



Backcountry Campsite Inventory
1982 - 1983
Resources Management Report #2
September 1984

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Executive Summary

In 1982 a campsite inventory system was designed for use on Isle Royale. Easily measurable characteristics, such as, number of social trails, fire rings, and total barren core area were used in evaluating each campsite. Inventories were completed in 1982 and 1983 on all designated campsites within the park.

A rating system was developed, assigning a numerical score to each campground based on the level of human impact evident on individual campsites. A high score suggests a campground encompassing a large area with substantial vegetation loss and numerous, well developed social trails, such as in East Chickenbone Campground. Conversely, a low score suggests a site suffering little human impact, such as in the newly constructed Lane Cove Campground.

The extent to which campsites are altered is influenced by three factors, namely:

1. Amount of use the site receives
2. Campsite location
3. Type of use the site receives

The amount of alteration varies markedly between sites. The role each factor plays in influencing site deterioration varies between sites as well.

Data from the campsite inventory may be used in several ways, including:

1. Future campsite selection - based on data from existing campgrounds
2. Monitoring changes in campsite conditions over time
3. Evaluating the effectiveness of the Campground Rehabilitation Program
4. Basis for management decisions

It is essential that campsite inventories be repeated every few years. Future inventories will provide a record of change and will identify resource problems before irreversible resource damage occurs.

Glossary of Terms Used*

Definitions:

Campground - a cluster of individual camping spots that occur together (e.g., North Desor Campground, Island Mine Campground).

Campsite - a specific place where people pitch a tent (designated on the campground map and numbered).

Density of Vegetation - a measure comparing the relative species composition and abundance in the campsite to surrounding unimpacted areas outside the site.

Social Trails - a measure indicating the amount of concentrated trampling of surrounding vegetation as reflected by the formation of access trails.

Total Area of the Campsite - an estimate of the total area affected by trampling directly associated with use in and about the site.

Barren Core Area - an estimate of the area where 90 percent or more of the live vegetation has been eliminated. This usually corresponds to the central activity area of the site.

Mutilations - a measure to document the number of permanent marks, such as, carvings, ax marks, and nails in surrounding trees.

Trash/Fire Rings - a descriptive rating reflecting the amount of "man-made" intrusion on the site (fire rings other than NPS installed).

*Adapted from Parsons and MacLeod (1980)

Introduction

Isle Royale has 36 campgrounds with over 200 campsites. Each of these campgrounds varies in age and site and soil characteristics. Their natural durability or resistance to human impact is highly dependent on these characteristics. Inevitably, some amount of physical and biological alteration of the environment occurs with continuous use of these areas.

Deterioration in some campsites is obvious: vegetative cover is lost; plant composition and density is altered; and trees are scarred. Not so obvious are the indirect effects that accompany them, such as, soil compaction, erosion, and loss of organic matter. These all affect the aesthetic quality of a campsite and subsequently, the visitor's experience.

In order to assess the degree of resource degradation, base line data must be collected. Visual observation of campsite characteristics, such as aesthetic value and desirableness, are too subjective and not good indicators of overall site conditions. Quantitative measures of site quality, such as, total campsite area, vegetation density, and the degree of soil compaction are reproducible and comparable from year to year. This data provides a basis for management decisions.

Development of an intensive Campsite Management Program on Isle Royale made collection of quality base line data a necessity. In response, a complete campsite inventory system was designed and implemented in 1982 and 1983. Inventories were completed for all established campgrounds in the park.

Data collected can be used in several ways.

1. For use by the Backcountry Management Group in determining which sites should be rehabilitated or relocated.
2. To provide a way of monitoring changes over time on a site-by-site basis.
3. As a means of evaluating the effectiveness of the Campground Rehabilitation Program.
4. To provide information useful in future site selection.
5. This resource data coupled with visitor use statistics will give an overall indication of campground site suitability (i.e., durability).

Methods

Essentially, two inventories were designed. Both were conducted during the last two weeks of June and again in the last two weeks of August. Dates were chosen to take into account seasonal variation in vegetation, site conditions, and to maintain consistency from year to year.

A site grid map was made at each campground locating permanent features. An updated campground layout map was completed as well.

Level A Inventory

The Level A Inventory is based on the Parson and MacLeod (1980) system. Seven visual criteria and associated rating factors are used to evaluate the level and extent of impact at each campsite. These criteria are largely subjective. The accuracy of the evaluation is heavily dependent on the individual.

Visual criteria used are:

1. Vegetation density
2. Vegetation composition
3. Social trails
4. Total campsite area
5. Barren core area
6. Mutilations
7. Trash/fire rings

Rating factors associated with each indice can be found in Appendix A.

The Level A Inventory was conducted in all established campgrounds on each campsite.

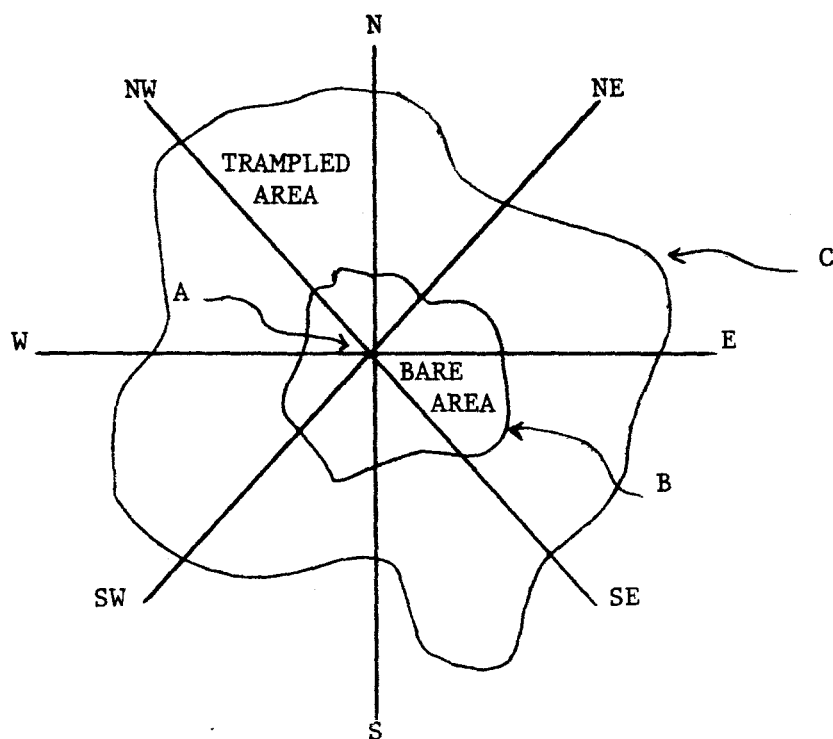
Level B Inventory

The Level B Inventory provides quantitative measures of site conditions. The system is based on those designed by Hendee et al. (1976) and Shreiner and Moorhead (1979).

Measurements of barren core and trampled areas were determined by measuring the distance along the eight cardinal compass points from the campsite center as shown in figure 1.

Similar measurements were made of shelter barren core and trampled areas. Four transects were directed at 90° angles from the shelter center outward and four directed outward from the shelter corners as shown in figure 2.

FIGURE 1
SCHEMATIC OF CAMPSITE MEASUREMENTS



Measure the radius from center
to "B" and "C" along each compass
point

A = Campsite Center

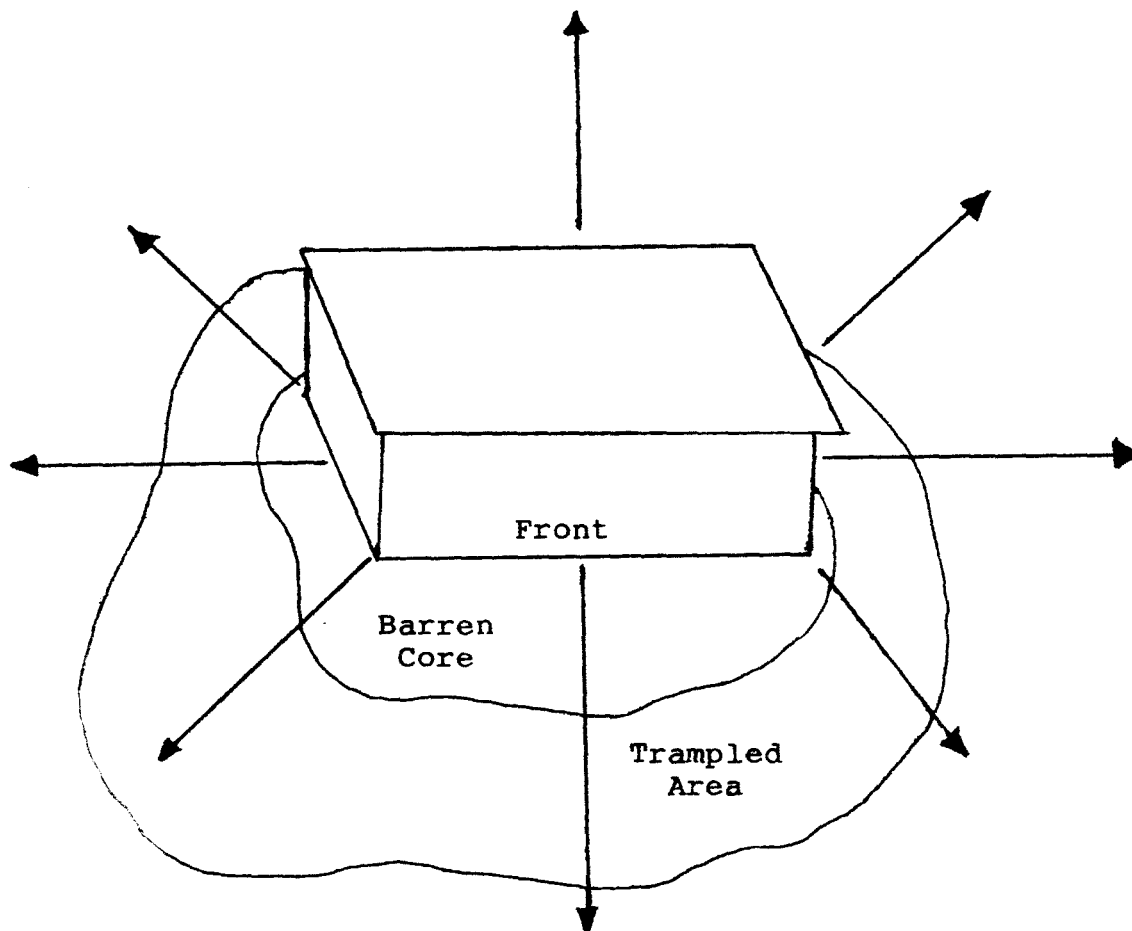
B = Barren Core Perimeter

C = Trampled Perimeter

Four transects will be directed at 90° angles from the shelter center outward along (1) the front of the shelter, (2) the back of the shelter, and (3 & 4) the sides of the shelter. Four additional transects will be directed outward from the four corners of the shelter. See figure #2 below.

FIGURE 2

SCHEMATIC OF SHELTER MEASUREMENTS



Photopoints were established outside each campsite and 35mm photos were taken with a wide angle lens.

Soils were observed inside and outside each campsite in 1982. Texture, mineral soil depth, and degree of compaction were determined in the field for each. In addition, measurements were made from campsite-to-campsite, campsite-to-privy, and campsite-to-water.

Area measurements and photos were taken on a limited number of campgrounds. The Level A criteria were completed on these sites as well. Those campgrounds where both Level A and B inventories were conducted are as follows:

Beaver Island	Lane Cove
East Chickenbone	West Chickenbone
Feldtmann Lake	South Desor
Hatchet Lake	North Desor
Lake Richie	Three Mile

Data Analysis

A comparison of 1982 and 1983 data reflect some changes in campground conditions. The changes are attributed to the investigator's methods of evaluating the site, rather than actual deterioration (or improvement) of the campsite; therefore, ranking of the campsites were determined by an average of 1982 and 1983 data.

Total barren core and trampled areas were calculated for ten campsites. These measurements are listed in Appendix B. Data collected in 1983 most nearly reflect campsite areas on Isle Royale. Thus, these data were used in the discussion of site characteristics in the following section.

Results

Each campground on the Island was assigned a rating according to the level of human impact evident on each campsite. Ratings are based on six (6) criteria and the associated rating factors (see Appendix A). The criteria used were:

1. Vegetation density
2. Number of social trails
3. Total campsite area
4. Barren core area
5. Number of mutilations
6. Amount of trash and fire rings

Campground ratings are as shown in table 1. Lake Richie Campground could not be given a rating. Work crews were in the process of rehabilitating the campground and the inventory could not be completed.

Low ratings indicate a campground suffering from little human impact. These sites, such as, Lake Whittlesey, Hay Bay, and Lane Cove have vegetation densities similar to undisturbed surrounding areas with similar plant species; few or no social trails; small campsite areas; and little trash, mutilations, or fire rings are evident.

A numerical score of 21 is indicative of a site sparsely vegetated with a large barren core and total campsite area. Numerous mutilations and social trails may also be present. East Chickenbone and South Desor are examples of these highly impacted sites. Other campgrounds fall between the two extremes. Figure 3 displays the number of campsites falling into each rating category.

A. Factors Effecting Campsite Impact

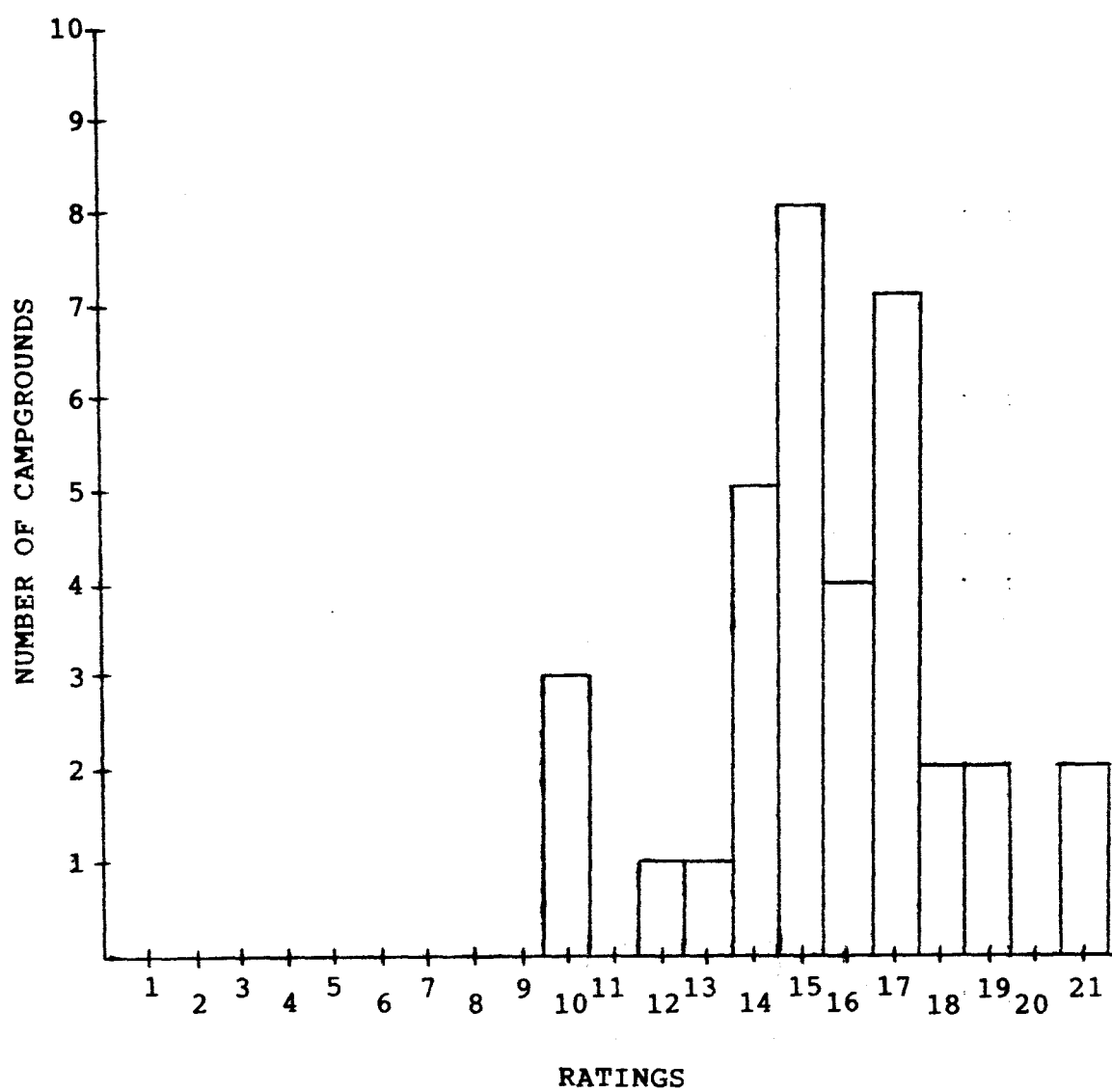
It is difficult to determine which factor contributes most to campsite impact. The amount of use a site receives, although important, may be of less concern than site location or the type of use a site receives. Studies by Frissell and Duncan (1965) and Cole and Fichtler (1983) indicate that most changes in a campsite occur with even light use and that increased use causes little additional change. Unfortunately, visitor use statistics associated with campgrounds on Isle Royale are not presently available.

The amount of use a campsite receives, however, can be estimated. Sites that received low ratings do tend to be lightly used areas. Pickerel Cove, Intermediate Lake, and Lake Whittlesey are only accessible by canoe. Barren core and total site area are small and vegetation is only moderately changed.

TABLE I: CAMPGROUND RATINGS BASED ON
INDIVIDUAL SITE AVERAGES

Beaver Island	17	Island Mine	17
Birch Island	17	Lake Richie	--
Belle Isle	15	Lake Richie (canoe)	15
Caribou Island	17	Lake Whittlesey	10
Chickenbone, East	21	Lane Cove	10
Chickenbone, West	15	Little Todd	18
Chippewa Harbor	17	Malone Bay	16
Daisy Farm	15	McCargoe Cove	17
Desor, North	15	Merritt Lane	14
Desor, South	21	Moskey Basin	15
Duncan Bay	14	Pickerel Cove	12
Duncan Narrows	16	Rock Harbor	19
Feldtmann Lake	14	Siskiwit Bay	16
Grace Island	14	Three Mile	17
Hatchet Lake	18	Todd Harbor	16
Hay Bay	10	Tookers Island	15
Huginnin Cove	19	Washington Creek	15
Intermediate Lake	13	Wood Lake	14

FIGURE 3

DISTRIBUTION OF CAMPGROUNDS BY RATINGS

East Chickenbone, Rock Harbor, and South Desor Campgrounds, determined to be the most highly impacted, are indeed heavily used. Social trails are numerous and well developed, and barren core areas are large in these sites (table 2). Thus, it can be concluded with some certainty that visitor use correlates with campsite impact.

Site location is also an important consideration. Some sites are naturally more durable than others. For instance, a loamy, fertile soil is able to withstand more human impact than a sandy soil. Similarly, a site with predominantly alder (*Alnus* sp.) or Jack Pine (*Pinus banksiana*) will deteriorate more quickly than a site with birch (*Betula* sp.) or maple (*Acer* sp.).

Understory vegetation also have different tolerance levels. Cole (1979 and Cole, 1981) found that meadow vegetation, such as grasses and clovers, are more resistant to trampling than understory plants in the forest. Some campsites on Isle Royale prove this to be true. In Feldtmann Lake Campground individual sites are relatively small (table 2) and understory vegetation consists mainly of low herbs and grasses.

South Desor Campground located in a white birch (*Betula papyrifera*) forest has large barren core and trampled areas, comparatively. Understory vegetation is mainly large leave aster (*Aster macrophyllus*) and thimbleberry (*Rubus parviflorus*).

Topography is also an important consideration. Campgrounds and trails constructed on greater than 8 percent slope may have problems with soil erosion and surface runoff (USDA, 1978). In Hatchet Lake and South Desor Campground trails leading to the water are steep and severely eroded. If measures are not taken to reinforce steep slopes, erosion will proceed uncontrolled. To minimize soil loss, cut and fill reinforced with logs have been used to create steps down steep embankments.

The type of use allowed in the campsites may also affect site impact. Group campsites tend to be most severely disturbed. Parties of 7-10 (7-15 prior to 1982) individuals have been required to use designated group campsites rather than split up into individual sites. Large numbers of people concentrated in one area have caused site expansion and increased barren core areas from trampling. Group sites at South Desor, Three Mile, and others indicated in table 3, have barren core areas exceeding 2,400 square feet.

TABLE 2
BARREN CORE : TRAMPLED AREA MEASUREMENTS
FOR INDIVIDUAL CAMPSITES

	Barren Core Area	Trampled Area
	(ft ² (m ²))	(ft ² (m ²))
Feldtmann Lake		
Site #1	600(56)	0(0)
2	71(7)	592(55)
3	118(11)	392(36)
4	0(0)	284(26)
5	440(41)	112(110)
South Desor		
Site #1	1,872(174)	0(0)
2	984(91)	368(34)
3	496(46)	992(92)
4	153(14)	1,410(131)
5	1,888(175)	224(21)
Three Mile		
Site #1	444(41)	0(0)
2	140(13)	200(19)
3	160(15)	144(13)
4	528(49)	728(68)
5	412(38)	0(0)
6	119(11)	463(43)
7	531(49)	180(17)

TABLE 3
GROUP CAMPSITE AREAS FROM 1983 DATA

	Barren Core Area	Trampled Area
	(ft ² (m ²))	(ft ² (m ²))
South Desor		
Group Site 1	963(90)	612(57)
2	2,464(229)	0(0)
Three Mile		
Group Site 1	2,550(237)	1,362(127)
2	880(82)	1,488(138)
West Chickenbone		
Group Site 1	568(53)	1,636(152)
2	2,970(276)	270(25)

Group size was reduced to 10 individuals in 1982. The total impact on group sites should be decreased somewhat, although it is too soon to make any judgments.

Minimum impact camping is stressed when visitors are registered at Isle Royale National Park. Most parties are aware of minimum impact camping techniques and use them. However, a few atypically destructive parties every year will cause substantial site impacts.

The use of shelters tends to decrease the amount of impact a site receives. They can be constructed on rock outcrop that is less susceptible to erosion and suffers little from trampling. Three Mile Campground has shelters set on rock outcrop. Total campsite areas are small compared to South Desor (table 2).

Bratton et al. (1978 and Cole, 1981) found greatly reduced disturbance around shelters in the Great Smoky Mountains National Park. Use of shelters tends to concentrate visitors in a small area, thus reducing campsite expansion and deterioration.

A determination as to which factor contributes most to site impact cannot be made. Each campsite varies in the degree and extent of alteration and in which factor contributes most.

B. Campground Summaries and Their Use

A summary of each campground is given in Appendix B. The descriptions are based on the campground inventory data collected in 1982 and 1983. The major problems are noted along with estimated campsite area, social trails, predominant vegetation type, and mutilations.

The problem that seems to consistently occur throughout the campgrounds is expansion. Individual tentpads start at 12 x 12 and group tentpads 14 x 14. Log pins have been installed around some tentpads to curb expansion. They have been proven moderately successful.

Individual campground summaries can be used by the Backcountry Management Group to determine which sites are in the worst condition. With these, decisions can then be made as to which campgrounds are the highest priority for rehabilitation or relocation. Actual field observation, however, cannot be totally eliminated. Also, by comparing campgrounds with similar site characteristics and use patterns, potential problems can be anticipated and measures taken to prevent them.

To be effective the Campsite Inventory Program will have to be repeated every three years. Comparisons can be made between data to determine if deterioration is occurring and resource problems can be identified before damage becomes irreversible.

Conclusion

The campsite inventory indicates that the major resource damage in campgrounds on Isle Royale is due to uncontrolled expansion. Factors contributing to the alteration of campsites are:

1. Amount of use
2. Site location
3. Type of use a site receives

The factor contributing most must be determined on a site-by-site basis. Campground summaries in Appendix B indicate where problems are, but not why they were caused.

The data collected can be used for several purposes, including:

1. For the Backcountry Management Group to determine which sites should be rehabilitated or relocated.
2. As a means of monitoring change over time.
3. To provide a way of evaluating the effectiveness of the Campground Rehabilitation Program.
4. To provide information useful in future campsite selection.

The inventories done in 1982 and 1983, in themselves, are an invaluable base line resource data. However, triennial repetition of the same inventory system is essential if we are to continue an intensive Campground Management Program on Isle Royale. Comparisons between inventory data can be used as a basis for management decisions and aid in the elimination of irreversible resource degradation.

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APPENDIX A

Rating Factors

A. Density of Vegetation

- 1 - same as surroundings
- 3 - moderately less dense than surroundings
- 5 - considerably less dense than surroundings

B. Composition of Vegetation

- 1 - same as surroundings
- 3 - moderately dissimilar
- 5 - significantly dissimilar

C. Social Trails

- 1 - none
- 2 - (1) trail discernible
- 3 - (2) trails discernible
- 4 - (1-2) trails well developed, and/or (3) or more trails discernible
- 5 - (3) or more trails well developed

D. Total Area of the Campsite

- 1 - less than 20 Ft.²
- 2 - 20-100 Ft.²
- 3 - 101-500 Ft.²
- 4 - 501-1,000 Ft.²
- 5 - greater than 1,000 Ft.²

E. Barren Core Area

- 1 - absent
- 2 - 5-50 Ft.²
- 3 - 51-200 Ft.²
- 4 - 201-500 Ft.²
- 5 - greater than 500 Ft.²

F. Mutilations

- 1 - none
- 2 - 1-2
- 3 - 3-5
- 4 - 6-10 or 1-2 highly obtrusive
- 5 - 11 + or 3 + highly obtrusive

G. Trash/Fire Rings

- 1 - trash minimal, fire rings absent
- 2 - trash minimal, fire rings minimal
- 3 - trash moderate, fire rings minimal
- 4 - trash and fire rings moderate
- 5 - trash and fire rings heavy

Key Codes

Ecological Overstory Type²:

- A - White Birch, Aspen
- B - Yellow Birch, White Birch, with mixed Balsam Fir, White Spruce
- F - Upland Conifer, Balsam Fir, White Spruce
- N - Northern Hardwood, Sugar Maple, Yellow Birch
- P - Jack Pine
- SC - Swamp Conifer, Black Spruce, White Cedar, Tamarack, mixed with Balsam Fir, White Spruce

Ecological Understory Type:

- 1 - Big Leaf Aster (Aster macrophyllus)
- 2 - Thimbleberry (Rubus parviflorus)
- 3 - Wild Sarsparilla (Aralia nudicaulis)
- 4 - Low Herbs/Grasses
- 5 - Litter/Duff without live vegetation
- 6 - Other (Please note understory composition in your comments)

Distance to Water:

- 1 - 0-100 Ft.
- 2 - 101-200 Ft.
- 3 - 201-300 Ft.
- 4 - greater than 300 Ft.

²Based upon vegetative/fuel type map by Steiger Waldt and Meyer (1979)

APPENDIX B

CAMPSITE BARREN CORE AND TRAMPLED AREAS⁺

		<u>1983</u>		<u>1982</u>	
		Core	Trampled	Core	Trampled
<u>Beaver Island</u>					
Site #1		620(58)	0(0)	172(16)	620(67)
2		844(78)	596(55)	380(35)	1,352(126)
3		560(52)	100(9)	54(5)	524(49)
<u>East Chickenbone</u>					
Site #1		438(41)	990(92)	693(64)	405(38)
2		440(41)	332(31)	572(53)	250(23)
3		566(53)	116(11)	970(90)	717(67)
4		320(30)	0(0)	970(90)	717(67)
5		136(13)	124(12)	970(90)	717(67)
Group Site 1		1,022(95)	0(0)	3,475(323)	1,675(156)
<u>Feldtmann Lake</u>					
Site #1		600(56)	0(0)	No Data	No Data
2		71(7)	592(55)	No Data	No Data
3		118(11)	392(36)	No Data	No Data
4		0(0)	284(27)	No Data	No Data
5		440(41)	112(10)	No Data	No Data
6		332(31)	560(52)	No Data	No Data
Group Site 1		928(86)	60(6)	No Data	No Data
2		1,192(111)	0(0)	No Data	No Data
<u>Hatchet Lake</u>					
Site #1		140(13)	182(17)	300(28)	240(22)
2		493(26)	32(3)	441(41)	508(47)
3		293(27)	98(9)	342(32)	208(19)
4		482(45)	169(16)	424(39)	636(59)
5		259(24)	92(9)	300(28)	408(38)
Group Site 1		1,342(125)	116(11)	1,320(123)	724(67)
2		0(0)	0(0)	1,480(138)	608(57)
3		1,124(104)	160(15)	1,256(117)	228(21)

⁺ - Areas are in square feet and square meters, respectively.

		<u>1983</u>		<u>1982</u>	
		Core	Trampled	Core	Trampled
<u>Lane Cove</u>					
Site #1		212(20)	456(42)	No Data	No Data
2		172(16)	154(14)	No Data	No Data
3		161(15)	228(21)	No Data	No Data
4		204(19)	263(24)	No Data	No Data
5		175(16)	77(7)	No Data	No Data
<u>North Desor</u>					
Site #1		No Data	No Data	812(75)	716(67)
2		No Data	No Data	396(37)	280(26)
3		No Data	No Data	408(38)	364(34)
<u>South Desor</u>					
Site #1		1,872(174)	0(0)	2,288(213)	528(49)
2		984(91)	368(34)	1,376(128)	416(39)
3		496(46)	992(92)	1,220(113)	508(47)
4		153(14)	1,410(131)	711(66)	756(70)
5		1,888(175)	224(21)	2,048(190)	704(65)
Group Site 1		963(90)	612(57)	1,248(116)	1,632(152)
2		2,464(229)	0(0)	4,575(425)	1,775(165)
<u>Three Mile</u>					
Site #1		444(41)	0(0)	No Data	No Data
2		140(13)	200(19)	No Data	No Data
3		160(15)	144(13)	No Data	No Data
4		528(49)	728(68)	No Data	No Data
5		412(38)	0(0)	No Data	No Data
6		119(11)	463(43)	No Data	No Data
7		531(49)	180(17)	No Data	No Data
8		168(16)	1,120(104)	No Data	No Data
9		672(62)	912(85)	No Data	No Data
10		1,016(94)	0(0)	No Data	No Data
11		544(51)	812(75)	No Data	No Data
12		380(35)	28(3)	No Data	No Data
Group Site 1		2,550(237)	1,362(127)	No Data	No Data
2		880(82)	1,488(138)	No Data	No Data
3		No Data	No Data	No Data	No Data

		1983		1982	
		Core	* Trampled	Core	** Trampled
<u>West Chickenbone</u>					
Site #1		640(60)	336(31)	92(9)	796(74)
2		968(90)	108(10)	1,496(139)	188(18)
3		651(61)	0(0)	84(8)	1,008(94)
4		648(60)	300(28)	656(61)	324(30)
5		716(67)	188(18)	732(68)	988(92)
6		816(76)	376(35)	948(88)	440(41)
Group Site 1		568(53)	1,636(152)	0(0)	1,084(101)
2		2,970(276)	270(25)	2,096(195)	1,052(98)
3		No Data	No Data	1,580(147)	288(27)
<u>Lake Richie</u>					
Site #1		952(88)	148(14)	No Data	No Data
2		840(78)	88(8)	904(84)	232(22)
3		952(88)	176(16)	456(42)	0(0)
4		480(45)	196(18)	16(2)	232(22)
5		No Data	No Data	524(49)	268(25)
6		No Data	No Data	432(40)	304(28)
Group Site 1		400(37)	2,048(190)	36(3)	1,240(115)
2		1,772(165)	0(0)	1,348(125)	204(19)

* - After campground rehabilitation work was done.

** - Before campground rehabilitation work was done.

LAKE RICHIE--Rating:None*

Vegetation: Vegetation in the campground is considerably less dense than in outlying areas and species composition is somewhat different.

Social Trails: None.

Area: Greater than 1,000 Ft.²/site.

Barren Core: Greater than 500 Ft.²/site.

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Minimal trash, fire rings absent.

*No rating was given this campground because all data was taken prior to rehabilitation work done in 1983. Descriptions given above reflect site conditions before work crews began.

LANE COVE--Rating:10*

Vegetation: Species composition is somewhat different in the campground than in outlying areas and is moderately less dense.

Social Trails: None.

Area: 500-1,000 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: None.

Trash/Fire Rings: None.

*Lane Cove Campground was newly constructed in 1982 and 1983. Use of the campground began in June/July of 1983 upon closure of the old sites.

LAKE WHITTLESEY--Rating:10

Vegetation: Moderately less dense to considerably less dense than surroundings and moderately dissimilar.

Social Trails: Two (2) trails discernible.

Area: 500-1,000 Ft.²/site.

*Lake Richie was rehabilitated in July/August 1983. Lane Cove was built in 1982 and 1983. It was opened for use in June/July 1983 upon closure of the old campground.

Barren Core: 50-200 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Wooden outhouse installed in 1982. At that time sites were redone and additional tentpads put in sites one (1) and two (2).

HAY BAY--Rating:10

Vegetation: Moderately less dense than surroundings, moderately dissimilar composition.

Social Trails: None.

Area: Greater than 1,000 Ft.².

Barren Core: 5-50 Ft.² (minimal).

Mutilations: 1-2.

Trash/Fire Rings: Absent.

Comments: Secluded, attractive campsite. Shows little of expansion, deterioration.

PICKEREL COVE--Rating:12

Vegetation: Moderately less dense than surroundings, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Area: 500-1,000 Ft.²/site.

Barren Core: Absent.

Mutilations: 1-2.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Very desirable.

INTERMEDIATE LAKE--Rating:13

Vegetation: Moderately less than surroundings, species composition moderately dissimilar.

Social Trails: One (1) - two (2) trails well developed and/or three (3) more discernible.

Area: 300-500 Ft.²/site.

Barren Core: 5-50 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Ample supply of firewood, social trails lead to no specific point.

DUNCAN BAY--Rating:14

Vegetation: Density is the same as surroundings, moderately dissimilar species composition.

Social Trails: One (1) - two (2) trails well developed and/or three (3) or more discernible.

Area: 300-500 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Severe erosion on all water accesses. Large open area by the dock is used extensively. Ample supply of firewood.

MERRITTS LANE--Rating:14

Vegetation: Considerably less dense than surrounding area, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Barren Core: 5-50 Ft.²/site.

Mutilations: 1-2.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Shelter location near water makes this a very desirable site. Tentsite has a large rock in it and needs leveling; consequently, it is used very infrequently.

WOOD LAKE---Rating:14

Vegetation: Density same as surroundings, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Area: 100-300 Ft.²/site.

Barren Core: 5-50 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings minimal.

Comments: No pit toilet, creating problems with paper in the trees. Tentpads are unlevel. Fire ring is very close to the shore creating high visual impact. Bedrock outcrop is common; soil is very shallow.

GRACE ISLAND---Rating:14

Vegetation: Density same as surroundings, species composition is significantly dissimilar.

Social Trails: One (1) - two (2) trails well developed and/or three (3) more discernible.

Area: 500-1,000 Ft.²/site.

Mutilations: 1-2.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Shelters are in good condition. Very desirable sites.

FELDTMANN LAKE--Rating:14

Vegetation: Density same as surroundings; significantly dissimilar species composition.

Social Trails: One (1) - two (2) trails well developed and/or three (3) or more discernible.

Area: 300-500 Ft.²/site.

Barren Core: 5-50 Ft.²/site.

Mutilations: 1-2.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Most sites are very close to the water. Root exposure is common in the sites. Site No. 4 and group site No. 1 are very undesirable due to unlevel pads, no view of the water, and lack of privacy.

LAKE RICHIE (CANOE)--Rating:15

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: One (1) - two (2) well developed and/or three (3) or more discernible.

Area: 300-500 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Bare area by canoe landing is large and makes a good site for fire rings. Sites are unlevel.

NORTH DESOR--Rating:15

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Area: 300-500 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Sites afford alot of privacy and nice beach area; sites are desirable. Expansion of existing sites is unlikely.

WEST CHICKENBONE--Rating:15

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: One (1) trail discernible.

Area: Greater than 1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Rehabilitation of the campground and removal of the cabin was completed by mid-August 1983. Sites were leveled and barriers installed to restrict site expansion.

BELLE ISLE--Rating:15

Vegetation: Moderately less dense to considerably less dense than surroundings, significantly dissimilar species composition, and low herbs and grasses are common in all sites.

Social Trails: Two (2) discernible.

Area: 500-1,000 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Tentsites are no longer evident due to little use. This area is very exposed and visible from the shelters and water.

TOOKERS ISLAND--Rating:15

Vegetation: Significantly dissimilar species composition. Low herbs and grasses predominate.

Social Trails: One (1) - two (2) trails discernible.

Area: 500-1,000 Ft.²/site.

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Both sites have a good view of the water. They are desirable sites.

MOSKEY BASIN--Rating:15

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Zero (0) - one (1) trail discernible.

Area: 500-1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Shelters are situated for maximum privacy with trails running behind them. Tentsites are seldom used and undesirable due to rockiness, unlevel pads, and poor location.

WASHINGTON CREEK--Rating:15

Vegetation: Moderately less dense than surroundings, moderately dissimilar species composition

Social Trails: Two (2) trails discernible, some well developed.

Area: Greater than 1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Tentsites are along main trails with little privacy. Shelters are desirable but water is not easily accessible from them. Group sites are somewhat desirable. Tentpads are not easily identifiable.

DAISY FARM--Rating:15

Vegetation: Considerably less dense than surroundings, significantly different species composition.

Social Trails: Three (3) or more trails well developed.

Area: 300-500 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: 3-5, some highly obtrusive.

Comments: Water accumulates around the shelters due to poor drainage. Individual tentsites are undesirable due to close proximity to trails and intersections. Group sites are undesirable because of unlevel pads and root exposure.

DUNCAN NARROWS--Rating:16

Vegetation: Moderately less dense than surroundings, significantly different species composition.

Social Trails: One (1) discernible trail.

Area: 500-1,000 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Both sites are desirable. Shelter No. 1 gets the most use being closest to the water/docking area.

MALONE BAY--Rating:16

Vegetation: Near shelters vegetation is moderately less dense than surroundings, moderately dissimilar species composition. In tentsites the density is the same as the surrounding but of significantly different composition.

Social Trails: One (1) - two (2) trails well developed and three (3) or more evident.

Area: 500-1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Shelters are very desirable sites overlooking the lake. The campground is predominantly bedrock. Tentsites are seldom used because they are unlevel, rocky, and not easily identified.

TODD HARBOR--Rating:16

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Area: Greater than 1,000 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: 3-5.

Comments: Shelters and tentsites 4, 5, and 1 are most commonly used. Group sites are preferred, being closer to water and having better air drainage. Group site No. 3 is rarely used.

SISKIWIT BAY--Rating:16

Vegetation: Moderately less dense than surroundings, moderately dissimilar species composition.

Social Trails: One (1) - two (2) well developed and/or three (3) or more discernible.

Area: 500-1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: In 1982 and 1983 log pinning was started in tentsites. Shelters are favored over tentsites. Group site No. 1 is most often used. Group site No. 3 was not evaluated.

CHIPPEWA HARBOR--Rating:17

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Area: Greater than 1,000 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Group site is not large enough for 10 people. Tentsites are desirable, but shelters are preferred. Shelters 1 and 2 and shelters 3 and 4 are set very close together--no privacy.

BIRCH ISLAND--Rating:17

Vegetation: Density same as surroundings but of significantly different composition.

Social Trails: Two (2) trails discernible.

Area: 500-1,000 Ft.²/site.

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Tree limbs and bark have been stripped near the tentsite. Both sites are desirable but shelters are preferred.

BEAVER ISLAND--Rating:17

Vegetation: Density same as surroundings, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Area: 500-1,000 Ft.²/site.

Barren Core: 50-200 Ft.²/site.

Mutilations: 6-10, some highly obtrusive.

Trash/Fire Rings: Minimal trash, fire rings absent.

Comments: Sites are desirable. Shoreline erosion is occurring near shelter No. 3.

CARIBOU ISLAND--Rating:17

Vegetation: Considerably less dense than surroundings and of significant composition.

Social Trails: Two (2) trails discernible.

Area: 500-1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Tentsites unlevel. Number 2 is seldom used. Both are expanding.

ISLAND MINE--Rating:17

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: One (1) - two (2) well developed and/or three (3) or more discernible.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Ample firewood supply. Group site No. 1 and tentsites 1 and 4 are used most extensively. Several tentpads are unlevel. The outhouse is a considerable distance from the individual sites.

THREE MILE--Rating:17

Vegetation: Considerably less dense than surroundings, moderately dissimilar composition.

Social Trails: Two (2) trails discernible.

Area: Greater than 1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Shelters are built on rock outcrop and have a good view of the harbor. Tentsites are unlevel, rocky, and a lot of roots are exposed. They also have an excellent view of the water. Group site No. 1 is used most but is very close to site No. 12. Tentpads in group sites are unlevel, rocky, and rooty.

MCCARGOE COVE--Rating:17

Vegetation: Moderately less dense than surroundings, moderately dissimilar species composition.

Social Trails: One (1) - two (2) well developed and/or three (3) or more evident.

Area: 500-1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Tentsites are used infrequently. Group sites No. 1 and 2 are nearly one site. Group site No. 3 is unlevel.

HATCHET LAKE--Rating:18

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: One (1) - two (2) well developed and/or three (3) or more discernible.

Area: 500-1,000 Ft.²/site.

Barren Core: 200-500 Ft.²/site.

Mutilations: 3-5.

Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Log pins were installed in 1981. Many of these have poor drainage, allowing water to pond in the pads. The outhouse trail goes through group site No. 2.

LITTLE TODD HARBOR--Rating:18

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Three (3) or more well developed.

Area: Greater than 1,000 Ft.².

Barren Core: 200-500 Ft.².

Mutilations: 6-10 or 1-2 highly obtrusive.

Comments: Location of the sites on the layout map are not easily identified on the ground. Site No. 1 is very desirable and used most.

HUGINNIN COVE--Rating:19

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Two (2) trails discernible.

Area: 500-1,000 Ft.².

Barren Core: 200-500 Ft.².

Mutilations: 6-10 or 1-2 highly obtrusive.

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Trash/Fire Rings: Trash minimal, fire rings absent.

Comments: Little understory vegetation is present due to the predominantly coniferous littler layer. Sites are very desirable but very large.

ROCK HARBOR--Rating:19

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Three (3) or more well developed trails.

Area: 500-1,000 Ft.².

Barren Core: 200-500 Ft.².

Mutilations: 3-5.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Many of the sites have no privacy. Tentsites are unlevel, rocky, rooty, and are too close together.

EAST CHICKENBONE--Rating:21

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: One (1) - two (2) well developed and/or three (3) or more discernible.

Area: 500-1,000 Ft.².

Barren Core: 200-500 Ft.².

Mutilations: 3-5.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Individual sites are rocky and rooty. Site No. 1 is used most often. Water access is poor due to ponded water and mud. Campground is a considerable distance from the water.

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SOUTH DESOR—Rating:21

Vegetation: Considerably less dense than surroundings, moderately dissimilar species composition.

Social Trails: Three (3) or more well developed trails.

Area: Greater than 1,000 Ft.².

Barren Core: Greater than 500 Ft.².

Mutilations: 6-10 or 1-2 highly obtrusive.

Trash/Fire Rings: Trash moderate, fire rings absent.

Comments: Sites have all been heavily used as indicated by their size and are very close together. Water access trails are steep and eroded.