PILOT STUDY FOR ASSESSMENT OF LANDSCAPE ARCHAEOLOGICAL POTENTIAL IN NOGAP AREA

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1.0 INTRODUCTION

A pilot study was undertaken during the summer of 1986 to develop an efficient means of mapping and predicting the archaeological potential of landscape within the NOGAP area. Three separate areas, namely (i) portions of the Yukon Coastal Plain, (ii) Southern Richards Island, and (iii) the area surrounding Harrowby Bay, were chosen for developing a means of mapping that would allow assessment of archaeological potential. The mapping system developed during the pilot study was to be effective both as a guide to the discovery of archaeological sites, and as a guide to the sensitivity of the landscape to disturbance and possible destruction of archaeological sites during development.

Terrain units previously defined during Quaternary mapping of the area were chosen as the basic landscape unit for classification because they commonly have consistent geomorphic, stratigraphic, drainage, and edaphic and biologic characteristics and are affected by similar geologic processes. The similar characteristics of units will then result in each unit offering man similar potential for utilization by man. Terrain units were further divided according to their position relative to other physical phenomena, e.g. accessibility to water bodies,

vistas, that might affect their utilization by man. The envisaged utilization allows an assessment of the archaeological potential for each landscape unit.

It is realized that some cultural practices of man and some patterns of faunal migration, especially during the winter season, will not necessarily be controlled by terrain character. Thus limits to the utilization of landscape units in predicting archaeologic potential are present. Thus this pilot study also reflects the problem of utilizing only he physical character of the landscape as a means of predicting archaeologic potential.

2.0 METHODOLOGY

The pilot study was completed in three phases: (A) preliminary investigations; (B) field investigations; and (C) final map and report preparation.

2.1 Preliminary Investigation

Preliminary investigations involved the conceptualization of those characteristics of terrain units (as previously mapped in the area by Rampton (1972, 1979a, b, 1982) that would affect their archaeological potential, especially their potential to yield prehistoric camp sites and burial grounds. Thus the characteristics that would influence the initial occupation of a terrain unit, preservation of cultural materials, and their

present probability of discovery or disturbance were identified. Those physical characteristics that were considered as favourable to occupation of terrain units are good drainage, prominent elevation relative to that of the surrounding countryside, closeness to water bodies (both in the sense of transportation conduits and as sources of game), relationship to special topographic features such as major valleys and passes, and increasing antiquity. Those physical characteristics that were considered as favourable to preservation of archaeological material are processes leading to a slowly aggrading landscape surface such as alluvial (mainly overbank), eolian, organic and colluvial (including solifluction, thermokarst) deposition; and landscape stability, i.e. much of the unit has not been subject to rapid erosion by such processes as coastal or fluvial erosion. Obviously, characteristics favourable to preservation only become significant on units that are favourable for occupation. Finally, those characteristics that were considered favourable to discovery are geomorphic and edaphic properties leading to sparse vegetation cover, and erosional processes that might expose buried archaeological material such as coastal and fluvial erosion, wind scour and rapid mass wastage failures such as slumps, landslides and thermokarst (e.g. retrogressive thaw flow-slides). These characteristics are only significant in areas where occupation and preservation of cultural materials have prevailed.

Evaluation of terrain units mapped by Rampton (1972, 1979a, b, 1982) through map review and air photo interpretation revealed that certain units, even at a scale of 1:100,000 warranted subdivision because of significant differences in archaeological potential. For example, the outer edges of well drained terraces adjacent to rivers were considered to have more potential than flat poorly-drained portions of these terraces. Thus landscape units were delineated for assessment based on ¢Rampton´s terrain units´ and physical parameters considered of importance in archaeological potential.

Prior to field investigations, landscape units were rated for archaeological potential and tables produced rationalizing this potential according to their favourability for occupation, preservation and discovery. An estimate of the antiquity of the landscape was also given in addition to comments on special features within a landscape unit that might be of significance to its archaeological potential.

2.2 Field Investigations

Reconnaissance traverses of the pilot study areas were completed during July, 1986 via helicopter and walking jointly by Raymond Leblanc and the author to evaluate the ratings of the landscape units determined during the preliminary phase. Known archaeological sites were examined and a search for new sites within the pilot study areas were completed. Physical condi-

tions favouring the presence of the archaeological sites were noted and compared to those predicted to be important archaeological potential.

Generally, field investigations confirmed that landscape units based primarily on terrain units and other physical features could be utilized in an archaeological potential evaluation and that the physical features perceived to be important to occupation, preservation and discovery were relevant in the evaluation. A number of other physical features, e.g. the ease of excavation of one sandy terrain unit, were also found to be significant to archaeological potential.

2.3 Final Map and Report Preparation

A map was prepared for each area giving each landscape unit an archaeological potential. Also a unique numeric identifier was assigned to each landscape unit in order that the physical features favourable to archaeological potential, history and antiquity of each landscape unit could be described in tabular form. This allows a user to search out units according to any of these parameters regardless of the potential assigned during this exercise (and possibly assign his own potential if necessary). It also possibly allows one to delineate areas most favourable to certain cultures once their chronology, life styles, etc. are determined.

The archaeological probability classifications determined for the final evaluation were as follows:

(A) High - excellent possibility of archaeological site being easily discovered throughout most of the landscape unit due to its geographic location, geomorphic, stratigraphic, drainage, edaphic and biologic characteristics and history.

(B) Medium - moderate possibility of archaeological site being discovered throughout the landscape unit or good possibility of archaeological site being discovered at certain favoured locales within landscape unit following moderately detailed search of these locales (the latter generally having geomorphic, stratigraphic, drainage, edaphic or biologic character more favourable than landscape unit in total).

(C) Low - little possibility of archaeological site being discovered within unit and few favoured locales where archaeological site might be discovered with moderately detailed search.

(D) Nil - almost no possibility of archaeological site being discovered due to unique geomorphic (e.g. rock cliff) or history (e.g. recently-deposited marine deposits).

3.0 RESULTS AND DISCUSSION

3.1 Results

The archaeological potential and numerical identifier for the landscape units are given on Maps 1, 2 and 3. Tables 1, 2 and 3 give the factors affecting occupations, preservation and discovery, the geologic description, age, and archaeological potential for each landscape unit.

Most factors affecting preservation and discovery have opposite effects on whether archaeological sites are preserved and discovered. For example, colluviation preserves artifacts through burial, but coincidentally the burial covers the artifacts and inhibits discovery. However, the colluviation does lead to preservation of artifacts and is rated as a positive factor toward the location of an archaeological site on a landscape unit; disturbance of these units can then lead to their discovery. On the other hand, coastal erosion, although leading to the discovery of artifacts in section, eventually leads to the complete erosion of archaeological sites. Where sites are primarily located close to shorelines, coastal erosion, especially rapid coastal erosion, can lead to their complete removal and must be viewed as a negative factor toward the location of an archaeological site.

Other factors, biologic and cultural, could be included in the listing of factors affecting occupation. However, factors affecting occupation listed in Tables 1 to 3 are physical attributes that intuitively are believed to affect the possibility of occupation. For example, closeness to the ocean is considered a positive factor because of its probable use as a source of game and utilization for travel. These physical factors do not take into account such phenomena as the present-day migration route of caribou, nesting and staging areas for waterfowl, fish spawning streams, etc. Such phenomena however could be addressed on a regional scale from Land Use Series Information Maps of IAND and DOE.

Assigning most landscape units (or polygons) a unique number, rather than grouping apparent similar landscape units is advantageous in that small dissimilarities that may be significant in determining archaeological potential can be realized. Additionally, similar units can be evaluated separately as other data introduces factors affecting their archaeological potential (with the possible results that very similar geomorphic units will have different ratings).

The maps with description of each landscape unit or polygon as a unique numeral, and the tables with descriptions of each polygon also allow for computerization of the data to allow a sorting of landscape units. For example, if landscape units were digitized, their descriptions computerized and areas favour-

able for archaeological sites dating between 12,000 and 18,000 were found to be outwash terraces (and scarps) dating from between 18,000 and 50,000, a map showing the location of all these favourable units could be produced utilizing computer techniques. Even entry of the unit descriptions only into a data base would at least allow for sorting of units according to individual descriptors.

3.2 Harrowby Bay Area

This area has landscape units that date from the Middle Quaternary to the present (Table 1) and that have been adjacent to water bodies at different times during this period. The presence of the mouth of a major river, many sheltered bays and the ocean, all prime sources of game and easily traversable since the Middle Quaternary should lead to the presence of numerous archaeological sites, although continued coastal and fluvial erosion throughout time may have destroyed some sites. Archaeological potential will largely be governed by the initial migration of man into this area. Shorelines, and adjacent terrain may be favourable for man's habitation when the ocean stands at the shoreline, but will hardly be as favourable for habitation when the shoreline is located miles inland. Thus, shorelines formed prior to 120,000 BP will only will only have a high potential if man is present at that time; similarly the potential of terraces adjoining streams 18,000 to 20,000 BP, but

not during the last 10,000 years, will only have a high potential if man were present prior to 18,000 BP.

The potential of marshy areas and areas characterized by tundra ponds as undoubtedly affected by their utilization as hunting and fishing areas. However they have generally been given a low rating as it is believed they were not utilized for camping or processing of game. Drainage and development of tundra ponds may also change dynamically over time.

Vistas and areas bordering moderate-sized lakes have been assigned moderate potential. Only follow-up investigations will determine whether this potential should in general be upgraded or downgraded.

TABLE 1: Archaeological Potential of Landscape Units Near Harrowby Bay

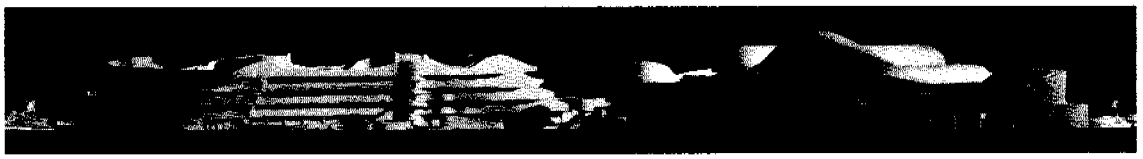
Unit Nos.	Geomorphology	Age of Basic Landform (Yrs. BP)	Factors Affecting Occupation[1]	Factors Affecting Preservation and Discovery[1,2]	Rating[3]	Other Comments
1,3 8,12	Spit	<200	+Adjacent ocean, +Well drained, -Perodiodically flooded	-Continued erosion and re-deposition (of artifacts?)	Nil	
2,7	Perimarine plain (+scarp)	>12,000	+Adjacent ocean, +Well drained, -Distance to ocean increases with time, Sea approaching present level from 10,000 B.P.	+Cliff-top dunes, ± Rapid coastal erosion	h-High p-Medium	
4	Perimarine plain (+scarp)	>120,000	+Adjacent major ocean bay, +Well drained, Sea approaching present level from 10,000 B.P.	+Cliff-top dunes, + Colluviation on some slopes, ± Coastal erosion	High	
5,17, 21	Thermokarst lacustrine basin	<10,000	-Poorly drained, and swampy	+Organic accumulation	Low	
6	Perimarine plain (+scarp)	>120,000	+Adjacent ocean, +Well drained, +Small stream to lake	+Cliff-top dunes, +Colluviation on some slopes, ± Coastal erosion, Bay may be inundated lake basin, which would limit shoreline position to last 3000 ± years	High	
9	Outwash terrace	>18,000 <50,000	+Near mouth of river, +Small drowned valley, -Imperfect drainage, Sea approaching present level from 10,000 B.P.	+Wind-blown sand and organic accumulation	High	
10	Outwash terrance (+scarp)	>18,000 <50,000	+Near mouth of river, -Imperfect drainage, -Distance to ocean increases with time, Sea approaching present level from 10,000 B.P.	+Wind-blown sand and organic accumulation, ± Rapid coastal erosion,	h-High p-Medium	

Table 1 (Cont.)

11	Outwash terrace (+scarp)	>18,000 <50,000	+Adjacent major bay, +Near mouth of river, +Well drained, Sea approaching present level from 10,000 B.P.	+Rare low sand dunes, ± Moderate to rapid coastal erosion	h-High p-Medium	
13	Outwash terrace	>18,000 <50,000	+Near mouth of river, +Moderately drained		Low	
14	Perimarine plain (+scarp)	>120,000	+Near mouth of river, +Adjacent former larger stream, +Well drained, Man's presence prior to 13,000 B.P. would upgrade	+Rare low sand dunes, +Colluviation at scarp	Medium	Scarp formed >18,000, <50,000
15, 19	Perimarine plain	>120,000	+Hinterland to ocean bay, mouth of river, +Moderately drained	+Rare low sand dune	Low	
16,68, 87,96, 99	Perimarine plain	>120,000	+Adjacent lake, +Moderately drained, Lakes origin 10,000-5,000 B.P.	+Some organic accumulation	Medium	
20	Perimarine plain	>120,000	± Poorly drained, +Tundra ponds (nesting sites?)	+Some organic accumulation	Low	
22	Perimarine plain (and scarp)	>120,000	+Adjacent major ocean bay, +Generally well drained	+Colluviation on slopes, +Local organic accumulation, ± Coastal erosion	High	
23	Permarine plain, scarps, beaches	>120,000	Formerly included shoreline of ocean, +Moderately drained, Man's presence prior to 100,000 B.P., would upgrade	+Some colluviation on scarps, +Organic accumulation at base of slopes	Low	
24	Perimarine plain	>150,000	+Hinterland to ocean bay, ± Imperfectly drained	+Some organic accumulation	Low	
25,28, 33	Hilly upland	>200,000	+Elevated relative to adjacent perimarine plain, +Formerly adjacent to ocean	+Colluviation on slopes with deposition in low areas	Low	
26	Ridge tops of hilly upland	>200,000	+Vista of surrounding terrain and ocean, +Well drained	+Some ground bare of vegetation, -Slow erosion due to slope processes	Medium	

Table 1 (Cont.)

27	Perimarine plain	>150,000	-Imperfectly drained	+Colluviation adjacent upland, slopes, +Some organic accumulation	Low
29,31	Ridge tops of hilly upland	>200,000	+Vista of surrounding terrain, +Well drained	-Slow erosion due to slope processes	Low?
30	Stream valley	150,000-5,000	+Small stream (beaded)	+Slow aggradation of surface due to alluviation, colluviation and organic accumulation, -Little erosion along stream	Medium
32	Bedrock cliff and ridge	>150,000	+Vista of mouth of large river, +Well drained	-Slow erosion due to slope processes, +Colluviation in swales and at base cliff	Medium
34	Outwash terrace	>18,000, <50,000	+Near mouth of river, -Poorly drained, +Tundra ponds (nesting sites?)	+Some organic accumulation	Low
35	Outwash terrace	>18,000 <50,000	+Near mouth of river, +Generally well drained, +Few tundra ponds	+Some organic accumulation	Low
36	Colluvial apron	18,000-present	+Moderately drained, +South-facing slope	± Colluviation	Medium
37,73, 74	Outwash terrace	>18,000 <50,000	+Near mouth of river and drowned valley, -Imperfectly drained, +Tundra ponds	+Some organic accumulation	Low
38,46, 56	Outwash terrace (+scarp)	>18,000 <50,000	+Near mouth of river, +Moderately drained, Sea approaching present level from 10,000 B.P.	+Some organic accumulation in old abandoned channels, +Minor colluviation, ± Moderate coastal erosion (protected by spit),	High
39	Tidal flat and low terrace	>12,000 <200	+Near mouth river, -Poorly drained	+Some organic accumulation	h-Medium p-Low
40	Outwash terrace (and scarp)	>18,000 <50,000	+Adjacent drowned valley tributary to mouth of river, +Well drained, -Valley incission between 18,000 and 10,000 B.P.	+Colluvation on few slopes	High



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2/2/89

G'day Bob,

Enclosed are the two Rampton Reports which you requested. I hope these are the ones you wanted and that they prove useful.

Regards,

Jean-Luc Pilon

P.S. Sorry about the delay, I caught the cold/flu which is going around and it set me back in my work!

Reed
89/02/06
RJF.

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Table 1 (Cont.)

41	Outwash terrace (and scarp)	>18,000 <50,000	+Adjacent stream valley, +Well drained		Medium
42	Stream valley	18,000 - present	+Drains to drowned valley, +Moderately drained	+Slow aggradation of surface due to alluviation and organic accumulation, +Moderate stream erosion, -Local rapid colluviation	High
43	Outwash terrace	>18,000 <50,000	+Well drained, Close to stream during outwash phase		Low
44	Outwash terrace (+scarp)	>18,000 <50,000	+Well drained, +Adjacent stream during outwash phase, +Vista of lower terrace, Man's presence prior to 13,000 would upgrade		Medium
45	Outwash terrace	>18,000 <50,000	+Well drained, +Close to mouth of river and ocean, +Moderately drained, Sea approaching present level from 10,000 B.P.	Few areas of organic accumulation	Medium
47	Outwash terrace	>18,000 <50,000	-Poorly drained, +Tundra ponds (nesting sites?)	+Some organic accumulation	Low
48	Stream terrace	>12,000 <50,000	+Moderately drained, +Adjacent mouth of river and ocean, Sea approaching present level from 10,000 B.P.	+Some colluviation and organic accumulation	High
49, 61	Stream terrace	>12,000 <50,000	Variable drainage, +Near mouth of river, +Adjacent channels during terrace development, +Ponds present, Man's presence prior to 10,000 B.P. would upgrade	Local colluviation and organic accumulation associates with abandoned channels	Medium

Table 1 (Cont.)

50	Low stream terrace	>12,000 <50,000	+Adjacent mouth of river, +Moderately drained, +Low elevation, Sea approaching present level from 10,000 B.P.	+Colluviation along slope	High	
51, 59	Low terrace and islands	>12,000 <20,000	+Adjacent mouth of river, -Poorly drained, +Low elevation	+Some organic accumulation	Medium	Possible utilization for waterfowl
52	Perimarine plain and upland	>120,000	+Adjacent mouth of river, Moderate elevation above water level, +Well drained	+Some colluviation on slopes	Medium	
53	Perimarine plain	>120,000	Moderately drained	Local organic accumulation	Low	
54	Escarpment	10,000-present	+Adjacent mouth of river, -Steep slope	+Colluviation on slopes	Low	
55	Hilly upland	>200,000	+Vista of surrounding terrain, river and ocean, +Well drained	+Colluviation in swales	Medium	
57,60 65,66	Low stream terrace (+scarp)	>12,000 <20,000	+Adjacent mouth of river, +Low elevation, +Moderately drained, Sea approaching present level from 10,000 B.P.	+Minor organic accumulation	High	
58	Low terrace and tidal flat	12,000-present	+Adjacent mouth of river, +Near sea level, -Poorly drained	+Minor organic accumulation, +Small sand dunes	Medium	Possible utilization for waterfowl
62,72, 105	Spits and beaches	<100	+Adjacent mouth of river, +Well drained, -Periodically flooded	-Continued erosion and redeposition (of artifacts)	Nil	
63	Tidal flat	<100	+Adjacent ocean, -Commonly flooded	-Continued erosion and redeposition (of artifacts)	Nil	
64	Lacustrine basin	<10,000	-Poorly drained, +Tundra ponds	+Some organic accumulation	Low	
67	Low terrace and tidal flat	12,000-present	+Adjacent ocean bay, +Near sea level, -Poorly drained	+Minor alluvial and organic accumulation, ± Some erosion	Medium	

Table 1 (Cont.)

69,73, 81,90, 95	Thermokarst lacustrine basin	10,000-5,000	-Poorly drained and swampy	+Organic accumulation	Low	
70	Perimarine plain (+scarp)	>120,000,	+Near mouth of river, +Well drained, Man's presence prior to 18,000 would upgrade	+Rare low sand dune,	Medium	Scarp formed between 18,000 and 50,000 B.P.
71	Outwash terrace (+scarp)	>18,000 <50,000	+Near mouth of river, +Well drained, Sea approaching present level from 10,000 B.P.	± Moderate coastal erosion (protected by spit), +Local colluviation along scarp	High	Early histroic site present
75	Low outwash terrace	>18,000 <50,000	+Adjacent ocean and drowned valley, +Low elevation, -Poorly drained, Sea approaching present level from 10,000 B.P.	+Little erosion	Medium	
76	Rolling upland (+scarp)	>120,000	+Overlooks ocean and surrounding terrain, +Moderately drained, Man's presence prior to 120,000 would upgrade	+Colluvation on slopes and swales, +Some organic accumulation	Medium	
77	Rolling upland (+scarp)	>120,000	+Adjacent ocean, +Moderately drained, Sea approaching present level from 10,000 B.P.	+Some colluviation on slopes, +Moderate coastal erosion	Medium	
78,82	Low bench	>18,000 <130,000	+Adjacent ocean and ocean bay, +Moderately drained, +Low elevation, -Sea level much lower 11,000 to 18,000 B.P.	+Some colluviation near slopes, +Some organic accumulation, +Slow coastal erosion	High	
79	Rolling upland (+scarp)	>120,000	+Overlooks large ocean bay, +Moderately drained, Man's presence prior to 120,000 would upgrade	+Colluviation on slopes and swales, +Some organic accumulation	Medium	
80, 101	Rolling upland	>120,000	+Near ocean and ocean bay	+Much colluviation and organic accumulation	Low	
83	Low bench	>18,000	+Near ocean bay, +Low elevation, -Imperfectly drained	+Some organic accumulation, +Local colluviation	Low	

Table 1 (Cont.)

84	Hilly upland	>200,000	+Vista of surrounding terrain, ocean bay and ocean, +Well drained	+Some colluviation on slopes	Low
85	Upland ridge	>200,000	+Vista of surrounding terrain, ocean bay and ocean, +Well drained	+Some colluviation on slopes	Medium
86	Spit	<100	+Adjacent ocean bay, -Poorly drained	-Continued erosion and re-deposition (of artifacts)	Nil
88	Perimarine plain	>120,000	-Imperfectly drained	+Some orgranic accumulation	Low
89	Valley fill	10,000-present	-Imperfectly drained	+Some organic accumulation	Low
91	Rolling upland	>120,000	+Adjacent lake, +Moderately drained	+Some colluviation and organic accumulation	Medium
92	Rolling upland (+scarp)	>120,000	+Overlooks valley and ocean bay, +Moderately drained	+Colluviation on slopes and swales, +Some organic accumulation	Medium
93	Terraces	10,000-20,000	+At head of drowned valley, -Imperfectly drainaged	+Organic accumulation	Low
94	Tidal flat	<100	+At head drowned valley, +Low elevation, -Poorly drained	+Some sedimentation	Low
97	Perimarine plain (+scarp)	>120,000	+Adjacent large ocean bay, +Moderately drained, Sea approaching present level from 10,000 B.P.	+Local colluviation on some slopes, ± Coastal erosion	High
98	Perimarine plain	>120,000	+Near ocean bay and ocean, +Moderately drained	+Some colluviation, +Local organic accumulation	Low
100, 102, 103	Stream valley	18,000-present	+Drains to ocean bay, +Moderately drained	+Colluviation along valley wall	High
104	Perimarine plain (+scarp)	>120,000	+Adjacent ocean, +Moderately drained, -Undercut cliffs	-Rapid coastal erosion	Medium

Table 1 (Cont.)

106	Tidal flat	<200	+At juncture of ocean and ocean bay, +Low elevation, -Commonly flooded	+Some sedimentation	Nil

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*. + generally positive factor
- generally negative factor

*. Processes generally active at present; colluviation and organic accumulation may have been more rapid during 10,000 - 3,000 B.P.; coastal erosion near maximum rates at present.

*. h - historic, late prehistoric
p - prehistoric

3.3 Southern Richards Island

This area is dominated by landscape units formed during a glaciation that predates 18,000 B.P. - whether this glaciation occurred during an early phase of the Late Wisconsinan (18,000-35,000 B.P.) or during the Middle or Early Quaternary (35,000-120,000 B.P.) is not clear. Some terraces adjacent major channels and deep lakes, which would serve as sources of game and modes of transport, formed during deglaciation; other terraces probably formed after 13,000 B.P. subsequent to a low sea level during the Late Wisconsinan (35,000-10,000 B.P.) when some drowned valleys were formed.

Prior to deposition of the Mackenzie Delta in the immediate area, terrain now bordering on floodplains would have been shoreline to the ocean or ocean bays. Between 10,000 B.P. and 5,000 B.P. much of this terrain may have bordered an ocean near its present elevation. Thus this terrain has good potential archeological sites if man was present during this time period. Terrain, which still borders river channels and lakes, offer the greatest potential for archeological sites as they have been near sources of game and means of transportation for the last 10,000 years. Low benches and the many well-drained sandy slopes have especially high potential (sandy colluvial slopes on the East Channel host the Goopuk site).

Modern floodplains have undoubtedly been utilized for procurement of game and camping. However, the probability of archeological sites of any antiquity is reduced because of rapid alluvial aggredation and shifting of channels leading to erosion and destruction of sites.

TABLE 2: Archaeological Potential of Landscape on Southern Richards Island

Unit Nos.	Geomorphology	Age of Basic Landforms (Yrs. BP)	Factors Affecting Occupation[1]	Factors Affecting Preservation and Discovery[1,2]	Rating[3]	Other Comments
1	Thermokarst-modified outwash (+scarp)	>18,000 <50,000	+Headland overlooking main river channels, +Sandy well-drained slopes, +Adjacent open ocean prior to 5,000 ± B.P.	+Colluviation on slopes especially after 10,000 B.P., +Organic accumulation in swales	High	Historic site present
2,9	Thermokarst-modified outwash (+scarp)	>18,000 <50,000	+Overlooks main river channels, +Well-drained sandy slopes, +Adjacent open ocean prior to 5,000 ± B.P.	+Colluviation on slopes especially after 10,000 B.P., +Some fluvial erosion	High	
3,12 18,25	Thermokarst-modified outwash (+scarp)	>18,000 <50,000	+Overlooks low terraces and floodplain, +Well-drained sandy slopes, +Adjacent open sea prior to 5,000 ± B.P.	+Colluviation on slopes especially after 10,000 B.P., +Organic accumulation in few swales	High	
4,28, 58	Thermokarst-modified outwash	>18,000 <50,000	+Few deep lakes within unit, +Well-drained sandy slopes	+Some colluviation on slopes, especially after 10,000 B.P., +Organic accumulation in depressions	Low	Medium around larger lakes
5	Floodplain	<200	+Adjacent major river, +Low elevation, +Moderately drained, -Periodically flooded	+Active alluviation	h-High p-Low	
6,23, 24	Floodplain	<200	+Near river, +Low elevation, +Few shallow lakes and channels, -Poorly drained, -Periodically flooded	+Slow alluviation and organic accumulation material	Low	
7	Floodplain	<50	+Adjacent major river, +Low elevation, -Imperfectly drained, -Commonly flooded	+Slow alluviation, +Some fluvial erosion	h-Medium p-Nil	

Table 2 (Cont.)

10	Low benches	10,000	+Adjacent large deep lakes, +Formerly open to ocean, +Low elevation, +Moderately drained	+Some colluviation, +Some wave erosion	High	
8,11, 27,39	Thermofarst lacustrine basin	4,000-11,000	-Imperfectly drained	+Organic accumulation, +Local colluviation at edges	Low	
13,36	Thermokarst-modified till-capped sands	>18,000 <50,000	+Few deep lakes within unit, +Some well-drained slopes	+Colluviation on slopes, especially after 10,000 B.P., +Organic accumulation in depressions	Low	Medium around larger lakes
14	Thermokarst-modified	>18,000 <50,000	+Vista of surrounding terrain, +Few small deep lakes along course, +Well drained, -Partially extracted	+Locally no vegetation, +Little colluviation on slopes and organic accumulation in depressions	Medium	
15,35, 54	Thermokarst-modified sandy upland (+scarp)	>18,000 <50,000	+Vista of large lakes, +Sandy slopes, -Generally steep slopes, +Lake may have been open to sea prior to 5,000 B.P.	+Colluviation on slopes, especially after 10,000 B.P., +Organic accumulation in few swales, +Few areas bare of vegetation	High	
16,17	Thermokarst-modified outwash ridges esker	>18,000 <50,000	+Well drained sandy slopes	+Some colluviation on slopes and organic accumulation in depressions, +Few areas bare of vegetation	Low	
19	Low terrace	>10,000 <20,000	+Adjacent to river or ocean following formation, -Imperfectly drained	+Slow alluviation, colluviation and organic accumulation	h-Low p-High	
20	Peat-filled terrace channel	>18,000 <50,000	+Near major channel, +Formerly near ocean proir to 5,000 B.P., -Imperfectly drained	+Colluviation along edges, +Organic accumulation	Low	
21	Outwash terrace (+scarp)	>18,000 <50,000	+Adjacent to or near major channel, +Formerly adjacent to or near ocean prior to 5,000 B.P., +Moderately drained	+Minor organic accumulation, +Local fluvial erosion	High	

Table 2 (Cont.)

22	Outwash terrace	>18,000 <50,000	+Near major channel, +Channel formerly near ocean prior to 5,000 B.P., +Some paleochannels present	+Some organic accumulation	Medium	
26	Large thermokarst basins	4,000-11,000	-Variable drainage, generally imperfect, +Few shallow lakes	+Some colluviation and organic accumulation	Low	
29	Thermokarst-modified moraine	>18,000 <50,000	+Moderately drained, -Clayey slopes	+Colluviation on slopes, especially after 10,000 B.P.	Low	
30	Outwash plain	>18,000 <50,000	+Generally well drained, +Vista of Yaya Lake and surrounding terrain, +Prior to 5,000 B.P. Yaya Lake may have been ocean bay	+Few areas devoid of vegetation, +Some organic accumulation	Low?	
31	Lake plain (thermokarst origin?)	4,000-11,000	+Near large deep lake, +May predate 10,000 B.P., +Prior to 5,000 B.P. Yaya Lake may have been ocean bay, Imperfectly to moderately drained	+Colluviation near edge, +Some organic accumulation	Low	
32	Lake plain (+scarp)	4,000-11,000	+Adjacent large deep lake, +Relatively low elevation, +Prior to 5,000 B.P. Yaya Lake may have been ocean bay, +Moderately drained	+Local colluviation, -Some wave erosion	High	
33	Outwash plain (+scarp)	>18,000 <50,000	+Well drained, +Vista of Yaya Lake and enlarged Yaya Lake predating 10,000 B.P. prior to 6,000 B.P. Yaya Lake may have been ocean bay	+Few areas devoid of vegetation, +Some colluviation along scarp	Medium	
34	Thermokarst-modified till-capped sands	>18,000 <50,000	+Vista of surrounding areas, +Few deep lakes in unit, +Some well-drained slopes	+Colluviation on slopes, especially after 10,000 B.P., +Organic accumulation in depressions	Low	Medium around larger lake and selected vistas
37	Lake plain (thermokarst origin)	4,000-11,000	+Many shallow lakes present, +Pingos with vistas common, -Generally imperfectly drained	+Colluviation near edge, +Organic accumulation	Low	Medium on pingos

Table 2 (Cont.)

38	Thermokarst-modified, till-capped sands and clays	>18,000 <50,000	+Few deep lakes within unit, +Few well drained slopes, -Slopes commonly clayey	+Colluviation on slopes, especially after 10,000 B.P., +Organic accumulation in depressions	Low	
40	Thermokarst-modified till-capped sands and clays (+scarps)	>18,000 <50,000	+Adjacent lake with outlet to Mackenzie River channel, +Lake possibly ocean bay prior to 5,000 B.P., +Relatively low elevation, +Moderately drained	+Some colluviation on slopes especially after 10,000 B.P., +Active thermokarst along slopes	Medium	
41,42	Thermokarst-modified till-capped sands and clays (+scarp)	>18,000 <50,000	+Adjacent modern Mackenzie Delta, +Formerly adjacent to ocean, +Moderately drained, +Relatively low elevation	+Some colluviation on slope, especially after 10,000 B.P.	High	
43	Thermokarst-modified till-capped sands and clays (+scarp)	>18,000 <50,000	+Adjacent major channel, +Formerly adjacent to ocean, +Relatively low elevation, +Moderately drained	+Some colluviation on slopes, +Fluvial erosion	High	
44	Floodplain	<200	+Near river, +Low elevation, +Few shallow lakes and channels, -Poorly drained, -Commonly flooded	+Slow alluviation and accumulation of organic material	Low	
45	Floodplain	<50	+Adjacent major river, +Low elevation, -Imperfectly drained, -Commonly flooded	+Slow alluviation, +Some fluvial erosion	h-Medium p-Nil	
46	Outwash terrace (+scarp)	>18,000 <50,000	+Adjacent major channel, +Probably adjacent to ocean prior to 5,000 B.P , +Low elevation, +Well drained sandy slopes	+Some colluviation of slopes, +Some fluvial erosion, -Prior to 5,000 B.P. coastal retreat may have been rapid	High	Historic grave and cache present
47	Outwash terrace	>18,000 <50,000	+Near major channel, +Probably near ocean prior to 5,000 B.P., +Moderately drained	+Some colluviation especially after 10,000 B.P. and accumulation of organic material in depressions	Low	

Table 2 (Cont.)

48,53	Thermokarst modified till-capped sands (+scarp)	>18,000 <50,000	+Adjacent major channel, +Probably adjacent to ocean prior to 5,000 B.P., +Well drained, +Some sandy slopes	+Some colluviation on slopes, +Some areas of organic accumulation, +Areas of fluvial erosion and recent thermokarst	High
49,51	Drowned valley	>18,000 <50,000	+Tributary to major channel, +Probably adjacent to ocean prior to 5,000 B.P., +Well drained, +Some sandy slopes, +Relatively low elevation	+Some colluviation on slopes, +Minor organic accumulation	High
50	Floodplain	<100	+Near river, +Formerly adjacent channel, -Poorly drained, -Commonly flooded	+Slow alluviation and accumulation of organic material	h-Medium p-Low
52	Thermokarst-modified till-capped sands and drowned valley	>18,000 <50,000	+On bay of large deep lake, +Probably ocean bay prior to 5,000 B.P., +Some low benches, +Some sandy slopes, +Well drained	+Colluviation on slopes, -Minor organic accumulation in depression	High
55	Lacustrine bench?	10,000±	+Adjacent large deep lake, which was probably ocean bay prior to 5,000 B.P., +Low elevation, +Moderately drained	+Some colluviation, +Some wave erosion	High
56	Thermokarst-modified outwash ridges	>18,000 <50,000	+Near large deep lake, which was probably ocean bay prior to 5,000 B.P., +Sandy well-drained slopes, +Vista of low areas, few small deep lakes	+Colluviation on slopes	Medium
57	Thermokarst-modified lacustrine bench	10,000±	+Adjacent large deep lake, which was probably ocean bay prior to 5,000 B.P., +Low elevation, +Moderately drained	+Colluviation on some slopes, +Organic accumulation in swales, +Some wave erosion	High

Table 2 (Cont.)

59	Thermokarst-modified outwash (+scarp)	>18,000 <50,000	+Adjacent to channels leading into large lake, +Probably adjacent to ocean prior to 5,000 B.P., +Sandy well-drained slopes, -Some steep slopes	+Colluviation on slopes, -Some active fluvial erosion and thermokarst, +Organic accumulation in few swales	High
60	Floodplain	<200	+Adjacent inlets to large lake, +Low elevation, -Imperfectly drained, -Frequently flooded	+Active alluviation	h-High p-Medium
61	Floodplain	<200	+Adjacent inlet to deep lake, +Low elevation, -Imperfectly drained, -Periodically flooded	-Active alluviation	h-High p-Medium

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[1]. + generally positive factor
- generally negative factor

[2]. Processes generally active at present; colluviation and organic accumulation may have been more rapid during 10,000 - 3,000 B.P.; coastal erosion near maximum rates at present

[3]. h - historic, late prehistoric
p - prehistoric

3.4 Yukon Coastal Plain

Landscape units in this area were formed during three main intervals: (1) during and subsequent a glaciation that predates 18,000 B.P; (2) during a period of stream incission and thermokarst activity that appears to have occurred mainly during the early Holocene (10,000 - 7,000 B.P.); and during deposition of deltas, floodplains and low terraces over the last 500 years. Rising sea level during the last 10,000 years has resulted in drowning of valleys and rapid coastal erosion.

Many rock ridges projecting northward from the Richardson Mountains, have archeological potential in that they have offered vistas of surrounding terrain and sources of quartzitic rocks for points and tools since the last deglaciation. The higher morainic and glaciofluvial ridges of the coastal plain offer similar advantages, in addition to deep lakes which do not freeze to their bottom in winter. Thermokarst may have removed many archeological sites on areas formerly underlain by moraines and glaciofluvial complexes.

Terrain bordering the ocean and streams appear to have favourable archeological potential. This is particularily true where erosion has been moderate or negligible for some interval. It appears that the Running River, and possibly the Blow River, flowed parallel to the coast until about 9,000 B.P. They then

established their present courses and incissed themselves to near their present levels at that time. Thus scarps adjacent their former channels and terrain bordering lakes graded to these former channels have good archeological potential. Except where broad terraces flank major streams, fluvial erosion may limit archeological sites along these streams to more recent time.

Along the ocean, potential for older sites is highest in drowned valleys and along those scarps now protected from coastal retreat by deltaic deposits. The former may have only become favourable for habitation since sea level rose to near its present level. Scarps now protected from erosion would have been more favourable prior to deltas aggrading below their base. Rapidly retreating coastlines northeast of Shingle Point and exposed spits would seem to have only good potential for historic sites.

Low terraces and floodplains along most streams obviously afford potential for historic sites. Only Deep Creek with its modern deeply incissed channel would appear to have potential for older sites.

TABLE 3: Archeological Potential of Yukon Coastal Plain (Eastern Sector)

Unit Nos.	Geomorphology	Age of Basic Landforms (Yrs. BP)	Factors Affecting Occupation,	Factors Affecting Preservation and Discovery[1,2]	Rating[3]	Other Comments
1	Deeply incissed stream valley	<12,000	+Near coast, -Narrow valley, -Steep slopes	-Rapid colluviation and fluvial erosion	Nil	
2	Till-covered upland	>18,000 <50,000	+Nearer coastline prior to 3,000 ± B.P.	+Some colluviation during last 10,000 years, +Moderately drained	Low	
3	Till-covered upland (+scarp)	>18,000 <50,000	+Vista of Mackenzie Delta, +Adjacent coastline prior to 3,000 ± B.P., -High steep scarp,	+Colluviation on slopes, +Erosion prior to 3,000 B.P. limited by bedrock in scarp, -Rapid removal of till along scarp after 10,000 B.P.	High	
4	Alluvial terrace	10,000?	+Near coastline prior to 3,000 B.P., -Imperfectly drained	+Some organic accumulation, +Thermokarst active	Medium	
5	Delta plain	<3,000	+Many lakes and channels, -Imperfectly drained, -Periodically inundated	+Active alluviation	Low	
6	Delta levees and abandoned channels	<1,000	+Recently adjacent channel, +Many lakes and channels, -Imperfectly drained, -Perodically inundated	-Rapid alluviation	Low	
7	Delta (+channel banks)	<200	+Adjacent channels, -Imperfectly drained, -Periodically inundated	-Rapid alluviation	h-High p-Low	
8	Delta front	<3,000	+Adjacent ocean, +Many lakes and channels, -Imperfectly chained, -Frequently inundated	-Rapid alluivation, -Rapid coastal retreat	h-Medium p-Low	
9	Delta front	<100	+Adjacent ocean, +Many lakes and channels, -Imperfectly drained, -Frequently inundated	-Rapid alluviation, -Rapid fluvial erosion and coastal retreat	h-Medium p-Low	

Table 3 (Cont.)

10	Strand lines	<100	+Adjacent ocean, +Moderately drained, -Periodically inundated, +Abundant driftwood	± Piling of driftwood, +Rapid coastal erosion	Medium	
11	Strand lines	<500	+Near ocean, +Formerly adjacent ocean, -Imperfect drainage, -Periodically inundated, +Ample driftwood	+Some organic accumulation	High	
12	Till-covered gravel and sands (+scarp)	>18,000 <50,000	+Adjacent ocean, -High steep scarp, +Well drained sandy slopes, ocean approaching present level from 10,000 B.P.	+Colluviation on some slopes, -Rapid removal of till along scarp after 10,000 B.P., -Moderate coastal retreat	High	
13	Till-covered gravels and sands (+scarp)	<50,000	+Vista of Blow Delta, +Adjacent to ocean prior to 5,000 ± B.P., -High steep scarp, +Well drained sandy slopes	+Colluviation on some slopes, -Rapid removal of till along scarp after 10,000 B.P.	High	
14,28	Thermokarst-modified hilly moraine	>18,000 <50,000	+Vista of surrounding area from higher hills, +Near ocean, +Moderately drained, +Few deep lakes	+Colluviation on slopes, +Organic accumulation in depressions, Active thermokarst around lakes	Low	Medium around deep lakes
15	Till-covered gravels and sands (+scarp)	>18,000 <50,000	+Adjacent to major stream valley for 9,000 ± years, -High steep scarp, +Well drained sandy scarps	+Colluviation on inactive slopes, -Rapid removal of till along scarp after 9,000 B.P., -Fluvial erosion along some scarps	Medium?	Upgrade?
16,29, 37,54, 91	Thermokarst basin	<11,000	+Few ponds, -Imperfectly drained	+Organic accumulation	Low	
17	Till-covered gravels and sands (+scarp)	>18,000 <50,000	+Vista of adjacent lowland, +Adjacent to major stream from 9,000 ± B.P. to >18,000 B.P., +Well drained sandy slopes	+Colluviation on slopes, +Few patches bare of vegetation, +Some eolian activity	High	
18	Lacustrine plain (+scarp)	<10,000	+Adjacent to major stream valley for last 9,000 ± B.P., -High steep scarp, +Well drained sandy scarps	+Colluviation on inactive slopes, -Fluvial erosion along some scarps	Medium	

Table 3 (Cont.)

19	Lacustrine plain and abandoned stream channel	<9,000	+Adjacent small stream, +Channel probably occupied by Blow River around 9,000 B.P., +Well drained sandy scarps	+Colluviation on slopes, +Organic accumulation in low areas	High	
20,29	Lacustrine plain	<10,000	+Lakes and ponds present, -Poorly drained	+Organic accumulation	Low	
21	Lacustrine plain (terraced)	<9,000	+Few small ponds present, +Moderately drained, terraced around 9,000 B.P.	+Colluviation along some scarps, +Local organic accumulation	Medium	
22	Lacustrine plain (terraced) and scarp	<9,000	+Adjacent to major stream valley for last 9,000 ± years, -High steep scarp, +Well drained sandy scarps common	+Colluviation on inactive slopes, -Rapid fluvial erosion along some scarpes, +Few patches bare of vegetation, +Some eolian activity	High	Downgrade? except site on similar unit along Blow R.
23,33, 81	Floodplain	<50	Bare of vegetation, -Periodically flooded and eroded, +Well drained	+Bare of vegetation, -Periodic erosion and alluviation	Nil	
24	Floodplain and low terrace	<100	+Adjacent major stream, +Moderately drained, +Low elevation, -Periodically inundated	+Active alluviation	h-Medium p-Nil	
25	Low terrace	<300	+Near major stream, +Low elevation, -Imperfectly drained	+Active organic accumulation	Medium	
26,34, 63	Till-covered uplands (+scarp)	>18,000 <50,000	+Adjacent to major stream valley for last 9,000 ± years, -High steep scarp, +Well drained, +Some sandy scarps	+Colluviation on inactive slopes, -Rapid removal of till along scarps after 8,000 B.P., -Fluvial erosion along some scarps	Medium?	Upgrade?
27,39, 52	Till-covered upland (+scarp)	>18,000 <50,000	+Vista of delta and ocean, +Formerely adjacent coastline, -High steep scarp, +Well-drained, +Some sandy slopes, +Includes few drowned valleys, ocean approaching present level from 10,000 B.P.	+Colluviation on slopes, +Erosion limited by bedrock in scarp, -Rapid removal of till along scarp after 10,000 B.P.	High	

Table 3 (Cont.)

30,42	Lacustrine plain	9,000	+Moderately drained	+Local organic accumulation	Poor	
31,43	Lacustrine plain (+scarp)	9,000	+Adjacent to major stream valley for at least 9,000 years, -High steep scarp, +Well drained	+Colluviation on inactive slopes	Medium?	Upgrade?
32,80	Floodplain and low terrace	<300	+Adjacent or near major stream, +Low elevation, -Imperfectly drained, -Parts periodically indundated	+Active alluviation, +Some organic accumulation	Medium	
35	Bedrock hill	>18,000 <50,000	+Vista of surrounding terrain, +Well drained	+Some colluviation	Medium	
36	Thermokarst-modified hummocky moraine	>18,000 <50,000	+Vista of delta, ocean and lowlands to south, +Few deep small lakes, +Moderately drained	+Colluviation on slopes, +Organic accumulation in depressions, Active thermo-karst around lakes	Medium	Downgrade if lakes and vistas not utilized
38	Till-covered slope and scarp	>18,000 <50,000	+Vista of delta and ocean, +Formerly adjacent to coastline, +Moderate elevation above delta, +Well drained, ocean approaching present level from 10,000 B.P.	+Colluviation on slopes, +Erosion limited by bedrock in scarp	High	
40	Low alluvial terrace	50-500	+Edge of delta, +Formerly adjacent to channel, +Few ponds, +Low elevation, -Imperfectly drained, ocean approaching present level from 10,000 B.P.	+Some organic accumulation	Medium	
41	Thermokarst-modified kame and kettle complex	>18,000 <50,000	+Vista of surrounding terrain, +Well-drained sandy slopes, +Few small deep lakes	+Few areas bare of vegetation, +Colluviation on slope, +Organic accumulation in depression	Medium	
44	Thermokarst-modified moraine (+scarp)	>18,000 <50,000	+Adjacent to lake that probably existed 9,000 to 18,000 ± B.P., +Well drained	+Colluviation on slopes	Medium	

Table 3 (Cont.)

45	Lacustrine plain (+scarp)	9,000	+Adjacent to major stream valley for at least 9,000 years, +Moderate elevation, +Moderately drained	+Colluviation on slopes, +Some organic accumulation, +Minor fluvial erosion	Medium	
46	Lacustrine plain	9,000	-Imperfectly drained	+Organic accumulation	Low	
47	Till-covered upland	>18,000 <50,000	Variable drainage, generally moderately drained	+Some colluviation during last 10,000 years, +Organic accumulation in depressions, Isolated active thermokarst	Low	
48	Abandoned meltwater channel	>9,000 <50,000	+Few ponds, -Poorly drained	+Organic accumulation	Low	
49,71	Upland adjacent deeply incissed valley	<12,000	+Vista of valley, -Very high steep slopes to valley bottom	Rapid colluviation on slopes	Low	
50	Floodplain and low terrace	<300	+Adjacent stream, +Low elevation, -Narrow valley, +Moderately drained, -Frequently inundated	+Active alluviation	Low	
54,53	Colluvial-apron	<10,000	+Adjacent delta, +Near coast prior to 3,000 ± B.P., ocean approaching present level from 10,000 B.P.	+Colluviation, especially between 10,000 and 3,000 B.P., minor thermokarst	High	
55,78	Lacustrine? plain	<10,000	-Imperfectly drained	+Some organic accumulation	Low	
56	'Colluvial' ridge	>18,000 <50,000	+Vista of ocean and/or surrounding terrain, +Source of quartzitic float, +Well drained	+Colluviation on slope	Medium	Site present on ridge
57	Till-covered upland	>18,000 <50,000	Moderately drained	+Colluviation on some slopes, +Organic accumulation in depressions	Low	
58,62, 64,66, 67,69, 70	'Colluvial' ridge	>18,000 <50,000	+Vista of surrounding terrain, +Source of quartzitic float, +Few outcrops quartzite	+Colluviation on slope, +Few areas bare of vegetation	Medium	Sites present on some ridges

Table 3 (Cont.)

59,65, 68	'Colluvial' ridge	>18,000 <50,000	+Possible source of quartzitic float	+Colluviation on slope	Low	
60	Till-covered upland (+scarp)	>18,000 >50,000	+Adjacent to major stream valley for at least 9,000 years, +Moderately drained	+Colluviation on slopes, +Minor stream erosion of scarps	Medium	
61	Small stream valley	<18,000	Variable drainage, Incissed into surrounding terrain	+Alluviation and colluviation	Medium	
72	Terraced lacustrine plain	9,000	+Near major stream, -High elevation, +Well drained	+Large areas bare of vegetation	High	Sites present
73	Cliff-top dune	<3,000	+Adjacent to major river valley, +Well drained, -High elevation	+Continuous eolian re-working	Medium	
74	Till-covered upland (+scarp)	>18,000 <50,000	+Prior to 9,000 B.P. adjacent major stream, +Near major valley, +Well drained	+Colluviation on slopes	Medium	
75	High terrace	>9,000	+Near major stream valley, +Moderately drained	+Some organic accumulation	Low	
76	High terrace (+scarp)	>9,000	+Adjacent major stream valley, +Well drained, -High elevation	+Colluviation on stable slopes, +Some stream erosion	High	
77	Outwash plain	>18,000 <50,000	+Few ponds, -Poorly drained	+Organic accumulation	Low	
79	Kame and kettle complex	>18,000 <50,000	+Vista of surrounding terrain, +Few deep lakes, +White boulders available	+Few areas bare of vegetation, +Colluviation on slopes, +Organic accumulation in depressions	High	Stone line present
82	Delta	<50	+Adjacent ocean, -Frequently inundated, +Abundant driftwood supply, +Moderately drained	+Bare of vegetation, -Periodic erosion and alluviation	h-High p-Nil	
83,84, 98	Spit	<100	+Adjacent ocean, +Abundant driftwood supply, -Periodically inundated, +Well drained	+Bare of vegetation, -Perodic erosion and redeposition (of artifacts ?)	h-High p-Nil	

Table 3 (Cont.)

85,97	Drowned valley	>18,000 <50,000	+Adjacent to ocean, +Protected harbour, +Low elevation, +Well drained, ocean approaching present level from 10,000 B.P.	+Colluviation, +Rare coastal erosion	High	
86, 100	Outwash apron	>18,000 <50,000	+Near stream prior to 9,000 B.P., +Some deep lakes, -Imperfectly drained	+Some organic accumulation	Low	High? near deep lakes
87	Fluvial plain complex (terraced)	9,000	+Many lakes and ponds, +Low elevation, -Poorly drained	+Organic accumulation	Low	Possibly medium at terrace scarps
88	Lacustrine plain (+scarp)	<9,000	+Adjacent to channel probably occupied circa 9,000 B.P., +Near many ponds and lakes, variable drainage	+Some colluviation and organic accumulation	Medium	
89	Thermokarst-modified moraine (+Scarp)	>18,000 <50,000	+Adjacent to channel probably occupied circa 9,000 B.P., +Near many ponds and lakes, +Moderately drained	+Some colluviation and organic accumulation	Medium	
90	Floodplain and terraces	<3,000	+Flanking Deep Creek, Variable drainage, -Periodically inundated	+Alluviation, +Some organic accumulation	High	
92	Crest of outwash apron	>18,000 <50,000	+Vista of surrounding terrain, +Well drained	+Few patches bare of vegetation, +Local colluviation	Medium	
93	Moraine and lake plain adjacent scarp	>8,000 <50,000	+Adjacent to ocean, +Steep cliffs, +Moderately drained	+Some organic accumulation and colluviation, -Rapid coastal retreat	h-High p-Low	
95	Thermokarst-modified hilly moraine	>18,000 <50,000	+Vista of ocean and lowlands to south, +Few deep lakes, +Moderately drained	+Colluviation on slopes, +Organic accumulation in depressions, active thermokarst around lakes	Medium	Downgrade if lakes and vistas not utilized

Tabel 3 (Cont.)

96	Thermokarst-modified hilly *moraine* (+scarp)	>18,000 <50,000	+Vista of lowlands to south, +Adjacent *major* stream circa 9,000 B.P., +Well drained, -High elevation	+Colluviation on some slopes	High
99	Ice-thrust moraine (+scarp)	>18,000 <50,000	+Vista of ocean, surrounding lowlands, -High elevation, +Well drained, ocean approaching present level from 10,000 B.P.	+Few patches bare of vegetation, +Some colluviation	High
101	Outwash apron	>18,000 <50,000	+Vista of adjacent lowland, +Adjacent to major stream from 9,000 ± B.P. to >18,000 B.P., +Well drained sandy slopes	+Colluviation on slopes, +Patches bare of vegetation, +Some *eolian* activity	High

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*. + generally positive factor
- generally negative factor

=. Processes generally active at *present*; colluviation and organic accumulation may have been more rapid during 10,000 - 3,000 B.P.; coastal erosion near maximum rates at present

=. h - historic, late prehistoric
p - prehistoric

4.0 CONCLUSIONS AND RECOMMENDATIONS

Landscape units, based on (a) terrain units and (b) areas within these terrain units having similar characteristics perceived to affect archeological potential, can be established that allow mapping and subjective evaluation of archeological potential of an area. Numbering and description of the mapped landscape units not only allows for their individual description, but allows for the reassessment of a landscape unit relative to other similar landscape units as new data is presented that may affect the potential of that particular area or landscape unit.

Tabular listing of factors affecting archeological potential for each landscape unit allows the user to realize factors considered in assignment of archeological potential. Tables can be and should be expanded to list parameters other than physical parameters that may affect archeological potential. On a regional scale, data from Land Use Series Information Maps (IAND) may be utilized to realize biological parameters that may affect potential of landscape units. Archeologists should have direct input into cultural parameters that may affect archeological potential of landscape units.

Continued field investigations are required to confirm and reassess the archeological potential established through air photo interpretation and map review. These field investigations

should also be utilized to assess the relevance of different parameters considered in assigning archeological potential ratings to landscape units. Further analysis and description of parameters affecting potential and the manner in which they may affect potential is also recommended.

Computerization of tabular data might also be considered. However prior to this process a more quantitative detailed break-down for parameters affecting archeological potential might be considered. For example, a factor such as colluviation should be rated for each landscape unit according to rate and percentage area affected. Such quantification, although perhaps introducing more consistancy into ratings, would also involve more time and expense.

Within much of the NOGAP area landscape units along waterbodies appears to have potential for historic and late prehistoric archeological sites, Recent rapid coastal retreat has probably removed many prehistoric sites along exposed coastlines. Landscape units formed during the Holocene along water bodies also have good potential for sites dating from this period, although changing sea levels and stream patterns during the Holocene may have affected their position relative to water bodies and thus their probability of utilization by man during different parts of the Holocene. Much of the NOGAP area was glaciated some time within the Wisconsinan prior to 18,000 B.P. Thus much of the area would be available for man's utiliza-

tion since that time. However much of this area has been affected severely by thermokarst and colluviation between 10,000 and 3,000 B.P.; these processes would effectively remove or deeply bury sites occupied prior to their activity. Landscape units present within unglaciated areas, and in areas only glaciated and submerged prior to the Wisconsinan have potential for very early North American man sites, if man were present prior to the Wisconsinan. In conclusion the potential of landscape units to harbour sites attributed to cultures of different ages are largely governed by the geologic history of the landscape units.

5.0 REFERENCES

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