three main objectives:

1. Gather, analyze and map recreational use data including: visitor counts, indicators of visitor use (recent campfires and other evidence of recent recreational traffic), distribution of visitors throughout the study area, and travel patterns collected through observation, onsite survey cards, and interviews with local frequent visitors.
2. Inventory, analyze and map recreation resources including: identifying and mapping existing campsites and trails; assessing, recording, and mapping campsite condition and size (including indications of overuse); and identifying, recording, and mapping existing problems (such as trash/human waste, continuous camping by one party that prevents visitor opportunities).
3. To develop design considerations and suggestions for facilities deemed necessary based on use and resource inventories such as parking lots and sanitary facilities.

Background on Baskahegan Watershed and Area Characteristics

Located in northern Washington County, the Baskahegan watershed is situated in the Maine/New Brunswick Lowland biophysical region (McMahon, 1990). The watershed feeds the Mattawamkeag River, a tributary of the Penobscot. Peat bogs occupy a relatively high proportion of the landscape, roughly ten percent. These include unusual eccentric fens noted in Davis and Anderson's *The Eccentric Bogs of Maine*. The defining feature of the landscape is Baskahegan Lake, one of Maine's largest, comprising 7,145 acres. Also notable is the Crooked Brook flowage, an impoundment created by a dam in Danforth, which provides excellent wading waterfowl habitat and 23% of the high-value wetland in Washington County. The lake, streams, and land features provide unique opportunities for recreation.

The Baskahegan watershed has a rich cultural history that is a direct result of the interaction of the natural resources and the people (Scott and Wilson, 2000). Natives used the watershed as an important travel and trade route between the St. John River, NB and the Penobscot River, ME. Early settlements were followed by many logging camps, sawmills, and farms in the 1800s and 1900s. Most of the land today remains undeveloped and the local population depends primarily on forest products industry for employment. However, this rural sparsely populated region supports a small but robust recreation economy created by hunters, anglers and snowmobilers. There are sporting camps in Kossuth, Topsfield, Brookton, Forest City, Danforth and Weston which serve visitors who enjoy the landlocked salmon fishery, abundant deer, moose, waterfowl and partridge, and the extensive snowmobile trail system. Spednick and East Grand Lakes in the adjacent St. Croix watershed are well known for their coldwater fisheries, while warm water

anglers enjoy Baskahegan Lake and the Crooked Brook Flowage. A strong connection to the environment is felt by many of the residents and it is this connection and the natural and cultural resources that have formed the basis for the local economy.

The Baskahegan Company, founded in 1920, owns and manages 101,620 acres of forestlands in various parts of eastern Maine but the majority of this forestland is in the Baskahegan watershed. Similar to other large private forest landowners in Maine they allow public access to their lands for a variety of outdoor recreation activities including among others hunting, fishing, boating, canoeing, camping, hiking, and wildlife viewing. At present there is no fee associated with public use and management of recreation is minimal by the Baskahegan Company. The Baskahegan Company relies on entities such as the Inland Fisheries and Wildlife and Maine Forest Service to assist with regulating uses such as with fishing and hunting, and issuing fire permits. Snowmobile trails are located by permission of the Baskahegan Company and built and maintained by volunteers of organized snowmobile clubs. Roads built by the Baskahegan Company are maintained primarily for forest operations but this provides a means for the public to access areas of the forest for purposes of outdoor recreation. However, a few road segments are primarily maintained to allow public access such as the road to the boat landing on Baskahegan Lake. The campsites located on the lakes and streams rely on the public to regulate themselves such as adopting a carry-in and carry-out ethic. In some instances the Maine Forest Service assists with the cleanup of the campsites.

Need for the Research

No previous studies were found that examined aspects of the recreation use occurring in the Baskahegan watershed area. However, steadily growing research on recreation use and user characteristics in Maine and elsewhere in the nation suggests this information is critical for sound management of recreation resources and providing quality recreation experiences. For example, research has shown that the physical condition of a campsite can affect the quality of the visitor experience (Lee 1975; Shelby, Vaske, and Harris 1988; Roggenbuck, Williams, and Watson 1993; Daigle 2005; Ednie and Daigle 2007). Also, in areas managed for remote backcountry type experiences, recreation activity on campsites can be the activity that most severely alters the natural conditions. Impacts that affect visitor enjoyment, particularly those that impair the functionality or desirability of sites are a particular concern (Hammitt and Cole 1998). Existing campsite conditions must be measured and documented before management can monitor changes over time (Cole 1989). By understanding present recreational use and the users, the Baskahegan watershed can be managed in a sustainable fashion based on sound knowledge.

RECREATIONAL USE MONITORING

The study encompassed several approaches to monitoring visitor use of the watershed. The overall purpose of monitoring was to help resource managers, planners, and granting agencies understand the quantity of use, the use patterns, and the general experiences of visitors to the watershed in order to further develop recreation management strategies. Recreational use was monitored using four methods:

- A visitor survey
- Observations of groups on Baskahegan Lake
- Vehicle counts at the Brookton and Danforth Boat Launches
- Interviews with long-term and frequent visitors

Sampling Protocol

The student researchers monitored recreational use two days per week between May 30th and September 5th, 2010. The sampling goal was to monitor use two days per week over a fourteen week period during the main visitation season. At least half of each day was spent monitoring use at Baskahegan Lake. The remainder of their time was spent traveling once per day to the Crooked Brook Flowage to check for evidence of use and working on other study components (campsite assessments, office work, etc.). The monitoring schedule was designed to provide a rotation representative of weekdays and weekend days, and to minimize travel by monitoring two consecutive days per week. The following list shows the monitoring schedule and days monitored (a total of 24 monitoring days were completed; the 3 scheduled days in bold were missed due to uncontrollable circumstances):

- Sun/Mon – May 30 & 31
- Fri/Sat – Jun 11 & 12
- Tues/Wed – Jun 15 & 16
- Sun/Mon – Jun 20 & 21
- Sun/Mon – Jul 4 & 5
- Tues/Wed – Jul 6 & 7
- Sun/Mon – **Jul 11 & 12**
- Fri/Sat – Jul 23 & 24
- Tues/Wed – Jul 27 & 28
- Sun/Mon – **Aug 1 & 2**
- Fri/Sat – Aug 13 & 14
- Tues/Wed – Aug 17 & 18
- Sun/Mon – Aug 22 & 23
- Sun – Sept 5

Visitor Survey

A visitor survey was completed in order to analyze current visitation patterns of the watershed. The survey was designed to elicit information from participants regarding their travel patterns, their use history, and their observations of other groups on the watershed (see appendix A). To prepare for the survey procedures, the student researchers completed a training session and were observed by the principal investigators for the first three days of interviews. Throughout the survey process, only one person per group was approached, and returning groups were only asked to participate once over the season. Participants were greeted at the Brookton Launch, the

Danforth Public Landing, and the Crooked Brook Launch, were provided a brief description of the purpose of the study, and were asked to participate. Every visitor who was asked to participate in the study agreed. The student researchers reported that the vast majority of visitors were easily approachable, and seemed happy to provide information. A total of 48 surveys were completed over the season. The survey responses were coded and the data were entered into an excel spreadsheet. Frequency distributions were obtained and statistical analyses completed using PASW Statistics 18 (2009).

Survey Results

Several visitor use characteristics were analyzed, including access point to the watershed, group size and type, length of stay, and previous experience on the watershed. The vast majority (90%) of participants accessed the watershed at the Brookton Launch. This majority occurred in part because of the sampling scheme, and also in part because the Brookton Launch is clearly the most popular and easily accessible entrance to the watershed. Eight percent of participants were surveyed at the Danforth Public Landing, and the remaining 2% were met at the Crooked Brook Launch. Table 1 shows participant group sizes, which ranged from 1 (alone) to 8 people. The most popular group size was two people, and the majority of participants traveled in small groups (81% in groups of four or less people). The majority of groups (57%) were of adults without youth under 16, however, 40% of the groups included between 1-3 youth (table 2). The groups were mostly (84%) of family, friends, or a combination of the two, the most popular being family groups (figure 1). Only three percent of the study participants were in guided groups; this likely because the guided trips are quick to launch (difficult to catch for a survey) and spend their day out in locations favored for fishing (which we were disinclined to interrupt). The majority (67%) of survey participants were visiting the watershed for day use (figure 2). The 33% of participants who were camping stayed for 1-6 nights, the most popular length of stay being two nights (50%) and the vast majority (88%) stayed for 3 or less nights (figure 3). Three-quarters (75%) of participants were from Maine. The remaining quarter came from other New England states (MA, NY, NJ, VT) as well as Delaware and Pennsylvania (figure 4).

Table 1. Group size, N=47.

Group Size	Frequency Percentage (# Participants)
1	11% (5)
2	36% (17)
3	21% (10)
4	13% (6)
5	9% (4)
6	2% (1)
7	6% (3)
8	2% (1)
Total	100% (47)
Mean	3.15
Mode	2

Table 2. Groups with youth under 16, N=47.

# Youth Under Age 16	Frequency Percentage (# Participants)
0	57% (27)
1	24% (11)
2	11% (5)
3	6% (3)
4	0
5	0
6	2% (1)
Total	100% (47)
Mean	0.77
Mode	0

Figure 1. Group type, N=48.

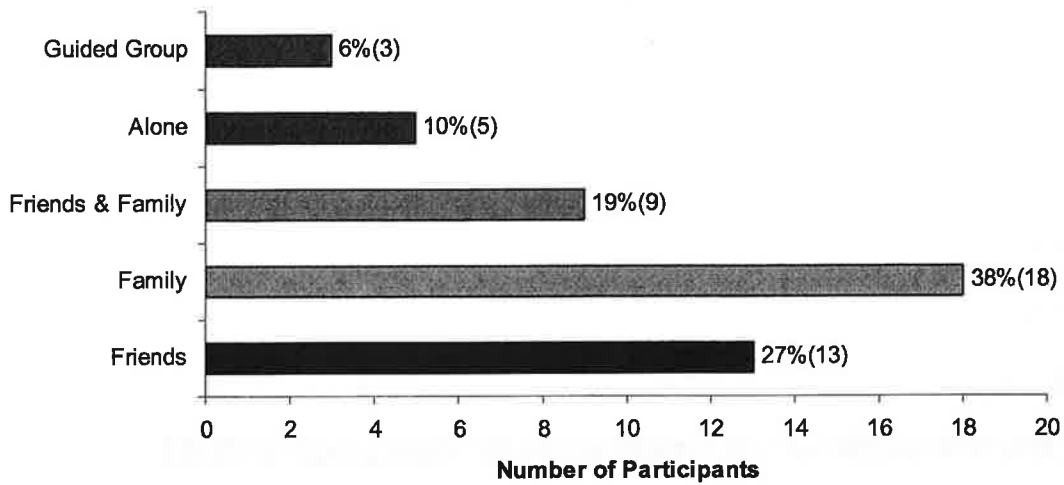


Figure 2. Proportion of day use versus camping groups, N=48.

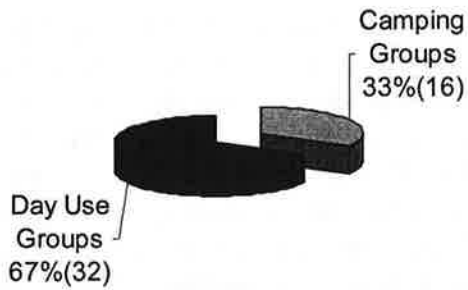


Figure 3. Number of nights camped, N=16.

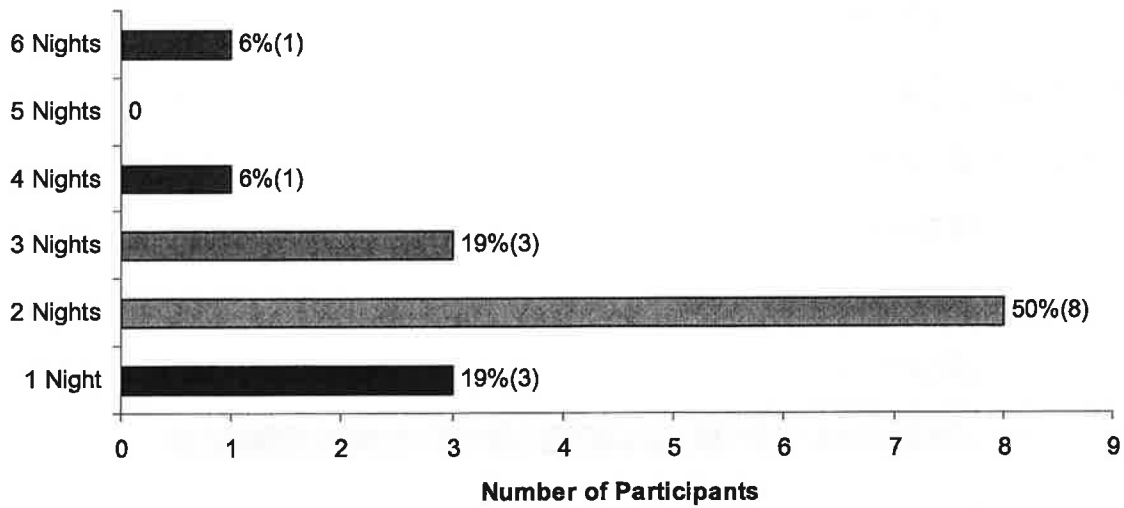
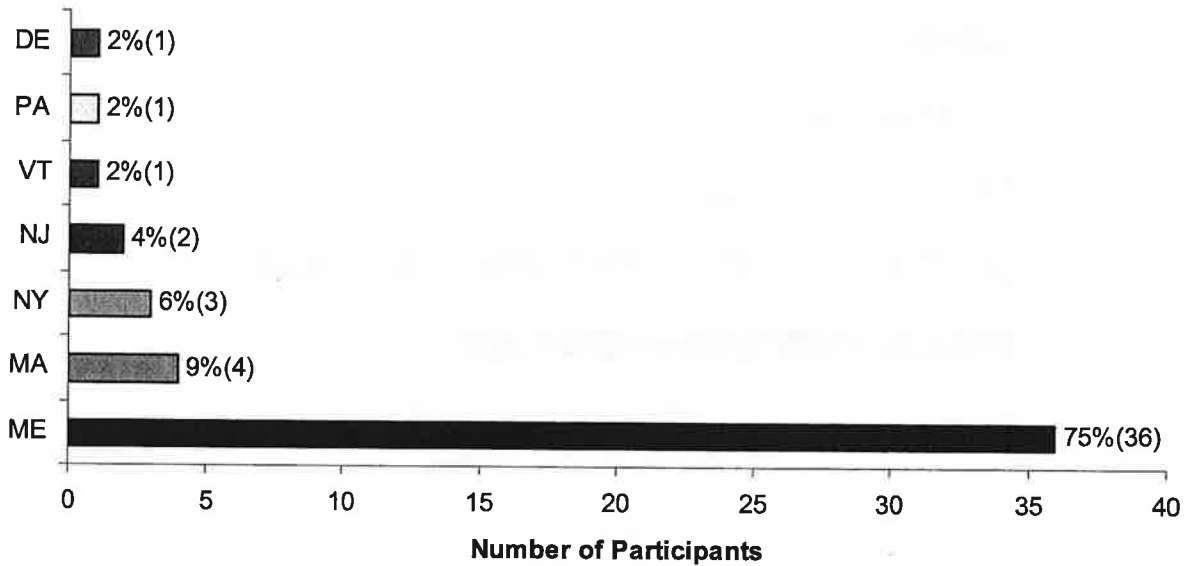


Figure 4. Home state of participants, N=48.



While powerboats were by far the most popular mode of travel on the lakes (67%), some participants traveled by kayak or canoe, or a combination of two (figure 5). Seventeen percent of participants did not travel on the lake, and came to fish, swim, or simply relax at the Baskahegan Lake launch site. Nearly all (94%) participants have visited the watershed before (figure 6), and nearly half (45%) have been visiting for more than 11 years (table 3). The study participants were also asked to recollect how many other groups they saw while they were out on the water. Nearly one-third (31%) of participants reported seeing between 1-5 groups on the water, and an additional 19% saw six or more groups (table 4). It should be noted that while half of participants saw no other groups, some of these respondents had not yet launched or were not traveling far on the lake themselves.

Figure 5. Mode of travel, N=48.

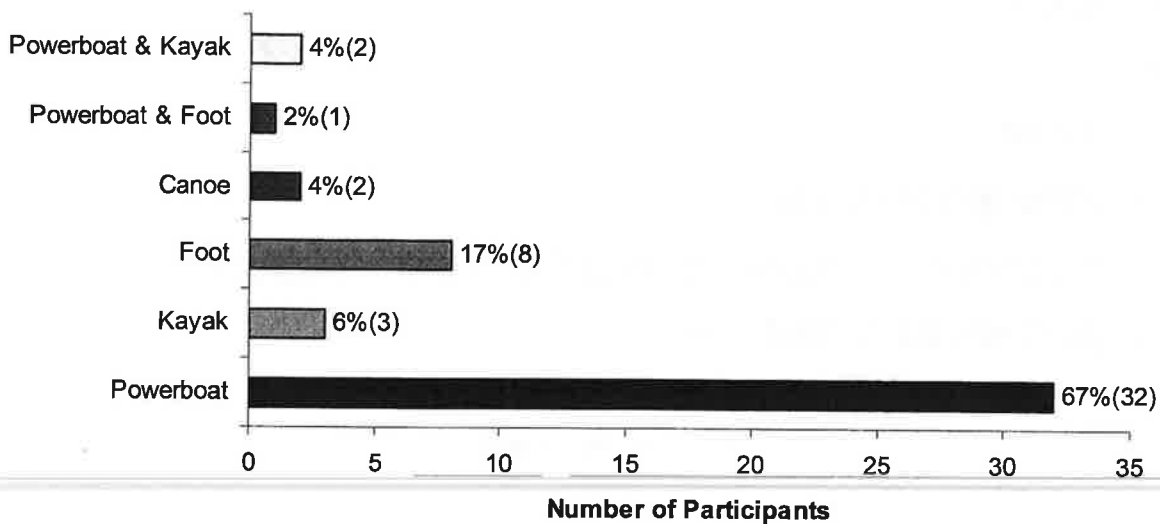


Figure 6. Proportion of participants who have previous experience on the watershed, N=48.

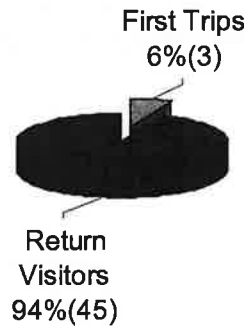


Table 3. Number of years visiting, N=47.

# Years Visiting	Frequency Percentage (# Participants)
First Trip	6% (3)
1-5yrs	25% (12)
6-10yrs	24% (11)
11-20yrs	15% (7)
21-30yrs	6% (3)
31-40yrs	11% (5)
41+yrs	13% (6)
Total	100% (47)
Mean	19.34yrs
Median	10yrs
Range	0-72yrs

Table 4. Number of groups observed, N=48.

# Groups	Frequency Percentage (# Participants)
0	50% (24)
1-5	31% (15)
6-10	9% (4)
11-15	4% (2)
16-20	6% (3)
Total	100% (48)
Mean	3.2 groups
Mode	0 groups

Observations of groups on Baskahegan Lake

The Baskahegan Land Company provided a small boat for the student researchers to use over the survey season. When the students traveled by water, they monitored the number, type, and location of boats they observed on the water, and the group sizes when possible. To record boat traffic, a map was created that separated Baskahegan Lake into four zones (figure 7).

The expansiveness of the lake provides a sense of solitude on the water. Most often while traveling on the water there were no boats in sight. The groups that were observed on the water tended to be small (2-3 people) groups fishing from modest powerboats. Baskahegan Lake is prone to choppy water conditions even in modest wind, and the students were asked not to travel when the conditions were dangerous. Over the 16 days the students traveled on the water, 56 boats were observed. The greatest number of boats observed in one day was 9 (on August 14th). The majority (88%) of observed boats were powerboats, 7% were kayaks, and 5% were canoes. The mean number of people per boat on the water was 2.41, where groups ranged from 1-6 people and the most common number of people per boat was 3.

The majority (51%) of boats were observed in Zone D, the Southeast portion of the lake. The remaining boats were spread relatively equally throughout the other three zones (figure 8). Groups who were fishing on the water were most commonly seen along the South border of zones C and D, while groups who had landed for a picnic were most often seen in zones A and B, or in the Northern portion of zone D.

Figure 7. Lake zones.

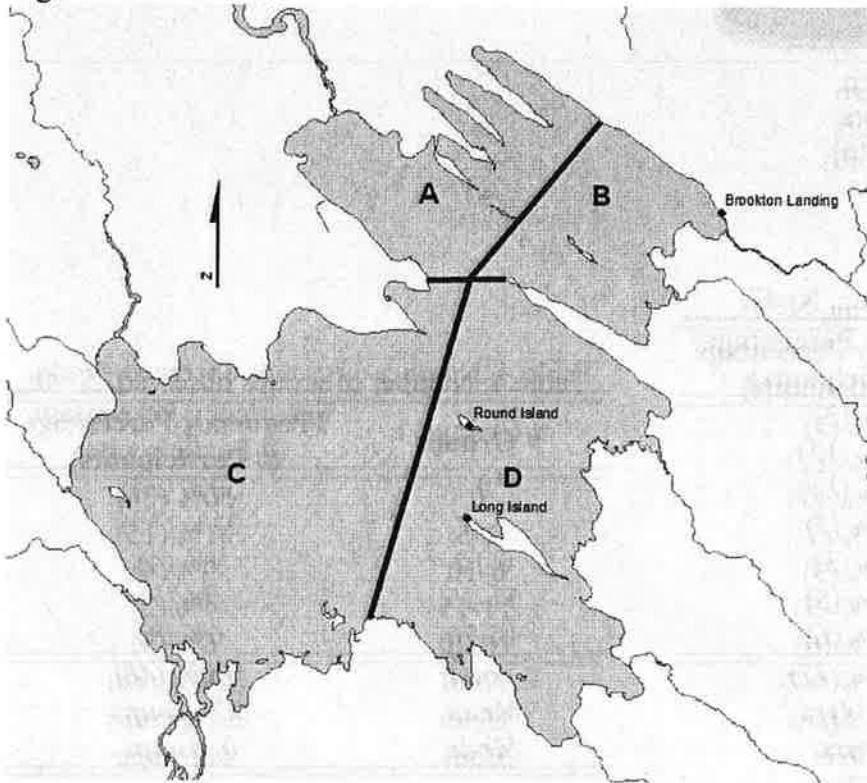
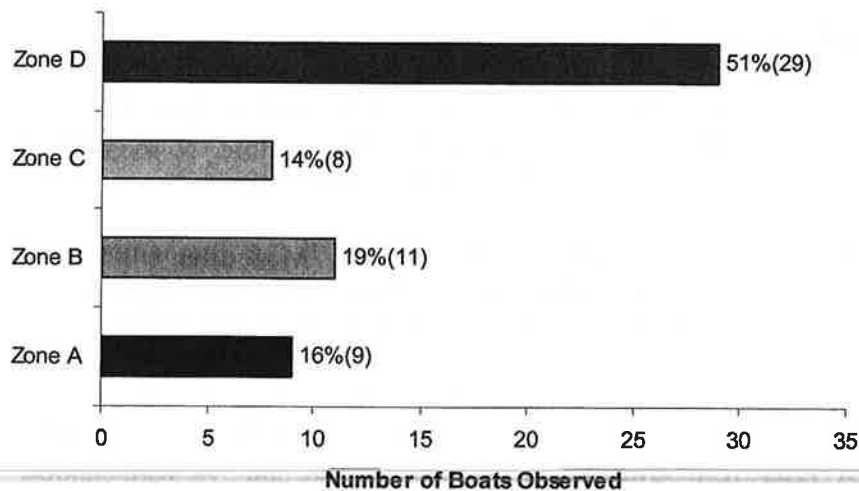


Figure 8. Boat observations per lake zone, N=57.



Vehicle counts at the Brookton and Danforth Boat Launches

The quantity of parked vehicles at the Brookton and Danforth boat launches were monitored as an additional indication of recreational use on the watershed (see Appendix B). On their monitoring days, the student researchers recorded the total number of vehicles (noting in- and out-of-state license plates) as well as the number of new vehicles as regularly as possible at the Brookton launch (hourly or as often as they could around their other responsibilities). They traveled to the Danforth launch to check for vehicles at least once per monitoring day.

Vehicle Monitoring at the Brookton Boat Launch

Vehicles were counted an average of 4 times per day (ranging from 2-9 times per day) at the Brookton Boat Launch. At this location, observations were as follows:

- Number of vehicles at any monitoring count:
 - Range: 0-27 (busiest day was May 30th)
 - Mean number of vehicles: 6.13
- Total number of vehicles per day:
 - Range: 0-34
 - Mean number of vehicles per day: 9.29
- Total number of out-of-state vehicles per day:
 - Range: 0-3
 - Mean number of out-of-state vehicles per day: 0.63

The student researchers also noted the number of groups camped at the Brookton Boat Launch on monitoring days. They counted campers at the Brookton Launch 5 of the 24 monitoring mornings, and each time the campers were in one group.

Vehicle Monitoring at the Danforth Boat Launch

The students observed much less traffic at the Danforth Boat Launch. The average number of vehicles per day at the Danforth launch was 1.06, the most common number of vehicles at any count was 0, and the greatest number of vehicles observed at any point in time was 5. Three out-of-state vehicles were observed throughout the monitoring season.

Interviews with Long-Term & Frequent Visitors

Interviews were conducted with frequent and long-term visitors to the watershed in order to learn more about typical use patterns on the lakes and streams, how use and conditions have changed over time, and about their suggestions for management actions and facility development. A list of twelve potential interview participants was obtained from the Forest Society of Maine and other partners. Six interviews were completed over the summer and fall of 2010. Reasons for not reaching the other six individuals on the list ranged from interview refusals (because they had not visited the watershed in a long period or time, or because of physical limitations which made an interview undesirable), to candidates being unreachable despite several attempts, or deceased. However, we are comfortable with the number of interviews conducted because there was a significant level of consensus among interviewees – many of the suggestions and comments were similar between individuals.

A series of multiple-component interview questions was developed (see appendix C). Interviewees were contacted by phone or at the Brookton landing. The purpose of the interviews was described to them, and they were asked for a few minutes of their time to complete an

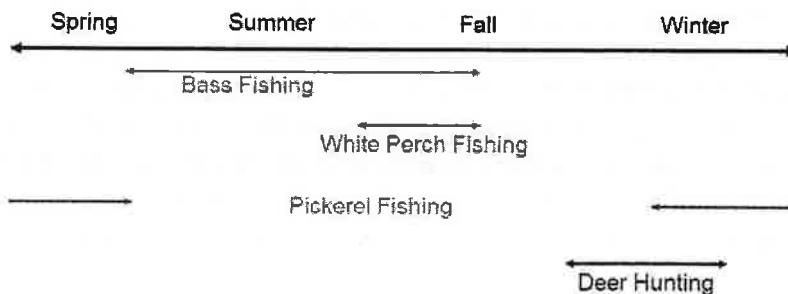
interview. The interviews were scheduled for a convenient time within the next couple of days, and a location was selected (usually their home or place of work). Two of the interviews were conducted over the phone at the request of the participants. The interviews were digitally recorded by the student researcher and were later transcribed by major point and selected quotations. The interviews ranged in length from 10-50 minutes.

Overall, the interviewees provided valuable insight regarding the use trends of the watershed and many helpful suggestions. All of the interviewees were eager to provide insight about the recreational use of the watershed and clearly appreciated and felt connected with the resource. Although it was not a specific interview question, the interviewees diverged in perspective over the use tolerance of the watershed. For example, one interviewee commented, “the lake already has quite a bit of pressure from use. I’m not sure if it’s too much, but we might not want to make access so easy that use increases dramatically,” while another stated, “it’s a beautiful lake. I recommend that lots of people come to play on it.” Some were concerned over the recreational carrying capacity of popular places within the watershed, while others felt the resource could withstand increasing use and the priority was to provide opportunity for fishing and recreation, and to support local businesses by increasing visitation in the local area. Interestingly, given these differences in perspective, many of the actual suggestions and observations provided throughout the interviews were similar among the group of interviewees. The following subsections outline the interview findings by content category.

Observations of seasonal use trends

The interview participants had been visiting the watershed for at least 10 years and some more than 60 years. They all primarily used the lakes and streams for fishing, and two were guides. They described that summer and early fall fishing for bass and white perch are by far the current most prevalent uses of the watershed. Bass fishing generally begins in late May and white perch fishing is more dependent on warmer water. The interviewees discussed how off-season use is minimal around the watershed. Deer hunting is not overly productive (locals know of more optimal areas to hunt) and winter fishing is limited mostly to pickerel. Some locals occasionally take winter trips on the lakes for fishing and a cookout, but not often. Figure 9 outlines typical recreational activities on the watershed by season.

Figure 9. Recreational activities by season.



Qualities of the Baskahegan Lakes and Streams

The interview participants were asked to describe the best qualities of the Baskahegan lakes and streams, and to discuss what brings people to the watershed for recreation. Their responses were all similar as outlined in table 5. The bass and white perch fishing was described as the major

reason people come to the watershed. The bass fishing is so fruitful that it is an ideal location for children and people who are inexperienced at fishing, because anyone can catch a (or multiple) fish. The bass fishing tends to be the major attraction for people from away, and the white perch tends to be the main focus of local regulars and avid fishers from within the region.

The majority of the interviewees mentioned the scenic quality as an important draw to the watershed. The beauty of the area is an important reason why people return year after year. Related to the simple beauty is the appearance of “wildness” or remoteness on the lakes and streams, as well as the opportunity to view wildlife. Several interviewees commented on the lack of development along the shoreline of the lakes as an important component of the scenery. They mentioned personally wishing they could lease a cabin but knowing that the development of more cabins would diminish the aesthetic quality of the resource. Quietness was also an important quality on the watershed. Several interviewees mentioned that the rockiness of the lake, although difficult to maneuver, maintains the opportunity for solitude on the lake. The rocks make the lake inappropriate for large power boats, jet-skis, and other speed-boating activities such as waterskiing. While some participants mentioned their desire for higher water to ease travel, others reflected on the benefits of rocks as obstacles for keeping an onslaught of diverse users away (and thus maintaining the special opportunity for fishing).

The opportunity to camp was also an important quality of the lakes. Interview participants mentioned the benefits of campsites for various reasons including contributing to the local economy and allowing visitors from away to thoroughly experience fishing on the lakes. Although several concerns about camping arose in the interviews (as discussed in subsequent sections), most participants mentioned that the opportunity to camp is an important component of the Baskahegan recreational experience.

Table 5. Major recreation qualities of the Baskahegan Watershed.

Fishing	Scenic Quality	Quietness	Opportunity for Camping
Excellent fishing for bass and perch	Beautiful scenery	Rockiness – keeps crowds away	Along shore & on islands
Great fishing for kids	“Wildness” and wildlife viewing	Expansive lakes disperse use	

Users of the Lakes and/or Streams

The interview participants described that a combination of locals, people from within the region, and people from Southern Maine and out-of-state form the users of the lakes and streams. The consensus was that a small number of locals tend to fish mostly for white perch, and that people come from all over to fish for bass. Nearby, people travel regularly from Houlton and Caribou because they do not have similar access to bass fishing locally. People from more afar come because they have either heard of the fishing through word-of-mouth or because they have come once with a guide and decided to return on their own. June tends to be the busiest month on the lake with guided groups (fishing for bass), and the majority of fishers tend to be day users, in groups ranging from 2-6 people.

Changes in Use and Condition of the Lakes and/or Streams over Time

The interviewees all described changes in patterns of resource use over time, however, they provided diverse perspectives over whether or not use of the lakes and streams has increased over time. Some participants felt the lake is being fished harder now, while others felt it has always been fished to the current extent. One person felt the fishing itself has recently slowed (in terms of quantity of catch), while another felt the fishing is as fruitful or even more so than ever – particularly abundant was the summer of 2009. Two participants thought there are currently more recreational boaters, while two other participants thought the quantity of recreational boating has not changed over the past 35 years.

Quantity aside, the interview participants provided valuable insight on the how the nature of use has changed over time on the lakes and streams. Five distinct changes in use were described (table 6). First, two interview participants described how one guide service who leased camps on the lake used to be the major user of the lake. At one point, this service had 14 customers on the water nearly every day. Now, a greater variety of guide services use the lake, however, Baskahegan tends to be one out of several lakes they use depending on customer goals and preferences. Second, the Loring Air Force Base at one time leased the lot behind the main launch area. At this time, large groups of people from the base would come and spend several days at a time at the lake. They had established a shelter and comfortable camp space, and were avid fishers of the lake. Now, a greater variety of people come to fish and stay for shorter periods at the launch area. Third, for years it was common to see several tents and campers parked at the launch area for several days or weeks at a time, or sometimes the whole season. Now, the lot is most often vacant and is occasionally used by a small number of tents who only stay for one or a few nights. Since the Baskahegan Land Company has posted signs and strategically placed large rocks at the launch area, visits are shorter and camping is limited to tents. Fourth, the participants described that use tended in the past to be spread evenly throughout the week (likely because many users were there for prolonged periods), and use now tends to be highest on weekends or holidays. Finally, in earlier part of the 20th century, deer hunting was the major attraction within the watershed. In 1939, bass from Big Lake were introduced to Baskahegan and soon replaced deer as the focal attraction.

Comments on changes in resource conditions also varied. Half of the participants felt that the condition of the islands and launch site has not really changed over time, while others felt that two islands in particular (Round Island and Long Island) have deteriorated in condition over recent years.

Table 6. Changes in recreational use over time.

Past Use	Current Use
One guide service was the primary user of the lake	A variety of guide services use the lake, but not every day
Loring Air Force Base was a major user	A greater variety of users
Many tents and campers at launch area for prolonged periods of time	A small number of tents at launch area (not regular)
Use was spread evenly throughout the week	Tends to be busier on weekends
Deer hunting was at one point the major attraction	Bass and white perch fishing are the main attractions

Problems Related to Recreational Use on the Lakes and/or Streams

Participants were asked to describe any problems associated with recreational use they have observed at the Baskahegan lakes and/or streams. While two out of the six interviewees responded that there were no problems, the other four provided valuable feedback. Once they had described the problems, the participants were asked to discuss potential solutions. Table 7 outlines the problems identified with the range of solutions mentioned by the interviewees.

Many of the comments pertained to the presence of human waste and trash at the launch area, as well as the lack of facilities at this site. The participants felt outhouses at the launch area would help along with other developments, so long as they are monitored and managed. They suggested that Baskahegan Land Company could hire someone local to manage the new facilities.

Participants also voiced concern over the condition of Round and Long islands. One participant suggested implementing a registration system, however, most participants discussed the balance between implementing direct management and preserving visitor freedom. Other suggestions, such as signage that attempts to distribute use away from the current concentration on those islands, and signage with use regulations and/or minimal impact recommendations were mentioned. Several participants mentioned that rowdy groups, usually teenagers, partying at the launch sometimes cause problems when they vandalize and leave a mess. No specific solutions were mentioned other than for the Baskahegan Land Company and/or other partners to continue to clean afterwards.

The interviewees also discussed the current challenges with loading and landing at the launch – the site is so shallow that loading a boat onto a trailer can be difficult to impossible depending on size. Several suggestions were mentioned including a cement ramp and more frequent intervention using a front loader. One participant mentioned that the capacity of the parking lot could be increased as it becomes full on holidays, but others felt it best to keep capacity low to maintain the quiet character of the lake. Another participant discussed how the water level of the lake was at one time maintained by a roll dam at the lake outlet and wondered if it would be possible to re-implement the dam to ease lake navigation (around rocks). Finally, one of the interviewees discussed how he felt the streams could be better utilized by the general public and guided groups if take-out locations were better developed and campsites established. He

discussed the special character and opportunities on the streams for wildlife viewing and hunting, and felt that many people would travel the streams if their navigation were less difficult.

Table 7. Problems associated with recreational use and potential solutions.

Recreational Use Problems	Potential Solutions
Human waste at launch	<ul style="list-style-type: none"> • Build outhouses at launch area
Launch area has limited facilities	<ul style="list-style-type: none"> • Provide picnic tables • Build a playground • Provide a source of drinking water • Fix the road into the launch
Island campsites are in poor condition	<ul style="list-style-type: none"> • Implement a registration system • Increase awareness of alternate campsites • Post a list of camping regulations
Rowdy groups at launch leave a mess	
Launching and landing is difficult	<ul style="list-style-type: none"> • Provide a dugout cement ramp in the water • Build a dock for day use • Use a front loader to increase slope of bottom
Parking is restricted	<ul style="list-style-type: none"> • Develop a larger parking lot
Water level is too low	<ul style="list-style-type: none"> • Re-implement the roll dam to raise water
Streams are underutilized	<ul style="list-style-type: none"> • Provide more information about paddling the streams • Improve launch location to facilitate half-day stream trips • Develop an easier take-out point at the Flowage • Develop campsites along the streams

Section Summary & Conclusions

Recreational use was monitored on the Baskahegan Lake over 24 days between May 30th and September 5th during the summer of 2010. Four methods were implemented to develop an understanding of use patterns on and around the lake: a visitor survey; observations of groups on Baskahegan Lake; vehicles counts at the Brookton and Danforth boat launches; and interviews with long-term and frequent visitors.

Visitor Survey Summary:

The survey provided an indication of visitor travel patterns and use history. From the survey, we learned that lake visitors tended to be return visitors (94%) who traveled in small groups (2-3 people) of family or family and friends. Many (43%) of the groups included youth under age 16 and most (67%) visitors used the lake for day use. Most (67%) of the 33% of the respondents who camped stayed for 1 or 2 nights. Respondents were mostly (75%) from Maine, and they traveled the lake mostly (67%) by powerboat. Visitors found the lake to be fairly quiet, where 50% reported seeing no other groups on the water, and 31% saw only 1-5 other groups.

Observations of groups on Baskahegan Lake Summary:

The observations of boats provided a sense of the recreational experience on the lake in terms of quietness and travel preferences. The expansiveness of the lake provides a sense of solitude on the water. Most often while traveling on the water there were no boats in sight. The groups that were observed on the water tended to be small (2-3 people) groups fishing from modest powerboats. The greatest number of boats observed in one day was 9 (on August 14th). The majority (88%) of observed boats were powerboats, 7% were kayaks, and 5% were canoes. The mean number of people per boat on the water was 2.41, where groups ranged from 1-6 people and the most common number of people per boat was 3.

Vehicle counts at the Brookton and Danforth Boat Launches Summary:

Observing patterns of vehicles parked at the launch areas provided another perspective on use patterns on the lake and helped to identify visitor management challenges at the launch.

At the Brookton boat launch:

- Vehicle observations found:
 - Up to 34 vehicles per day, with a mean per day of 9.3.
 - Up to 27 vehicles at a time, with a mean of 6.13 at a time.
 - Up to 3 out-of-state vehicles per day, with a mean of 0.63 out-of-state vehicles per day.

At the Danforth boat launch:

- Fewer vehicle observations were conducted since the Brookton launch is the core use area within the watershed. Use patterns were low and did not present notable management problems. The vehicle counts found:
 - Up to 5 vehicles at a time, with a mean of 1.06 at a time.
 - The most common number of vehicles was 0.

Interviews with Long-Term & Frequent Visitors Summary

The interviews provided another indication of use patterns on the lakes and streams, and information about how recreational use and resource conditions have changed in the watershed over time, as well as suggestions of recreation related problems and for management and facility development in the future. The interviews found:

- The majority of recreation use is summer fishing for bass and white perch. Bass fishing is a family activity that attracts people from near and far, and white perch fishing is more specialized and attractive to long term visitors from Maine. There is little recreational activity in the watershed during winter and spring. Other than fishing, the major qualities visitors associate with the lakes and streams are the scenery, quietness, and the opportunity for camping.
- Recreational use of the watershed has changed over time in several ways. The major user groups have changed from one major guiding company and the Loring Air Force base, to a greater variety of visitors. Length of stay has decreased particularly at the Brookton boat launch and is now limited to tents. Use is now greater on weekends whereas it used to be more spread out throughout the week.

- The following suggestions for management actions and facility developments emerged from the interviewees' discussions over recreation-related problems at the watershed and their solutions:
 - Build outhouses at the launch and on some of the islands.
 - Build picnic tables at the launch.
 - Maintain the road into the launch.
 - Increase management presence for the island campsites – possibly integrating a registration system, campsite regulations, presence of staff, and impact monitoring.
 - Improve the ramp at the Brookton launch site
 - Reimplement roll dam to raise the water level of Baskahegan Lake
 - Increase access to and develop information about stream travel. Consider developing campsites along the streams.

Section Conclusions:

The following conclusions emerged from our recreational use monitoring:

- The lakes and streams provide a special place to fish attracting family groups for bass and white perch, as well as to enjoy the scenery, for the quietness, and for the opportunity to camp. Many current qualities of the resource are important to visitors and should be protected, such as the undeveloped shorelines, recreational access, and “wild” character of the resource.
- The most significant problem at the launch area is management of human waste. Outhouse facilities are needed to accommodate the quantity and combination of visitors (day use of the launch for swimming, boaters launching and landing, and camping groups) and to resolve the current sanitation and litter problem.
 - Several of the island and shoreline campsites also need systems for human waste management.
- The capacity of the parking lot is sufficient for nearly all days (except fair weather holidays). Expansion should not be a priority so long as increasing visitation to the lake is not an absolute goal.
- The parking lot design is functional with its loop. The main concern in terms of visitor access is the launch itself. On busier days it can be difficult for arriving parties to launch their boats if other groups are using the launch area for swimming, fishing, and sun-bathing (particularly when the groups spending time at the launch park their cars directly adjacent to the launch). It might be beneficial for land managers to direct parking away from the launch area and to consider posting a sign about launch etiquette.
- As it is, the boat launch area can be difficult for new visitors or people with larger boats given its gradual slope and shallow water. A possible improvement would be to excavate the shoreline to make launching and loading more conducive for a variety of users. However, this would likely require an environmental assessment.
- A decision will need to be made about the use of the open area west of the launch (currently leased to groups with trailers). If the area will not be leased to another group in the future, managers might consider making it a day-use park for beach goers and swimmers. This would leave the main launch area for people with boats (and alleviate launch congestion issues). Such a change would require a management presence to prevent unwanted uses and activities.

- While the islands are much appreciated for the camping opportunities they provide, they present some management issues. Lack of development and a sense of “wildness” is a major attraction of the area, but the recreational use of the islands over years without targeted management has led to compromised conditions. A more hands-on management presence is needed to preserve the undeveloped character. Approaches, based on our interview findings, might include more signage of camping regulations or minimum impact travel recommendations, the regular presence of managers (paid staff or volunteers), and a registration system for the islands requiring visitors to contact the Baskahegan Land Company and agree to terms before camping.
- The interviewees suggested user groups would take greater advantage of the streams if access and trip information were more available. This might also help to disperse use away from the Brookton boat launch and nearby islands. The streams are wild in character and exceptional for fishing and wildlife viewing. However, trips are difficult to plan because of long distances and wind vulnerabilities between access points and lack of campsites and convenient pullouts along the way. Managers might consider improving stream information on current maps such as the DeLorme Gazetteer, improving access roads to the existing launch sites on the flowage, and developing new launch sites and campsites along the streams.

RECREATION RESOURCES

The focal recreation resources for this project were the Baskahegan Lake and Crooked Brook Flowage campsites, and the launch sites and recreation developments along the North and South Streams. This section of the report details our assessment of these resources and provides a discussion of our major conclusions.

Baskahegan Lake and Crooked Brook Flowage Campsites

Nine current campsites were identified within the Baskahegan Stream Watershed. One of the campsites is composed of three camping cells and a second contains two cells, for a total of 12 tenting sites within the watershed. Seven of the campsites are located on Baskahegan Lake (figure 10), and two at the Crooked Brook Flowage (figure 11).

Figure 10. Location of campsites on Baskahegan Lake.

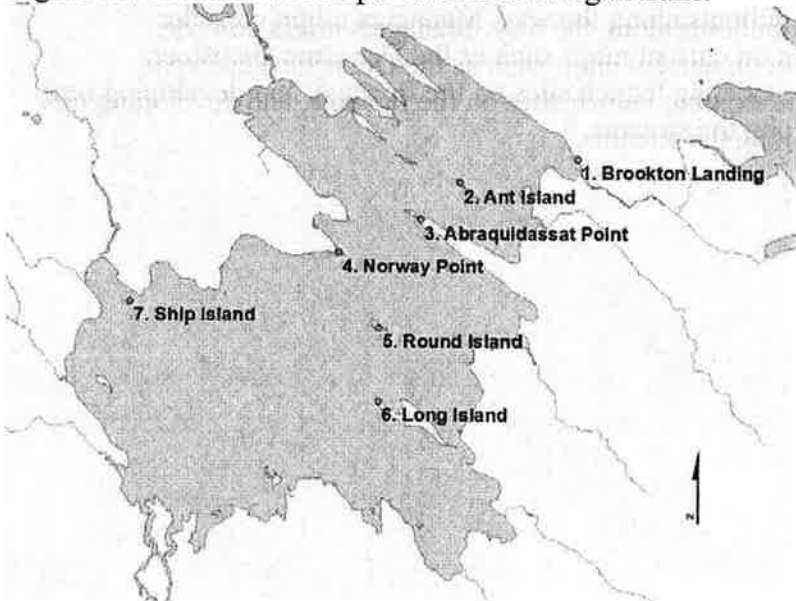
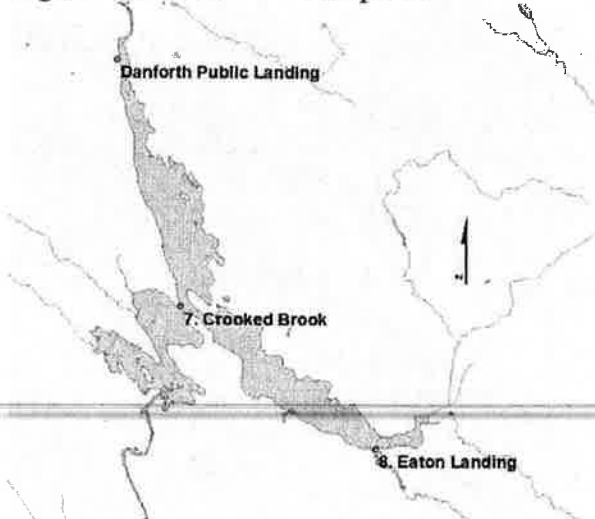


Figure 11. Location of campsites on the Crooked Brook Flowage.









Campsite Assessments

A monitoring tool originally adapted for the Maine Coastal Islands was used to assess the condition of campsites. The goals of the monitoring tool are to identify the current size and condition of the site, to photo document the site for future comparison, and to note important characteristics and concerns associated with the sites. A combination of GPS and physical measurements were used to measure the tent sites, and a series of maps were created using ArcGIS 9.3.1 and Google Sketch-Up.

The following sections contain: general descriptions of each campsite (including tent sites and expanded use areas), maps showing site shape, size, and major characteristics; a selection of site photos; lists of site qualities and concerns; and suggestions for management actions. The more detailed monitoring sheets for each site are provided in appendix D. Appendix E provides the full compilation of campsite photos.

For each site, an overview is provided showing the site cells, prominent features, and use areas. GPS data were used to create these overview maps, which were developed using ArcGIS 9.3.1. An additional map is provided for each cell showing the cell transects (identifying campsite size) and entrance points. Physical measurements and Google Sketch-Up were used to create these maps because the accuracy of GPS data was less useful given the small cell sizes and at times thick tree cover. All entrances to campsites are color coded according to the condition class outlined in table 8.

Table 8. Condition class system for campsite entrances.

Condition Class	Color Code	Description
0		Trail barely distinguishable; no or minimal disturbance of vegetation or organic litter.
1		Trail distinguishable; slight loss of vegetative cover and/or minimal disturbance of organic litter.
2		Trail obvious; vegetative cover lost or disturbed.
3		Vegetative cover and organic litter lost in nearly all places, but little or no erosion.
4		Soil erosion or compaction in tread is beginning in some places.
5		Soil erosion or compaction is common: tread is obviously below ground surface.

Campsite 1: Brookton Landing

The Brookton Landing campsite is located directly adjacent to the parking lot and consists of two cells within a larger use area (figure 12 shows a site overview). Although the site does not experience overly frequent use (groups were observed 5 of the 24 monitoring days), the camping cells and side use areas show significant wear. These sites are among the most popular on the watershed due to their ease of access, which sometimes makes them a party destination for local groups. The campsite also tends to be used as a bathroom area for day-users since there are no facilities at the launch site.

Figure 12. Overview showing Brookton Landing campsite, the parking lot, docks and water's edge.

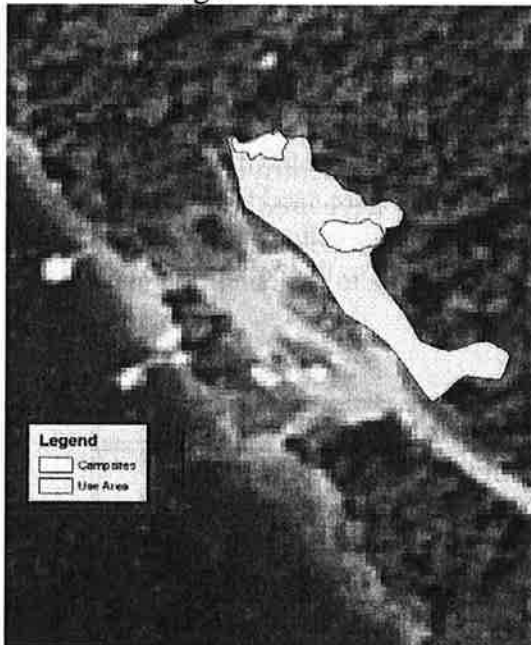


Figure 13. North cell transects with fire pit as center point.

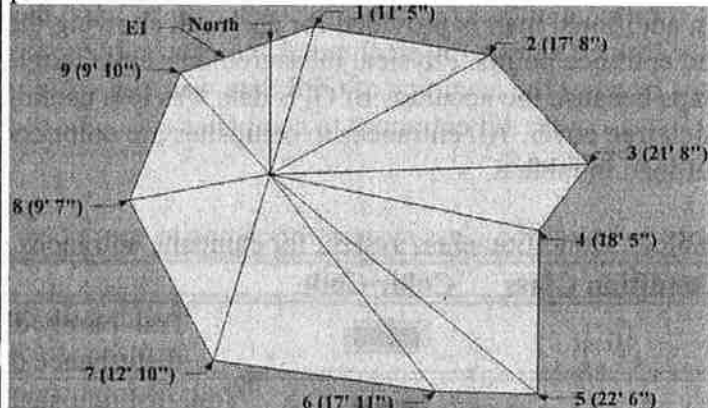
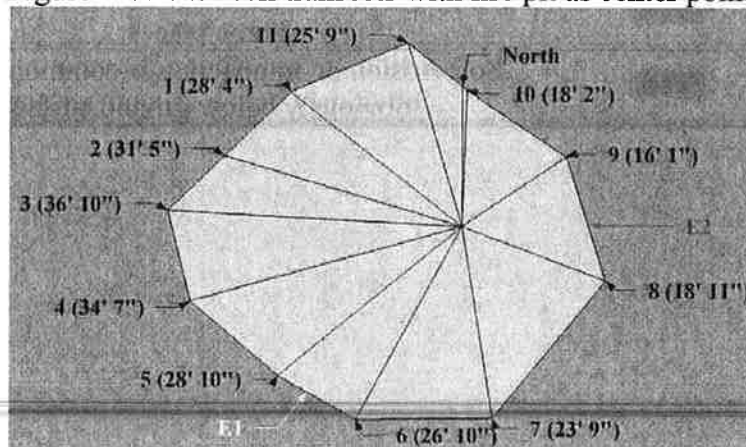


Figure 14. South cell transects with fire pit as center point.



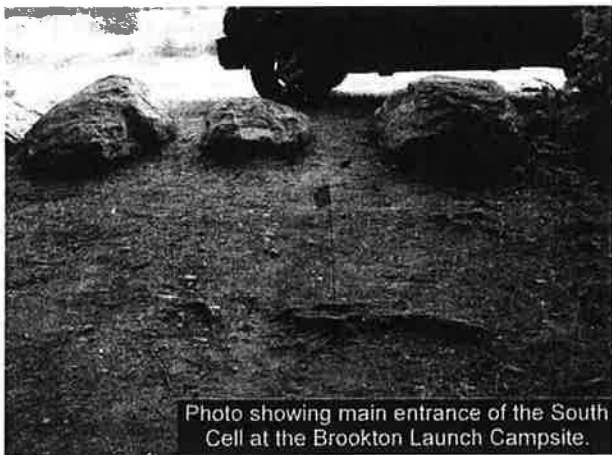




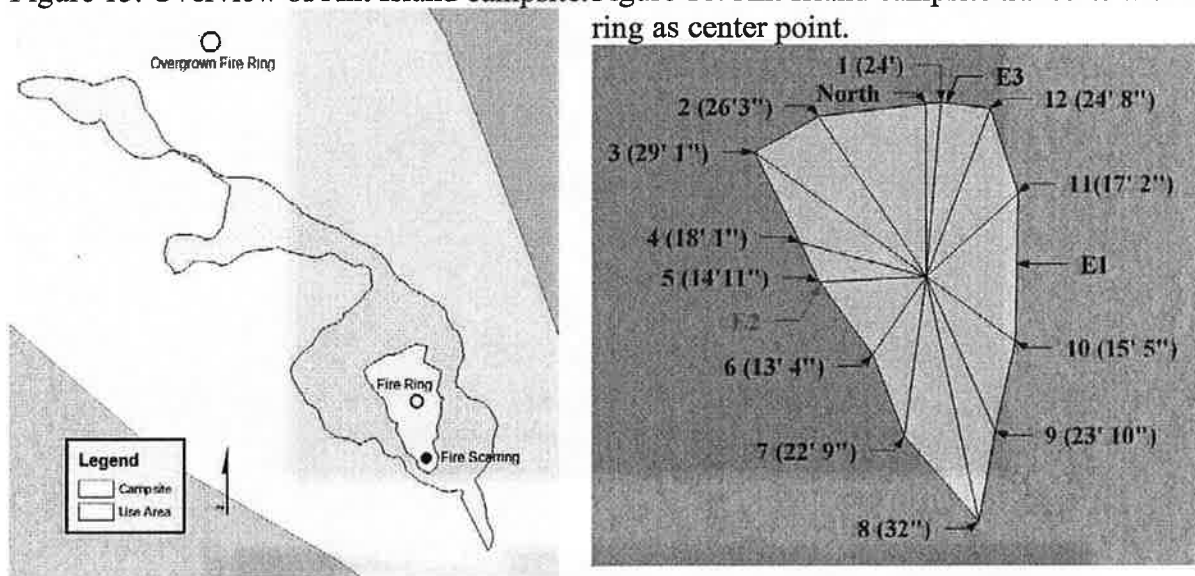
Table 9. Brookton Landing site qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> • Proximate to boat launch 	<ul style="list-style-type: none"> • Frequent fire site despite posted fire restrictions
<ul style="list-style-type: none"> • Easy access for camping and day use 	<ul style="list-style-type: none"> • Significant presence of human waste and toilet paper within the use area and surrounding areas
<ul style="list-style-type: none"> • Accessible in windy conditions (does not require water travel) 	<ul style="list-style-type: none"> • Frequent presence of trash
<ul style="list-style-type: none"> • Multiple sites for large groups 	<ul style="list-style-type: none"> • The ground vegetation cover on the South site is sparse and showing signs of erosion
<ul style="list-style-type: none"> • Camping use tends to be limited to 1-3 nights 	
Management Recommendations	
<ul style="list-style-type: none"> • Develop outhouse facilities at the launch to reduce presence of human waste and associated litter. 	
<ul style="list-style-type: none"> • Increase management presence (by volunteers or increased presence of Baskahegan staff) at the launch as this is the main access point to the watershed. The purpose of management presence would be to maintain the site and to encourage visitors into more environmentally responsible behavior. 	
<ul style="list-style-type: none"> • Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> • Re-build fire rings to be more permanent and safe (and to discourage visitor-built additional rings). 	
<ul style="list-style-type: none"> • Create natural barriers to limit use of side areas once outhouse facilities are in place. This will help clarify campsite boundaries and allow surrounding areas to recover. 	

Campsite 2: Ant Island

The Ant Island campsite is located close to the Brookton Launch in the Northeast portion of Baskahegan Lake. The island is easily accessible by boat and landing by the campsite is simple along the stone shore. The campsite is in a natural depression on the island, giving campers some additional shelter from the wind and a sense of privacy. Island visitors would experience a sense of remoteness even though this is the closest campsite to the Brookton Launch. The campsite is expanding to the North but the expansion areas are somewhat screened from the main tenting site by shrubs. There is an old, overgrown campsite with a fire ring on the North end of the island. There is significant damage to trees (ropes, nails, limbing) within and surrounding the campsite, and several large, dead trees have been cut down to use as firewood. The island contains large piles of trash (carpets, tents, furniture, etc.) concentrated toward the Southern tip.

Figure 15. Overview of Ant Island campsite. Figure 16. Ant Island campsite transects with fire ring as center point.



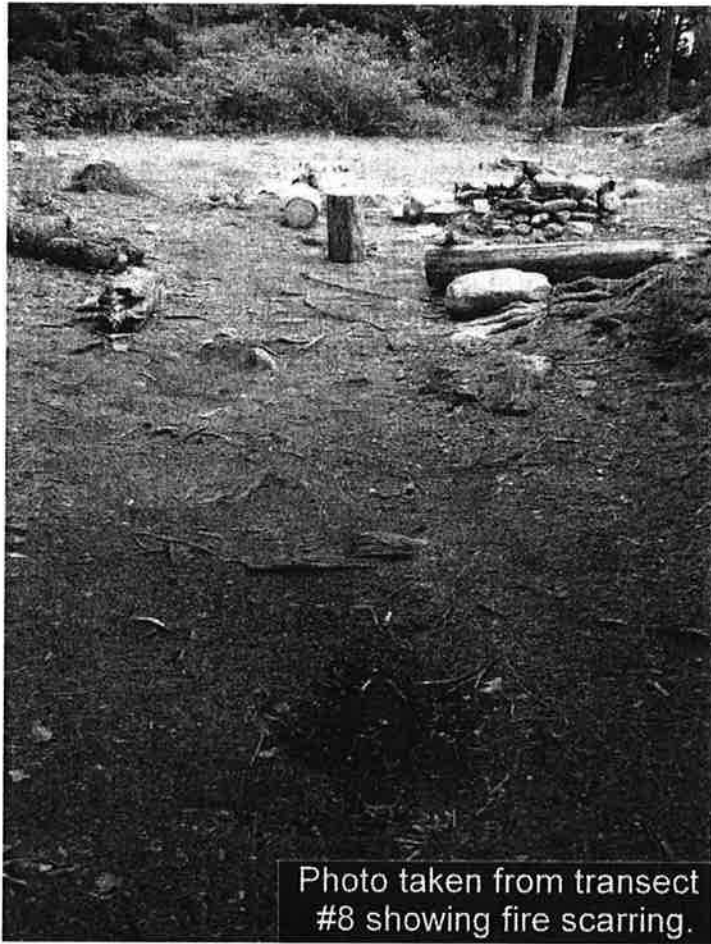


Photo taken from transect #8 showing fire scarring.



Photo from Transect #11 of fire ring and Entrance 2 in background.



Table 10. Ant Island campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> • Closest Island campsite to Brookton Launch. 	<ul style="list-style-type: none"> • Evidence of fires in campsite outside of fire ring.
<ul style="list-style-type: none"> • Located in sheltered portion of the lake, less vulnerable to the wind. 	<ul style="list-style-type: none"> • Significant presence of human waste and toilet paper within the use area and surrounding areas.
<ul style="list-style-type: none"> • Capacity for 2 to 3 tents. 	<ul style="list-style-type: none"> • Frequent presence of trash inside and large trash piles outside of campsite.
	<ul style="list-style-type: none"> • Large trees cut for firewood. Expansion to the North of the campsite, site screened by shrubs.
	<ul style="list-style-type: none"> • Overgrown campsite with old fire ring on the north end of the island
Management Recommendations	
<ul style="list-style-type: none"> • Develop outhouse facilities to reduce presence of human waste and associated litter. 	
<ul style="list-style-type: none"> • Devise a plan for managing the outhouse facility and cleaning the island including the fire ring (this could be a group of volunteers or hired staff). 	
<ul style="list-style-type: none"> • Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> • Re-build fire ring to be more permanent and safe (and to discourage visitor-built additional rings). 	

Campsite 3: Abraquidassat Point

The campsite at Abraquidassat Point is small and private, and it is located at the end of a narrow peninsula in the Northeast quadrant of Baskahegan Lake. Although the site has been developed by campers with a table, tarp, and two fire rings, it feels more rugged and less impacted than other more popular campsites. Abraquidassat Point campsite is also very small in comparison to most other campsites, and it is tightly surrounded by healthy vegetation along the portion of its circumference that does not directly access the water. The campsite has direct water access to the North and via a very short trail to the South, both of which offer special places for swimming and facilitate launching and landing in various wind conditions. The extended use area in figure 17 depicts the area with heavy tree damage (from cutting for fire wood) which is somewhat wet and does not elicit heavy trampling damage or evidence of alternate tent sites.

Figure 17. Overview of Abraquidassat Point campsite.

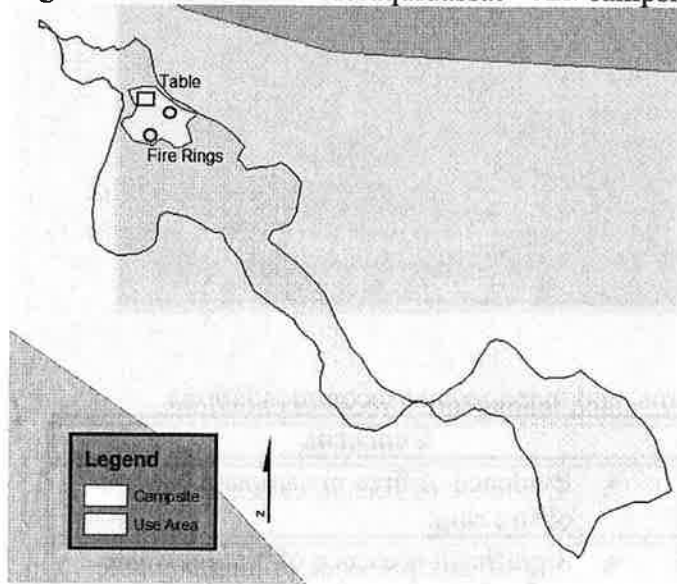
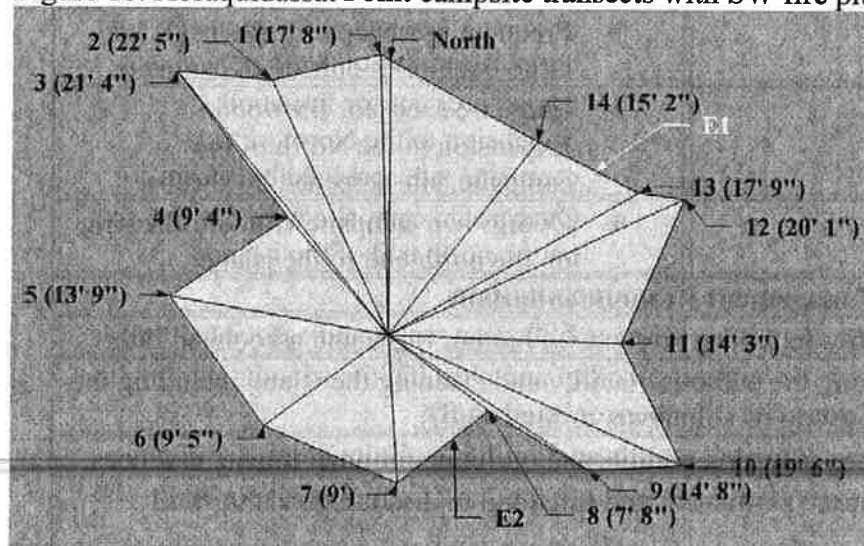


Figure 18. Abraquidassat Point campsite transects with SW fire pit as center point.



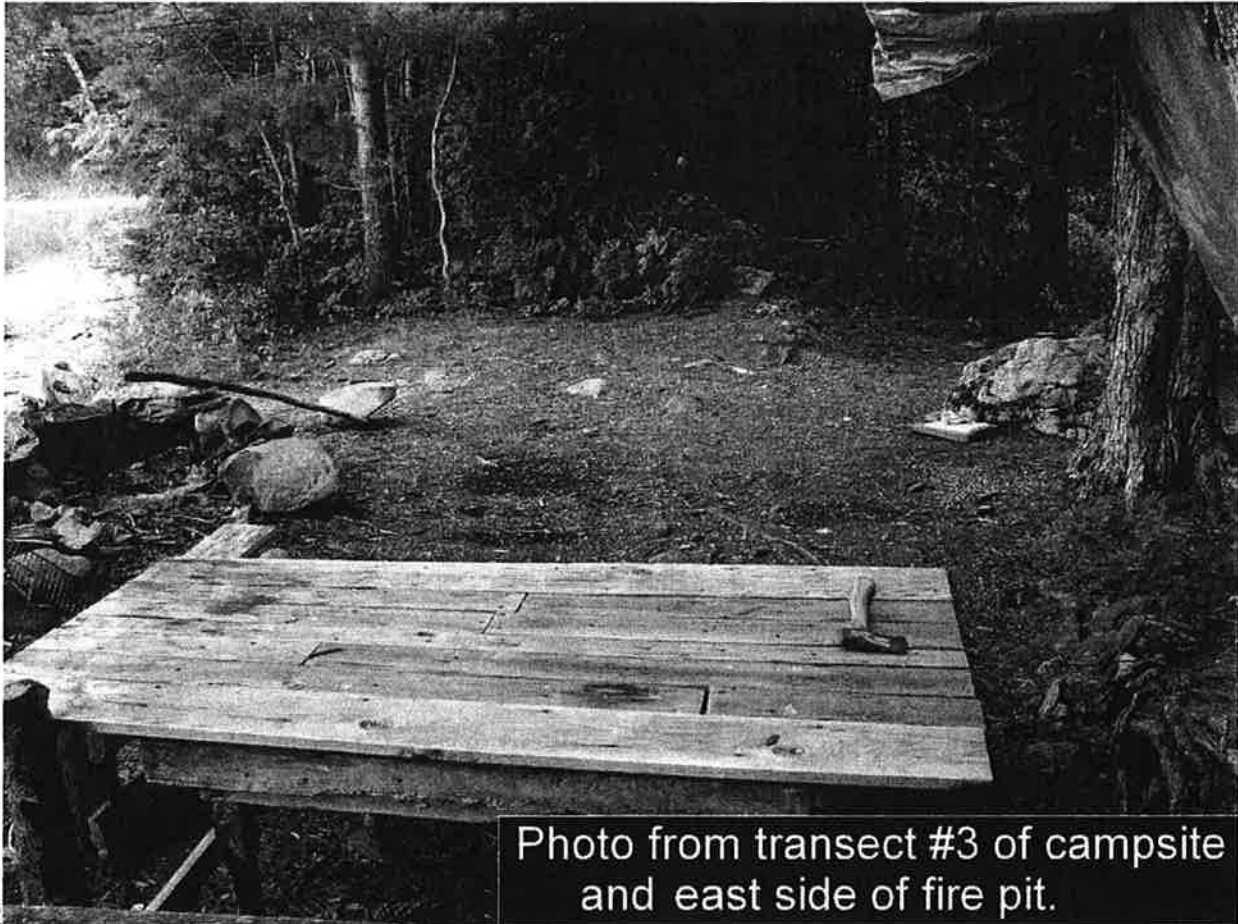


Photo from transect #3 of campsite and east side of fire pit.

2



Photo from transect #10 of campsite facing north.



Photo taken from transect #15 facing west side fire ring beneath abandoned tarp.



Table 11. Abraquidassat Point campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> • Small, private site. 	<ul style="list-style-type: none"> • Campsite has two large fire pits (one on each side of the small site).
<ul style="list-style-type: none"> • Easily reachable by boat – access is sheltered from wind by the long, narrow peninsula. 	<ul style="list-style-type: none"> • Significant presence of human waste and toilet paper within the use area.
<ul style="list-style-type: none"> • Site is a popular stopover for lunch and other day uses. 	<ul style="list-style-type: none"> • Large table takes up a lot of space in the small site but may also be preventing expansion to the North.
	<ul style="list-style-type: none"> • Significant tree damage with trees recently cut to expand the site to the North and South.
Management Recommendations	
<ul style="list-style-type: none"> • Develop outhouse facilities to reduce presence of human waste and associated litter in the use area to the South. 	
<ul style="list-style-type: none"> • Devise a plan for managing the outhouse facility and cleaning the island including the fire rings (this could be a group of volunteers or hired staff). 	
<ul style="list-style-type: none"> • Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> • Remove one fire ring and re-build the other fire ring to be more permanent and safe. Clean out fire rings periodically to limit their size and discourage additional visitor built fire rings. 	
<ul style="list-style-type: none"> • Create natural barriers to limit use of side areas once outhouse facilities are in place. This will help clarify campsite boundaries and allow surrounding areas to recover. 	

Campsite 4: Norway Point

The Norway Point campsite is located opposite Abraquidassat Point along the Northwest shore of Baskahegan Lake. The campsite has a small capacity (1 or 2 tents) because much of its flat area is covered by the fire ring and tables, and much of the remaining area is uneven or covered by trees and/or roots. The campsite sits adjacent to a sandy beach (to its North) which is ideal for landing and enjoying. The main use of the campsite appears to be for lunches and dinners. It is an attractive site except for the fire ring which has become very large and is expanding toward the middle of the site. The campsite floor has been reduced to mineral soil around the fire ring and tables, but is covered by a layer of forest duff and moss in other areas.

Figure 19. Overview of Norway Point campsite.

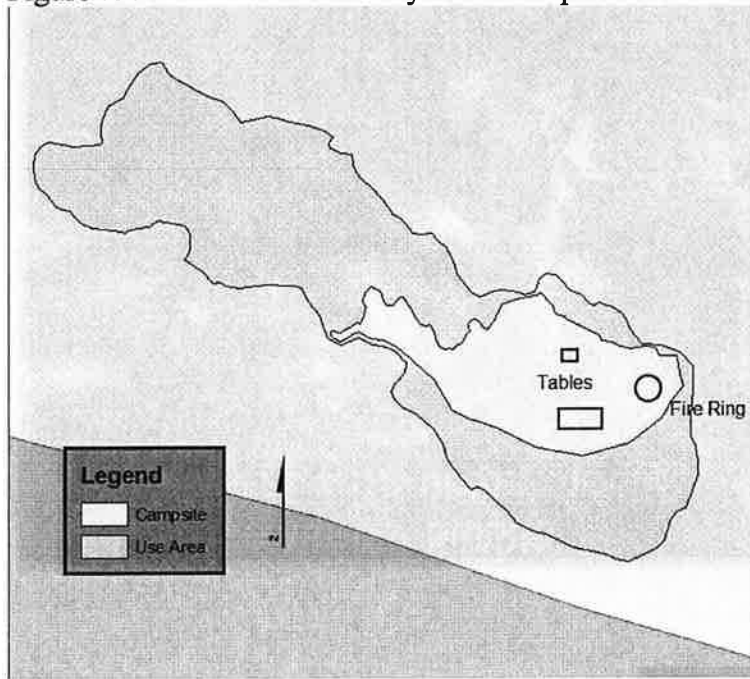


Figure 20. Norway Point campsite transects with fire ring as center point.

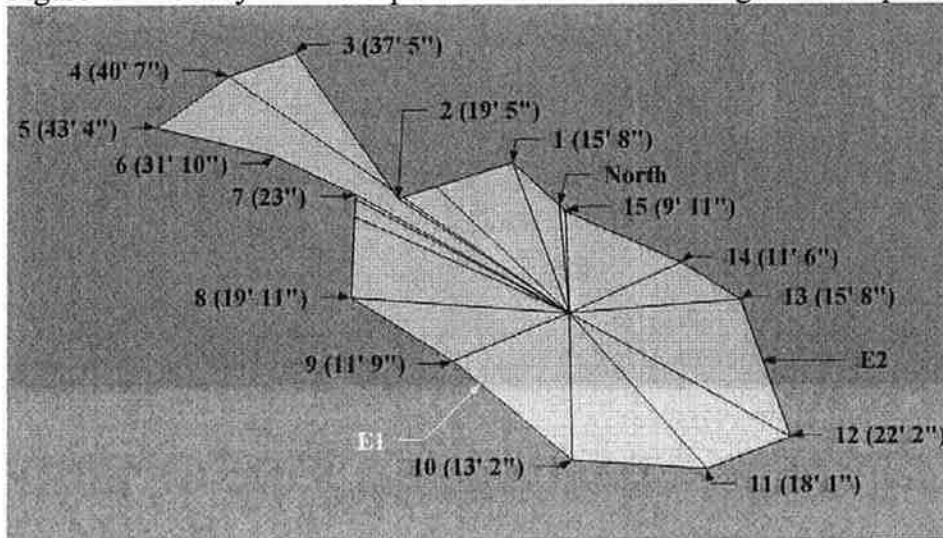




Photo taken from Transect #11 facing northwest.



Photo facing southeast from Transect #5 showing tent area.



Photo taken from Entrance 1 showing early sign of erosion.



Photo taken from transect #2 facing southeast.

Table 12. Norway Point campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> • Central location on Baskahegan Lake with easy access for camping and day use. 	<ul style="list-style-type: none"> • Large, expanding fire ring. Fire scarring and coals spreading over large area of campsite.
<ul style="list-style-type: none"> • Popular location for campsite cooking and shore meals. 	<ul style="list-style-type: none"> • Significant presence of human waste and toilet paper within the use area and surrounding areas.
<ul style="list-style-type: none"> • Space for one tent back from and partially screened from main front area. 	<ul style="list-style-type: none"> • Frequent presence of trash.
<ul style="list-style-type: none"> • Large beach at main entrance. 	<ul style="list-style-type: none"> • Trail over steep bank to the SW is eroding.
	<ul style="list-style-type: none"> • Significant amount of old tree damage.
Management Recommendations	
<ul style="list-style-type: none"> • Develop outhouse facilities to reduce presence of human waste and associated litter. 	
<ul style="list-style-type: none"> • Devise a plan for managing the outhouse facility and cleaning the island including the fire ring (this could be a group of volunteers or hired staff). 	
<ul style="list-style-type: none"> • Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> • Re-build the fire ring to be more permanent, smaller, and more safe (and to discourage visitor-built additional rings). 	
<ul style="list-style-type: none"> • Consider building steps on the SW trail. The trail is in a location where people will walk regardless of management intervention (to get to the back beach) so screening and re-directing is not a good option. 	

Campsite 5: Round Island

The campsite on Round Island consists of three tenting cells. This is the most popular of all island campsites on the lake likely due to its convenient location (in the Northern portion of zone D, a short distance by boat from the launch). The impact on the campsite seems to be more a result of occasional use by large groups with heavy footprints than from frequent use. The island and surrounding area are aesthetically beautiful, however, the impact from camping on this island is at a severity that has damaged the health of the island forest and that will appear unappealing to new visitors. Of the three tenting cells, the South and Center cells are most used and impacted, and the North cell is more separated and in slightly better condition.

Figure 21. Overview of the north tenting cell on Round Island.

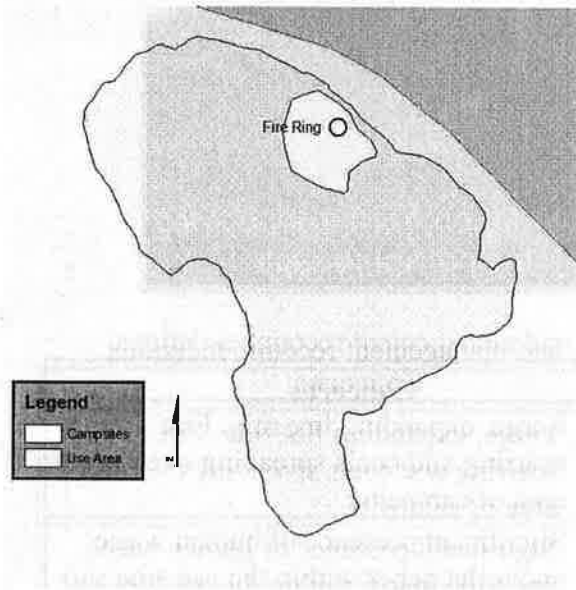


Figure 22. North cell transects with fire pit as center point.

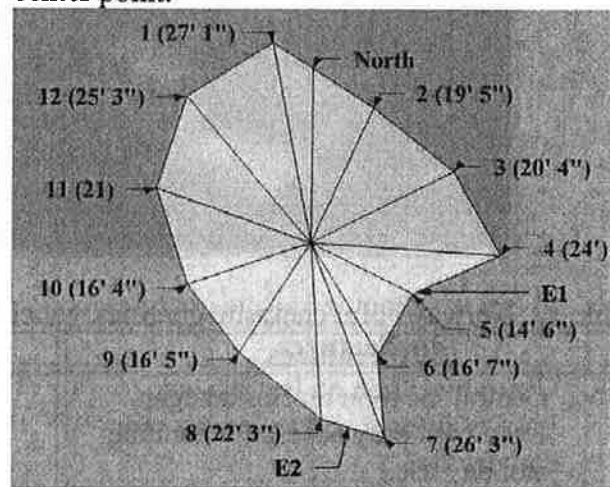


Figure 23. Overview of the center and south tenting cells on Round Island.

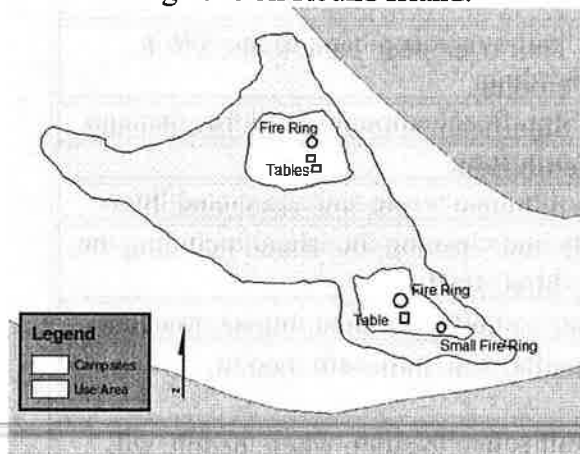


Figure 24. Center cell transects with fire pit as center point.

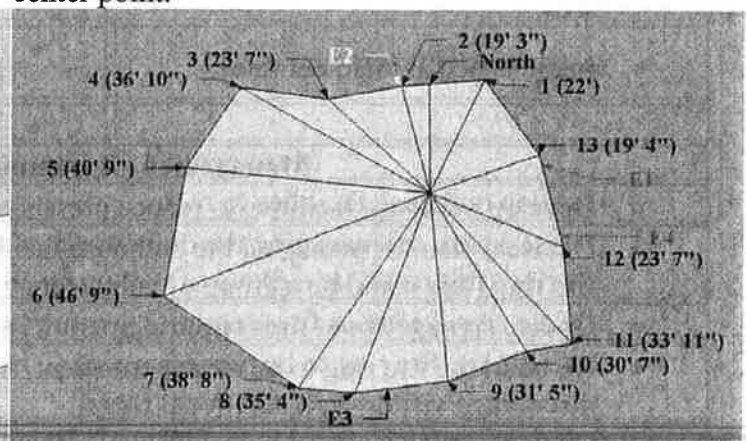


Figure 25. South cell transects with fire pit as center point.

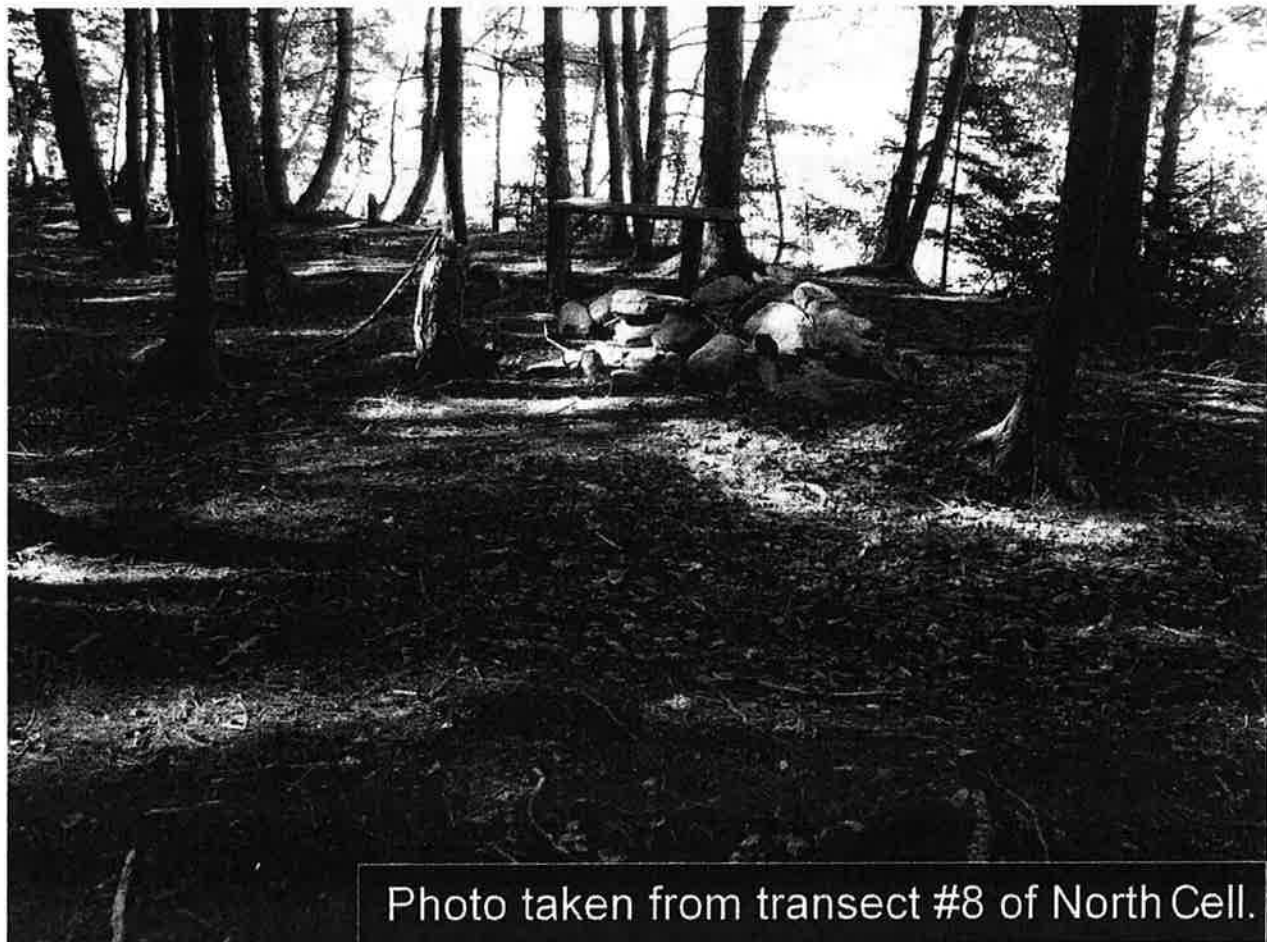
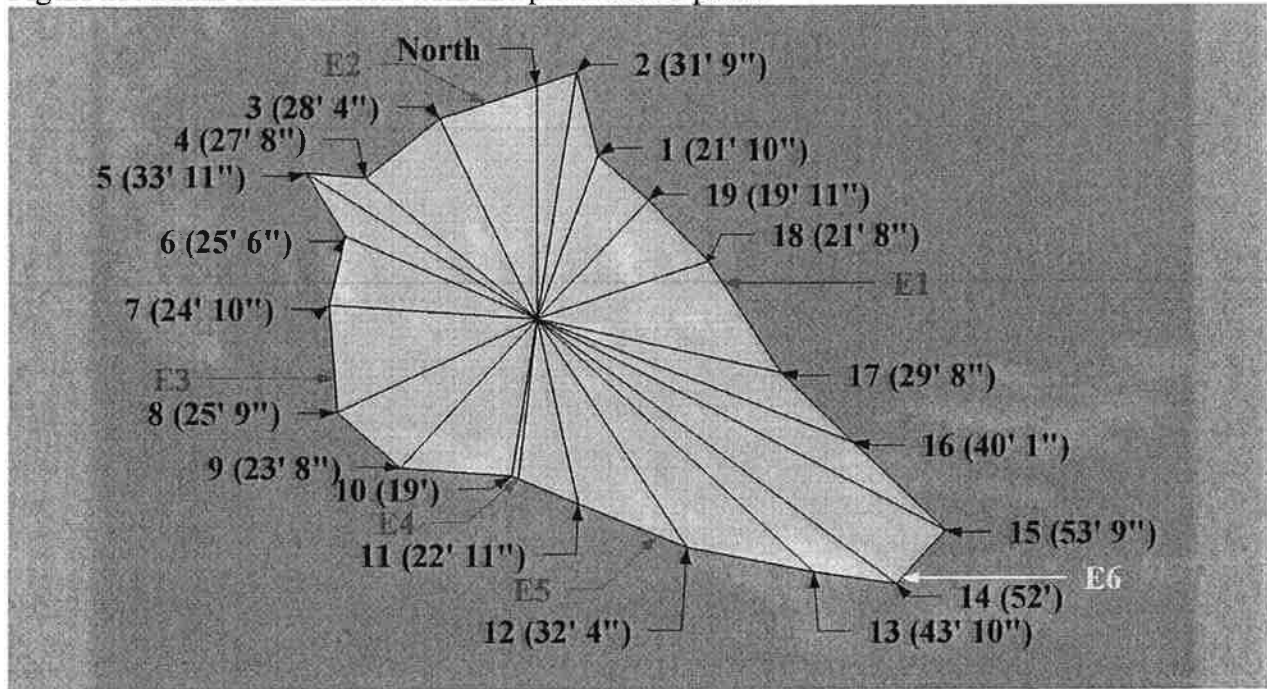


Photo taken from transect #8 of North Cell.

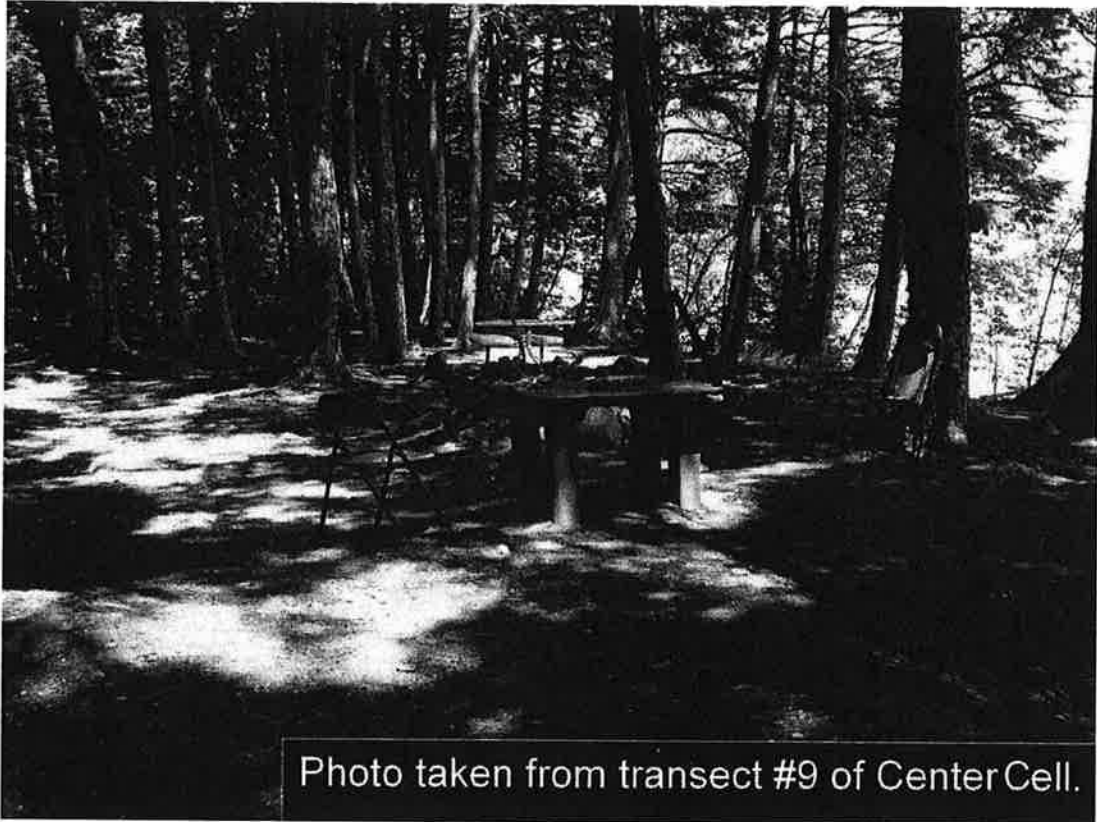


Photo taken from transect #9 of Center Cell.

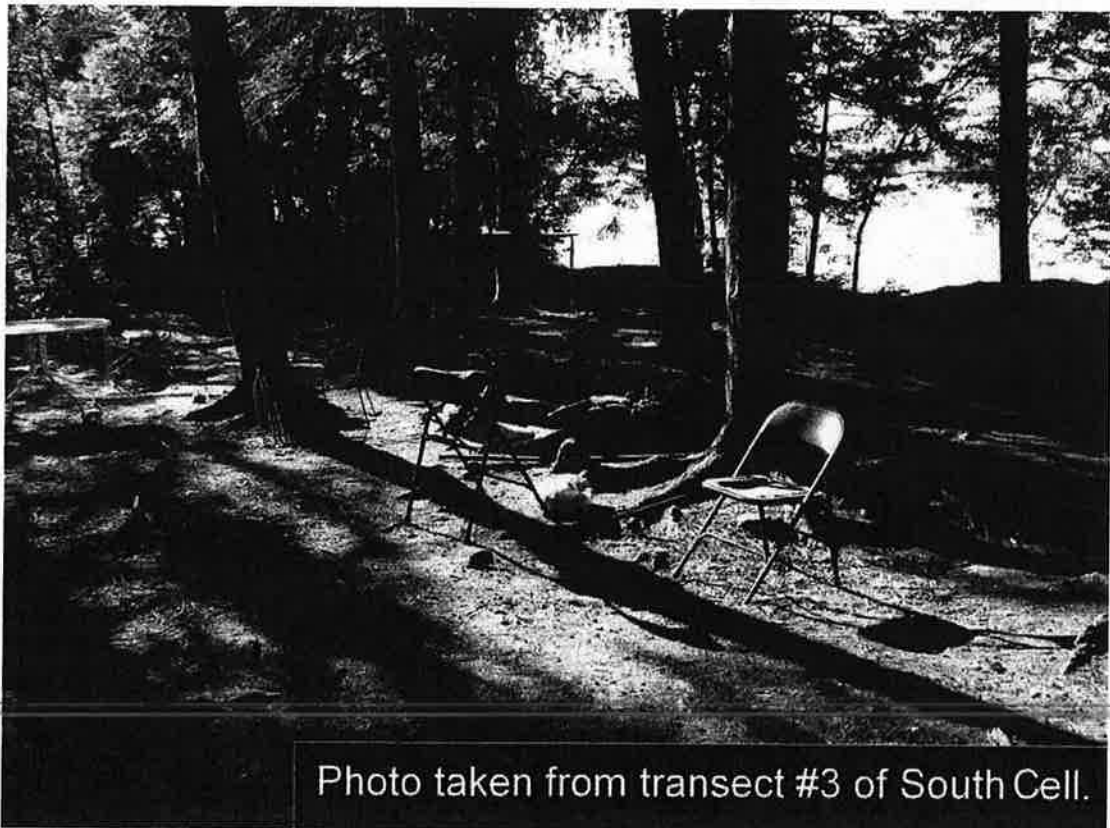
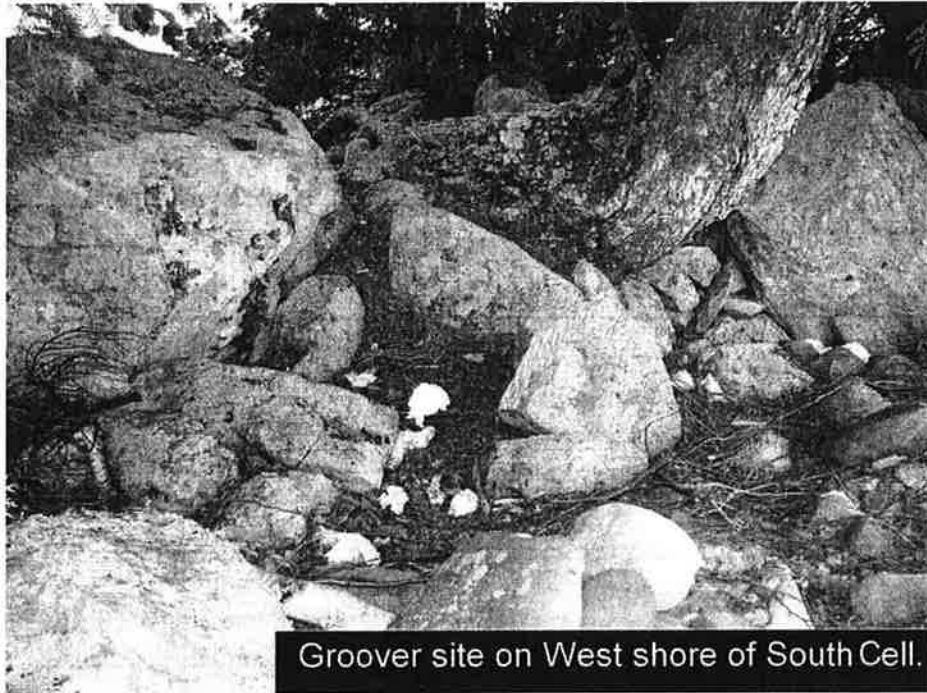


Photo taken from transect #3 of South Cell.



Groover site on West shore of South Cell.



Photo taken from Entrance 3 of Center Cell facing toward the South Cell.

Table 13. Round Island campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> Multiple sites and capacity for large groups. 	<ul style="list-style-type: none"> Level of recreation impact is severe enough to dissuade new visitors from camping on the island.
<ul style="list-style-type: none"> Accessible, central location on the lake – short boat ride from the Brookton Launch. 	<ul style="list-style-type: none"> Multiple fire rings in on the island, and two fire rings in the South cell.
<ul style="list-style-type: none"> Aesthetically pleasing island that offers feeling of remoteness without needing to travel far to reach. 	<ul style="list-style-type: none"> Management of human waste is a problem – 4 abandoned thunder boxes and extensive evidence of dispersed human waste on the island.
<ul style="list-style-type: none"> Good beach for shore meals and landing boats. 	<ul style="list-style-type: none"> Extensive damage to trees and other vegetation.
<ul style="list-style-type: none"> Important opportunity for groups that return year after year. 	<ul style="list-style-type: none"> Heavy presence of trash and abandoned camping equipment (grates, furniture, cookware, etc.)
Management Recommendations	
<ul style="list-style-type: none"> Develop an outhouse facility on the island to reduce presence of human waste and associated litter. 	
<ul style="list-style-type: none"> Devise a plan for managing the outhouse facility and cleaning the island including the fire rings (this could be a group of volunteers or hired staff). 	
<ul style="list-style-type: none"> Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> Re-build fire rings to be more modest in size and permanent. Limit fire rings to one per tenting cell at maximum. 	
<ul style="list-style-type: none"> Post signage describing the importance of letting spruce and fir saplings grow to help screen the tenting cells. 	
<ul style="list-style-type: none"> Consider building stone steps into the center tenting cell to converge walking traffic and prevent further bank erosion. 	

Campsite 6: Long Island

Long Island is located in the Southeast quadrant of Baskahegan Lake. The campsite occupies much of the Western arm of the island and has the capacity for large groups. The use area is expanding toward the South as more trees are cut and de-limbed for use as fire wood. There is a relatively thick layer of pine needles and forest litter for ground cover within the campsite, but soil is exposed in areas around the fire pit and tables. The campsite contains a range of visitor-made developments, such as a large table and cooking platform, and one large and multiple smaller fire rings. There is also abundant camping equipment such as chairs, clotheslines, and cooking equipment. The presence of human waste is a major problem on this island, as it is spread throughout the use area.

Figure 26. Overview of Long Island campsite.

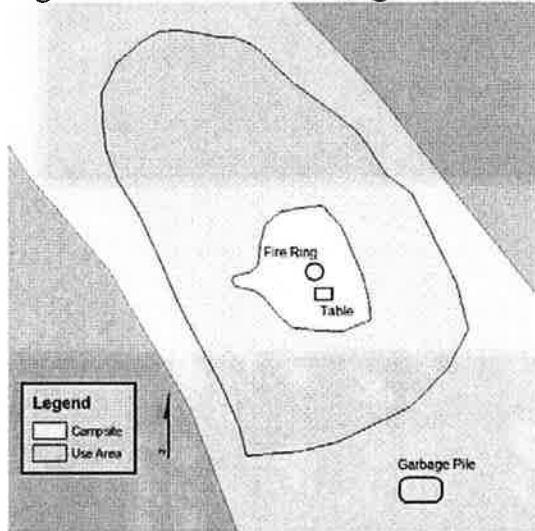


Figure 27. Long Island campsite transects with fire ring as center point.

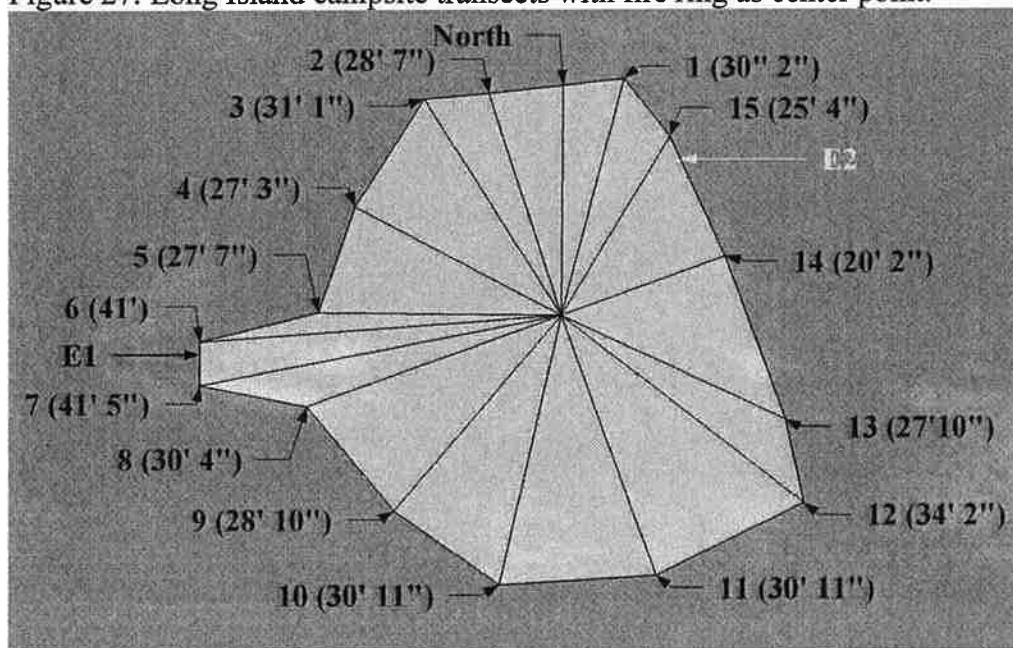




Photo showing steps from shore into campsite via Entrance 1.



Photo taken from transect #5 facing east.

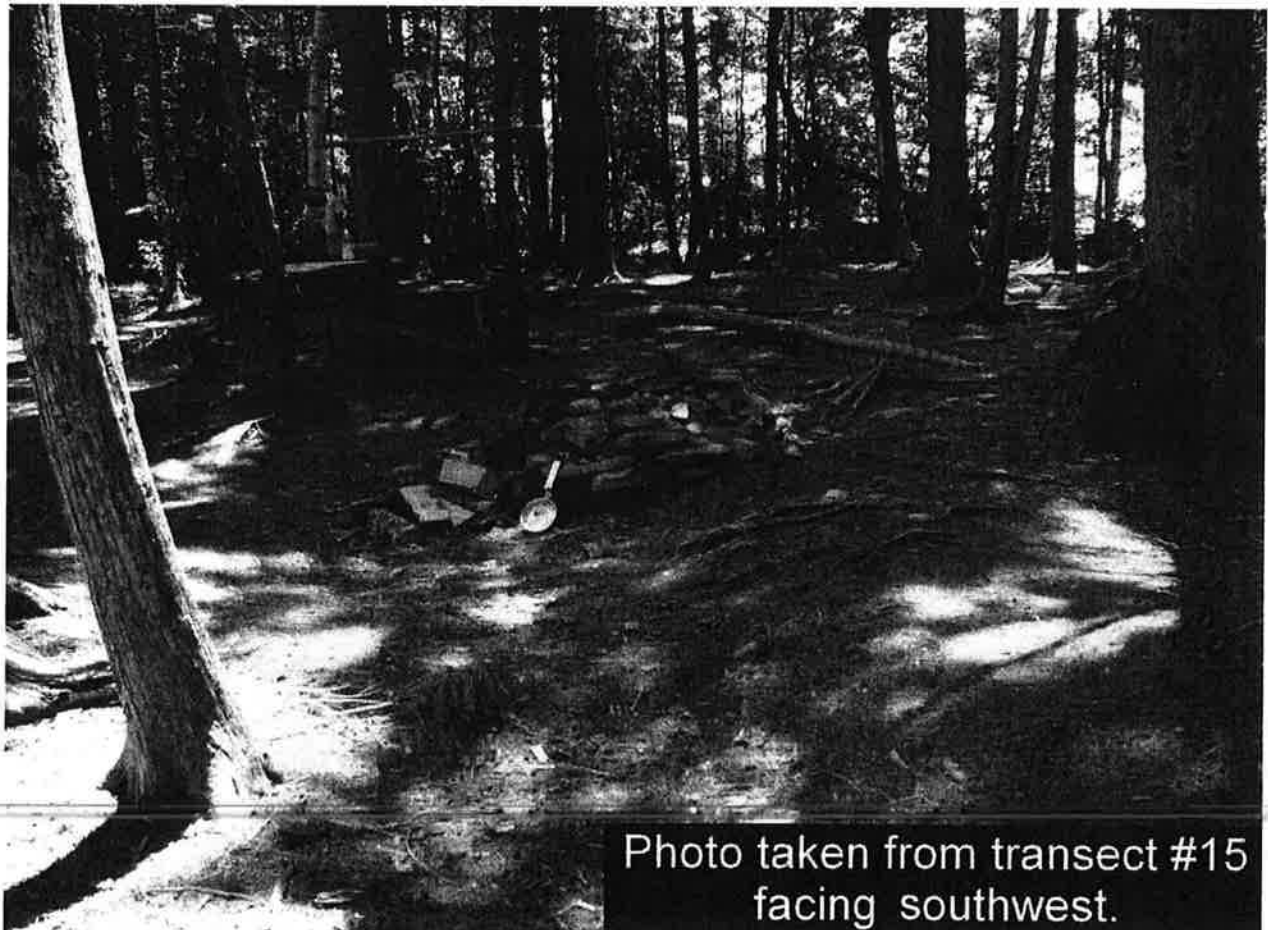


Photo taken from transect #15 facing southwest.



Table 14. Long Island campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> • Remote, private location. 	<ul style="list-style-type: none"> • Multiple fire rings. Main fire ring is oversized and spreading.
<ul style="list-style-type: none"> • Able to accommodate large groups. 	<ul style="list-style-type: none"> • Significant presence of human waste and toilet paper within the use area and surrounding areas.
<ul style="list-style-type: none"> • Sheltered landing area. 	<ul style="list-style-type: none"> • Large amount of trash both within and outside of the use area.
	<ul style="list-style-type: none"> • Significant tree damage (ropes, scars, nails, de-limbing, cutting).
	<ul style="list-style-type: none"> • Site expanding to the south.
Management Recommendations	
<ul style="list-style-type: none"> • Develop outhouse facilities at the launch to reduce presence of human waste and associated litter. 	
<ul style="list-style-type: none"> • Devise a plan for managing the outhouse facility and cleaning the island including the fire ring (this could be a group of volunteers or hired staff). Visitors to this island need to understand that heavy-impact behavior will change the character of the island. 	
<ul style="list-style-type: none"> • Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> • Re-build the main fire ring to be smaller, more permanent, and safe (and to discourage visitor-built additional rings). 	
<ul style="list-style-type: none"> • Post signage restricting the cutting of trees. Consider posting signage at the Brookton Launch restricting the use of chainsaws on the islands. 	

Campsite 7: Ship Island

The campsite on Ship Island is located in the Southwest portion of Baskahegan Lake. Ship Island is very small in itself, and the campsite is a small flat area on the North end of the island surrounded by large boulders that line the shore. There are no major entrances to the campsite because of these boulders, and there is little risk of site expansion for the same reason. The island is difficult to reach by boat because it is surrounded by shallow water containing many granite boulders. The rocks also make landing difficult – the campsite is only accessible for small boats. The Ship Island campsite is marked in the Maine Gazetteer, yet it receives very little use compared to the campsites located closer and more accessible to the Brookton Launch. A relatively healthy layer of moss and forest duff cover the campsite floor, the surrounding trees have seen little damage, and there is no evidence of human waste or associated trash.

Figure 28. Overview of Ship Island campsite.

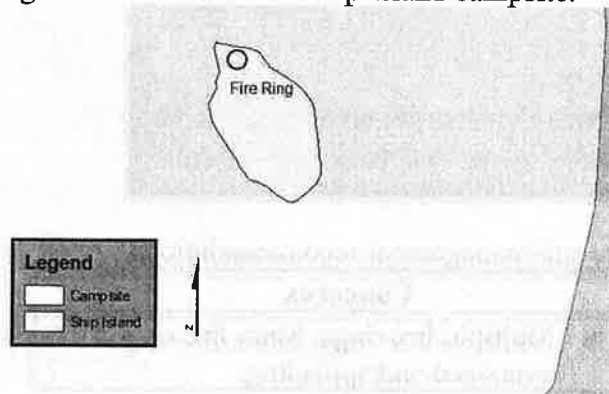


Figure 29. Ship Island campsite transects with W tip of large boulder as center point.

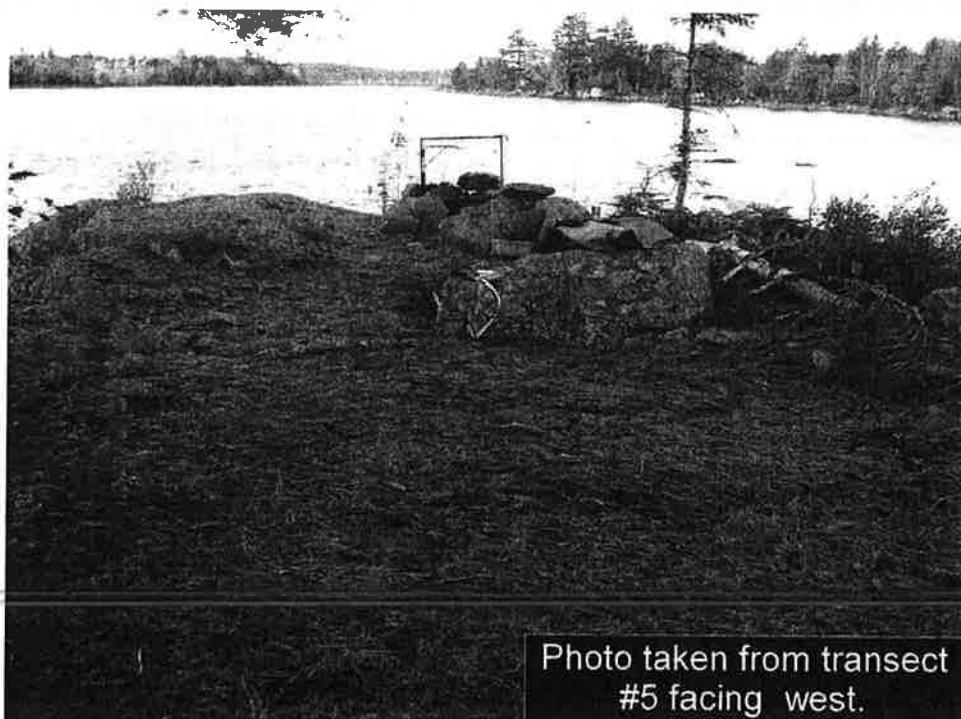
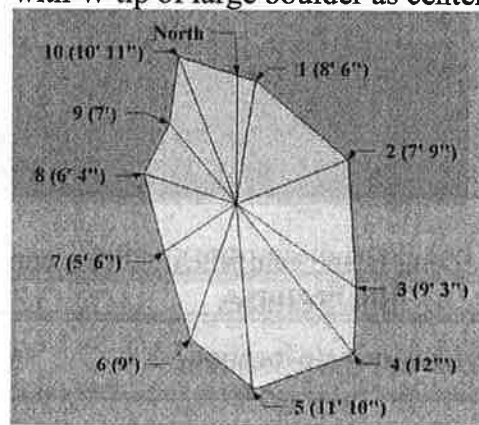


Photo taken from transect #5 facing west.



Photo taken from transect #10 facing southeast.

Table 15. Ship Island campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> • Small, private site. 	<ul style="list-style-type: none"> • There is no place on the island to build an outhouse, and rocks prevent the opportunity to dig a cat-hole.
<ul style="list-style-type: none"> • Difficult to reach by boat (rocky for motor boats and wind-exposed for paddlers). 	
<ul style="list-style-type: none"> • Site is attractive and in healthy condition. 	
<ul style="list-style-type: none"> • Located near productive fishing areas on the lake. 	
Management Recommendations	
<ul style="list-style-type: none"> • Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> • Re-build the fire ring into a more permanent, low-impact development. 	

Campsite 8: Crooked Brook

The Crooked Brook campsite is located along the Western shore of the Crooked Brook flowage. The campsite is in a good location to be a take-out point for groups who have paddled the Baskahegan stream South of the lake because it allows paddlers to avoid long crossings to the Eaton or Danforth take-out points. The Crooked Brook site is reachable by 4X4, but the road in to the campsite is at times barely passable and potentially dangerous as it includes two steep climbs. Currently, the majority of use at the campsite tends to be day use by locals or as an overnight party spot for local groups. The site is also a lunch stop for people who launched in Danforth or Eaton and are paddling the flowage for the day. The campsite itself is open from tree cover, fairly large, and relatively resilient to use by large groups with its grassy ground cover. The entire East side of the campsite is directly accessed by road or shore. The campsite is located at the edge of a grassy area, being open to the East and sheltered by trees to the North and West. The two entrances in Figure 31 show trails from the wooded side, while the entire East side is used to access the beach and road.

Figure 30. Overview of Crooked Brook campsite.

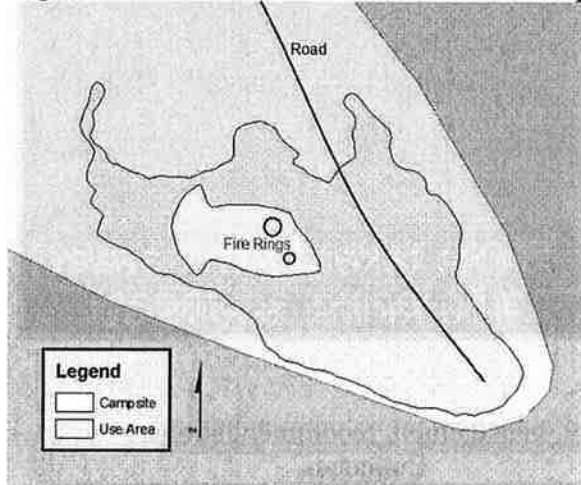
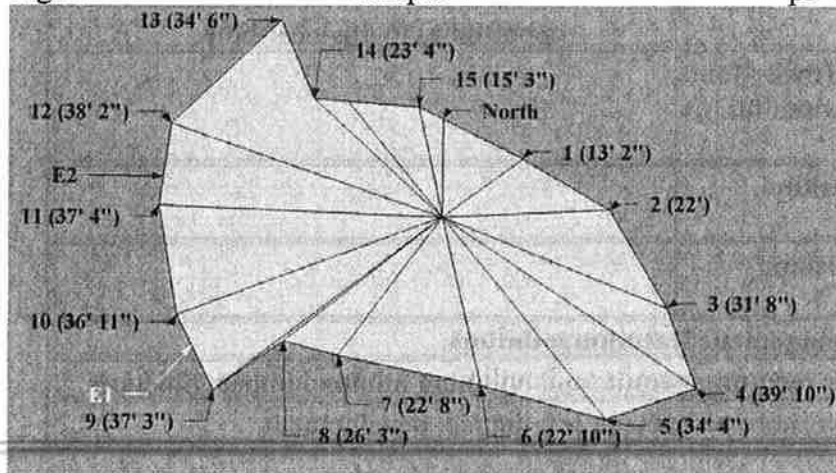


Figure 31. Crooked Brook campsite transects with north fire pit as center point.



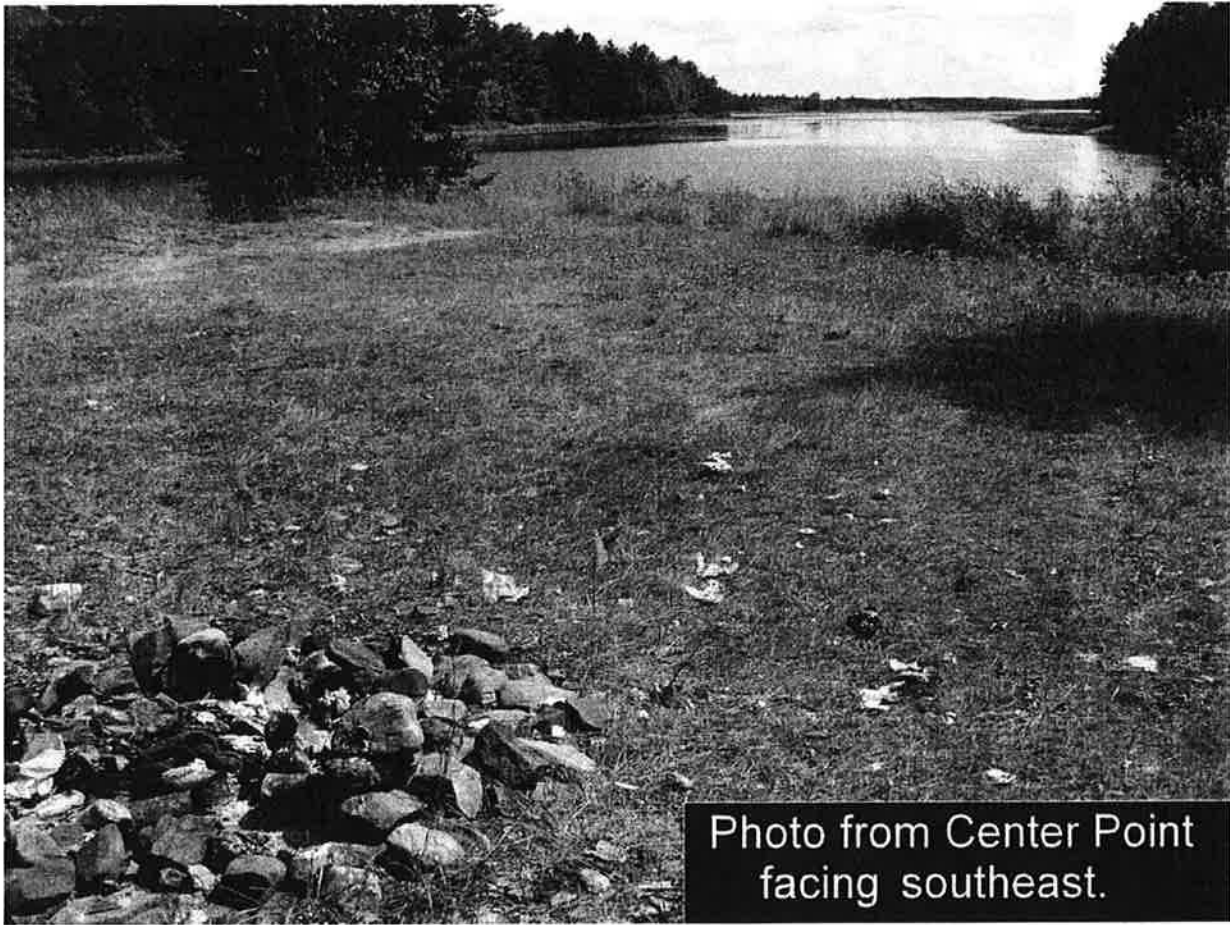


Photo from Center Point facing southeast.



Photo from transect #6 facing north showing second fire ring.



Photo taken from Entrance 2 showing trail to expansion area / groover site.

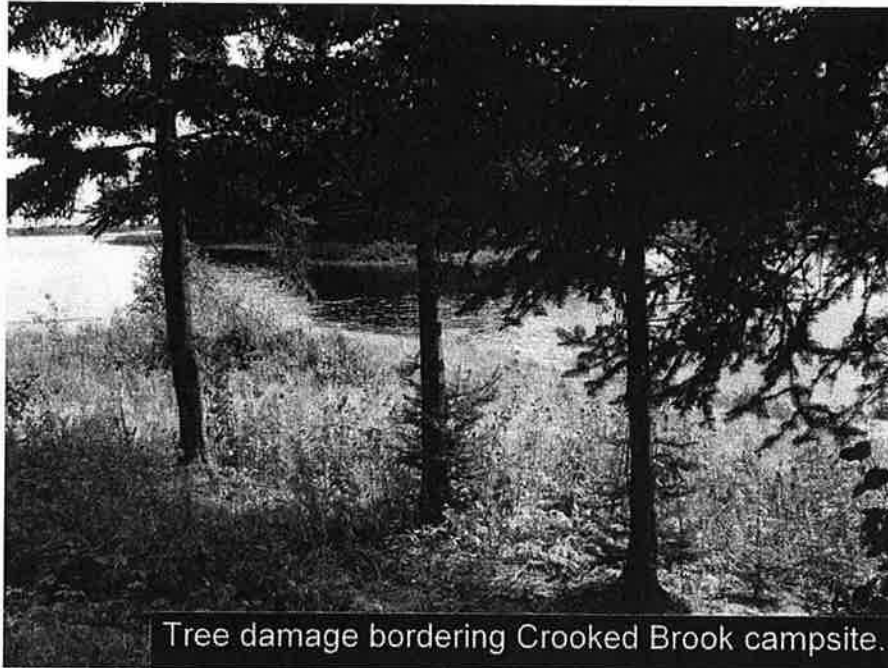


Table 16. Crooked Brook campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> Large beach area. 	<ul style="list-style-type: none"> Vehicle accessibility makes it a party spot.
<ul style="list-style-type: none"> Early pull out after a stream canoe trip. Saves paddling against prevailing winds. 	<ul style="list-style-type: none"> Significant presence of human waste and toilet paper within the use area and surrounding areas.
<ul style="list-style-type: none"> Could accommodate a large group. 	<ul style="list-style-type: none"> Frequent presence of trash.
<ul style="list-style-type: none"> Good lunch / break location for people paddling on the Flowage. 	<ul style="list-style-type: none"> Condition of the road into the site makes it only barely passable with a 4x4.
<ul style="list-style-type: none"> Accessible by vehicle (4x4). 	<ul style="list-style-type: none"> Trail over the bank on the south side of the campsite is likely to erode.
Management Recommendations	
<ul style="list-style-type: none"> Develop outhouse facilities to reduce presence of human waste and associated litter. 	
<ul style="list-style-type: none"> Devise a plan for managing the outhouse facility and cleaning the campsite including the fire ring (this could be a group of volunteers or hired staff). 	
<ul style="list-style-type: none"> Update signage about fires requiring a permit and outlining minimal impact practices. 	
<ul style="list-style-type: none"> Remove one fire ring and re-build the other fire ring to be more permanent and safe. Clean out fire ring periodically to limit their size and discourage additional visitor built fire rings. 	
<ul style="list-style-type: none"> Create natural barriers to limit use of side areas once outhouse facilities are in place. This will help clarify campsite boundaries and allow surrounding areas to recover. 	
<ul style="list-style-type: none"> Consider building stone steps on the trail at the South side of site to prevent further bank erosion. Alternatively, use natural screening to hide the South trail to encourage beach access via the East side of the campsite. 	

Campsite 9: Eaton Landing

The Eaton Landing campsite is located along the South shore of the Crooked Brook flowage. The campsite is at the end of a very narrow and rutty road, making it accessible by any vehicle with good clearance. The campsite is a fairly secluded, sheltered site that could accommodate several tents. The site appears to have been created within the last few years and shows signs of recent expansion. It does not appear to experience frequent use as multiple saplings are growing throughout, however, the use that does occur tends to be of high impact. The site is on a point with one side open to the road, and the other sits above the water with a short trail over the SW side. The shore adjacent to the campsite is steep and grassy, but there is an open grassy area on the point with a fire ring which has access to a larger beach more suitable for landing and recreation.

Figure 32. Overview of Eaton Landing campsite.

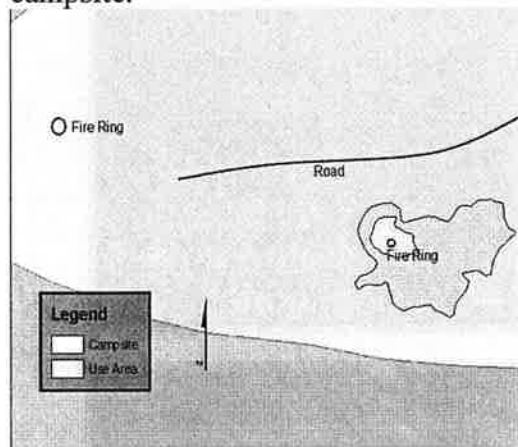


Figure 33. Eaton Landing campsite transects with fire ring as center point.

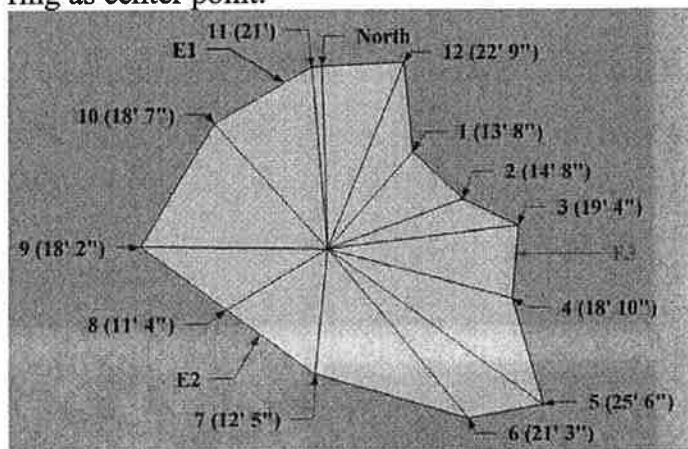


Photo showing fire ring at center point of the campsite.



Photo taken from transect #5 facing north



Photo of Entrance 1 facing road.



Entrance 3 showing trail to groover site.

Table 17. Eaton Landing campsite qualities, concerns, and management recommendations.

Site Features	Concerns
<ul style="list-style-type: none"> • Quiet, secluded location. 	<ul style="list-style-type: none"> • Road is deeply rutted and often has deep water near the campsite. Not trailer accessible
<ul style="list-style-type: none"> • Relatively recently developed campsite. 	<ul style="list-style-type: none"> • Significant presence of human waste and toilet paper within the use area and surrounding areas.
<ul style="list-style-type: none"> • Alternate access to the Flowage for windy conditions. 	<ul style="list-style-type: none"> • Recent expansion to the East and West of campsite.
<ul style="list-style-type: none"> • Accessible by vehicle. 	<ul style="list-style-type: none"> • Trail to the shore from the Southwest of the campsite is steep and is beginning to erode.
<ul style="list-style-type: none"> • Grassy area at point could accommodate additional visitors 	<ul style="list-style-type: none"> • Large fire ring in the grassy area on the point West of the campsite.
Management Recommendations	
<ul style="list-style-type: none"> • Develop outhouse facilities at the launch to reduce presence of human waste and associated litter. 	
<ul style="list-style-type: none"> • Devise a plan for managing the outhouse facility and cleaning the campsite including the fire ring (this could be a group of volunteers or hired staff). 	
<ul style="list-style-type: none"> • Update signage about fires requiring permits and outlining minimal impact practices. 	
<ul style="list-style-type: none"> • Re-build fire ring to be more permanent and safe (and to discourage visitor-built additional rings). 	
<ul style="list-style-type: none"> • Create natural barriers to limit use of recently created expansion areas and other side areas once outhouse facilities are in place. This will help clarify campsite boundaries and allow surrounding areas to recover. 	
<ul style="list-style-type: none"> • Consider building stone steps on the Entrance 2 trail to the shore to prevent bank erosion. 	

North and South Streams

Our surveys of the streams found relatively few recreational developments. Our assessment of the North Stream was completed by paddling the stream and searching for campsites, trails, and other recreational developments or signs of use. Unfortunately, we were unable to travel the complete South Stream due to time constraints and the water level. As a result, we focused on finding commonly used access points to the stream and we traveled by foot in either direction from those access points to search for trails or campsites.

North Stream

The North Stream is accessed from the north end of Baskahegan Lake, 3.5 miles west of the Brookton Landing by water. The stream travels north for 6.5 miles where it reaches the southeast end of the Crooked Brook Flowage. The closest take-out point on the flowage is the Crooked Brook Landing (same location as the Crooked Brook campsite), which is 1 mile north of the stream's inlet. However, road access to the Crooked Brook Landing is limited to 4X4 vehicles and difficult to impossible with a trailer due to rutty conditions and steep inclines with tight turns. The alternative take-out points on the flowage are the Danforth Town Landing, which is 3 miles north by water from the inlet, or the Eaton Landing, which is 3 miles east by water and requires high vehicle clearance.

Figure 34 shows the North Stream with its access points and recreation-related developments. From a recreation experience perspective, the stream offers a pleasant paddling trip with excellent fishing, abundant opportunity for wildlife viewing, and beautiful scenery. It is generally navigable throughout most of the summer season except in significantly dry conditions.

Figure 34. Recreation access and developments along the North Stream.



The stream is used recreationally for special events (such as the East Grand Adventure Race) and by a small number of guides and outfitters. However, our discussions with guides found that they

would paddle the stream more if greater access facilitated shorter trips and if campsites were developed along the stream to allow for multi-day stream trips. In its current condition, one bridge crosses the stream and is used as an access point. From land, the bridge landing is a 10 minute drive on Chuck's Road (a Baskahegan Land Company road). There is an obvious path beside the bridge (on the east side) where people launch and land, however, this path would be vulnerable to erosion if use were to increase. There is the opportunity to build a better trail to the water by moving the path further east to make its incline more gradual over the bank. There is an area adjacent to the path that would be a suitable campsite, but there is currently no evidence that groups have used it for camping in any numbers or in the near past. There is also an old trail to the water near the bridge (on the west side) that has been blocked-off to vehicle traffic. The only other developments observed along the stream were an abandoned (no longer standing) shelter located close to the Baskahegan Lake outlet, beaver dens, osprey nests, and game trails.

South Stream

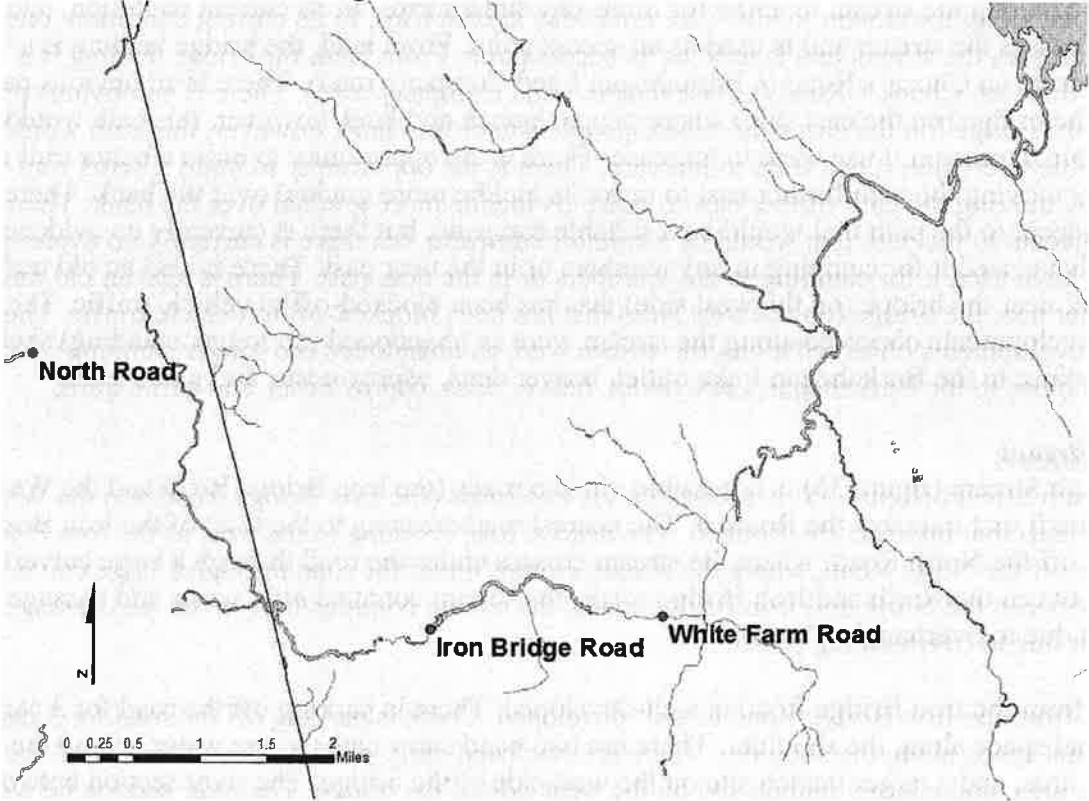
The South Stream (figure 35) is accessible via two roads (the Iron Bridge Road and the White Farm Road) that intersect the Route 6. The nearest road crossing to the west of the Iron Bridge Road is off the North Road, where the stream crosses under the road through a large culvert. In areas between the North and Iron Bridge roads, the stream contains little water and passage is difficult due to overhanging brush.

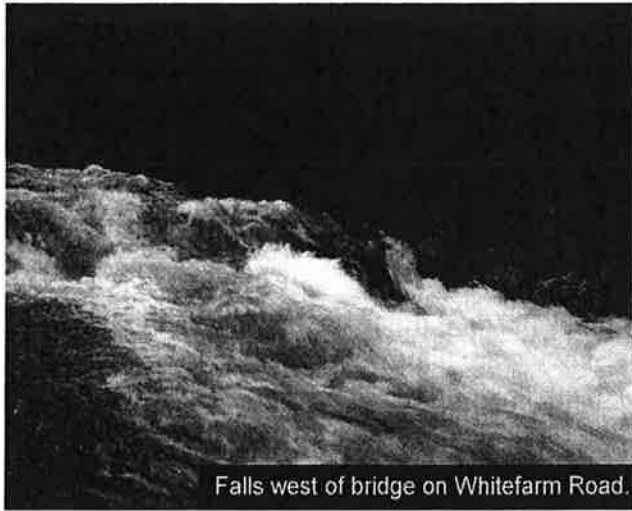
Access from the Iron Bridge Road is well-developed. There is parking off the road for 3 cars and additional space along the shoulder. There are two hand carry paths to the water behind the parking area, and a larger launch site on the west side of the bridge. The river section between the Iron Bridge and White Farm roads begins with a dead-water section and then drops into a series of rapids and a set of falls (which people paddle in the Spring) just west of the White Farm road.

At the White Farm Road, paddlers launch or land from either side of the bridge. There is parking space off the road for two cars on the north side of the bridge. The access on the north side is relatively steep and prone to erosion. The access on the south side is less defined but has the potential to be the better option both for visitor safety and trail stability. There is also an area adjacent to the south side of the bridge that could be developed into a campsite. The stream between White Farm Road and its inlet on Baskahegan Lake is gentle for paddling.

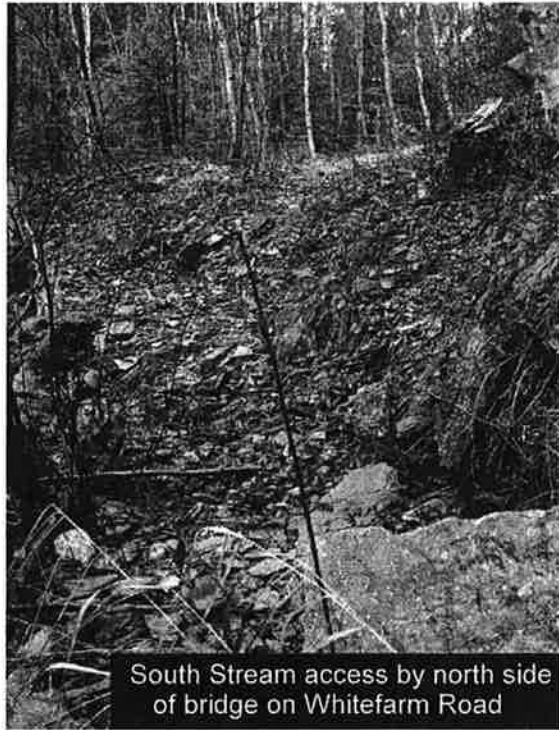
The distance between the access point on Iron Bridge Road and the inlet on Baskahegan Lake is approximately 6 miles. Once on the lake, there is a 5 mile (wind-prone) crossing to the Brookton Landing (the only take-out point). The trip (from Iron Bridge Road to the Brookton Landing) is discussed online on paddling forums (ex. the Northeast Paddlers Message-board at www.npmb.com) as a two- to three-day trip including one night of camping on a lake island (and possibly one along the stream).

Figure 35. Recreation access along the South Stream.

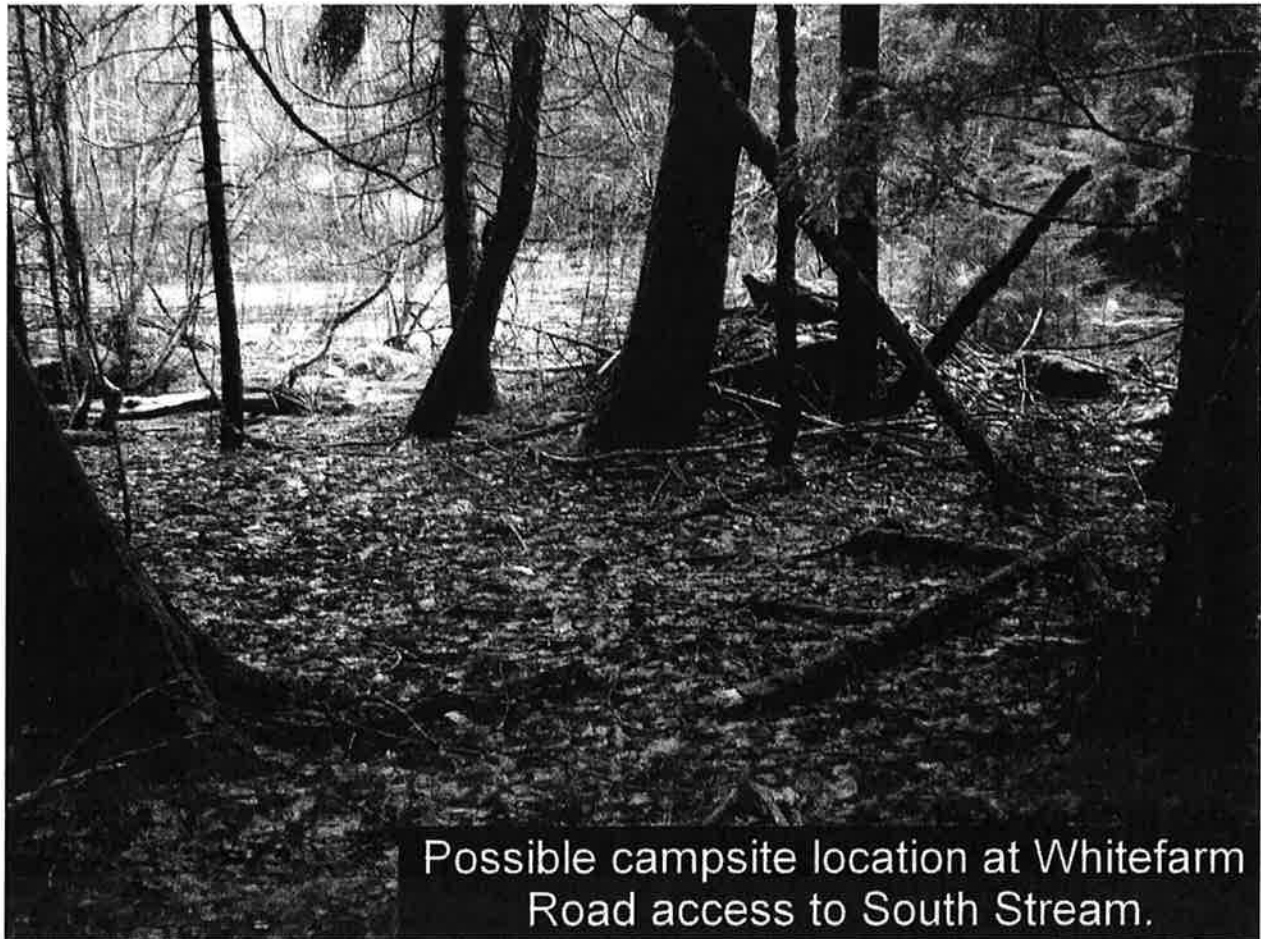




Falls west of bridge on Whitefarm Road.



South Stream access by north side of bridge on Whitefarm Road



Possible campsite location at Whitefarm Road access to South Stream.

Section Summary and Conclusions

Recreational resources were inventoried through campsite assessments, and by mapping launch sites and recreation developments along the North and South Streams. The data throughout this *Recreation Resources* portion of the report represents an overview of key findings and suggestions for each area of focus. Complete campsite assessments and photo documentation collections can be accessed on the accompanying CD.

Campsite Assessments Summary:

Nine campsites were identified and inventoried in the watershed. Each campsite was measured using a combination of physical and GPS methods. They were photo-documented and assessed in terms of ground cover, entrance trail conditions, bank erosion, tree damage, presence and scarring of roots, and groover site conditions. For the report, tables were created that summarized notable features, concerns, and suggestions for management. Although there existed a wide range in campsite conditions, many of the sites contained similar features and management needs:

- Common campsite features:
 - Most campsites had capacity for large groups.
 - Most campsites were easily accessible from a launch area and/or road.
 - Many had access to a good beach for landing and recreating.
 - Many sites had visitor created developments (tables, chairs, camping equipment, etc.).
- Common campsite concerns:
 - Presence of human waste within and surrounding their use areas was a problem for most campsites.
 - Damage (cutting, de-limbing, nails, ropes) to trees was widespread in many campsites.
 - Shoreline bank erosion was either evident or threatening to develop at several campsites.
 - Presence of multiple fire rings, overly large fire rings, and sprawling fire rings were common among many of the campsites.
 - Presence of trash was a problem for some of the campsites.
 - Campsite and use area expansion (due most often to firewood collection) was evident for many campsites.
- Common management recommendations:
 - Develop outhouse/toilet facilities to contain human waste and associated litter.
 - Increase the management presence (staff, volunteers, signage, etc.) at the Brookton Landing and on some of the more highly-used islands.
 - Dismantle and/or replace fire rings to limit each site to one well-constructed, small, safe, and more permanent ring.
 - Update signage about fire restrictions, permits, and related minimum impact strategies.
 - Consider using natural barriers to dissuade campsite expansion (particularly once outhouses/toilet facilities are in place).
 - Build steps in places where shoreline banks are being eroded or have high potential of erosion.

Stream Assessments Summary:

The North and South streams provide the unique opportunity for recreational experiences in a pristine and undeveloped setting. The streams are known for their high quality fishing, for the excellent opportunities they provide to view wildlife, and for a range of paddling experiences (from falls on the South Stream to beginner-appropriate navigation for most of the North Stream). Current use levels on the streams appear to be minimal, with no clearly evident campsites and limited vegetation impact at the access points. The current access points provide some opportunity for half-day trips, but most river travel options require at least a full day on the water. Discussions with local paddlers and internet searches suggest that use would increase if a wider variety of trip options existed as a result of better stream access. Our prediction is the increase would be evident, but not substantial or heavy enough to threaten the pristine quality of the resource.

Section Conclusions:

The following conclusions emerged from our recreation resource assessments:

- Managers should consider the recommendations listed in the site-by-site tables to address the specific concerns for each individual campsite.
- Large and accessible sites are clearly desirable for a subsection of recreation user groups. We suggest creating and protecting smaller, potentially more remote sites (similar to the Ship Island campsite) to divert some of the use (and impact) from the more popular sites and to offer a broader range of recreational experiences.
- Although some visitors appreciate developments (tables, tarps, chairs, camping equipment), others prefer a more undeveloped and “wild” experience. We recommend discouraging user-built improvements and suggest that management consider providing picnic tables at some of the more heavily used sites.
- Managers will need to decide whether increased use of the streams is desirable. Increased access to the streams would provide a greater range of recreation opportunities and it might disperse some use from popular areas on the lake. Based on current trends, we expect the quantity of use will remain low enough to have limited impact. If it is desirable, we suggest the following developments:
 - Improving the launch site on Chuck’s road to facilitate half-day trips on the North Stream.
 - Consider adding a campsite along the North Stream at or just beyond Chuck’s Road to open the possibilities for multi-day stream trips.
 - Improving the road to the Crooked Brook Landing to allow safer and easier use as an alternative pull-out.
 - Develop better trails for water access at the bridge on White Farm Road. Consider adding space for cars to park near the bridge.
 - Consider developing a campsite between White Farm Road and the south end of Baskahegan Lake to facilitate multi-day trips and to avoid requiring paddlers to cross the lake on windy days.

SUGGESTIONS FOR FACILITY DEVELOPMENTS

Based on the recreation use and resource inventories, five main priorities have emerged for facility developments. Early in the process of this project, the possibility of a better designed parking lot at Brookton Landing was discussed, but our findings suggest priority should be given to smaller yet demonstrable improvements rather than a larger parking lot project at this point. Four out of the five priorities (all except for improving the boat ramp) we have identified reflect a direct need based on recreation management issues. However, in relation to the parking lot, a decision will need to be made in the near future as to what should be done with the currently leased (for trailers) space behind the main launch area. As mentioned in the *Recreation Use Monitoring* section of the report, that area might be suitable as a day-use park, but this would require a greater management presence and commitment for visitor management.

This section is focused on five facility development projects because they were identified as priorities for visitor management on the lakes and streams:

- Sanitary facilities (outhouses and pit toilets)
- Fire rings
- Ramp improvement
- Erosion control
- Signage

Outhouses & Pit Toilets

We suggest building a composting or vault toilet at the Brookton Launch. With the current exception of Ship Island, the other island and shoreline campsites should be developed with pit toilets. Ship Island is an exception in our assessment because it does not demonstrate evidence of sufficient use to warrant the development, nor is there an ideal space on the island for a pit toilet facility. In the case of Ship Island and any similarly remote and/or small island campsites developed in the future, we recommend signage outlining minimum impact methods of disposing human waste (ie. digging a proper cathole).

It is important to have clear signage posted in effective locations to direct visitors to the toilets. Ideally, their design will cause them to blend well with the natural surroundings while still being easily visible.

Suggestions for the composting or vault toilet

Either a vault toilet or a composting toilet would be appropriate for Brookton Landing.

- Composting toilets use biological processes to break down waste material. Regular maintenance of a composting toilet involves cleaning and adding and mixing of organic material such as wood chips or peat moss. These materials could be added by managers on a weekly basis. Managers would also need to rake the waste material on a weekly basis.
- Vault toilets sit on top of a storage tanks that need to be pumped periodically. Regular maintenance involves cleaning and pumping depending on the storage tank capacity. Pumping is usually best somewhat frequently to minimize odor problems.

The following table published by the U.S. Forest Service's Technology & Development Program (2001) provides a detailed comparison between the two options:

Vault Toilets	Composting Toilets
<i>Employee Health and Safety</i>	<i>Employee Health and Safety</i>
<ul style="list-style-type: none"> • Contact with feces is limited or nonexistent • Confined space is not an issue 	<ul style="list-style-type: none"> • Close contact with raw feces is required • Confined space and safety are issues because of basement location
Maintenance Requirements	Maintenance Requirements
Periodic pumping based on intensity of use	Weekly raking and material addition
Climatic Conditions	Climatic Conditions
Impervious, except to extreme cold	Biodegradation processes are very sensitive; easily upset by climatic variation
Patron Satisfaction	Patron Satisfaction
Can be impaired by odor	Very good, if functioning properly
Installation Costs	Installation Costs
Generally less than composters	Generally more than vault because of basement construction and cost of digester
Residuals Disposal	Residuals Disposal
Generally not difficult but can be problematic because of local regulations	Generally not problematic, subject to local regulations
Capacity	Capacity
Restricted by frequency of pumper truck visits	Restricted because of limitation on biological process of degradation
Use Limitations	Use Limitations
Limited to locations accessible by pumper truck or boat	Can serve all locations if construction is accessible and weekly maintenance is provided

A complete guide created for the U.S. Forest Service for building vault toilets including plans and maintenance information as well as a list of manufacturers is available online (http://www.nps.gov/public_health/info/rms/rm83b2.pdf).

Suggestions for pit toilets

The remoteness of campsites other than the Brookton Landing sites will likely require developing pit toilets rather than a system that requires periodic pumping. Pit toilets are a primitive style of outhouse that are primarily a box or riser over a dug pit. Pit toilets can be designed with walls to maximize privacy or be in the open. Privacy screens or small low walls

can be constructed that would maintain privacy without having a large visual impact. Walled-in toilets may be preferred for larger sites that can host several and/or large groups such as Ant and Round Islands.

Fire Rings

Many fire rings need to be reconstructed, relocated, or removed. An ongoing management presence is needed to ensure proper fire practices are being followed and to perform periodic maintenance such as cleaning out the fire rings. In many sites, fire rings are spreading in size or multiple have been built where there should only be one. A more permanent and safe design using material such as a concrete pad or blocks or a metal fire ring could be constructed to replace the current user built dry stack stone rings.

The Washington State Department of Natural Resources has published an online brochure with fire ring guidelines (www.dnr.wa.gov/Publications/rp_fire_campfirebrochure.pdf). According to their guidelines, fire rings should be no more than thirty six inches in diameter with sides not exceeding 18 inches. The ground beneath the ring should be dug out exposing mineral soil and filled with concrete a minimum of four inches thick. Surround the fire pit with gravel or sand extending an additional eighteen inches. The area surrounding the fire ring should be clear of combustibles for a radius of ten feet and to a height of ten feet. Fire rings should be cleaned out regularly to prevent ash and coals from spreading throughout the site.

Ramp Improvement

Shallow water and a rough ramp area can make launching and loading boats difficult, especially for visitors with large boats. A concrete or other similarly surfaced boat ramp would provide easier access and could reduce the impact of vehicle traffic on the shoreline. Excavating the shoreline could increase the water depth along the ramp. The ramp should be constructed to provide a minimum of three feet of water.

A ramp twelve to sixteen feet wide would be large enough to accommodate the boats using Baskahegan Lake. A single lane for launching and loading would be adequate to accommodate the current volume of traffic. Having a single dedicated launch area would protect the surrounding shoreline from damage from vehicle traffic.

Concrete ramps can either be poured on site or built with precast concrete units. Pouring on site would require either the building of coffer dams around the ramp area during construction or the use of special concrete that will cure underwater. Precast ramp components can minimize construction time and the environmental impact of the project. Manufactured boat ramp components are widely available from many companies such as Precast Concrete Products of Maine Inc. and American Concrete Industries Inc.

The Maine Bureau of Parks and Lands administers the Boating Facilities Program which provides assistance through grants and technical advice for the creation of public boating facilities. Also, the Virginia Department of Game and Inland Fisheries provides detailed design considerations and ramp construction methods on their website (<http://www.dgif.virginia.gov/boating/building-boat-ramps.asp>).

Erosion Control

Trails into and out of campsites that were flagged in our assessments as affected by erosion could benefit from stair construction. This would help to direct traffic and prevent trail expansion or the development of multiple trails. It would also protect the banks from further erosion. Construction using locally sourced stone or logs is labor intensive but would have a minimal visual impact.

On steep sections, the intended route should be excavated and steps should be built from the bottom to the top of the slope. Boulders for stone steps should be set in place, backfilled with gravel and compacted before placing subsequent steps. Log steps can be held in place with rebar driven in to the ground and backfilled. Tread depths are at least 12 inches or more.

Short, low sloped entrances may not need steps but can be reinforced with stone rip rap to prevent erosion and to converge foot traffic to a single entrance. Under the right guidance, volunteer groups can be helpful in building stone steps and hardening site entrances such as school or college groups, or the Maine Conservation Corps.

Signage

Signage should be uniform throughout the watershed and should focus on the basic information needs such as campsite use recommendations, the location of toilet facilities, and regulations related to fire building. While a small quantity of clear and concise signs can be very effective, posting too many can have the opposite effect. Also, the signs should be designed to be noticeable yet they should not be overly distracting to visitor experiences. Many organizations who manage recreation resources can provide design examples for uniform signs (the BPL for State Parks, NPS, USFS, etc.). Some signs are very simple and center around a picture, such as this one from Acadia National Park:



Other organizations such as the Maine Island Trail Association post more comprehensive minimal impact travel guidelines at each site (see example on next page).

HELL'S HALF ACRE ISLAND

Welcome to this public island!

Hell's Half Acre Island is yours to protect and enjoy. It is state-owned and managed by the Maine Island Trail Association for low impact recreation. By following the guidelines listed below you will help to protect the natural integrity of the island and preserve a high quality experience for others.

Length of Stay: 2 nights maximum
Island Capacity: 14 overnight campers maximum

Organized Groups: Maine state law requires that individuals leading trips for compensation hold the appropriate license from the Maine Department of Inland Fisheries and Wildlife (207-287-8000).

Note: If conditions make it unsafe to follow these guidelines, please do not place yourself or others at risk to adhere to them. Also, please respect the rights of private landowners and access only the islands for which you have been given permission.

LEAVE NO TRACE GUIDELINES FOR LOW IMPACT USE

Travel & camp on durable surfaces

Walking: Travel on sand, stone, resilient grass and established trails. Avoid vegetation, dirt banks, boggy areas, mosses and lichens.

Cooking: Cook on rugged surfaces such as sand, gravel, or ledges below the high tide line.

Camping: Tent only in designated campsites; **please do not expand existing campsites or establish new ones.** In an emergency, try to squeeze in or bivouac on durable surfaces.

Dispose of waste properly

Human waste: Please carry off all solid human waste and toilet paper and dispose of it properly on the mainland. Do not bury waste or leave it in the woods or intertidal zone.

Trash: Pack out all personal trash and remove flotsam from the island when you can.

Respect wildlife

Keep wildlife wild: Store food securely, observe wildlife from a distance, and leave pets at home. If you bring a pet ashore, keep it on a leash and carry off all solid waste. Never feed wildlife!

Be considerate of others

Island Etiquette: Preserve the peace and quiet of the island and be respectful of those who live and work in the local area. Set up camp on the day of your overnight, not in advance. Break camp in the morning of your departure day.

Minimize campfire impacts

Fire hazard! Always carry a stove; it is often better than a campfire due to weather, safety considerations and fuel supply.

Safe campfires: MITA recommends no fires. If you do plan to kindle a fire, you must first obtain a permit from the Maine Forest Service (1-800-750-9777). A safe, low impact fire is built below the high tide line in a fire pan or on sand or gravel. Use only driftwood gathered from below the high tide line or wood you brought, and burn all wood to a fine ash and douse with sea water. Please do not cut tree limbs or collect downed wood from the island. Please do not create new fire rings. *In an emergency use VHF channel 16 or call 1-888-900-FIRE.*

Leave what you find

Allow others a sense of discovery: Please leave all rocks, plants, archaeological artifacts, and other natural objects where you found them.

Plan ahead & prepare

For your next trip: Familiarize yourself with the regulations, guidelines, potential hazards, and use levels of the islands you intend to visit. Plan for safety and alternative destinations.

Thank you for cooperating with these user-developed, voluntary guidelines. For more information on Leave No Trace, please call 1-800-332-4100 or visit www.LNT.org.

ME Bureau of Parks & Lands
22 State House Station
Augusta, ME 04333
www.state.me.us/doc/parks
(207) 287-3821



Maine Island Trail Association
58 Fore St, Bldg 30, 3rd Floor
Portland, ME 04101
www.mita.org
(207) 761-8225

The goal of the Maine Island Trail Association is to establish a model of thoughtful use and volunteer stewardship for the Maine islands that will assure their conservation in a natural state while providing an exceptional recreational asset that is maintained and cared for by the people who use it.

An information kiosk at the Brookton Landing would give first time visitors an overview of the area and could be a central outlet for distributing maps, communicating rules and regulations, as well as outlining minimum impact camping and recreation practices. The kiosk could be as simple as a protected backboard with a brochure box attached, or it could be more complex such as a three-walled structure with a roof. Specific design and pricing options can be obtained from the Bureau of Parks and Lands or the U.S. Fish & Wildlife Service.

OVERALL RECOMMENDATIONS

This project used a combination of methods to gain a baseline understanding of recreational use and resource conditions within the Baskahegan Stream Watershed. We have learned about many unique experiences that the lakes and streams offer visitors from near and far. Our Recreational Use Monitoring and Recreation Resources section outlined very specific suggestions for management, and our facilities development section offered our considerations with regard to site improvements. This section outlines more general and broad suggestions for management and future research that we feel could benefit the recreation community and the resource.

Management Recommendations

- *Increase the management presence at the lakes and streams.*

In our assessment, the benefits of providing recreational opportunities on the lakes and streams clearly outweigh the current environmental cost. Recreation resource impacts tend to be on a small scale compared to the overall health of the forest landscape. However, current use patterns are causing impacts that can not only effect visitor experiences but that can create unnecessary harm. In order to change the current use culture and patterns, a greater management presence is needed to set the tone. Several of the interview participants suggested hiring a local resident as staff – which we agree would work given the right person. As an alternative (or in combination), we suggest developing a network of community volunteers and building a stewardship group for the resource. This model has been used in many other settings, and tends to motivate a sense of concern and ownership for the resource that is contagious.

- *Maintain regular communication with local guides and outfitters.*

Our interviewees described how use has evolved on the watershed over time. However, the presence of guides and outfitters has been a constant – even if their specific patterns have changed. In many ways, regular guides have the capacity to be significant stewards of the resource. Maintaining open communication lines with the guides and outfitters will allow land owners to align recreation developments with their needs, while also gaining regular reports of the conditions of the lake, current recreational conflicts and challenges, and an understanding of any changes in general use patterns.

- *Use community events to build management / visitor relationships.*

Hosting an annual community event could be an effective way to better connect with regular recreational resource users. It could provide a forum for managers to inform the community about use recommendations, restrictions and concerns, while simultaneously making visitors feel they are being heard and appreciated. A simple event, such as an annual summer barbeque at the Brookton Landing or a fire works night (as was suggested by an interviewee) might develop a community connection that would benefit the health of the resource.

- *Make any implemented visitor restrictions uniform throughout the resource.*

Visitor use policies, such as those for fire building and rules of the launch sites, would be most effective if they were uniform throughout the watershed. This is particularly important in a setting such as the Baskahegan lakes and streams where return visitation is the norm and many visitors become accustomed to their regular habits and use patterns. Signage could be

standardized for all sites. This would allow visitors to recognize the signs at a glance without requiring time and thought to follow.

Research Recommendations

- *Complete the campsite assessments again within 5 years.*

The campsite descriptions and data we have collected should serve as a baseline record. To fully understand the impact of recreational use on these sites, change in condition needs to be monitored. This would also allow managers to track the effectiveness of any new developments or initiatives to reduce the recreational footprint on the resource (such as outhouses, improving fire rings).

- *Conduct a more comprehensive visitor survey to detail experience quality and recreation preferences.*

The visitor survey conducted in our research served only to provide a baseline understanding of use patterns on the lakes. We suggest that a more detailed survey could inform managers about how the specific site attributes are shared among users, and about their preferences for resource conditions and facilities. There is a well-documented connection between user preferences and behavioral choices. Managers would benefit from understanding preferences as they could implement strategies that lead to better compliance with use recommendations and regulations.

- *Closely monitor the effect of outhouse / pit toilet facilities.*

The presence of human waste at launch sites and campsites is arguably the greatest current challenge. A study implemented to monitor the effect of new outhouse / pit toilet developments could serve to guide decisions about additional developments. It could also serve as an important outreach tool – documenting and making public the positive effect of the facilities could motivate future visitors into adhering to use recommendations.

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Appendix A: Visitor Survey Instrument

Interviewer Name:

Date:

Time:

Location:

1. What was your access point to the water?

2. Are you staying overnight on this trip? ___ Y ___ N
If so, for how many nights? _____

3. How many people are here with you today? _____
How many in your group are under age 16? _____

4. What state or province do you live in? _____

5. What kind of group are you with?

___ Friends ___ Family & friends

___ Family ___ Guided group

___ Alone ___ Other: _____

6. What is your mode of travel?

___ Powerboat ___ Sailboat ___ Canoe

___ Kayak ___ Foot

___ Other: _____

7. Is this your first trip to the Baskahegan Stream watershed? ___ Yes ___ No

If not, for how many years have you been visiting? _____

8. How many other groups have you seen while you've been out here? _____

What were their approximate sizes and do you remember where you saw them? (record location from map key and size of group).

Thank You!

Baskahegan Stream Watershed Visitor Survey, 2010

Your participation in this survey is voluntary. Since each interviewed person will represent many others who will not be surveyed, your cooperation is extremely important. The answers you provide will be confidential. We will not ask you for your name or for contact information. We do not anticipate any risks to you from participating in the study. Although we believe the information collected for this study will ultimately help maintain the quality of recreation opportunities in the watershed, we cannot assure you of any direct benefits from participation in the study.

Thank you for your help!

Appendix B: Vehicle Observations in Parking Lots

Brookton Boat Launch					
Date	Time	# Vehicles	Total Vehicles/Day	Total OOS Vehicles/Day	Camping Groups
May 30, 2010	9:00 AM	23	34	0	1
	10:30	27			1
	12:00	12			1
	2:00	17			1
	4:00	8			1
	6:00	6			1
	May-31	7:00 AM			5
	9:00	8			1
	11:00	6			1
	1:30	5			1
Jun-11	9:00 AM	5	7	0	
	10:30	5			
	12:00	7			1
Jun-12	10:00 AM	8	13	0	
	11:00	9			
	1:30	11			
	3:00	8			
	4:00	5			
	5:00	2			
	Jun-15	11:00 AM			0
	1:00	0			
	3:00	0			
	5:00	0			
	7:00	1			
Jun-16	7:00 AM	0	7	1	
	9:00	6			
	11:00	5			
	1:30	6			
Jun-20	9:30 AM	7	10	0	
	10:00	7			
	11:00	8			
	12:00	8			
	12:30	9			
	1:30	8			
	2:00	7			
	3:00	7			
	4:00	8			
	Jun-21	9:00 AM			6

	10:00	9			
	11:00	6			
	12:30	6			
	4:00	4			
	4:30	2			
4-Jul	9:30	5	12	1	
	10:30	9			
	11:30	9			
	12:30	9			
	1:30	7			
5-Jul	7:00	3	8	0	1
	9:00	3			1
	11:00	6			
	1:00	6			
6-Jul	10:00	5	11	2	
	12:00	4			
	2:00	3			
	4:00	8			
7-Jul	7:00	4	5	1	
	9:00	5			
	11:00	5			
	3:00	4			
12-Jul	9:00	2	3	1	
	11:00	3			
	1:00	1			
23-Jul	10:30	4	5	0	
	12:30	4			
	4:30	4			
24-Jul	7:00	7	15	0	1
	10:00	13			
	12:30	12			
	3:00	12			
27-Jul	10:00	0	0	0	
	11:00	0			
	12:00	0			
	2:00	0			
	3:00	0			
28-Jul	10:30	8	13	2	
	11:30	7			
	3:00	12			
13-Aug	11:00	8	21	1	

	12:00	8			
	1:00	10			
	2:00	8			
	5:00	10			
	7:00	12			
14-Aug	6:30	7	16	1	
	7:30	11			
	9:30	12			
	10:45	15			
	12:30	12			
17-Aug	11:00	6	7	0	
	12:00	6			
	2:00	5			
	3:00	5			
	4:30	3			
	6:00	0			
18-Aug	6:00	1	6	1	
	9:30	4			
	11:00	5			
	12:00	5			
22-Aug	11:00	6	8	1	
	2:30	6			
	3:30	4			
23-Aug	10:00	1	1	0	
	11:00	1			
	12:00	0			
5-Sep	10:00	2	2	0	
	11:30	2			

Danforth Boat Launch					
Date	Time	# Vehicles	Total Vehicles/Day	Total OOS Vehicles/Day	Camping Groups
May-30	9:30 AM	2	5	1	
	2:30	2		1	
	4:30	1			
May-31	11:30	0	0		
Jun-11	9:45 AM	1	1		
Jun-15	2:30	1	1	1	
Jun-16	10:00 AM	0	0		
Jun-20	1:30 PM	1	1		

	3:30	0			
4-Jul	2:30	2	2		
5-Jul	1:30	2	2		
6-Jul	12:30	1	1		
	2:30	1			
12-Jul	9:30	1	2		
	1:30	1			
23-Jul	5:30	2	2		
24-Jul	10:30	0	0		
28-Jul	2:30	0	0		
13-Aug	6:30	1	1		
14-Aug	9:00	0	0		
17-Aug	12:00	1	1	1	
	5:30	0			
22-Aug	11:00	0	0		
	2:00	0			
5-Sep	11:00	0	0		

Appendix C: Interview Questions

**Baskahegan Stream Watershed
Managing for Recreational Use
Interview Questions**

Date:

Location:

Length of Interview:

1. How do you use the Baskahegan lakes and/or streams?
 - a. How long have you been going to the lakes/streams?
 - b. How often do you go?
 - c. Are there seasonal activities that you do at different times of the year?
 - i. How often / how much are you on the lakes in other seasons?
2. What are the best qualities of the Baskahegan lakes and streams? (fishing late in summer, number of other users, scenery, close to home, etc...)
3. From your perspective, who uses the lakes and/or streams?
 - a. How do they use them? (length of trip, group size, etc.)
 - b. What about at different times of the year?
4. Do you think use of the lakes and/or streams has changed over time?
 - a. If so... how? (what about fishing, camping, etc.)
5. From your perspective, are there problems at the lakes and/or streams related to recreational use?
6. How would you like to see recreation opportunities developed and/or managed in the lakes/streams?
 - a. Do you have specific thoughts about the Brookton launch?
7. Anything else you would like to share or comment on related to recreation use?

Appendix D: Campsite Assessment Form

**Baskahegan Stream Watershed Campsite Evaluations
Summer 2010**

General information about campsite:

Date	
Island name	
Campsite name	
Direction site is facing	
Site cover type	
Number of visible campsites	
Maximum recommended party size	
Distance to closest site on same island	
Recent weather conditions	
Coded by	
Concerns	
Observations about wildlife	
Notable campsite attributes	

Campsite Center Point: (use center of use area, eg. center of an obvious kitchen space)

Center point GPS coordinates: Latitude: _____ Longitude: _____

Photo describing where center point is: Photo #: _____

Written description of where center is:

Campsite measurements:

Flag #	Bearing	Distance	Photo#(s)	Comments (describe notable attributes in a photo or explain if multiple photos per flag).
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Campsite Entrances:

Flag #	Bearing	Distance	Photo#(s)	Comments (describe notable attributes in a photo or explain if multiple photos per flag).
E1				
E2				
E3				
E4				
E5				

Classification of entrances (from campsite boundary to 3m out) using this condition class measure:

- Condition class 0: Trail barely distinguishable; no or minimal disturbance of vegetation or organic litter.
- Condition Class 1: Trail distinguishable; slight loss of vegetative cover and/or minimal disturbance of organic litter. Includes shrubby overgrown trails with obvious tread of bare soil that can no longer be seen because the shrub cover has overgrown the trail.
- Condition Class 2: Trail obvious; vegetative cover lost or disturbed.
- Condition Class 3: Vegetative cover and organic litter lost in nearly all places, but little or no erosion.
- Condition Class 4: Soil erosion or compaction in tread is beginning in some places.
- Condition Class 5: Soil erosion or compaction is common: tread is obviously below ground surface.

Entrance #1 (E1)

Use:

Condition Class:

Comments:

Entrance #2 (E2)

Use:

Condition Class:

Comments:

Entrance #3 (E3)

Use:

Condition Class:

Comments:

Entrance #4 (E4)

Use:

Condition Class:

Comments:

Entrance #5 (E5)

Use:

Condition Class:

Comments:

Entrance #6 (E6)

Use:

Condition Class:

Comments:

Please record use, condition class & comments for any additional entrances on separate sheet.

Hand-sketch of the campsite: All entrances marked with entrance number (E1, E2...), areas at risk of expansion marked (EXP), groover sites marked (G), and nearby areas outside of the campsite showing impacts of recreational use marked (S.U.)

Narrative/description of campsite, including:

- General description of campsite attributes
- Descriptions of areas at risk of expansion and outside areas showing signs of use
- Description of anything unique that was not captured in the hand-sketch
- Description of impact distribution (ex. NW corner appears to be kitchen area and has the majority of exposed mineral soil and roots).

Vegetation Cover:

A) Describe the ground cover. This includes grass, moss, sand, shell, forest duff... anything covering the ground in the campsite:

B) Percentage-Class (amount) Vegetation Cover over complete site. Includes all live vegetation forming the surface of the ground. (circle one)

1 = 95-100% 2 = 75-94% 3 = 50-74% 4 = 25-49% 5 = 0-24%

C) Type of live vegetation cover at campsite (grass, moss, shrubs, etc. – subset into percent categories):

(Example: 50% grass, 10% moss, 20% more diverse plants)

D) Type of vegetation (estimated) on an adjacent or non-campsite comparable area

E) Comments about the live vegetation:

F) If campsite contains forest duff, please comment on its area and thickness:

Soil Exposure: (Bare Ground not including entrance areas)

A) Percentage-Class of soil exposure over complete site: (circle one)

1 = 0-5% 2 = 6-25% 3 = 26-50% 4 = 51-75% 5 = 76-100%

B) Type of soil and/or comments about the soil:

Root Exposure: Percent of square meters in each of the three categories (L, M, S):

L = Limited / minimum to no root exposure with little effect on most use of the campsite
 M = A moderate amount of root exposure where it is beginning to effect use of the campsite
 S = Severe root exposure where campsite uses are significantly effected

L	M	S
—%	—%	—%

Sum of percent in categories M and S: _____

