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MEMORANDUM

ATTENTION	Senate	DATE	October 16, 2013
FROM	Jon Driver, Vice-President, Academic and Provost, and Chair, SCUP	PAGES	1/1
RE:	Faculty of Environment: External Review of the Department of Geography (SCUP 13-46)		

At its September 25, 2013 meeting, SCUP reviewed and approved the Action Plan for the Department of Geography that resulted from its External Review.

Motion:

That Senate approve the Action Plan for the Department of Geography that resulted from its External Review.

c: N. Blomley
J. Pierce

A handwritten signature in dark ink, appearing to be "J. Pierce", is written over the typed name.



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MEMORANDUM

ATTENTION Jon Driver, Chair, SCUP
FROM Gord Myers, Associate Vice-President,
Academic and Associate Provost
RE: Faculty of Environment: External Review of the Department of Geography

DATE September 19, 2013
PAGES 1/1

Attached are the External Review Report on the Department of Geography and the Action Plan endorsed by the Department and the Dean.

Motion:

That SCUP approve and recommend to Senate the Action Plan for the Department of Geography that resulted from its External Review.

Following the site visit, the Report of the External Review Team* for the Department of Geography was submitted in May 2013.

After the Report was received, a meeting was held with the Dean, Faculty of Environment, the Chair of the Department of Geography, and the Director of Academic Planning and Budgeting (VPA) to consider the recommendations. The Department prepared an Action Plan based on the Report and these discussions. The Action plan was then submitted to the Dean who endorsed it.

The Reviewers stated;

"Overall, the Department of Geography at Simon Fraser University has an excellent reputation and is recognized for its significant contributions to scholarship and teaching."

The Reviewers made a number of recommendations covering the agreed Terms of Reference which have been addressed in the Action Plan.

SCUP recommends to Senate that the Department of Geography be advised to pursue the Action Plan.

Attachments:

1. External Review Report – May 2013
2. Department of Geography – Action Plan

*** External Review Team:**

Nigel Waters, Department of Geography and Geo-information Science, George Mason University
Audrey Kobayashi, Department of Geography, Queens University
André Roy, Dean, Faculty of the Environment, University of Waterloo
Rolf Mathewes (Internal), Simon Fraser University

CC John Pierce, Dean, Faculty of Environment
Nick Blomley, Chair, Department of Geography



Department of Geography and Geoinformation Science

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Provost, Dr. Jon Driver
Simon Fraser University

Date: May 21st, 2013

Re: the Review of Simon Fraser University's Geography Department

Dear Provost Driver:

On behalf of Dr. Audrey Kobayashi, Dr. Andre Roy and myself, please find attached our review of Simon Fraser's Geography Department.

Thank you for this opportunity that allowed us to participate in this most rewarding and interesting process.

Sincerely,

Nigel Waters, PhD

Professor & Director, Geographic Information Science, Center of Excellence

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A Review of Simon Fraser University's Geography Department

Date: May 10th, 2013

Review Committee Members:

Nigel Waters, Department of Geography and Geoinformation Science, George Mason University

Audrey Kobayashi, Department of Geography, Queens University

André Roy, Dean, Faculty of the Environment, University of Waterloo

Preamble

Our on-site review of the Geography Department at the Simon Fraser University took place between Tuesday, March 12th, and Saturday, March 16th, 2013.

The Committee started its on-site deliberations on the evening of Tuesday, March 12th, with an informal planning session as to how to approach our task. The following day we began the review with a meeting of the Senior Administrators of the University chaired by Dr. Gordon Myers, the Associate VP Academic, Dr. Glynn Nicholls, Director of Academic Planning, Dr. Wade Parkhouse, Dean of Graduate Studies and Dr. John Pierce, Dean of the Faculty of Environment, in which the Geography Department is included.

This meeting was followed by discussions with the Department Chair, Dr. Nick Blomley, and the Department Manager, Liliana Hill, and a tour of the Department's facilities and labs, all of which allowed us to gain an initial understanding of the constraints and challenges under which the Department labored. The rest of our first day involved meetings with both the faculty Undergraduate and Graduate Studies Committees followed by representatives from the Graduate and Undergraduate student bodies. The review committee was impressed by the fact that we were able to meet with both the outgoing and incoming Directors of the Graduate Program (Eugene McCann and Geoff Mann, respectively) and were able to hear the well-informed and articulate comments of the student representatives.

Our first day concluded with an informal reception with all members of the Department that included students from all levels and a large number of faculty. Reviewers can discern a good deal from these informal sessions and particularly fortuitous was Nick Blomley's suggestion that the reviewers might learn much concerning the history of both SFU and the Geography Department itself by perusing Hugh Johnston's book, *Radical Campus*. Blomley kindly lent this to one of the reviewers (AK) and all of us consulted the text. We found it informative to note that at one point Johnston states that SFU's Board of Governors "declared in 1969 that department heads or chairs should not be authoritarian but should work within a committee system and consult their faculty" (Johnston, 2005, p. 193). Johnston goes on to contrast the intensely hierarchical and authoritarian style of academic governance at Universities such as McGill during the late 1960s with that of nascent SFU suggesting that newly appointed department chairs at the latter who had experienced the former felt that they had been "catapulted six hundred years forward, from the fourteenth century to the twentieth" (Johnston, 2005, 193). This is important to note for, as will be documented below, the review committee was impressed by Dr. Nick Blomley's style of leadership in which he emphasized consensus building. Nevertheless, the review committee has specific recommendations as to how this style of leadership can be enhanced so as to provide a secure and increasingly effective role for the Department in the future.

Day two (Thursday, March 14th) began with successive meetings with Dr. Wade Parkhouse, the Dean of Graduate Studies, and Dr. John Pierce, the Dean of the newly formed Faculty of Environment. A key aspect of our review has been to determine the success and extent of the involvement of the Department of Geography within the Faculty of Environment. More specifically, we were concerned with how relations between the Department and the Faculty management might be enhanced, developed and improved. After lunch on day two we met with the various specialty groups within the department and these included two groups of human geographers, a group of physical geographers, and the spatial information systems (SIS) faculty. We were intrigued that the latter group was not labeled as the Geographic Information Science group and that issue is discussed below. In the latter part of the afternoon we held a meeting to discuss the Co-op Program, a truly impressive component of the department's offerings and an aspect of the department that we believe should be nurtured and further developed, especially during an era when employment opportunities are severely curtailed even in the more technical portions of our discipline. The day concluded with discussions with the technical staff that proved both thought-provoking and rewarding.

Our final day of meetings began with a short interview with Dr. Norbery Haunerland, the Associate VP of Research. Much of the rest of the day was taken up with separate meetings with the Department's faculty by rank. Thus we met initially with the Assistant Professors, then with mid-career faculty, followed by Senior faculty, then with the Sessionals and Limited Term Lecturers, and to conclude, with Adjuncts and Post-Doctoral fellows. In our narrative below, we discuss in some detail our conversations with these faculty members and support staff and then draw inferences from these conversations.

The entire review ended with one final meeting with the Department Chair, Nick Blomley, and his Department Manager, Liliana Hill, and then a concluding meeting with the Senior Administrators that we had met with at the beginning of the review plus Dr. Jon Driver, the Vice-President Academic. This meeting included a presentation of our initial findings and impressions that was presented by the Chair of the Review Committee and supported by comments and input from all members of the committee.

Introductory Statement

Overall, the Department of Geography at Simon Fraser University has an excellent reputation and is recognized for its significant contributions to scholarship and teaching. This report will highlight the observations of the Committee and will propose several recommendations that should, if implemented, raise the profile of the Department and enhance its reputation. At the outset, we want to note that the Department has a collegial way of working. Indeed there is a collective will to be part of the Department and to work together. A challenge for the Department in the coming years will be to determine who will be the new Chair. Moreover the Department as whole must be more pro-active in seizing initiatives to increase its profile within the discipline and throughout Canada. One way to do this is to host the Annual Meeting of the Canadian Association of Geographers. We note that the Department has not undertaken this responsibility in recent years.

Our review begins with a consideration of the Department's Teaching Programs, organized by Undergraduate and Graduate offerings.

a) The Geography Department's Teaching Programs

At the outset we note that the quality of the unit's teaching programs is high and that there are measures in place to ensure their evaluation and revision.

1. Undergraduate Programs

The Department has a very strong undergraduate program, and our meetings with students indicated a high degree of satisfaction. There is a broad range of courses at all levels, taught by highly qualified tenured faculty, and permanent and sessional lecturers and adjunct faculty.

The Co-op program is highly successful and the students consider it a very valuable part of their educational experience. The program clearly motivates the students and influences their choice of future careers. We heard about a community garden initiative by the students, a fabulous project that is clearly influenced by the self-reliance and professionalism encouraged by the Co-op program.

The certificate program is also a very important asset, praised by students because it gives added value to their range of experience and expertise and it is included in their transcripts. There is probably scope for considerable growth here, both in expanding current programs such as the SIS/GIS certificate (although such expansion is currently limited by lab space), and in adding new certificates that would highlight professional development prospects. New certificate streams, however, could only be added if the current highly structured nature of the bachelor's degree were to be considerably loosened, as we explain below.

Experiential learning is also highly valued by the students, and there are a number of exciting opportunities offered in the program. There is clearly scope for expansion as well. Honours students in physical geography have difficulty getting into the field school class held at Bamfield. We were also surprised to learn that the course in qualitative methods had been cut from the program, since qualitative methods form the basis for most field work in human geography.

The Geography Department faces an exciting opportunity with the new BEnv degree and should play a strong role in the design committee. This process creates an opening to consider and reinforce the role and importance of a geography degree within the Faculty of Environment, and to clarify for students and the public the discipline's established and longstanding place as an interdisciplinary in the study of the social and biophysical environment, broadly defined.

The introduction of the BEnv could also create potential challenges for the Department. There is a risk that it will result in a zero-sum situation, should it draw students away from the geography degree as was suggested in our meetings with students and expressed by several faculty members.

Integration within the Faculty of Environment also creates an opportunity to re-think the basis of the undergraduate degree in geography. The Geography Department offers a great breadth of courses in accordance with their comprehensive view of the discipline as described in their self-study document and during our meetings with faculty. However, this view is not necessarily maintained in reality: there are many courses not taught on a regular basis, and students identified the difficulty of getting the courses they need, when they need them, as a concern.

A more serious issue is the highly structured nature of the undergraduate degree. We believe that there is no program in Canada that has this much inflexibility or such a large number of required courses. The streams are very demanding, especially in a context in which courses are required but not given. Many of the required courses are exclusive to a single stream, making it difficult for courses to serve in double roles and thus potentially limiting enrolment and making it difficult to diminish the total number of offerings. Furthermore, we had difficulty understanding the rationale for some of the requirements. For example, GEOG 468, Society and Environment in China, is listed as a required choice in the "Resources, Economy, and Environment" concentration, but is not listed in the "Society and Environment" concentration. GEOG 377, Environmental History, is in the latter but not the former, and so on.

The Committee could not find a pedagogic imperative for these streams as they are written. They seem to create unnecessary complexity for both the students and the undergraduate advisor, to put pressure on the Department to mount courses, and to make it difficult for students to create a personalized direction in the degree program. Furthermore, the structure is highly traditional.

The Committee also noted a few more specific issues:

- The relatively low proportion of field courses in the program. We have heard that a very popular field course at Bamfield is offered intermittently and is capped at 20 students, making it difficult to fit in the curriculum. Resources should be invested in order to ensure that such an important course for the complete training of geography students is offered at least every year.
- The delivery of courses is traditional with an emphasis on lectures. The Department may wish to diversify its mode of delivery in order to meet an increasing demand for on-line training and for hands-on experiential learning.

The Department might consider the following:

- Make the streams much more flexible allowing students to chart a more personal course through the program.
- Examine the contributions of all courses to the curriculum objectives and diminish the number of courses where appropriate.
- Reduce the number of human geography courses required for physical geography students, and vice versa, especially at the upper levels.

- Think about renaming some of the courses, to replace traditional descriptors with titles that are more appealing and contemporary.
- Offer an intensive field course every year.
- Reinstate the qualitative methods course.
- Look for ways to expand certificate programs, including the SIS/GIS certificate, which has potential to generate income.
- Participate actively in the development of the BEnv program while ensuring the viability of the other streams in the geography program (we note that the number of students in the Physical Geography program is already low and may be reduced further by the new BEnv).

2. Graduate Programs

The graduate program in Geography is very strong and reflects the excellent research of the faculty. The Committee spoke with graduate students who overall are satisfied with the program and with their supervision.

The Department uses an apprenticeship model, which means that there are a moderate number of courses at the master's level, and no courses (except a minimal professional development seminar in the first semester) at the doctoral level. This format is quite unusual in Canadian geography departments. Students in both programs mentioned that they would like to see more course offerings at the graduate level. Master's students find the range of courses inadequate to their needs, and students have had difficulty getting even required methods courses that are given infrequently. Doctoral students would like the opportunity to interact with others in a seminar setting.

Both the self-study report and our meetings with graduate students indicated a need for more interaction among members of the Department. There is currently one very successful guest lecture annually (recently given by Mike Goodchild), but the tradition of a regular seminar and regular brown bag lunches has fallen away in recent years, with lack of faculty attendance given as the most significant reason. Especially in a situation where interaction in graduate seminar groups is limited, the revival of this tradition is terribly important. The self-study report indicates that the Department is taking steps to improve the situation. The development of activities that would contribute to creating a dynamic intellectual environment should be a high priority of the Department.

Times to degree completion are satisfactory, about average in the experience of the three reviewers. As in most programs, they could be shorter, especially at the master's level. In both the master's and doctoral programs, one important key to speedier completion is to get the research, which usually involves fieldwork, completed quickly. At the doctoral level, the comprehensive exam process seems to be quite lengthy. We believe that times would be speeded up if the current order of comprehensive exam followed by thesis proposal defense were reversed, so that the comprehensive – or qualifying – exam is closer to the thesis and so that students get started earlier on the thesis.

Numbers in the graduate program are modest, and there is considerable room for growth. We understand that growth in the traditional degrees is unlikely in the short term given the funding constraints of the University. There is probably considerable scope for premium professional degrees, however, especially in one-year course-based master's programs. The obvious area is in SIS/GIS, although growth there would depend upon expanding lab space. There are also other possibilities –

some of which we heard about, such as a potential program in ecological restoration – that seem quite promising. In general, it should be possible to develop interest in cooperation with other units both within and beyond the Faculty, to develop programs that would take advantage of Simon Fraser's scholarly strengths, as well as its unique location in a west coast city. Some possibilities might include urban studies, migration studies, environmental management, natural hazards, but these are only given here as examples. The Committee has heard that initiatives that are market driven would be supported by the institution. There seems to be a great deal of openness from the Faculty of Graduate Studies to propose new initiatives. Given the current state of the budget of the Faculty and as a consequence of the Department, the development of new graduate programs would be welcome.

The review committee recommends:

- Find ways to value and recognize graduate teaching in the load of faculty members.
- Increase the number of graduate seminars available for both master's and doctoral students.
- Continue to find ways to increase interaction among students and faculty through scheduled departmental seminars.
- Revise the doctoral comprehensive examinations, to streamline, and to reverse the order of the exam and thesis proposal defense.
- Explore all possibilities for premium professional graduate degrees, in cooperation with other units.

3. Review the opportunities for the Department in developing interdisciplinary undergraduate and graduate programs in the Faculty of Environment, or with departments in other Faculties at SFU. To what extent have these opportunities been considered and acted on.

As stated at various times in this review, Geography is interdisciplinary by its very nature. The Review Committee believes that BEnv Program should be an interdisciplinary extension of an interdisciplinary discipline. There is an opportunity for a Degree in Ecological Restoration although it needs to distinguish itself by, for example, an emphasis on Conservation, if it wants to avoid stiff competition from an existing program at BCIT. Other opportunities include the possibility of collaborating with the Department of Archaeology. Over recent decades these two disciplines have collaborated in the development of their methodologies, whether it was their early interest in statistical analysis, spatial statistics and GIS, or developments in qualitative analysis and structuralist and post-structuralist approaches to their subject matter. These opportunities have been leveraged in other universities and so why not at SFU, where both Departments have a high profile? This possibility is noted in the Vision Statement of the SIS group, which regards the Department of Archaeology as a source of students for introductory GIS courses.

Graduate and undergraduate certificate programs might be expanded or developed. Examples of the former would include the Urban Certificate Program that already has connections with the Departments of Political Science and Sociology, while collaboration with Earth Sciences (e.g. Natural Hazards Centre of John Clague) might lead to new certificate programs with that Department.

4. Connection of the faculty within and outside the University

Here we discuss the Department's plans for teaching and research initiatives and their relationships with other units within the University

The Review Committee saw great potential for growth by exploiting the Department's innovative connections that already exist with REM. On the other hand the GIS Program with Computer Science should probably be scrapped as it is essentially moribund, at least with respect to participation by Geography students. The Geography Department has the opportunity to shape and influence the development of the BEnv program and to ensure that it works in accord with all of their undergraduate streams (which we hope will be streamlined). The Environmental Science Program (which the Department participates in jointly with the Faculty of Science) might well be expanded. Existing links to Health Sciences developed by Drs. Schuurman and Crooks are highly successful and might well be used as a model for expanding the links with Criminology with Dr. Martin Andresen, an Adjunct with the Department of Geography.

Although there appeared to be good interaction with the Faculty of Graduate Studies, we encountered some evidence of miscommunication. The Dean of Graduate Studies complained to the Review Committee that out of 18 or 19 initiatives for new funding there was not one from the Department. The Faculty of Graduate Studies is open to such new initiatives and would welcome some from the Department.

Finally as a committee we question whether the Department's links to the Harbour Centre and to Surrey could be strengthened. There appear to be opportunities here for expansion, but we question whether they are constrained by the cap on enrollment. Could the Certificate and Master's Program in Urban Studies be further expanded?

b) Faculty Research

The Review Committee noted that the quality of faculty research is high and faculty collaboration and interaction contribute to the creation of a stimulating academic environment. Moreover, recent hires have provided new opportunities to identify emerging research areas that should be pursued.

The Department is rightly justified in being proud of the research excellence of its faculty members. The self-study report celebrates the fact that the Department is “more productive now than we have ever been.” The self-study divides faculty expertise into the following areas:

- *Environmental and Atmospheric Science:*
Brennand, Dragičević, Hedley, Krawchuk, Lesack, Schmidt, Zickfeld
- *Geomorphology & Hydrology:*
Brennand, Lesack, Venditti
- *Soil Science and Ecology:*
Dragičević, Krawchuk, Lesack, Schmidt, Knudby
- *Health Geography:*
Crooks: Kingsbury, Schuurman
- *Place and Development:*
Brohman, Gill, Hayter, Kingsbury, Sturgeon
- *Society and Environment:*
Clapp, Hayter, Mann, Sturgeon
- *Power, politics, policy:*
Blomley, Brohman, Clapp, Gill, Holden, Hayter, Kingsbury, Mann, McCann
- *Urban Spaces:*
Blomley, Dragičević, Holden, Kingsbury, McCann, Knudby
- *Spatial Information Science:*
Dragičević, Hedley, Schuurman, Knudby

With some justification the self-study claims that: “It is impossible to do justice to the exciting and diverse research conducted by SFU Geographers.”

Evaluate the research strategy of the Department and provide advice on approaches that would increase research productivity.

We begin this part of our evaluation by recounting our discussions with faculty members, technical support staff and the manager of the Department’s Co-Op Program.

As noted in our preamble to this report, the Committee met with members of the faculty by research grouping throughout day two of our review. As in many Geography Departments the research faculty members are divided into three broad overlapping groups, namely those that regard themselves primarily as human geographers, physical geographers, and spatial information scientists, respectively. From the outset the Review Committee would like to note that the Department has been remarkably successful in attracting new hires of the very highest calibre and this is especially noteworthy since there appears to have been no formal hiring strategy that would emphasize the building up of research specializations. This is of considerable concern in that the Department is likely to lose some of their most

prolific publishers/researchers in the next few years. It was intimated to us that senior administration is not keen to see automatic replacements of these positions but rather would prefer to see detailed justifications for new specializations. Consequently, on day two of our Site Visit we were invited to meet with the various faculty research groups (Human Geography, Physical Geography, and Spatial Information Science) along with the members of the Department who provided Technical Support, and Paul DeGrace, the Coordinator of the Environment Co-Op program.

Here we begin by reviewing these conversations and then discuss what we see as possible new directions for the Department along with a discussion of ways in which past successes can be sustained.

Human Geography Interest Group (HGIG)

Those faculty members that we met with in the first of these groups (here referred to as the Human Geography Interest Group or HGIG) included: Alex Clapp, Alison Gill, Roger Hayter, Meg Holden, Paul Kingsbury, Rolf Matthews, Janet Sturgeon and Ivor Winton. Our dialogue with this first group suggested various ways to move forward with new, targeted hiring strategies. These proposals included the following suggestions that the committee supports:

- The Geography Department should pursue a hiring strategy that distinguishes the Department from what is being offered by its main competitors, the University of British Columbia and the University of Victoria.
- The new BEnv degree is perceived to emphasize the bio-physical environment and not the social environment. Faculty members argued, and the committee agrees, that there is an opportunity to pursue research that involves the social environment. One way to leverage the limited number of appointments that are likely to arise in the immediate future is to collaborate with other social science departments such as, for example, the Political Science Department. This might allow the pursuit of a variety of research and teaching possibilities that would emphasize research on the social environment.

When the Committee noted that there seemed to be little to almost no emphasis on some of the great traditional concerns of Geography departments such as historical and regional geography, faculty members observed that these topics were covered in the past but faculty with research and teaching interests in these areas have not been replaced. The Committee notes that this is a conundrum. Thus as new research specialties emerge it is difficult, indeed it may not be desirable, to cover all that was taught before. Despite our acknowledgement of such difficulties the Committee deems it of great importance to make the following suggestion:

- The graduate seminar course, 605, must be strengthened. This would be an ideal course to introduce graduate students to those aspects of social theory that are of special relevance to geography graduates. It is a lost opportunity to see this course merely as an opportunity for new graduates to socialize.

It was communicated to the Committee that the Dean of the Faculty, Dr. Pierce, supported a chair in Aboriginal Governance. The Committee believes that this represents an opportunity for the human geography interest group in the Department, especially since it would complement and support established research interests, including those of the Department Chair, Nick Blomley. We were

informed that other Departments and academic units such as Archaeology and REM have gained positions in closely related areas and thus there is considerable potential for synergies and the development of critical research mass in this area that would be competitive in applications for SSHRC Discovery and Insight grants.

The Committee discussed the sensitive issue of how intellectual effort is rewarded at SFU. There was some consensus that increments within the Department were above average but that pay increases were limited by mandated maxima. It was noted, with approval, that teaching excellence was now more widely recognized than it had been in the past. Grant acquisition did not seem to be highly rewarded; this is out-of-step with many other institutions and is likely to reduce the competitiveness of the graduate program in the coming years.

Physical Geography Interest Group (PGIG)

Early on the afternoon of our second full day of the review our team met with the Department's Physical Geographers (PGIG). These included Tracy Brennand, Meg Krawchuk, Margaret Schmidt and Jeremy Venditti. Lance Lesack and Kirsten Zickfeld were not able to be present. The faculty members we interviewed described their research and teaching activities and the review committee was impressed by the breadth of their research and the extent of their teaching commitments. For example, Dr. Venditti, who is Director of the Environmental Science Program until 2018, described his work in fluid dynamics, which involves both a field and a lab component. The former work was conducted at the Bamfield Field Station, mentioned above, and the latter in what was described as \$1.2 million CF-funded fluid dynamics lab. These resources present exceptional opportunities for students in the Department, opportunities that would not be present to the same extent in competing programs in rival departments at the University of British Columbia and the University of Victoria. Such commitments, however, restrict the ability of members of this group to teach a full range of courses in this area.

In addition to concerns over teaching commitments, members of the PGIG discussed the department's Seminar Series that had seen a revival in the academic year 2012-2013 from its relatively moribund state. The Review Committee applauded this renewed interest in the seminar, seeing this as the mark of a lively, well integrated Department committed to sharing and discussing the latest discipline-wide research developments across a broad range of topics.

The Committee specifically asked members of the PGIG what they saw as their highest priority in strengthening the Department. One response on which there appeared to be consensus concerned the hiring of a permanent, tenure track hydrologist. The members of the PGIG endorsed the suggestion of their colleagues in the HGIG when they too suggested that the Department should leverage synergies in hiring, perhaps collaborating with other departments. It was noted that the number of majors in Physical geography has declined recently. One statistic that was brought forward indicated that the number of majors was down from a high of 80 to its present total of 35. It was also suggested Physical Geography had a "branding problem" and that indeed there were too many streams.

There was extensive discussion of the Global Environmental Systems (GES) program. It was stated bluntly that there might be as much as an 80% overlap with the offerings in the Physical Geography courses. One comment was that "we need to sit down and have a chat" with those involved in the administration of the GES. Indeed. Further discussion from the PGIG faculty argued that the GES might even be administered within the Geography Department. One faculty member commented that

academic Programs need a “real champion” and a “departmental home”. It was believed that such a development would be supported by the Dean’s Office but when confronted with the possibility that this might happen, at least one faculty member argued that the PGIG was too small to shoulder the administrative burden and develop a “vision statement” and only with new hires might such a plan be achieved. The Review Committee members were candid in their responses to this discussion and suggested, politely, that this was a critical time in the history and the development of the Department, a turning point. Faculty members agreed with this assessment stating that they should indeed “take the bull by the horns” but that they had no further time or resources to devote to such a project. They also said that they needed support from the Department Chair and that earlier suggestions of passive support, i.e., “to get on with it,” were insufficient. We feel that PGIG needs guidance, active support and encouragement from the Department Chair in pursuing these initiatives.

The need for additional resources among the PGIG was felt most acutely in the area of technical support. The University was seen to provide funds for equipment but insufficient support for technicians. It was noted that the SIS group is supported by three technicians. This too was seen as an area of highest priority. If financial resources do not permit the hiring of additional, full time technicians (though this would be the ideal scenario), then one possibility might be to provide funds to students, either graduates or even undergraduates, to perform some of these technical support tasks in the role of an RA or TA. Under the same rubric of inadequate technical and physical resource support it was pointed out to the Committee that the WiFi in the R. C. Brown Building was simply inadequate.

The Review Committee suggested to the PGIG that the graduate program in Physical Geography appeared small when compared to other institutions and Geography Departments of a similar size and with similar resources. PGIG members implied that one reason for this might be the small size of the PGIG and the diversity of interests within the group. PGIG members proposed that to alleviate the burden of finding members for graduate advisory committees additional members should be sought from cognate departments such as Earth Sciences. We agree and believe that a great many opportunities might exist in a number of other departments such as Archaeology and Earth Sciences. Again it was evident that new bridges need to be built and that newly hired faculty members should be leading the way in this endeavour. One review committee member suggested an additional strategy for sharing the advisory burden, namely the use of additional Adjunct Professors. PGIG members noted that some exceptional adjuncts, such as Professor Ray Kostachuk, were used but it was admitted that the number of adjuncts was small (the Review Committee was given the CVs of only two adjuncts) and that this did indeed represent an unexploited possibility. We were pleased by this positive response and made the comment that in an era of extreme financial constraints throughout academia we all needed to search for new “road maps” and should not be overwhelmed by “road blocks”, however grim the perceived reality. We concluded that:

- The Department must strengthen and sustain the Research Seminar Series so that it becomes a showcase for cutting edge research within the discipline, a venue that attracts an enthusiastic audience from all members of the Department from senior faculty to newly arrived undergraduates. The Review Committee suggests that the Department block off a period of time every week for the seminar, allowing all members of the Department and especially students at all levels, to attend. We see this as an excellent way in which to build morale, a sharing of expertise and an esprit de corps within the Department.
- The PGIG identified the hiring of a permanent, tenure track hydrologist as an item of highest priority. The group also identified the need to explore the possibility of interdisciplinary hiring

with cognate departments. The Review Committee suggests that the Geography Department be encouraged to bring forward hiring proposals with cognate departments but that any such proposal be tied to restoring the number of majors within Physical Geography to the numbers that were the norm in recent years. A reduction in the number of streams within Physical Geography should also be considered to reduce workloads and course offerings.

- The Chair and the PGIG should discuss with the Dean developing a proposal to house the Global Environmental Systems Program in the Department of Geography. The Chair of the Geography Department should take a leadership role in moving this process forward.
- Technical Support to the PGIG needs to be increased. The Review Committee suggests the hiring of a new Technician or at the very least the provision of funds for an RA or TA position where the duties would include technical support in Physical Geography courses.
- WiFi in the R. C. Brown Building needs to be enhanced.
- The PGIG needs to grow the Physical Geography graduate program. This can be achieved in part by building bridges to cognate departments to increase the cadre of committee members willing to be on graduate advisory committee. The number of Adjuncts should be increased, again with the goal of alleviating the advisory burden.
- For the PGIG the status quo is not an option. They need, as a group, to build a road map to the future. Their faculty members have impressive credentials and there have been, in recent years, new hires of the highest calibre. These new assistant professors should be an active part of the process of planning for the future.

Spatial Information Science Cluster (SISC)

The Review Committee next met with five members of the SISC, including Shiv Balram, Suzanna Dragicevic, Nick Hedley, and Nadine Schuurman. Anders Knudby a sixth member of this group was not available. There is no doubt that this is a distinguished group. The senior professors, Dragicevic and Schuurman, are particularly productive. It is notable that the latter has a Career Award and is the current Editor of the discipline's flagship publication in Canada, *The Canadian Geographer*. Those at the less senior ranks appear equally accomplished given the stage of their careers. Again, the Department is to be congratulated for continuing to attract high quality new faculty and for making some astute hires that bode well for the future. The Review Committee was particularly grateful to Nick Hedley for forwarding to us a Vision Statement that included the Cluster's original Vision Statement from 2009 plus updates, the last of which was dated from January 2012.

To the Review Committee, the SISC appeared more cohesive and proactive than the two other groups. They had a Vision that they were promoting both to their Dean and SFU's Senior Administration. However, it was not clear to the Review Committee whether this had been developed with the full involvement of the Geography Department's Chair. Indeed we were informed that the Vision Statement was sent to the Dean "over the Chair". It is the view of the Review Committee that the involvement of the Chair and consultation of other faculty members in the Department are vital. If "SIS is the glue" for the Department, as one SISC faculty member suggested, then the SISC Vision Statement should be

developed with the full knowledge and input of the entire Department. The Committee was also uncomfortable with the name of the Cluster. It was explained to us that Spatial Information Science was seen as a “bigger umbrella” than Geographic Information Science. Indeed the 2009 Vision Statement states that SIS is seen to include “GIScience, spatial analysis, and modeling, geovisualization, geospatial interface research, remote sensing and mobile networks.” A Google search and a Google Scholar search revealed that there is little doubt that Geographic Information Science remains a far more popular description of the field than Spatial Information Science. Also the former seems more appropriate than the latter so long as the cluster is housed within a Geography Department. One of the SISC members did state that they were not “unified” on the term SIS. Nevertheless, if the SISC is pursuing a much broader role as a Faculty of Environment SIS Cluster and subsequently a University-wide SIS Cluster, then perhaps the latter will attract more interest across the university than the more commonly used Geographic Information Science. Indeed the recent development at the University of Southern California in Los Angeles, where the Geography Department was closed down to be replaced by a Spatial Information Sciences Institute that would serve the whole campus, may suggest that the new term will become more popular where this role dominates. The January 12th, 2012, Update to the Vision Statement provide by the SISC suggests that the academic units that might be targeted to attract students for Spatial Information Science courses would include “REM, Archeology, Earth Science, Biology, Criminology, Business and Health Sciences”.

The 2009 Vision states that “SIS at SFU is well-positioned to become the strongest such group in Canada.” Since then the Department has lost the Remote Sensing expertise of Arthur Roberts due to his retirement and has had these skills replaced by the hiring of Anders Knudby. Essentially, what we learn here is that the status quo has been maintained but that is to say the Department remains weak in the area of Remote Sensing. The 2012 Update to the Vision Statement seems more nuanced and realistic in that it recognizes that even within the Province of British Columbia there are well resourced and long established rival programs at the British Columbia Institute of Technology with its B.Tech in GIS and Advanced Diploma in GIS, which compete successfully with the Geography Department’s GIS Joint Major Program and the SIS Certificate Program, respectively. Indeed, in our discussions with the SISC faculty it was noted that the GIS Joint Major has not been successful and currently has only eight students enrolled, seven of whom are computer science majors.

Our discussions with the SISC faculty concluded with one member noting that their group was “still very fragile.” It is interesting to note that both the original 2009 Vision Statement and the 2012 Update for the SISC reiterate the need for two new hires and both suggest that these be in “mobile sensor and distributed networks” and in “spatial policy and evidence based decision making”. The former position in the field of location-based services is indeed an important area which has developed its own new academic journals and the latter would complement the existing work of the SISC in the fields of health services and criminology. The Committee agrees that these are good choices but that an overall strategic planning of the next hires should take place at the department level.

- The Review Committee would support encouraging the SISC to work with the Department Chair in creating a business model to develop the GEOG 150, GEOG 350 and GEOG 650 Courses, following USC and GSC approval, to serve the University wide Community. This proposal should include a request for hiring a new Lecturer and Technical Support person as described in the 2009 Vision Statement, the latter individual being a shared resource with the FE. It would also require the upgrading of lab space to accommodate the increase in the number of students.

- We suggest that in addition the SISC explore the development of a new Premium Based Masters in SIS, and that a complete Business Model should be developed that would include sufficient student enrollment numbers to support the hiring of additional tenure track faculty members as outlined in the SISC Vision Statements

Technical Staff

The Review Committee met with four members of the Technical Support Staff at the end of our second day of meetings. The Department is in many senses well-resourced with Technical Support Staff but, as noted above, these are not distributed evenly among the various interest groups within the Department. If the Physical Geography program is to grow back to its former numbers (and this should be an expectation given the highly talented young faculty hired in this area) then more technical support resources need to be allocated to this area. It should also be recognized that in many instances (although not all) human geographers may need additional computational assistance in their research and they too should have access to the technical support that is allocated to the SIS cluster.

The main expenses facing the Department are in the areas of software license renewals and in maintaining and renewing the computer labs. The Technical Staff that made themselves available had a litany of complaints concerning the physical environment in which their labs operate, including: the inadequate air-conditioning and conversely issues with frozen pipes, floods, climate control, inoperative Ethernet, and WiFi that was made available just last year and now operates on a “hit and miss” basis.

- The maintenance issues outlined above, while prosaic, must be addressed before they deteriorate to such a state that they dramatically affect day-to-day operations and/or become prohibitively expensive to fix.

Co-Op Program

Towards the end of the day on the second day of our visit to the Department of Geography we met with Paul DeGrace, Coordinator, of the Environment Co-op Program. Paul manages all of the Co-Op Programs in the Faculty of Environment including REM and Geography. The Co-Op Degree Program requires four work terms while the Certificate Program can be completed in three semesters. In recent years the main challenge has been in finding student placements. This is aggravated by the Federal Government’s dramatic cut-back with hiring and placements. Paul noted that Environment Canada used to accept 16 or 17 students but that now it is down to just one or two per semester and sometimes there are no placements available. Paul believes that the Program could grow as student enrollments in the Faculty of Environment increase. Students enrolled in the Program always receive paid employment when they are placed. In total number of placements annually, the Science, Environment and Health Sciences Co-op Program (the Environment Co-op is managed with the Faculties of Science and Health Sciences administratively) is second to the Business Co-op Program.

- The Co-Op Program is one of the great strengths of both the Department and the Faculty and this is especially so in times of high unemployment. Cutbacks in placement opportunities with the Federal Government must be supplemented by developing new opportunities with the Provincial and Municipal Governments and within the private industry sector. This is especially important as long as high unemployment persists.

c) Appraise how Department members participate in the administration of the unit and take an active role in the dissemination of knowledge.

1. Evaluate both the internal and external communication strategies employed by the Department and provide advice on how these could be improved.

The Committee has found that internal and external communication could and should be improved. Although the Department has a convivial and collegial environment, there seem to be several different and perhaps competing agendas from the various groups in the Department. For instance, as noted above, it appeared to us that the SIS group took some initiatives and went directly to the Dean's level without clear consultation and approval within the Department. Although this initiative may have merit, the approach has generated some issues within the unit. In this context, the Committee noted that a clear strategy for the future of the Department does not exist. This could be partly explained by the lack of appropriate internal communication and interactions. Efforts should be deployed to ensure that a common vision animates the unit and that all constituencies of the Department are aligned with this vision. This is essential if the Department wishes to establish its leadership within the Faculty and institution and beyond. Efficient internal communication is essential for this to happen.

The Committee quickly became aware of the difficult communications between the unit and the Faculty leaders. We have seen evidence that what is understood or stated from one side is not resonating well on the other side. As a result, there may be mutual frustration about the leadership role that the Department should take in the new Faculty and about its role in the development of the Faculty's identity. The Committee feels that the Department has a unique opportunity to be a major player in shaping the Faculty and in promoting its academic agenda. Such an opportunity should not be missed and open communication leading to a common understanding of the situations and issues arising is necessary. There are signs of improvement but much remains to be achieved.

2. Size and quality of the faculty complement in relation to the Department's responsibilities and workload

One of the major strengths of the Department of Geography is its highly competent and well regarded faculty complement. Over the years, the Department has been able to attract wonderful scholars who have contributed positively to the academic mission of the unit. The examination of the faculty members' achievements leads to the conclusion that SFU ranks highly among the geography departments in Canada. The trend of excellent hires is still ongoing with the recent addition of very promising junior faculty members. This is an excellent sign for the future of the Department.

The Committee noted the very active and important role of lecturers in the delivery of courses essential to the various academic programs and to the management of some of these programs. Lecturers are also leading initiatives in the development of on-line courses. Some of the lecturers are involved in research in spite of their heavy teaching loads. Their contribution to the success of the undergraduate programs seems important and perhaps a bit disproportionate. Adjunct professors also play a key role in the Department through their involvement in graduate supervision although, as noted above, there is

considerable potential for adding to the number of active adjunct professors thus increasing supervision capacity in key areas.

A few major concerns were raised during our visit. The first issue is related to the faculty positions “promised” with the creation of the new Faculty of Environment. These faculty lines have not materialized, mainly due to a difficult budgetary situation. This has led to some discontent in the Department. The second issue is the renewal of the faculty complement. Several faculty members are nearing retirement, raising the question of replacement. There is some uncertainty among faculty members as to the commitment of the Faculty office to allocate these positions to the Department of Geography.

Although there is always room to grow through new initiatives, the size of the faculty complement is reasonable with respect to its mission and goals and is comparable to similar departments across Canada. The Committee noted, however, that the Department has maintained a tradition of a comprehensive coverage of the discipline as opposed to a strategic alignment of faculty hires around specific clusters. This more traditional approach may have reached its limit as the request for faculty lines (replacements and new) in a context of tight budgets should be based on a strategic vision that builds on strengths and opportunities. For example, when asked whether a position in hydrology is necessary, the physical geography group responded that it was essential to replace the hydrologist who left recently to ensure the coverage of the discipline and of courses in the environmental science program. The Committee was not convinced that such arguments would lead the Administration to open and fill a position in hydrology. We believe that a stronger strategic argument needs to be put forward with clear synergies in research and teaching. A similar case applies to the award of a CRC to the Department. Several faculty members have mentioned that they do not understand why the Department does not have a CRC appointment. Although the allocation of CRCs is contingent on tri-council research funding and institutional processes, the scholarly achievements of the unit may justify the award of a CRC to the Department. However, a clear vision of what such a position would contribute to the profile of the unit and to its academic mission is missing. The Committee recommends that the Geography Department articulates a strategic plan that would set the directions for the future and for the deployment of new faculty positions. Although there is a good gender balance within the faculty complement, the plan may also consider equity issues associated with cultural diversity.

The Committee was very impressed by the recently hired faculty members. Their scholarly achievements and level of engagement bode well for the future. A few issues were raised leading the Committee to believe that mentorship practices should be strengthened. Junior faculty members need to be better informed and supported by more senior professors. It also appeared that information on accommodation rules when someone needs to take a leave of absence and on how such a leave may impact the tenure process should be clarified.

3. Administration

Here we consider the size of the administrative and support staff complement, and the effectiveness of the administration of the Department

From the meeting with the staff, the Committee concluded that the Department is well administered and managed. The staff appears to work well as a team and to be competent and dedicated. Students have also indicated to the Committee that they are pleased with the level and quality of services offered

by the Department. As noted above, the Committee has met with the technical staff and found that they are competent and are providing good support for teaching in the laboratories and in the field. Overall, the Committee was impressed by the level of commitment and dedication of the staff in their respective positions. As a result, operations in the Department seem to run efficiently.

Some staff members have mentioned the increased workload as a result of administrative downloading of responsibilities and processes to the academic units or as a function of the recent move of the Department into the Faculty of Environment. It was not clear to the Committee members whether such downloading has taken place but there is definitely a perception among staff that it is the case. There is a need for better communication between the different levels of management in the institution.

As described earlier, the Committee has noted that technical support for research, especially in relation to physical geography, needs to be reviewed in order to be compatible with the type of field and laboratory research conducted by the faculty members.

As far as the current leadership of the Department is concerned, the Chair (Professor Nick Blomley) is highly respected by colleagues and staff. He is perceived as being competent, effective, attentive to the needs of the unit, and equitable in his approach. He works at building consensus for subsequent decision and action. Under his guidance the Department has improved its relationship and communication with the Faculty.

The Committee felt, however, that one of the weaknesses of the Department is the lack of a clear strategic vision and positioning. The self-study document describes well the Department and its activities and achievements, but has failed to highlight the strategic priorities of the unit, especially in the context of the new Faculty of Environment and of the overall plan of the institution. In order to ensure its growth and to assume a leadership position in the field, the Department needs to sharpen its strategy and to focus the actions required to achieve its goals. We recommend that the Chair forms a Strategic Planning Committee. This committee should be able to propose directions, to give advice to the Chair, and to develop a strategic plan. It should be creative in its approach in order to bring the Department to the next level and to fully exploit its great potential and the synergies across the Faculty and institution. Such a plan would demonstrate how the Department can be proactive in shaping its own future. Implementing this recommendation should allow the Department to become a leader within the Faculty, the University and beyond.

d) Evaluate the adequacy and suitability of the accommodation and facilities of the Department and provide recommendations as appropriate.

The self-study report raised several issues concerning the location, quality and quantity of the available space and of the teaching and research facilities of the Department. During the site visit, the Committee has concluded that most of these concerns were well founded. Overall, the physical infrastructure of the Department is in bad shape.

For a Department of its size, the available space seems to be limited and of poor quality. The laboratory for teaching physical geography has very little to offer in terms of equipment for hands-on learning. Similarly, the teaching laboratories for SIS courses are small and are not equipped with adequate computers/screens. The Committee has heard repeatedly from various groups that the capacity of the teaching laboratories was too small for the demand. The graduate students have also raised the issue of

a lack of space for them unless they have a TAsip. This is seen as a problem for both the conduct of their research and the sense of belonging to an academic community.

The Committee noted several issues that are major concerns, some of which were mentioned earlier but we again reiterate the lamentable state of the physical infrastructure as we were regaled with reports of flooding, inadequate toilet plumbing, loose wooden structure in the ceilings in the corridors, dead animals on the premises, lack of adequate air conditioning in teaching laboratories and the offices of some technical staff, and so on. These many nonconformities are definitely a problem and need to be fixed before some serious issues with health and safety arise.

Issues about storage space for field equipment were voiced. The location of some of the storage space is at a considerable distance for the Department, causing problems for the efficient organization of field work and outings.

The location of the Department with respect to the offices of the Faculty has been mentioned as being a source of the lack of sustained communication between the Department and the Faculty Office. Whether perceived or real, the effect of distance between the Department and the Faculty has led many to believe that the Department is not taken into account in the Faculty's decision-making process. Improving the frequency and effectiveness of communication is clearly a priority for the Department and the Faculty and the effect of distance should easily be circumvented with more regular visits from the Dean's office to the Department and vice-versa.

Resources from the library appear to be adequate, with a thoughtful and attentive staff trying to maintain the collection as current and relevant as possible. The library offers to students a variety of services that are well adapted to student needs.

e) Relationships: between the Department and the community and with SFU's alumni

The Department of Geography has graduated a large number of students and has access to a potentially large network of alumni. The Committee noted that alumni do not seem to be tracked systematically, thus preventing the Department from documenting the success and achievements of their graduates except through some anecdotal evidence. This shortcoming should be addressed. The Committee also observed that the Department only takes limited advantage of its geographical location for teaching and research. As a Geography Department, the benefit of great location should be maximized in its activities and promotion.

f) 5. Future Directions

The creation of the Faculty of Environment in 2009 has been a challenge for the University and has brought initial excitement to the Department of Geography. The change was generally welcome, especially by the physical geographers who found it to be a more natural place for their activities and subjects. The transition from the Faculty of Arts and Social Sciences has been a bit more problematic and longer than first anticipated, thus leaving faculty members in geography a bit frustrated. The Committee's observations have allowed us to identify the following issues:

- The budgetary situation of the Faculty of Environment is worrisome to say the least. The structural deficit resulting from the new budget model has left the Faculty vulnerable and the creation of the "promised" faculty lines in a precarious state.
- The governance of the Faculty is not clear. This has been pointed out in the self-study document and reiterated by several members of the Department. The Dean of the Faculty is also aware of the situation. Currently, work is conducted to develop the Constitution of the Faculty.
- There seems to be a "disconnect" between the vision of the Faculty and that of the Department of Geography. This may be due to the lack of clarity in governance and decision-making processes as noted above, but it also reflects the fact that communications are not optimal between the Faculty Office and the Department. This has improved recently but communications need to be more transparent and effective in the future for the Faculty to be successful. Expectations have to be expressed clearly in order for the visions of the academic units and those of the Faculty to converge.
- One important issue that may be partly related to communication but that may also be more deeply rooted is the definition of environment. The Department of Geography embraces a wide definition of the term that ranges from the full spectrum of research from the fundamental to the applied. There is a perception in the Department that the Faculty of Environment has adopted a more narrow view that is focused on policy relevant research. This divergence may only be a perception but it definitely needs to be addressed.
- The addition of the Department of Archaeology is well perceived by the Department of Geography and should bring some balance to the Faculty. This opens new opportunities for collaborations and interdisciplinary research and teaching. The challenge will be make sure that these opportunities are explored in a timely fashion and are strategically developed by the units and Faculty.
- A consequence of the long and somewhat difficult new Faculty transition is the fatigue felt by many faculty members in the Department. This has been explicitly mentioned on different occasions. It is important that a climate of openness be restored so that people engage meaningfully in the development and positioning of the new Faculty.
- The administrative and technical staff have also felt the impact of the new Faculty as processes have to be recreated without much guidance. Testimonies from staff members to this effect have been clear and unequivocal.

While the Committee recognizes that the creation of the Faculty of Environment is a bold and potentially path-breaking move that does not come without its difficulties, issues concerning governance, communication, and budget allocation need to be resolved quickly if the aspirations of the Faculty are to be met.

Summary of Recommendations

In this final section we summarize our recommendations.

Recommendations for the Undergraduate Program

For the undergraduate program we note that the delivery of courses within the Department is quite traditional and therefore we suggest that the Department should diversify its mode of delivery and offer more courses in an on-line mode and with hands-on experiential learning. To meet the latter need we suggest that a field course be offered every year and that additional resources be allocated to permit the Bamfield field course to be offered on a regular basis. The structure of the undergraduate program should be simplified and the requirements in the various streams should be reduced. Students should be allowed the flexibility of charting a more personal course through the program. More specifically the number of human geography courses required for physical geography students, and vice versa, should be reduced, especially at the upper levels. Traditional course names might be replaced with titles that are more current and appealing and a qualitative methods course should be introduced. New certificate programs could be introduced and old ones reinvigorated. The Department should be imaginative here as these have great potential to generate new income.

Recommendations for the Graduate Program

For the graduate program we suggest increasing the number of courses and seminars that are available for masters and doctoral students. More specifically, the graduate seminar course, GEOG 605, must be strengthened. A reformulated GEOG 605 could be used to introduce graduate students to aspects of social theory that are especially pertinent to geography graduates. This course should not be regarded as merely a venue for new graduate socialization and orientation. As this approach is implemented the Department must find ways formally to recognize faculty teaching contributions at the graduate level. This should become part of each faculty member's teaching load. The goal here is to increase faculty-student interaction, to speed up thesis completion rates and to allow for more faculty-student research collaborations in publications and grant acquisition. We suggest reversing the order of the doctoral comprehensive exam and thesis proposal defense, since we believe that this too will speed up the doctoral research process. The Review Committee also recommends that the Department considers the creation of premium graduate programs in areas of academic strength and relevance for society.

Recommendations for the Department's Organizational Structure

The Review Committee believes that the Department is well-managed by the current Chair, Dr. Nick Blomley, and fully endorses his style of "consensus leadership". Nevertheless, we recommend that the Chair takes a more "hands-on" approach to the management of the Department and that he coordinates the governance of the Department through a Chair's advisory committee that includes the leaders of the Human, Physical and Spatial Information Science Groups that the Department currently has identified.

A high priority must be accorded to the Department's Research Seminar Series so that it becomes a showcase for cutting edge research within the discipline, thus attracting an enthusiastic audience from

senior faculty to newly arrived undergraduates. The Review Committee suggests that the Department blocks off a period of time every week for the seminar, allowing all members of the Department, especially students from all levels, to attend. We see this as an excellent way in which to build morale, a sharing of expertise and an esprit de corps within the Department.

Recommendations for the Department's Hiring Strategies

A formal hiring strategy should be developed along with an integrated vision for the Department's future that includes all three primary faculty groupings: the human, physical and spatial information science groupings. This hiring strategy should distinguish the Department from its main competitors, the University of British Columbia, the University of Victoria and the British Columbia Institute of Technology.

The new BEnv degree is perceived to emphasize the bio-physical environment and not the social environment. Department members argued, and the committee agrees, that there is an opportunity to pursue research that involves the social environment. This presents an opportunity to hire new faculty and the Review Committee recommends that the Department collaborate with other Departments in the Arts and Social Science Faculty. These Departments might include the Political Science Department, Cognitive Science, International Studies, and the university's renowned School of Criminology. This would allow the pursuit of a variety of research and teaching possibilities that would emphasize research on the social environment and closely allied subject areas.

The PGIG identified the hiring of a permanent, tenure track hydrologist as an item of highest priority. This group of Department faculty members also identified the need to explore the possibility of interdisciplinary hiring with cognate departments. The Review Committee suggests that the Geography Department be encouraged to bring forward hiring proposals with cognate departments within the Physical Sciences, the Departments of Earth Sciences, Biological Sciences and Marine Science would be natural allies in most universities. Given the Department's research at Bamfield, the latter department represents a significant opportunity. However, any such proposal must be predicated on restoring the number of majors within Physical Geography to the higher levels that were the norm in recent years. A concomitant reduction in the number of streams within the Physical Geography stream should be considered to reduce workloads and course offerings. For the PGIG the status quo is not an option. They need, as a group, to build a road map to the future. Their faculty members have impressive credentials and there have been, in recent years, new hires of the highest calibre. These new assistant professors should be an active part of the process of planning for the future. Part of this process will include building new bridges to cognate departments and the identification of a far greater number of adjunct professors than exist at the present time. Both of these activities will increase the pool of faculty members available to serve on graduate committees. Department faculty and graduate students will benefit from the expanded supervisory support.

Recommendations for Participation within the Faculty of Environment

The budgetary situation of the Faculty of Environment is of considerable concern. The structural deficit resulting from the new budget model has left the Faculty vulnerable and the creation of the "promised" faculty lines in a precarious state. Moreover, the department's self-study document noted that the governance of the Faculty is not clear. The Dean of the Faculty is also aware of the situation and there

are ongoing discussions to develop the Constitution of the Faculty in which the Department must participate actively. These discussions must include the continuing development of the BEnv program and this must take place in a manner that ensures the viability of the existing streams within the undergraduate program and the regeneration of enrollment in the Physical Geography program so as to restore it to its former strength. Finally we believe that there are additional opportunities for premium professional graduate degrees and that these should be explored in collaboration with other academic units.

The Review Committee discerned a “disconnect” between the vision of the Faculty of Environment and that of the Department of Geography that may result from a lack of clarity in governance and decision-making processes. It was apparent that communications are not optimal between the Faculty Office and the Department. There is some evidence that this has improved but communications need to be more transparent and effective in the future for the Faculty to be successful. The visions of the Department’s academic units and those of the Faculty with respect to what constitutes “the environment” must converge. The Department of Geography supports a wide definition of the term that ranges from the full spectrum of research from the fundamental to the applied. There is a perception in the Department that the Faculty of Environment has adopted a more narrow view that is focused on policy relevant research. While this lack of congruence may be only a perception it definitely needs to be addressed.

Recommendations for Participation the wider University Community

The Chair and the PGIG should discuss with the Dean developing a proposal to house the Global Environmental Systems Program in the Department of Geography. The Chair of the Geography Department should take a leadership role in moving this process forward.

The SISC should work with the Department Chair in creating a business model to develop the GEOG 150, GEOG 350, and GEOG 650 courses, following USC and GSC approval, to serve the University-wide Community. The Review Committee supports the SISC’s 2009 Vision Statement (updated in 2012) that recommends hiring a new Lecturer and Technical Support, the latter individual being a shared resource with the FE. The introduction of these new courses would require additional lab space to accommodate the increased number of students. The SISC should consider the development of a new Premium Based Masters in SIS. A Business Model should be developed that would include sufficient student enrollment numbers to support the hiring of additional tenure track faculty members as outlined in the SISC Vision Statements.

Recommendations for Increased Technical Support and an Improvement of the Physical Environment of the Department

Some sections of the Department, such as the Spatial Information Science Group, receive excellent technical support (in that case with respect to the computer labs) but technical support to the PGIG needs to be increased. The Review Committee suggests the hiring of a new Technician or at the very least the provision of funds for an RA or TA position where the duties would include technical support in Physical Geography courses. The effects would hopefully lead to increased enrollment of the students in the physical geography courses discussed above.

The Review Committee identified a series of maintenance issues that are well known to the members of the Department; while prosaic, these must be addressed before they deteriorate to such a state that they dramatically affect day-to-day operations and/or become prohibitively expensive to fix. The lamentable state of the WiFi in the R. C. Brown Building is one such problem.

A Final Word of Praise and Appreciation for the Department of Geography

All members of the Review Committee were unanimous in their view that the Department of Geography at Simon Fraser University is one of the most outstanding Geography Departments in Canada. We hold this review with respect to the diversity, accomplishments, and achievements of the members of the Department. However, we also believe that there are some “clouds on the horizon” and that the Department should address the issues identified above in order to renew itself and build on its present successes and future prospects.

Reference

Johnston, Hugh, 2005. *Radical Campus: Making Simon Fraser University*. Douglas and McIntyre, Vancouver.

EXTERNAL REVIEW – ACTION PLAN

Section 1 – To be completed by the Responsible Unit Person e.g. Chair or Director

Unit under review	Date of Review Site visit	Responsible Unit person,	Faculty Dean
Geography	March 2013	Nicholas Blomley, Chair	John Pierce

Note: It is not expected that every recommendation made by the Review Team be covered by this Action Plan. The major thrusts of the Report should be identified and some consolidation of the recommendations may be possible while other recommendations of lesser importance may be excluded.

Should an additional response be warranted, it should be attached as a separate document.

1. PROGRAMMING

1.1 Action/s (description what is going to be done):

1.1.1 Undergraduate:

- The department will assess whether the reviewers' claim of rigidity in the BA program – specifically, in its upper division concentrations [called "streams" in the review] – turns out to be true. These concentrations were implemented in the hope of providing our majors with some helpful guidance in creating a coherent major program. Since they made their debut as recently as Fall 2012, they are not yet fully operational. Flexibility or the lack thereof is an issue we must monitor over the next few years.
- We will take steps to refresh the Urban Studies Certificate by reconfiguring the requirements, enlarging the choice of courses, and involving more units (e.g., History) across campus.
- We will work to ensure that the Global Environmental Systems (GES) BENV is integrated with, yet sufficiently differentiated from our existing undergraduate offerings. This has been a continual focus.
- The possibility of a modifying the existing GIS joint degree will be explored, in conversation with Computing Science. One option is to develop a FENV GIS major, that will be more SIS focused.
- Develop an experiential learning strategy that recognizes the particular importance of field-related education to Geography, and develops a plan for its better institutional support.
- Explore the possibility of a BENV in 'social environment', possibly in collaboration with ARCH, or FASS units

1.1.2 Graduate:

- Course offerings: The limited extent of graduate course offerings is a function of our commitment to an apprenticeship training model, and our focus on undergraduate teaching. Running department wide required courses is not appropriate, given the diversity of graduate needs (especially for physical geographers, whose work is lab and/or field based). Some other options may exist: We will revisit this challenge over the next two years to determine the best possible plan.

- The possibility of a premium fee Masters in GIS/SIS will be explored.
- Although not addressed in any detail in the review, we will also undertake a thorough reexamination of the structure of our comprehensive examinations. In fact, the reviewers' concerns regarding the order of graduate program milestones, i.e. the comprehensive examinations and the proposal presentation, is in our opinion a misidentification of issues around student progress that are better addressed by looking at the examination process. Under the direction of the graduate chair, the department will undertake a review of the process over the next twelve months, in an attempt to develop some clarity regarding (a) the contribution of the comprehensive examination to graduate education, and (b) the most appropriate means by which to realize that contribution in a interdisciplinary department like our own

1.2 Resource implications ((if any):

While it is expected that the GES BENV will be 'housed' within Geography, yet jointly administered, its management will generate an additional service load.

There are significant resource implications to running additional graduate and undergraduate GIS programming – more lab space and instructional resources will be required. However, it is hoped that this will be offset by the enhanced revenues generated by the premium fee Masters and increased enrolments. It is imperative that our core programming is not compromised, and that we not be 'stretched thin'.

Field related teaching occurs throughout our program, but deserves better recognition and support. We have explored the options that are available to us to provide APEG recognized field experience. The proposal to offer the field course every year is unsustainable, given personnel and resource costs. We hope to offer it every other year. To do so, we will need to explore possibilities for institutional support.

Additional graduate teaching, particularly if required, will place a considerable burden on faculty.

1.3 Expected completion date/s:

The revamping of the Urban Certificate has already begun. We hope to complete a proposal by the end of 2013: nb Geography is not in a position to reshape this interdisciplinary certificate unilaterally.

The modification of the GIS joint degree is to be considered in the coming academic year.

The 'social environment' BENV is a longer-term project, conditional on the first round of BENV initiatives.

Graduate course offerings: Steps forward on this issue will begin with discussions in the Graduate Studies Committee in Fall 2013, and continuing through the 2013-14 academic year. Proposed changes, if any, will be brought to the department for discussion in either Fall 2014 or Spring 2015.

Comprehensive exam assessment – completed by Fall 2014.

2. RESEARCH

2.1 Action/s (what is going to be done):

- **Strategically pursue Research Chairs (possibly in Aboriginal issues, Coastal environments)**
- **A CRC Tier II has been allocated to the Department. A search is underway.**

2.2 Resource implications ((if any):

Significant funding must be secured for Research Chairs.

2.3 Expected completion date/s:

New Chairs: Long term

CRC: completion of internal search September 2013. Appointment September 2014.

3. ADMINISTRATION

3.1 Action/s (what is going to be done):

- Continue the revival of the departmental Speaker Series, in order to enhance intellectual exchange and departmental cohesion, possibly through a designated time slot, and/or collaboration with other FENV units
- At the request of pre-tenure or junior faculty, senior faculty mentors will be identified to volunteer to provide advice and support related to tenure, promotion and research strategies.
- Actively pursue improvements in FENV governance/communication/vision issues, in close collaboration with the Dean's Office. The appointment of a new Dean provides a useful opportunity here.
- Continue to lobby for the appropriate weighting of our AFTes, in close collaboration with the Dean's Office
- Develop a Strategic Planning Committee possibly tasked with:
 - a. Developing an action plan for new hires (thinking strategically around clusters, and perhaps collaborating with other units) in Physical Geography and Human Geography.
 - b. Developing an action plan for Research Chairs,
 - c. Exploring a BENV in social environment (possibly in collab with ARCH, or FASS units)
 - d. Strategic planning for a new location
 - e. Developing a plan to advance departmental unity of vision and purpose and mitigate against fragmentation.
- Develop an External Relations Committee possibly tasked with:
 - a. Alumni relations – building connections with existing alumni
 - b. Adjuncts – building stronger connections with existing adjuncts, and exploring the strategic expansion of adjunct numbers
 - c. Oversight and enhancement of website
 - d. External promotion and image
 - e. Blog postings

2.4 Resource implications (if any):

There are clear implications for service load if new committees are created. However, the External Relations and Strategic Planning Committee will meet infrequently, and will need to be tactical in their choices to avoid burnout.

2.5 Expected completion date/s:

Most of these actions will begin to unfold over the next 1-2 years, or are already underway.

The Strategic Planning Committee will be developed in Fall 2014, to coincide with the appointment of the new Chair

4. FACULTY/STAFF RENEWAL

4.1 Action/s(what is going to be done) :

- We plan a restructuring of our technical support staff. A new APSA position will be created, to report directly to the Chair. He/she will take responsibility for coordinating the Departmental technical staff, as well as taking a coordination role for technical support within the Faculty as a whole (in part, with an eye to ensuring efficiencies). This will entail an evaluation and reworking of job descriptions within the Department. Once this has been completed, we will assess the need for additional technical support, especially for Physical Geography teaching.
 - Seek new faculty hires, especially in Hydrology and Human Geography, to meet gaps in expertise, loss of capacity, and imminent retirements.

4.2 Resource implications(if any):

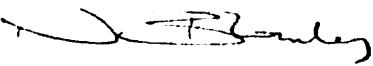
Additional technical support is needed.

Faculty positions will require institutional support. The absence of an Hydrologist is a significant gap. The faculty complement is down, particularly in Human Geography.

4.3 Expected completion date/s:

- Faculty shortfalls will become increasingly significant in the ensuing years

The above action plan has been considered by the Unit under review and has been discussed and agreed to by the Dean.

Unit Leader (signed) • Name  Title Chair	Date July 10, 2013
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Section 2 - Dean's comments and endorsement of the Action Plan :

Dean's Response

Let me begin with a note of thanks to the Review Committee for such a thoroughly written document, which while very laudatory regarding the strengths of the Department of Geography, provides timely and highly constructive advice on the way ahead. My congratulations to the Department of Geography for a highly successful review outcome.

I intend to respond only to the major 'issues' identified by the Reviewers and the Department.

1)Programming

It has long been our intention to have the Department take responsibility for the proposed BENV *Global Environmental Systems* with administrative assistance from the Dean's office. We need to have further discussions around this arrangement. The suggestion to consider the development of yet another BENV stream, focusing on the *Social Environment*, is a good one so long as it is a longer term initiative.

Further analysis needs to be done on the streams in both the BA and BSc programs to ensure that there is sufficient flexibility for timely completion. And more analysis is also required on the present strength of the BSc majors and possibilities of closer co-operation with the Environmental Science program.

The GIS program is very healthy and could be strengthened further with a stand-alone major independent of Computing Science.

At the graduate level the department will have to weigh the pros and cons of developing more graduate courses. This has been an issue for numerous years with little resource flexibility for its resolution.

The suggestion to develop a premium fee Masters in GIS is a good one and my office is prepared to provide financial support for its articulation.

2)Research

The Review committee is very clear regarding the significant research strengths of the department. I would encourage the Department to consider developing a strategy for increasing their number of research chairs based upon their natural advantages. In this regard a CRC Tier II has recently been awarded to Geography in the area of Medical Services.

3)Administration

I believe my office has consulted and responded in a timely way to a whole host of shared decision making issues. That said a deliberate decision was made not to develop a constitution until we could collectively agree on terms of references for various administrative committees. This I explained in some detail to the Review Committee. I believe that given the recent governance overhaul for Environmental Science we are now in a position to develop a workable constitution.

And with respect to having a broader view of the Environment, I fully support this vision and made that clear in FENV's five year plan.

Within the Departments itself I think the creation of a strategic planning committee is long overdue as is some type of external relations committee. I might add that the Geography alumni have been particularly active and constructive participants in annual Faculty alumni events.

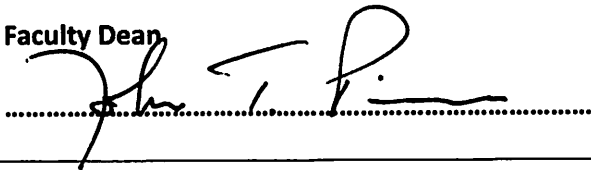
A significant problems remains in the mismatch between the true costs of operations of the Department and its allocated budget based upon WAFTEs. The diversity of its programs combined with the field based and technical nature of program delivery make for significantly high costs of operations. These issues have been recognized and corrected in other Canadian Universities. We know this because we recently completed a study on the budget allocations for Geography Departments across the country.

4) Faculty Renewal and Technical/Staff Support

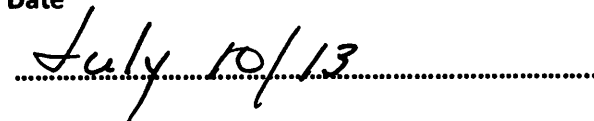
My office is currently working on a revised staffing/technical support plan. In this regard we are well aware of the technical support shortcomings for the Physical Geography Group.

The proposed hires in Hydrology and Human Geography have my full support. Both the undergraduate and graduate programs need these positions if they are to sustain enrollments, so I will be working with Geography to prioritize these positions.

Faculty Dean


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Date


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Departmental comments:

We feel that the reviewers have over-emphasized the inflexible nature of our undergraduate program. If anything, some areas of our program (especially Human Geography) are too flexible; hence the felt need for streams, instituted a year ago. That said, we think it valuable to continue to monitor our program, and work to reduce bottlenecks, such as required courses, and excessive pre-requisites. The Physical Geography program, in particular, may be overly ambitious, given present resources and expertise.

Writing of what they judge to be “the highly structured nature of the undergraduate degree” [internal evidence shows that to be the BA], the reviewers assert that no program in Canada has “such a large number of required courses” [p. 4]. In fact, there are just four obligatory courses, all lower division survey courses that prepare students for more specialized offerings taken later. Beyond that required quartet, students must select courses from a series of lists – a common enough procedure. So when, in upper division context, the reviewers refer to “many of the required courses” [p. 4], they actually mean many of the possible choices. This likely helps explain their use of the term “required choice.”

It would be interesting to have been given a rationale for reducing the number of Human Geography courses required for Physical Geography students and vice versa, especially upper division courses [pp. 4, 20]. The latter qualification is perplexing, since in each case just a single such course is required. One can surely argue that even such modest exposure is enriching and can contribute to an interdisciplinary experience. It’s not entirely clear how a reduction in the number of Physical Geography streams from its present three would reduce workloads and course offerings [p. 21]. But it might well reduce student choice.

The reviewers don’t make any comprehensive suggestions re Physical Geography but at times leave the impression of a program in trouble. Hence: “the status quo is not an option” [p. 21]. Agreed, things look rather bleak if we accept that the number of majors has fallen from 80 to its current 35 [p. 10; cf. p. 21]. In fact, the average number of majors since 1999 is 39.6, with the average during the last five years being 40.8. [IRP, Table ST-04, annualized data.] This of course means that the program has not grown in numbers. This may be reflective of faculty turnover/loss, that raises challenges for the program more generally. Still, Physical Geography has contributed significantly to the revised – and revived – Environmental Science program, which has seen much growth and represents a successful step towards interdisciplinarity. With a couple of minor exceptions, every Physical Geography course is offered to students enrolled in the Environmental Science program. Moreover Earth Sciences, a relatively young department, now competes for students interested in the lithosphere.

The reviewers seem to have confused GEOG 600/601 (a required pass/fail graduate class taken by all incoming graduate students) and GEOG 605 (a theory class for Human Geography grads).

We would love to offer the field school on an annual basis. However, it is very expensive, both in terms of personnel and resource costs.

The reviewers' suggestion that the order of the proposal and comprehensive exams be reversed is not adequately justified or explained, and thus the benefits in terms of time-to-completion etc. are unclear. As it stands, the comprehensive exams precede the proposal because it is assumed that one needs to be familiar with the literature of one's chosen field(s) before one can write a good proposal. The originality, sophistication and extent of the contribution—all of which are expected to be significant in doctoral level research—cannot be assessed by the candidate until they know the full range of existing work and the problems that remain unaddressed. Moreover, unless the structure of the examinations and the proposal change, then merely shifting the order in which they take place will not have any meaningful effect on progress, and if changes are instituted, these would offer the same benefits to students regardless of the order in which the program milestones are arranged. Lacking an argument for 'proposal first', we will instead turn our attention to the question of the structure of the examinations and proposal defence.