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ECOLOGICAL RESERVES COLLECTION
GOVERNMENT OF BRITISH COLUMBIA
VICTORIA, B.C.
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SURVEY OF EDUCATIONAL AND RESEARCH USE
OF THE
UNIVERSITY ENDOWMENT LANDS

by

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August 1983

RECEIVED
BUREAU OF REVENUE
U. S. DEPARTMENT OF THE TREASURY
WASHINGTON, D. C.

ABSTRACT

During the summer of 1982, the Greater Vancouver Regional District Parks Department conducted a survey of educational use of the University of British Columbia Endowment Lands on the request of the U.B.C. Technical Committee on the Endowment Lands.

It was found that educational use of the Endowment Lands had increased 57% over 1971 when a similar survey was carried out. Most of this increase, however, was due to the dramatic increase in use by the Faculty of Forestry.

A use intensity map was prepared. A list of the types of educational and research uses is included.

The survey solicited responses on questions pertaining to the educational value of the area and the types of improvements that could be contemplated. Most of the respondents felt that U.B.C.'s proximity to such a diverse natural area containing a variety of unique features gave it special educational value. Half of the respondents to the question on improvements felt that the area should be left as it is. The other half provided suggestions on how to enhance both the educational and recreational value of the area. All suggestions implied a more intensive management of the area.

A set of guidelines designed to coordinate the educational use of the U.E.L. were included with the questionnaire. The general consensus was support for the concept of the guidelines although some comments suggested a need for minor clarification.

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SURVEY OF THE EDUCATIONAL AND RESEARCH USE
OF THE UNIVERSITY ENDOWMENT LANDS

INTRODUCTION

In December 1981 the University of British Columbia (UBC) Technical Committee on the Endowment Lands asked the Greater Vancouver Regional District (GVRD) Parks Department to determine the extent and nature of UBC educational and research use of the Endowment Lands through a survey of faculty members.

GVRD prepared a questionnaire which was subsequently modified and endorsed by the UBC Technical Committee (Appendix I). The questionnaire included a set of guidelines prepared by the UBC Technical Committee regarding educational use of the Endowment Lands. Faculty members were asked to comment on these guidelines.

In August 1982, copies of the questionnaire were circulated to all Department Heads and Faculty Chairmen. A reminder notice, together with a preliminary tabulation of responses to the questionnaire, was circulated in January 1983.

RESPONSE TO QUESTIONNAIRE

Response to the questionnaire has been good. Fifty-five faculty members completed questionnaires detailing their use of the Endowment Lands during the past year (Table 1). A further 31 questionnaires were returned indicating no use of the UEL by particular departments.

USE BY FACULTY OR DEPARTMENT

Table 2 summarizes student use by Faculty/Department and compares current use to the returns of a 1971 survey (Norris, 1971). The most dramatic change was reported by the Faculty of Forestry which showed a 976% increase in use over 1971. Overall use has increased 57% for the same time period. However, if the effect of the Faculty of Forestry is removed, there is no real change in use over the past eleven years.

TABLE 1 - STUDENT USE BY DEPARTMENT, FACULTY MEMBER AND COURSE NUMBER

Department or Faculty	Faculty Member	Course #	Number of Students Making:				Total # of Student Trips	
			1 Trip	2-5 Trips	6-10 Trips	10 Trips		
Anthropology & Sociology	RG Matson	ANTH 305	20*	10*	1*		63*	
		ANTH 406						
		ANTH 420						
Biology	NR Liley	BIOL 101/102	50	50			225	
		HD Fisher	BIOL 101	10			10	
	ARE Sinclair/ R Turkington/ GE Bradfield	BIOL 321	270				270	
		BIOL 322						
Botany	GE Bradfield	BOT 426			12	144		
Botany & Geology	GE Rouse	BOT 441/442	18			2	42	
		BOT 540						
		GEOL 541						
Continuing Education	-	-		40			140	
Education	FA Gornall DC Gillespie R Carlisle	EDUC 321	115	30	5		260	
		EDUC 404						
		EDUC 409						
Engineering	CJ Anastasiou	GSED 190		100			350	
		GSED 309						
	DL Anderson	CIVIL 250		250*				875*
		JD Anderson						
MC Quick	CIVIL 447			60*			210*	
	CIVIL 546							12*
Forestry	SO Russell	CIVIL 464		100*			350*	
	JP Warrall	FRST 111			125		1000	
		FRST 204		150		3	561	
	RE Mills	FRST 262/362			145		507	
		L Adamovich	FRST 262		80		280	
	FRST 363		20				20	
		FRST 463	15				15	
	P Marshall	FRST 236	30		100			350
		FRST 431						
	JH Bassman	FRST 304				95	760	
	FL Bunnell	FRST 395			95		332	
	AH Johnson	FRST 307B			80		280	
	BJ Vander Kamp	FRST 125	100		100			450
		FRST 307						
		FRST 406						
	GF Weetman	FRST 304						455
		FRST 404						
FRST 504								
MC Feller	FRST 485B			10		36		
K Klinka	FRST 405			30		105		
JHG Smith	FRST 425	25		3		2	60	
PJ Dooling	FRST 290/491/492			40			140	
	FRST 307/408							
	FRST 307/408							125

Continued

TABLE 1 - CONTINUED

Department or Faculty	Faculty Member	Course #	Number of Students Making:				Total # of Student Trips
			1 Trip	2-5 Trips	6-10 Trips	10 Trips	
Geography	MJ Bovis JK Stager DG Steyn	GEOG 101	280*	20*			350*
		GEOG 101					
		GEOG 101					
	MEA North	GEOG 101	150*		30		150*
		GEOG 310					240
Geology	AH Siemens	GEOG 200	300				300
	M Church	GEOG 313	50				50
	CA Giovanella	GEOG 105	260*				260*
		GEOG 125	500*				500*
	RE Kuceru	GEOG 150	540*				540*
	JL Rau	GEOG 310	100				100
	WH Mathews	GEOG 322	39*	1*			42*
	WR Danner	GEOG 415		20*			70*
Geophysics & Astronomy	WF Slawson	GEOG 400		23			81
	B Narod	GEOG 421		31			110
Plant Science	L Diamond	LA 100		20			70
Soil Science	LM Lavkulich	SOIL 200	230				230
		SOIL 416					42
	H Schreier	SOIL 300	20	7			44
	TM Ballard	SOIL 303		75			262
	A Bomke	-	2	1			5
Westwater Research	DA Levy	-				2*	24*
Zoology	T Carefoot	ZOOL 205	15				15
		ZOOL 348					
		ZOOL 448/ 449					5
	GGE Scudder	ZOOL 311	30				30
		ZOOL 410					5
	P Arcese/ HD Fisher	ZOOL 416			25	25	500
	JNM Smith	ZOOL 403	2				30
ZOOL 531		8					
Total Number of Students making trips			3316	1843	331	51	
Total Number of Student trips			3316	6450	2647	612	13025

*Most use on foreshore, e.g. Fraser estuary, cliffs, Wreck Beach, etc.

TABLE 2 - SUMMARY OF STUDENT USE BY FACULTY OR DEPARTMENT
 COMPARED TO A SURVEY BY D.J. NORRIS

Faculty or Department	Number of Student Trips				UEL	1982 Fore-Shore	Total
	1968*	1969*	1970*	1971*			
Agriculture (Plant Sci., Soil Sci.)	470	442	605	522	653	-	653
Archeology (Anthropology, Sociology)	127	30	30	30	-	63	63
Biology	-	-	-	-	505	-	505
Botany	462	417	507	417	186	-	186
Education & Continuing Ed.	660	660	440	520	750	-	750
Engineering	-	-	-	-	-	1877	1877
Forestry	280	600	410	513	5522	-	5522
Geology	300	400	400	500	100	1412	1512
Geography	-	-	4472	4472	590	500	1090
Geophysics & Astronomy	-	-	-	-	191	-	191
Westwater Research	-	-	-	-	-	24	24
Zoology	310	522	942	1330	652	-	652
Total Number of Student Trips	2610	3072	7807	8305	9149	3876	13025
Percent Increase over previous year surveyed	0	17.7%	154.1%	6.4%			56.8%

* Results from D.J. Norris, 1971

AREAS OF USE

Since the question pertaining to area of use was an open one, the precision of the response varied. In general the responses could be fitted into the areas as delineated in Figure 1. Where respondents reported use for more than one course or more than one frequency of visit category but did not differentiate the use by area, the total number of student visits were applied to all areas indicated on the return (Table 3).

Equal weighting was given to site-specific use as well as general area use when assigning a student trip to a map area. It should be noted that the summary of use by area is strictly quantitative and is based entirely on the reported number of student trips.

Table 3 details this use by area. A further condensation of the information is provided in Table 4.

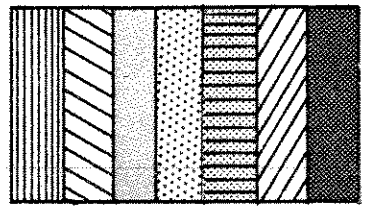
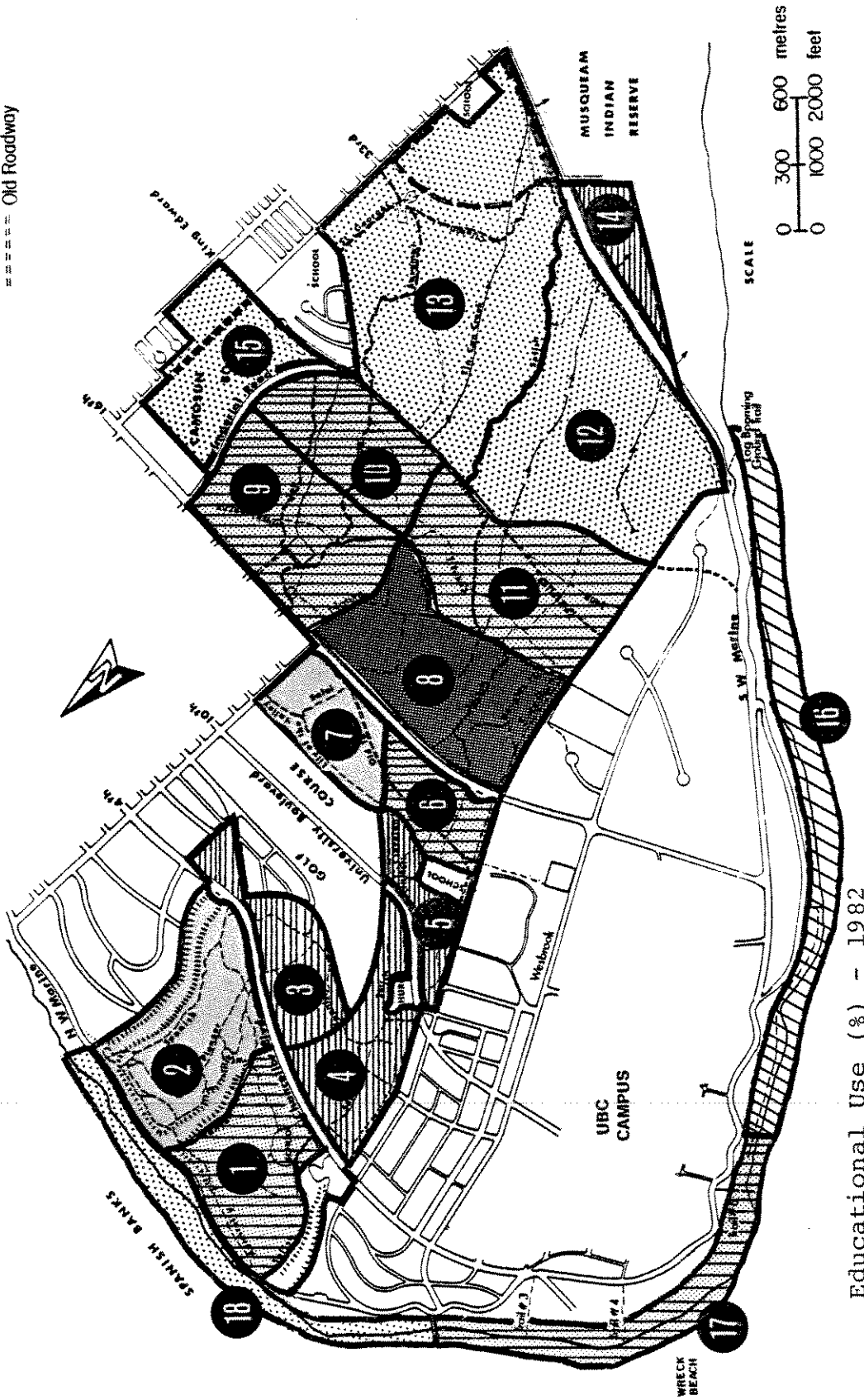
Table 4. Summary of Level of Use

<u>Level of Use</u>	<u>Map Area</u>	<u>Percent of Total Use</u>
High	6,8	25.4%
Medium	1,9,10,11,12,13,15,17,18	60.9
Low	2,7,16	9.6
Very Low	3,4,5,14	0.9
Area not indicated or not specified		<u>3.2</u>
		100.0%

Area 8 is the most heavily used area accounting for 17% of the total student trips whereas Area 3 had no reported use.

UNIVERSITY ENDOWMENT LANDS

--- All Weather Trails
 - - - Narrow Trails
 ===== Old Roadway



Educational Use (%) - 1982

- ≤ 1
- 1.1 - 3.0
- 3.1 - 5.0
- 5.1 - 7.0
- 7.1 - 9.0
- 9.1 - 14.9
- ≥ 15.0

Figure 1 - Map showing areas and level of use.

TABLE 3 - NUMBER OF STUDENT TRIPS BY FACULTY AND AREA 1

AREA (see map)	NUMBER OF STUDENT TRIPS BY FACULTY OR DEPARTMENT													TOTALS	PERCENT
	Geol.	Zool.	Biol.	Bot.	Soil Sc.	Eng.	Frst.	Anthro.	Bot.	Educ.	Geog.	Geop.	Plant Sc.		
1			144			1665			610	30	190			2639	7.6
2	100			316	630			260						1306	3.8
3															0.0
4		62												62	0.2
5		62								30				92	0.3
6		30		316	2477									2823	8.1
7		62		578	647									1287	3.7
8		62	144	578	4615			610						6009	17.3
9			144		1902			350		30	190			2616	7.5
10		530	144		1447			350		30				2501	7.2
11			144		2400									2544	7.3
12					1892			350						2242	6.5
13		500	144		927			350		30				1951	5.6
14					142									142	0.4
15			144		1561		42	260		30	70			2107	6.1
16	70				560		63						24	717	2.1
17	1412		144		560					480			24	2620	7.5
18	242				1625		63							1930	5.6
Area not Indicated or not specified				5				140		480				1130	3.2
TOTAL OF ALL STUDENT TRIPS OVER ALL AREAS													34718	100%	

1. The questionnaire asked faculty members to indicate on the map their areas of use. The breakdown of areas, from #1 - #18, was superimposed on the map after returns were received.

TYPES OF USE

Virtually all of the student trips reported were for student course field trips or undergraduate student projects. The variety represented by this use is listed below. Table 1 also illustrates the relative level of use by course.

Table 5. Generalized Types of Undergraduate Interest and Uses

- Soil descriptions: physical and chemical
- Soil/vegetation interactions
- Terrain classification
- Geological history and morphology
- Geological processes
- Erosion problems and processes
- Coastal and hydraulic engineering applications
- Surveying exercises
- Geophysical techniques
- Identification of vertebrates and signs of vertebrate activity
- Vertebrate habitat studies
- Surveys of vertebrate and invertebrate populations
- Demonstrations in habitat sampling techniques
- Demonstration and studies in forest insect and disease problems
- Identification of mushrooms and other decay organisms
- General biological field trips
- Demonstrations in ecological interactions
- Ecological mapping and sampling techniques
- Specific ecological studies for a variety of plants
- Plant identification and taxonomy
- Forest silviculture
- Forest growth and yield studies
- Applied projects in forest engineering
- Forest management and harvesting planning
- Forest mensuration and sampling exercises
- Forest surveying exercises
- Fire protection exercises
- Projects in park planning and recreation
- Projects in landscape architecture
- Pollen studies
- Studies in water quality, chemistry, and nutrition
- Archeological studies

Research projects being carried out by faculty members or graduate students are listed as reported by the questionnaire returns.

Table 6. Research Projects of Graduate Students and Faculty Members

- Measurement of water flow and experiments with trial drainage structures
- Geophysical instrumentation testing
- Studies in erosion processes at work on the Point Grey Cliffs
- Growth and yield studies
- Morphogenesis of Grand Fir shoots
- Studies in nutrient cycling and organic matter decomposition
- Identification of genetically superior trees
- Study of the biochemistry of the Camosun Bog
- Studies of terrestrial isopods
- Various studies of water insects
- Study of epiphytic vegetation on Broad-leaf Maple
- Studies in sound attenuation by tree stands
- Population biology of the Robin
- Singing behavior of the Rufous-sided Towhee

The main types of lab materials collected by students and staff were vegetation and soil samples. Insects, small mammals, water samples, sediment samples, decaying wood, organic cores, pollen, and archeological artifacts were also collected on the Endowment Lands. The quantity of materials gathered, as reported by the questionnaire returns, was lower than expected and, at present levels of collection, would not appear to pose a threat to the integrity of the urban forest ecosystem.

IMPROVEMENTS

Half of the respondents to the question of whether there should be any improvements made on the UEL which might facilitate the educational use of the area, felt that no improvements were necessary.

All suggestions for improvements implied a more intensive management. The suggestions, as listed on the next page, received approximately equal attention.

Table 7. Suggested Improvements to UEL

- Assure security of experimental field equipment to enhance research use of the area.
- Intensify and improve management for educational and recreational use. The main thrust in this type of recommendation concerned forest cover manipulation and forest sanitation work for educational training purposes and as a demonstration of forest management practices for public education.
- Better sanitation and removal of old experimental and field exercise materials.
- Labelled displays centered around one or more nature trails for the benefit of students and the public.
- Improved access to information on the UEL with suggestions ranging from better availability of maps to sign posting of the trails.

EDUCATIONAL VALUE

Approximately 80% of the educational users responded to the question concerning the value of the UEL for educational and research purposes. Almost all of these respondents felt that the diverse nature of the area and its proximity to the University were its chief attractions, particularly with reference to the scheduling of lab exercises in one or two hour time slots.

Twenty-four percent of the respondents listed unique features which enhance the area's attractiveness for educational purposes. These features included Camosun Bog, the Point Grey Cliffs, the heronry and, a number of other features made unique by virtue of their proximity to the University within the urban context.

Financial considerations ranked third as a reason for attaching value to the area followed closely by the collection of lab materials for educational purposes.

COMMENTS ON THE PROPOSED GUIDELINES

Sixty-five percent of the completed questionnaires provided comments on the proposed list of guidelines regulating the educational use of the UEL. Comments ranged from whole hearted endorsement of the guidelines to outright rejection of some of the points.

More than three quarters of the respondents felt the guidelines were basically acceptable as presented. Most of the remaining respondents indicated support for the guidelines but expressed concern regarding their potentially restrictive effect on educational use of the area. Some of the comments are listed below following the relevant guideline.

Guideline #1 - *Non-destructive observation and interpretation of species, habitats, and conditions of interest will be encouraged at all times and at all locations within the Park, where periodic impacts are acceptable. Park administrators will be contacted in advance of any regularly scheduled use, in order to minimize potential conflicts, and complications.*

It should not be necessary to get permission for field trips.

A suggestion was made to introduce a grid referencing system so that use could be better monitored and potential user conflicts avoided. This comment suggests a need for clarification or insertion of an additional item.

Guideline #2 - *Where impacts of teaching, research, and demonstration may not be acceptable because of heavy use or conflict with special Park purposes, alternate sites will be suggested by Park administrators, or limited use allowed by permits which specify the nature and duration of use.*

No comments.

Guideline #3 - *Where samples are required for laboratory analysis, Park administrators will endeavour to meet needs of research materials within specially designated areas or within areas under development for other Park purposes.*

A preference to collect their own lab materials was expressed by some respondents. This comment suggests that some clarification in the wording should be considered.

Guideline #4 - All users will be obligated to keep any materials used to mark the "permanent" observation points within the Park to a minimum. No temporary flagging or other markers may be left in place for more than one week without permission. All equipment and markers will be removed by the user upon completion of the project.

It was suggested that one week was not sufficient time within which to complete short term projects and remove all temporary markers from the site. This comment suggests the need for a review of this specific constraint.

Guideline #5 - Proposals for research and sample collection will be brought to the attention of Park administrators at an early stage in their formulation. Projects involving direct contact with park users will be approved in advance.

No comments.

Guideline #6 - The Technical Committee will review major projects which may be of broader public interest and therefore appropriate for consideration for interpretation to the public.

Guideline #7 - Where necessary, questions of interpretation of the above will be brought to the attention of the Technical Committee for recommendations to, and resolution by, the Policy Committee.

A suggestion was made to expand and clarify the role of the Technical Committee.

As a result of these comments, the guidelines are being reviewed and modified by the U.B.C. Technical Committee on the Endowment Lands and by the GVRD Parks Department.

CONCLUSIONS

It is felt that the 1982 educational use survey resulted in an accurate measure of U.B.C.'s use of the UEL.

The most dramatic change in use since the 1971 survey, is the 976% increase in use by the Faculty of Forestry¹. Apart from this large increase, there has been no significant change in U.B.C.'s utilization of the Endowment Lands for educational purposes since 1971. The reasons for this relatively static level of use should be determined if an attempt is to be made to increase utilization of the area.

Coordination of educational use as proposed in the use guidelines was generally viewed favourably. It is felt, however, that on the basis of comments received, a review of the guidelines could help to make them more universally acceptable and functional.

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1. Due to curriculum changes necessitating larger class sizes and due to financial constraints on travel, it is anticipated that use by the Faculty of Forestry will increase even further.

REFERENCES

Norris, D.J., 1971. Educational and Research Uses of the University of British Columbia Endowment Lands: A Preliminary Survey, 18 pages, unpublished.

APPENDIX I

THE QUESTIONNAIRE

SURVEY OF THE EDUCATIONAL AND RESEARCH USE
OF THE UNIVERSITY ENDOWMENT LANDS

PLEASE RETURN TO:
Greater Vancouver Regional District
Parks Department
2294 West 10th Avenue
Vancouver, B.C. V6K 2H9

Name: _____

Department: _____

1. Have you used the Endowment Lands for educational and research purposes?
(area outlined on the attached map):

Yes _____ If yes, please complete the remaining questions.

No _____ If no, do you plan to use it in the future and if so describe
how. (You may also wish to respond to questions #4, 6, & 7.)

2. On the attached map please indicate area(s) of use.

3. Which activities do you use it for:

● Student course field trips - which courses and describe use: _____

● Undergraduate student projects - please give examples: _____

● Research projects: Staff _____

Graduate students _____

Please give examples: _____

- Collection of laboratory materials - please indicate types of material and quantity _____

- Other, please specify _____

4. Are there any improvements to the Endowment Lands you would like to see to facilitate your use? _____

5. What is the annual average number of students who use the Endowment Lands under your direction? _____

Of these students, how many make: 1 trip only _____

2 to 5 trips _____

6 to 10 trips _____

more than 10 trips _____

6. Describe why you feel the Endowment Lands are valuable for educational and / or research use. _____

7. Attached is a set of guidelines for use of the Endowment Lands for research and training. These have been endorsed by the GVRD and the UBC Technical Committee. Do you have any comments on these guidelines? _____

GUIDELINES FOR USE OF "SALISH FOREST REGIONAL PARK"* for research and training by staff and students of the University of British Columbia.

1. Non-destructive observation and interpretation of species, habitats, and conditions of interest will be encouraged at all times and at all locations within the Park, where periodic impacts are acceptable. Park administrators will be contacted in advance of any regularly scheduled use, in order to minimize potential conflicts, and complications.
2. Where impacts of teaching, research, and demonstration may not be acceptable because of heavy use or conflict with special Park purposes, alternate sites will be suggested by Park administrators, or limited use allowed by permits which specify the nature and duration of use.
3. Where samples are required for laboratory analysis, Park administrators will endeavour to meet needs of research materials within specially designated areas or within areas under development for other Park purposes.
4. All users will be obligated to keep any materials used to mark the "permanent" observation points within the Park to a minimum. No temporary flagging or other markers may be left in place for more than one week without permission. All equipment and markers will be removed by the user upon completion of the project.
5. Proposals for research and sample collection will be brought to the attention of Park administrators at an early stage in their formulation. Projects involving direct contact with park users will be approved in advance.
6. The Technical Committee will review major projects which may be of broader public interest and therefore appropriate for consideration for interpretation to the public.
7. Where necessary, questions of interpretation of the above will be brought to the attention of the Technical Committee for recommendations to, and resolution by, the Policy Committee.

* Name suggested by the UBC Technical Committee for the Endowment Lands forest.

- All Weather Trails
- - - Narrow Trails
- ==== Old Roadway

UNIVERSITY ENDOWMENT LANDS

