

THE UNIVERSITY OF BRITISH COLUMBIA
Curriculum Vitae for Faculty Members

Date: May 2013

Initials: _____

1. **SURNAME:** RICHARDSON **FIRST NAME:** John **MIDDLE NAME:** Stuart
2. **DEPARTMENT/SCHOOL:** Forest and Conservation Sciences
3. **FACULTY:** Forestry
4. **PRESENT RANK:** Professor **SINCE:** July 2007
5. **POST-SECONDARY EDUCATION**

University or Institution	Degree	Subject Area	Dates
University of Toronto	B.Sc.	Zoology	1979
University of Alberta	M.Sc.	Zoology	1983
University of British Columbia	Ph.D.	Zoology	1989

PhD Thesis: Seasonal food limitation of detritivorous insects in a montane stream. (Supervisor: Dr. W.E. Neill)

Special Professional Qualifications

Community and population ecology, and ecosystem studies

1. Community and population processes in streams, riparian areas, and wetlands
2. Organic carbon dynamics in small streams
3. Applied studies of the effects of land-use (e.g. forestry), contaminants, and other disturbances on streams
4. Endangered and threatened species associated with streams and riparian areas

6. **EMPLOYMENT RECORD**

(a) *Prior to coming to UBC*

University, Company or Organization	Rank or Title	Dates
*BC Ministry of Environment, Lands & Parks	Senior Scientist	1995 -2000
Dept. of Fisheries and Oceans	Visiting Scientist	1993
Simon Fraser University	Asst. Professor limited term	1992
Simon Fraser University	NSERC Postdoctoral Fellow	1989 - 1991

*In my position as Senior Scientist with BC Environment, my primary mandate was to conduct research in support of the government's riparian ecosystems and wildlife programs. I was located full time at UBC on faculty as an Assistant Professor and directly supervised graduate students.

(b) *At UBC*

Rank or Title	Dates
Head of Department	2012 - present
Professor	2007 - present
Professeur Invité, 1ère classe, 3me echelon – Université Paul Sabatier, Toulouse, France	2006 - 2007
Associate of the Peter Wall Institute for Advanced Studies	2004 - present
Associate Professor	2002 - 2007
Faculty Associate, Dept of Zoology, UBC	1996 - present
Assistant Professor	2000 - 2002

Assistant Professor ("part time")	1996 - 2000
Research Associate	1994 - 1995

(c) *Date of granting of tenure at U.B.C.: 1st July 2002*

7. LEAVES OF ABSENCE

University, Company or Organization at which Leave was taken	Type of Leave	Dates
Université Paul Sabatier (Toulouse III) & Centre National de la Recherche Scientifique, Toulouse, France (research with Dr. Eric Chauvet)	Study leave	Sept 2006 – Aug 2007

8. TEACHING

(a) *Areas of special interest and accomplishments*

Specialities: Aquatic ecology, Ecology (including applied ecology), Conservation Biology, Wildlife Biology

Teaching philosophy, approach, and goals

I believe it is critical to find elements in a topic that are relevant to the personal experience of undergraduates. This teaching context builds on their foundation of experience and is especially critical in a classroom setting for those students that learn better by "doing" rather than abstract learning. As a class, students bring a diversity of backgrounds, and finding where one can link new knowledge to their previous understanding reinforces the material. In a professional faculty it is essential that the connections to practice are explicitly drawn and the relevance is clearly stated.

A variety of ways of delivering material is important to accommodate the learning styles and schedules of students. I was one of the first faculty in Forestry at UBC to place all of my teaching materials for my undergraduate courses on a web site so that students could concentrate on the lesson rather than getting down each detail (web addresses below). Lecture notes were also available in hard copy in the library (no longer). Providing these alternative means to get the lecture materials made it more convenient for many of the students and there was a consensus of approval for this service.

In 1998 I took the Instructional Skills Workshop offered by the Centre for Teaching and Academic Growth (UBC), an internationally recognised teaching workshop.

Teaching Experience

While I was a "part time" assistant professor (during my time as senior scientist for the BC Ministry of Environment) I taught several courses, and participated in the teaching of others. There was no requirement in my position to do any teaching, but I believe it is a critical role for all faculty. I also sought to provide graduate courses that would be valuable to our students.

Courses taught

I co-taught a lecture and discussion graduate course with Michael Healey (Inst for Resources and Environment) entitled "Ecosystem Health in Theory and Practice" (RMES 500). In it we addressed the

notion of using a metaphor from human health to consider the integrity of ecosystem structure and function.

Another graduate course I developed, and have since modified, is a course on stream and riparian systems. I first offered it as "Hydroriparian systems" (FRST505B) in 1998, based on lectures and readings, followed by a series of three student-run workshops. The class was divided into working groups each of which had to develop a workshop, based on a background review of their topic and then a 2-day workshop. The workshops were run as symposia with invited speakers giving talks, with time for discussion around each. Since that initial offering I have taught Ecohydrology (FRST 588) in collaboration with Dr. Dan Moore (Geography) The course is interdisciplinary, covering the physical, chemical, biological, and management aspects of fluvial ecosystems. The first time we offered that course we topped it off with a one-day symposium based primarily on student presentations, and invited speakers, and was attended by about 60 individuals from within and beyond the university. The course attracts students from Geography, Forestry, Zoology, RMES, and Civil Engineering. In the years the course has been offered we have had over 60 students in the course. This kind of course helps connect practitioners of different fields across campus.

My primary undergraduate teaching responsibilities to date are Aquatic Ecosystems and Fish (FRST 386), and Wildlife Biology and Management (FRST395), both required courses in the Forest Management and Natural Resources Conservation programmes. These courses are the two largest classes of the third and fourth year courses in the Faculty of Forestry, and both courses are regularly taken by students from other faculties as well. Both have laboratories, and in FRST395, I run all the laboratories myself. In the wildlife course I have developed a series of lectures that starts from basic principles of wildlife biology and quickly moves into a series of management aspects. This course uses current examples as case studies for illustrating broader management issues, e.g. the genetics of Kermode bear to discuss genetic variation in wildlife management, marbled murrelet demography as an example of an old-growth dependent species, and mountain caribou as a landscape-level planning issue. The laboratories introduce students to the major groups of wildlife and techniques used to estimate their numbers in the wild and biases associated with estimation procedures and demographic analyses.

I have also offered a graduate course in Community Ecology (FRST505B). This was a lecture and discussion class, with students responsible for leading about half of the classes. The topic for this series was complex interactions in communities. There is no regularly offered graduate class on this subject.

(b) *Courses Taught at UBC (100% taught unless noted)*

Session	Course Number	Scheduled Hours	Class Size	Hours Taught			
				Lectures	Tutorials	Labs	Other
W95	RMES 500	[3-0]	12	36 (50%)			
F98	CONS 500	[4-0]	21	48			
F98	FRST 505B	[3-0]	11	36			
W98	FRST 395	[3-2]	167	36		120	
F99	CONS 500	[4-0]	20	26 (50%)			
F00	CONS 500	[4-0]	10	48 (50%)			
W00	FRST 589	[3-0]	11	36 (33%)			
W00	FRST 505B	[3-0]	7	36			
F01	FRST 395	[3-2]	92	36		120	
W01	FRST 589	[3-0]	8	36 (50%)			

F02	FRST 395	[3-0]	62	36		120	
F02	CONS 500	[4-0]	8	26			
W02	FRST 386	[3-0]	42	36 (50%)			
W02	FRST 589	[3-0]	14	36 (50%)			
F03	FRST 395	[3-2]	62	30		120	
W03	FRST 386	[3-2]	42	36 (50%)			
W03	FRST 589	[3-0]	6	26 (50%)			
F04	FRST 395	[3-2]	71	36		120	
W04	FRST 386	[3-2]	60	36 (50%)			
W04	FRST 589	[3-0]	7	26 (50%)			
F05	FRST 395	[3-2]	65	36		90	
W05	FRST 386	[3-2]	55	36 (50%)			
W05	FRST 588	[3-0]	5	26			
F07	FRST 395	[3-2]	75	36		90	
W07	FRST 386	[3-2]	67	36 (50%)			
W07	FRST 588	[3-0]	6	26 (50%)		90	
F08	FRST 395	[3-2]	85	36		90	
W08	FRST 386	[3-2]	68	36 (50%)			
W08	FRST 588	[3-0]	6	26 (50%)			
F09	FRST 395	[3-2]	92	36		90	
W09	FRST 386	[3-2]	80	36 (50%)			
W09	FRST 588	[3-0]	8	26 (50%)			
W10	FRST 395	[3-2]	90	36		90	
W10	FRST 386	[3-2]	89	36 (50%)			
W10	FRST 588	[3-0]	6	26 (50%)			
W11	FRST 395	[3-2]	96	36		90	
W11	FRST 386	[3-2]	92	36 (50%)			
W11	FRST 588	[3-0]	10	26 (50%)			

Note: I was on research leave during the 2006 academic year

Student evaluations

My teaching evaluation scores consistently rank my teaching from good (3) to excellent (1). Course evaluations from students indicate several strengths of my teaching, including my knowledge of the subject, my enthusiasm for communicating that knowledge, my preparedness for lectures, the effort I make in being accessible to students, and provision of full lecture notes on-line (web sites: <http://courses.faculty.ubc.ca/richardson/frst386> and <http://courses.faculty.ubc.ca/richardson/frst395>). Both of these courses are required courses in several of the undergraduate programmes in our faculty. I continue to learn new techniques for instruction and try new approaches to help students appreciate the connections among topics. Large class sizes make it difficult to engage the entire class in discussion, but I try practicing techniques to better involve the students in active participation in the classroom. I have completed UBC's Instructional Skills Workshop and have learned new means to involve students more completely in the learning process. I continue developing my teaching skills to become a more effective instructor.

Course	Year	Evaluation Index ¹	Students completing form	Evaluation rank within faculty (annual)	Teaching load within faculty (annual) – ranking within faculty (1 being highest teaching load index)
FRST 395	W98	2.23	103	26 / 56	Index 45 (faculty avg 29.5)
CONS 500	F98	2.04	14	24 / 59	Index 27 (faculty avg 29.5)

CONS 500	F99	2.00	20		
FRST 505B	W00	1.86	6	19 / 56	Rank 14 / 53
FRST 589	W00	1.34	7		
CONS 500	F00	2.97	9		
FRST 395	F00	2.24	81	41 / 57	6 / 52
FRST 395	F01	2.01	72	35 / 57	3 / 48
CONS 500	F01	2.28	8		
FRST 395	F02	1.67	41	33 / 59	1 / 47
CONS 500	F02	2	7		
FRST 386	W02	2	33		
FRST 395	F03	1.49	50	14 / 54	1 / 52
FRST 589	W03	1.7	6		
FRST 395	F04	2.13	44	36 / 57	1 / 60
FRST 386	W04	2.08	48		
FRST 395	F05	2.00	50	42 / 57	1 / 45
FRST 386	W05	2.16	42		
N.B. ²					
Change in ranking system³					
FRST 395	F07	4.49	44	23 / 57	1 / 54
FRST 386	W07	4.39	42		
FRST 588	W07	4.82	6		
FRST 395	F08	4.47	45	30 / 57	4 / 54
FRST 386	W08	4.31	53		
FRST 395	F09	4.45	58	27 / 53	8 / 54
FRST 386	W09	4.39	46		
FRST 588	W09	4.47	7		
FRST 395/386	W10	4.16		34 / 59	7 / 54
FRST 395	W11	4.27	66		
FRST 386	W11	4.43	42		
FRST 588	W11	4.45	9	23 / 58	

Note¹: Evaluation Index extends from 1 (excellent) to 2 (very good) to 6 (very poor); Teaching load index also includes graduate student supervision and honours undergraduate student supervision (project students), in addition to undergraduate teaching.

Note²: No evaluations for 2006 academic session as I was on research leave

Note³: 5 point scale with 5 = excellent, 4 = good, etc.

Other courses

Field courses: FRST451, FRST351, FRST352, and CONS451. Our faculty offers several field courses to which I often contribute. In FRST451, our spring field camp I have devoted three to four full days to the course in previous years, including leading exercises and examining students. I have participated in FRST 351 (fall field camp - Williams Lake) three times (1999, 2001, 2002) spending several days in camp. I have had a small role in CONS 451, most years contributing one full day to the field component in aquatic ecology.

Courses at SFU (1991, 1992) - Introduction to Ecology, Animal Ecology, Limnology.

As a post-doctoral fellow at SFU I instructed a graduate course in Aquatic Biology (it was in the calendar but hadn't been taught for many years). There were 9 students registered for that class,

which I ran as a half lecture and half student-led class. I was hired as a limited-term Assistant Professor in 1992 to teach two required courses, Introduction to Ecology (BISC 204 - about 40 students) and Animal Ecology (BISC 304 - about 120 students). In both cases I developed the lectures from scratch, which gave me experience preparing for classes and made the material "fresher".

Teaching evaluations from SFU: In BISC 204 – 1.44 (27 responses), BISC 304 – 2.25 (106 responses), based on a scale of 1 (excellent) to 5 (poor).

Guest lectures. I give one lecture annually in Watershed Management (RMES 500B), Graduate Seminar in Ecology (ZOOL 502), and Insect Ecology (BIOL 411). I also give occasional lectures in Vertebrates of BC (BIOL 427), Aquatic Biology (BIOL 402), Conservation Biology (BIOL416), and Vertebrate Biology (UVic Biology)

(c) *Graduate Students Supervised*

Graduate Student Supervision and Mentoring

I have been fortunate to attract a number of very good graduate students. Each year I have had large numbers of inquiries from prospective students (often 150+). At the moment I have seven (3 Ph.D., 4 M.Sc.) graduate students and have graduated 25 students in the past 13 years. In recent years the majority of these students arrived with external scholarships from NSERC, NSF (USA), and the Fulbright Foundation. My laboratory is relatively large, but I feel that I devote sufficient attention to each of the students that they are well taken care of (they would be the judge of that). A large group, which includes post-doctoral fellows provides a certain inertia and critical intellectual mass that I feel can function more effectively than a small group. For the moment I intend to maintain a group of about 5 graduate students, or more if a prospective student sufficiently impresses me (as happened in autumn 2005). My choice of graduate students is based on intellectual fit, aspirations, scientific approach, and past record. I do not have a formula for which of these traits is most critical, nor do I select only students with external scholarships, even though the six most recent students all came with scholarships.

I believe in treating graduate students as colleagues and helping guide their thinking and projects rather than assigning their thesis topics. I am convinced that this approach leads to more mature and independent scientists at the end of their program and ensures that they have control and ownership of their own research. To meet this ideal in graduate student research requires a lot of contact time and I usually meet weekly with each student, and maintain an open-door policy to all of them. We also have weekly meetings as a research group to discuss ideas and papers.

Since my start at UBC I have invested heavily in graduate student training. Initially I only accepted M.Sc. students until I had sufficient experience to feel confident taking on Ph.D. students. This lag was also associated with the nature of my joint position as BC Environment's senior scientist and a "part time" assistant professor at the start since there was always uncertainty with the location and mandate of my position.

Graduate students need experience in communication and whenever possible I have encouraged my students to participate actively in conferences. When funds allow I send each student to a large meeting each year (Ecological Society of America, North American Benthological Society, Society for Conservation Biology), and also support their travel to local meetings (e.g., the Pacific Ecology Conference, Society for Northwestern Vertebrate Biologists, Canadian Amphibian and Reptile Conservation Network, etc.). I very strongly encourage students to give presentations (oral or posters) at meetings. When opportunity arises I urge my students to prepare written papers for publication in proceedings or other printed forms. I have also strongly encouraged my students to publish their work in peer-reviewed journals, and the evidence of the success of that can be seen in the list of publications resulting from my graduate students' work below.

Student Name	Program Type	Year		Principal Supervisor	Co-Supervisor(s)
		Start	Finish		
Rempel, Laura	MSc (Zool)	1994	1997	J. Richardson	M. Healey
Dymond, Pamela	MSc (Zool)	1995	1998	J. Richardson	
Shaw, E. Al	MSc	1996	1999	J. Richardson	
Boss, Shelly	M.Sc.	1996	1999	J. Richardson	
Kim, M. Agi	M.Sc.	1996	1999	J. Richardson	
Muchow, Christine	M.Sc.	1996	DNF	J. Richardson	
Melody, Jill	M.Sc.	1996	2000	J. Richardson	
McArthur, Mike	M.Sc.	1997	1999	J. Richardson	
Matsuda, Brent	M.Sc.	1997	2001	J. Richardson	
Maxcy, Katherine	M.Sc.	1997	2000	J. Richardson	
Negishi, Junjiro	M.Sc.	1998	2001	J. Richardson	
Lavallee, Susanne	Ph.D.	1999	2006	J. Richardson	
Peterson, Heidy	M.Sc.	1999	2001	J. Richardson	
Gomi, Takashi	Ph.D.	1997	2002	R. Sidle	J. Richardson
Kolodziejczyk, Renata	M.Sc.	1999	2005	J. Richardson	
Christensen, Jennie	M.Sc.	2000	2002	J. Richardson	
Bondar, Carin	Ph.D.	2001	2007	J. Richardson	
Hoover, Trent	Ph.D.	2001	2008	J. Richardson	
Hilton, Alana	M.Sc.	2002	2006	J. Richardson	
Marczak (Miller), Laurie	Ph.D.	2002	2007	J. Richardson	
Quilty, Ed	Ph.D.	2002	DNF	J. Richardson	
Bennett, Shauna	M.Sc.	2003	2010	J. Richardson	
Branton, Margaret	Ph.D.	2004	2011	J. Richardson	
Deguisse, Isabelle	M.Sc.	2005	2007	J. Richardson	
Larson, Lisa	M.Sc.	2005	2009	J. Richardson	
Reiss, Aya	M.Sc.	2005	2007	J. Richardson	
Turvey, Shannon	M.Sc.	2005	2007	J. Richardson	
Wood, Sylvia	M.Sc.	2005	2007	J. Richardson	
Sanpera-Calbet, Isis*	Masters	2006	2007	J. Richardson	Eric Chauvet
Murakami, Aya	M.Sc.	2007	2009	J. Richardson	
Sheldon, Kim	M.Sc.	2008	2010	J. Richardson	
Ingram, Stephanie	MSc (Zool)	2008	2011	J. Richardson	
Atwood, Trisha	Ph.D.	2009		J. Richardson	
Klemmer, Amanda	M.Sc.	2009	2011	J. Richardson	
Oaten, Dustin	Ph.D.	2009		J. Richardson	
Little, Patrick	M.Sc.	2009	2011	Y. Alila	J. Richardson
Avery-Gomm, Stephanie	MSc (Zool)	2010	2013	J. Richardson	J. Rosenfeld
Ramey, Tonya	Ph.D.	2011		J. Richardson	
Campbell, Kirsten	Ph.D.	2011		J. Richardson	
Ruiz-Esquide, Jose	M.Sc.	2012		J. Richardson	
Naman, Sean	M.Sc.(Zool)	2012		J. Richardson	J. Rosenfeld
Rosetti de Paula, Felipe	Ph.D.	2012		J. Richardson	
Chara, Ana	Ph.D.	2012		J. Richardson	

Notes: several students have had maternity/paternity leaves from program (Lavallee, Bondar, Kolodziejczyk, Branton, Hoover, Bennett) increasing their apparent time in program.

*Master's student at Université Paul Sabatier, France (during study leave).

Note: some students registered through Zoology noted, otherwise registered in Forest Sciences

Undergraduate theses supervised (several graduating essays each year – not listed)

Student Name	Program Type	Year		Principal Supervisor	Co-Supervisor(s)
		Start	Finish		
Hassard, Eric	B.Sc. (Forestry) thesis	1997	1998	Richardson	
Cockle, Kristina	B.Sc. (Forestry) thesis	1999	2000	Richardson	P. Arcese
Karlsson, Magnus	M.Sc. (Uppsala, Sweden) visiting student practicum	1999	2000	Richardson	
Vickers, Karen	B.Sc. (Biology) thesis	2000	2001	Richardson	
Kaiser, Drew	B.Sc. (Forestry) thesis	2000	2001	Richardson	M. Feller
Klassen, Lana	B.Sc. (Forestry) thesis	2000	2001	Richardson	S. Hinch
Nishio, Grant	B.Sc. (Forestry) thesis	2001	2002	Richardson	
Martin, Chris	B.Sc. (Forestry) thesis	2002	2002	Richardson	
Haight, Stephanie	B.Sc. (Forestry) thesis	2001	2002	Richardson	
Bottriell, Kate	B.Sc. (Nat. Res.) thesis	2003	2003	Richardson	
Poruchny, Destiny	B.Sc. (Biology) thesis	2003	2004	Richardson	
Hofer, Nancy	B.Sc. (Nat. Res.) thesis	2003	2004	Richardson	
Zeron, Katie	B.Sc. (Nat. Res.) thesis	2004	2005	Richardson	
Harrison, Megan	B.Sc. (Nat. Res.) thesis	2004	2005	Richardson	
Sheldon, Kim	B.Sc. (Nat. Res.) thesis	2006	2007	Richardson	
Walling, Hazel	B.Sc. (Biology) thesis	2007	2008	Richardson	
Martin, Amanda	B.Sc. (Nat. Res.) directed studies	2008	2009	Richardson	
Anderson, Meghan	B.Sc. (Nat. Res.) thesis	2008	2009	Richardson	
Chan, Carita	B.Sc. (Environmental Studies) honours	2009	2010	Richardson	
Rickard, JoAnna	B.Sc. (Nat. Res.) thesis	2010	2011	Richardson	
Roxanne Kocwarski	B.Sc. (Biology) directed studies	2011	2011	Richardson	
Rebecca Siefert	B.Sc. (Environmental Studies) honours	2011	2012	Richardson	
Tristan Slade	B.Sc. (Nat. Res.) thesis	2011	2012	Richardson	

(d) Continuing Education Activities

(e) *Visiting Lecturer (indicate university/organization and dates)*

(f) *Other*

Research Associates Supervised

Peter M. Kiffney, Ph.D. Colorado State (1996-1998) – currently research scientist, National Marine Fisheries Service, NOAA, Seattle

Postdoctoral Fellows Supervised

Charlotte Gjerløv, Ph.D. London. 1999 – Dec 2002 – now research manager with Wales Conservancy for Nature

Yixin Zhang, Ph.D. Umeå, Sweden. 2000 – 2004 – now Assistant Professor, Texas State University

Takashi Sakamaki, Ph.D. Tohoku, Japan (Fellowship from Japanese Society for the Promotion of Science). 2004 – 2009 – now Associate Professor, Ryukyus University, Japan

Antoine Lecerf, Ph.D. Université Paul Sabatier, Toulouse, France. 2006 – 2008 – now Assistant Professor, Université Paul Sabatier

Laurie Marczak, Ph.D. U British Columbia. 2007 – 2008 – now Assistant Professor, University of Montana

Santiago Larrañaga, Ph.D. University of the Basque Country, Spain. 2008 – 2010 – now instructor at Edith Cowan University (Australia)

John Kominoski, Ph.D. University of Georgia, USA. 2008 – 2010 – now Assistant Professor at Florida International University

Rachael Dudaniec, Ph.D. Flinders University, Australia. 2008 – 2011 – now Post-doctoral fellow at the University of Queensland

Trent Hoover, Ph.D. University of British Columbia. 2008 – 2010 – now Post-doctoral fellow at the University of Canterbury

Misun Kang, Ph.D. University of Windsor. 2009 – 2010 – now a consultant in British Columbia

Hamish Greig, Ph.D. University of Canterbury, NZ. 2009 – 2011 – now an Assistant Professor at the University of Maine

Takuya Sato, Ph.D. Mie University, Japan. 2011 – 2013 – now Associate Professor, University of Kobe, Japan

Pauliina Louhi, Ph.D. University of Oulu, Finland. 2012 - present

Research Assistants Supervised (not including summer undergraduate assistants)

Diane Klimuk (1998 - 2001) – currently with BC Ministry of Environment

Pamela Reece (1998 - 2001) – currently with Forestry Canada, Research

Jeff Shatford (1997-1999) – currently scientist with Parks Canada

Chris Alloway (1998 -1999) – currently with Environment Canada, Ontario

Jennifer Bull (1998 - 2002) – currently with BC Ministry of Environment

Tatiana Lee (2000 - 2004) – currently an independent consultant

Natalie Lissimore (1999 - 2000) – currently research assistant with Fisheries and Oceans, Canada

Erin Koga (2001 – 2002) – currently a quality control supervisor

Conan Phelan (2001 – 2004) – currently a PhD candidate at SFU

Leanne Baker (2002 – 2003) – currently a graduate student at UWindsor

Johanna Ledezma (2002 – 2003) – water quality analyst with GVRD

Nancy Hofer (2004 – 2006) – graduate student in Planning, UBC

Amandine Chargois (2008 – 2008) – parenting

Will Gibson (2004 – 2009) – currently a consultant

Xavier Pinto (2004 – 2008) – currently consultant

Pina Viola (2004 – 2010) – currently consultant

Supervisory Committees (Dept indicated unless within Forestry, UBC)

Heather Ferguson (Zoology), Barb Johnston (Zoology), Bea Beisner (Zoology), Maggie Squires (SFU), Elke Wind, Christel Shaughnessy (Botany), Janelle Curtis (Zoology), Tom Bell (Zoology), Karen Halwas (Geography), Maura MacInnes (Zoology), David Oldmeadow (Geography), Todd Golumbia, Tanya Wahbe, Devon Haag, Laura Cotton, Shirley Fuchs, Lisa Shama (UVic), Glenn Sutherland, Susan Shirley (Zoology), Lisa Holleman, Chantal Ouimet (Zoology), Kirsten Mackenzie, Jennifer Hiebler, Jennifer de Groot, Laura Rempel (Geography), Allyson Longmuir (Zoology), Rus Maynard (RMES), Jackie Ngai (Zoology), Sheena Pappas (IRES), Rob Shearer, Kristen Storry, Nira Salant (Geography), Jeff Young, Sandra Nicol (Zoology), Ashley Horne (Geography), Patrick Nadeau, Patrick Thompson (Zoology), Jan Verspoor (SFU, Biology), David Roscoe, Jenn Burt, Julie Wilson (IRES), Elizabeth Perkins (IGB – Berlin Free University), Robin LeCraw (Zoology), Hazel Walling (SFU), Gennifer Meldrum (Zoology), Lesley Winterhalt (Geography), Kendra Robinson, Jason Leach (Geography), Ryan Germain, Seth Rudman (Zoology)

PhD University examiner at UBC [excluding other universities – see below] - John Pritchard, Bob Mooney, Deb Wilson, Steve Wilson, Jordan Rosenfeld, Eric Mellina, Vanessa Craig, E. Frances Cassirer (LAFS), Nathan Taylor, Brian Starzomski, Kathryn Aitken, Joleen Timko (Forestry 2008), Glenn Crossin (Forestry 2008), Andre Zimmermann (Geography 2009), Spencer Wood (Zoology 2009), Erin Rechisky (Fisheries 2010), Laura White (Zoology 2010), Divya Varkey (Fisheries 2010), Richard McCleary (Geography 2011), Ali Naghibi (Civil Engineering 2011), Russell Markel (Zoology 2011), Erika Eliason (Zoology 2011), Andrea Stephens (Zoology 2012), Brett Van Poorten (Zoology 2012), Jennifer Guevara (Zoology 2012)

PhD Exams Chaired - Ettaleb (Civil Engineering), Lyn Baldwin (Botany), Ainsworth – Fisheries; Greene – Earth & Ocean Sciences; Foster – Fisheries Centre; Michael Sheriff – Zoology; Pak Sui Lam – Chemical and Biological Engineering; Caroline Cloutier – Chemical and Biological Engineering

PhD Comprehensive examiner – Matt Drenner (FRS)

PhD Comprehensives chaired (Mooney, Young, Hong Qian, Sharifi, Mahon)

MSc Exams – external examiner - Lake, Priekshot, Houde, Boucher, Stoudhammer (Kovach), Er, Riedel, Keple, Furay [UVic], Zimmerman, Caron, Ames, Lo, Nowsad, Kieran Samuk, Amanda Edworthy, Susana Cardenas

MSc Exams Chaired - Pritchard, Allison, Norquay, Chan, Ferguson, Burwash, Leupin, O'Connor, Bérubé, Aaron, Miquelajauregui, Freeman, Nina Lobo

Visiting students supervised (working in my research group for degrees from elsewhere)

Liliana Garcia, PhD Candidate, University of Vigo, Spain (at UBC June – Aug 2007)

Karolina Leberfingler, PhD Candidate (now completed), Karl Linnaeus University (July – Aug 2009)

Isis Sanpera Calbert, PhD Candidate, University of Barcelona (June – Nov 2009)

Giovany Guevara, PhD Candidate (now completed), Universidad Austral de Chile (Oct – Nov 2009)

Sabbatical Guests Hosted (in my laboratory and activities funded through my grants)

Dr. Russell Death, Institute of Natural Resources - Ecology (PN624), Massey University, Private Bag 11-222 Palmerston North, New Zealand (1 month)

Dr. Azim Mallik, Department of Biology, Lakehead University, Thunder Bay, Ontario (12 months)

Dr. Eugen Rott, Institut für Botanik, Universität Innsbruck, Innsbruck, Austria (6 months)

9. SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) *Areas of special interest and accomplishments*

Research Program

My research program seeks to determine the mechanisms and regulatory processes by which communities are structured, and how population densities within communities are set. My usual approach is to use experimental modulation of one or more variables within a community to test causal predictions. Most of these studies take a mechanistic view to understanding the rates and controls on processes operating within ecosystems. Experiments in combination with descriptive studies have provided a foundation for extending our understanding of how stream and riparian systems function. Indirect and food-web interactions are clearly strong determinants of community organisation and themselves subject to perturbation. I have used these approaches for a variety of basic and applied questions, such as examining the effects of forest management, while maintaining a sound theoretical foundation. All of these components are destined to provide inputs to synthetic and predictive models of stream and riparian areas that will be designed with management or restoration of natural areas as objectives.

I have worked on many of these projects as collaborations with scientists at other institutions (Naiman [U Washington], Wipfli [U Alaska], Milner [U Birmingham, UK], Soluk [U Dakota], Perrin [Limnotek Ltd], Heard [U New Brunswick], Levings [DFO]), at UBC (Moore, Hinch, Healey, Feller), and with my students and post-doctoral fellows. I have invested considerably in working with teams on several projects and I believe teams are important for ecosystem-scale studies. Our large-scale ecosystem project testing the effectiveness of riparian reserves for stream and riparian systems has been a team collaboration and what I consider one of the biggest contributions of my research program. This project was initiated by Michael Feller and further developed into a broader study when I joined the faculty. Other teams that I have worked with include a Variable Retention project lead by Weyerhaeuser and an attempt to develop a working team for the riparian studies in the Cariboo Region.

There are four interwoven thematic areas in my research program.

Population, community and ecosystem processes in streams, riparian areas, and wetlands: Many of our projects involve experiments to determine the processes and the controls on those processes within communities. In particular, the scaling of various structures and processing, and their non-additive interactions (complex effects) are critical to an understanding of how these natural or modified systems are organized. The primary biological components I have worked on include invertebrates, amphibians, fish, algae, bacteria, and small mammals.

Organic carbon dynamics in small streams: Small streams depend on a variety of sources of fixed carbon, and as donor-controlled pathways primarily from terrestrial environments, provide a strong linkage from watersheds to streams. Modification of riparian vegetation through forest management or succession can have a large effect on the carbon sources.

Applied studies of the effects of land-use (e.g. forestry), contaminants, and other disturbance on streams: As an applied scientist many of our studies address how various alterations from land-use affect natural systems. Various studies have been descriptive and experimental studies of tailed frogs, Pacific giant salamanders, woodland stream biodiversity, heavy metals, acid mine drainage, biomonitoring, and community structure of the lower Fraser River. These studies complement my overall research program by considering various insults to communities and populations as a kind of probe within communities.

Endangered and threatened species associated with streams and riparian areas: There are many species associated with streams and riparian areas that are at risk. My students and I have worked on a number of threatened or endangered species of amphibians. The species include tailed frog (vulnerable), coastal giant salamander (threatened), tiger salamander (BC – endangered), and Oregon spotted frog (endangered globally). The studies include long-term capture-mark-recapture programs, experimental studies of logging impacts on their demography, and experiments of their interactions with other species.

Future Directions

I plan to further move towards ecosystem-scale experiments using small stream basins as experimental units. These are long-term plans and we are studying a series of watersheds that will eventually be manipulated in one way or another. Some examples of the particular watershed-scale studies include applied and basic studies using experimental nitrogen loading, augmenting organic matter to streams to determine the effects of "leakiness" of the system, and continued studies of different harvesting systems around streams. Small-scale experiments to understand the mechanisms will continue to be a key approach to determining how processes apparent at ecosystem scales are carried through the system. In particular the non-additive, or "complex" interactions of multiple variables will remain one of the key questions of my experimental work.

(b) *Research or equivalent grants (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC))*

Granting Agency	Subject	COMP	\$CDN Per Year	Year	Principal Investigator	Co-Investigator(s)
Habitat Cons.Fund, BCMOE	Comm.structure of woodland streams, re forest age and logging history	C	\$30,000	92-94	W.E. Neill	J.S. Richardson
Habitat Cons. Fund, BCMOE	The Pacific Giant Salamander: impact and recovery from forest operations	C	\$33,883	94-95	W.E. Neill	J.S. Richardson
Environ.Cda.	Seasonal changes in benthic comm. structure in rivers of Fraser river basin,BC	N/C	\$17,667	95-97	J.S. Richardson	
Habitat Cons.Trust Fund, BCMOE	Population persistence of the Pacific Giant Salamander in the face of land-use alterations.	C	\$31,666	95-01	J.S. Richardson	W.E. Neill
For.Renewal Plan Biodiv.Res. BC	Biodiversity of stream invertebrates in small streams used by Pacific Giant Salamanders.	C	\$21,500	95-96	J.S. Richardson	W.E. Neill
Forest Ren.Plan, Anim.Inventory BC	Distribution of Pacific Giant Salamanders in 95-99 timber cutblocks in the Chilliwack Valley	C	\$31,550	95-96	W.E. Neill	J.S. Richardson
Environment Canada	Effects of contaminants on small stream ecosystems in the lower Fraser basin: mesocosm studies	N/C	\$8,666	94-97	J.S. Richardson	

Long Beach Model Forest, Nat.Res.Cda.	Biology and geomorphological classification of headwater streams in the Long Beach Model Forest	N/C	\$7,004	96	J.S. Richardson	
FRBC Research Program	Ecology of tailed frogs and the effects of forest practices	C	\$208,000	96-01	J.S. Richardson	F.L. Bunnell
FRBC Research Program	Hydraulic refugia of stream organisms from floods	C	\$59,998	96-97	J.S. Richardson	
FRBC Research Program	Stream benthos responses to riparian management.	C	\$121,000	96-01	J.S. Richardson	
FRBC Research Program	Population persistence of the Pacific Giant Salamander in the face of land-use alterations.	C	\$96,000	96-01	W.E. Neill	J.S. Richardson
Nat. Science Foundation (US)	Interguild interactions in communities of benthic stream invertebrates.	C	\$50,000 US	96-99	S.B. Heard	J.S. Richardson
FRBC Research Program	Influence of reserve strip width on riparian and stream ecosystems: invertebrate responses to management.	C	\$108,000	97-01	J.S. Richardson	
US Nat.Marine Fisheries Serv.NOAA	Influence of reserve strip width on riparian and stream ecosystems: invertebrate responses to management.	C	\$25,000	98-02	J.S. Richardson	
Habitat Conservation Trust Fund	Tiger Salamanders: habitat use and population ecology	C	\$22,000	97-01	J.S. Richardson	W. Klenner
Habitat Conservation Trust Fund	Influence of reserve strip width on riparian and stream ecosystems: amphibian communities	C	\$20,854	98-01	J.S. Richardson	
NSERC (Canada)	Resource limitation in streams and the role of organic matter sources.	C	\$12,600	99-03	J.S. Richardson	
HCTF & Fraser River Estuary Management Program	Fish communities as ecosystem indicators for a changing system: the lower Fraser River	C	\$30,000	2001 - 2005	J.S. Richardson	
Forest Renewal BC and Forestry Innovation Investment	Ecology and management of riparian - stream ecosystems: a large scale experiment using alternative streamside management techniques	C	\$210,677	01-04	J.S. Richardson	Feller, Hinch, Moore, Kiffney, and Mitchell

Forest Renewal BC and Forestry Innovation Investment	Influence of different forest practices on the biodiversity and productivity of macroinvertebrate communities in small headwater streams in the interior of British Columbia	C	\$66,339	01-03	J.S. Richardson	
Forest Renewal BC and Forestry Innovation Investment	Trophic flows across habitats in riparian forest ecosystem: terrestrial-aquatic linkages	C	\$61,457	01-03	J.S. Richardson	
Forest Renewal BC and Forestry Innovation Investment	Variable retention and the conservation of small streams and their riparian areas	C	\$374,178 (15% to JSR)	01-03	Bill Beese, Weyerhaeuser	J.S. Richardson, Bilby, Bothwell, Moore, Hogan, Macdonald
BC Ministry of Water, Land & Air Protection	Status of the signal crayfish, <i>Pacifastacus leniusculus</i> in BC	C	\$5,000	02-03	J.S. Richardson	
Forestry Innovation Investment	Amphibian populations as indicators of forest condition and recovery from forest harvesting of riparian areas in a coastal forest	C	\$26,005	02-04	J.S. Richardson	
BC Water, Land and Air Protection	Time series analysis of water quality data	NC	\$55,000	03	J.S. Richardson	
NSERC (Canada)	Variation in detritus-based food webs and community structure based on quality of organic matter	C	\$20,000	03-07	J.S. Richardson	
Sustainable Forest Management Network	Ecological and geographical gradients underlying stream responses to riparian management – towards ecologically-based guidelines	C	\$75,000 (52%)	03	J.S. Richardson	Plamondon, Moore, Mackereth, Mallik, Scruton, Macdonald, Cunjak
Forest Innovation Investment	Demographic and viability analysis of the threatened coastal giant salamander in response to forest harvesting	C	\$47,659	03-04	J.S. Richardson	
Habitat Conservation Trust Fund	Recovery potential of amphibian communities	C	22,000	04-05	J.S. Richardson	
Forest Sciences Program (B.C.)	Ecology and management of riparian - stream ecosystems: a large-scale experiment using alternative streamside management techniques	C	194,920 (60%)	04-07	J.S. Richardson	Feller, Hinch, Moore, Kiffney, and Mitchell

Forest Sciences Program (B.C.)	EpHects" - a cumulative effects analysis method using automated continuous pH measurements in streams.	C	29,000	04-05	Quilty & Richardson	
Forest Sciences Program	Cumulative watershed effects of forestry practices on stream ecosystems	C	85,388	04-07	Zhang	Richardson
Networks of Centres of Excellence, Canada Water Network	Changes in communities of small streams of the Fraser River lowlands	C	12,000	05 - 07	Richardson	
Forest Sciences Program	Long-term trends in amphibians in riparian reserves: are riparian reserves effective for their conservation?	C	22,281	06 - 09	Richardson	
Forest Sciences Program	Downed wood in riparian areas and its contribution to stand-level biodiversity	C	32,252	06 - 09	Richardson	
Forest Sciences Program	Alternative indicators of the integrity of stream function as an assessment of sustainable forest management	C	74,283	06 - 09	Richardson	
Forest Sciences Program	Recovery processes of small streams and their riparian areas from clear-cutting and partial harvest riparian management	C	128,585 (33%)	07 - 10	Richardson	Moore, Kiffney, Feller, Mitchell, Hinch
Forest Sciences Program	Biogeochemical indicator and threshold for assessing ecological impacts of riparian forest management on downstream ecosystems	C	74,492	07 - 10	Sakamaki	Richardson
Forest Sciences Program	Assessing the sensitivity of streams to riparian changes: Does channel geomorphology determine how tightly forests and small streams are linked to downstream reaches?	C	71,126	07 - 10	Hoover	Richardson
Forest Sciences Program	Ecosystem functioning in small streams and their riparian areas in response to partial harvest riparian management	C	75,420	07 - 10	Marczak	Richardson

Forest Sciences Program	Conservation genetics and ecology of the threatened Coastal Giant Salamander in managed forests of British Columbia: setting priorities for an integrative species recovery plan.	C	47,133	08 - 11	Richardson	Dudaniec
Canadian Wildlife Federation	Conservation genetics and ecology of the threatened Coastal Giant Salamander	C	30,000	10- 11	Richardson	Dudaniec
NSERC	Resource heterogeneity and the environmental basis of productivity in flowing waters	C	19,700	08 - 13	Richardson	
Canadian Wildlife Federation	Determining critical instream flow needs for Nooksack Dace	C	17,900	11 - 13	Richardson	
Pacific Institute for Climate Solutions	Assessing the potential aquatic habitat value of streams responding to a changing climate	C	20,750	11 - 13	Richardson	Allen, Moore
Canadian Wildlife Federation	Identification of critical habitat for Great basin spadefoot toads (<i>Spea intermontana</i>) within the southern interior of British Columbia	C	22,000	12- 14	Richardson	
NSERC Strategic Network	NSERC Canadian Network for Aquatic Ecosystem Services	C	4416625 (~2%)	12 - 17	Jackson	+14 others
NSERC	Population and community consequences of cross-ecosystem resource subsidies	C	33,000	13 - 18	Richardson	

(c) *Research or equivalent contracts (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC). NONE*

(d) *Invited Presentations (defined as travel being paid by inviting organization or invitation to a special series: regular invitations to be part of special sessions at conferences and symposia not listed) - International invitations noted with an asterisk*

- * “Cross-ecosystem resource subsidies across the stream-land interface and land-use effects on streams”
The William Main Lecture, 15 April 2013, University of California Berkeley, USA.
- * “Cross-ecosystem subsidies to streams: progress on effects of quality and timing.” 6 July 2012,
University of Hokkaido, Dept of Environmental Science, Japan.
- * “Water connects all of us to each other and to our landscape.” 15 June 2011, Te Awa, Public Lecture,
and “Rare and extreme events in river landscapes have lasting impacts.” 21 June 2011, The
Manawatu Lecture, Royal Society of New Zealand Manawatu Branch, Palmerston North, New
Zealand.
- * “Experimental tests of the controls on biodiversity and productivity of stream ecosystems.” 4 Nov
2010, University of Oulu, Finland.
- “Learning how to protect water for environmental and human needs in a variable world.” (keynote) 31
August 2010, British Columbia Water Symposium, Kelowna, BC.
- * “Controls on organic matter decomposition in streams and effects on food webs.” 4 February 2010,
IGB – Leibniz Institute for Freshwater Ecology and Inland Fisheries, Berlin, Germany.
- * “Experimental tests for the controls on biodiversity and ecosystem function in streams.” 29 April
2009, University of Vienna, Austria.
- * “The source waters: the ecological roles of headwater streams & threats to catchment integrity.” 29
October 2008, keynote for IV Congreso Argentino de Limnologia, Bariloche, Argentina.
- * “Biomonitoring of streams for environmental impacts on water quality and aquatic life.” 31 October
2008, Universidad Nacional del Comahue, Neuquen, Argentina.
- * “Donor-controlled ecosystem subsidies and facilitation are important processes in freshwater
foodwebs.” 1 February 2008, Institut für Gewässerökologie und Binnenfischerei (IGB), Germany.
- * “Donor-controlled ecosystem subsidies and facilitation are important processes in freshwater
foodwebs.” 30 January 2008, Wageningen Universiteit, Netherlands.
- * “Riparian Management: are we there yet?” 7 November 2007, Oregon State University, OR, USA.
- * “A look into the future for rivers and lakes in the 'wilderness' of western Canada” 22 April 2007,
University of Innsbruck, Austria.
- * “Management of catchments for the protection of aquatic life and other resources starts with the
headwaters” 21 April 2007, Natural History Museum, Trento, Italy.
- * “Experimental approaches in stream ecology” 28 February 2007, University of Birmingham, UK.
- * “Does biodiversity matter to ecosystem functions, and how can that be determined?” Les Grands
Seminaires de l’Observatoire Midi-Pyrénées; and “Biodiversité: du jardin d’Eden aux invasions
biologique” (with Eric Tabacchi, CNRS, Toulouse) Les Soirées Scientifique de l’Observatoire Midi-
Pyrenees. 23 January 2007, Toulouse, France
- * “Ecology of coastal rivers in Pacific coastal rain forests” Exploring the Scientific Basis for
Stewardship & Restoration of Coastal Rivers” 12 April 2006, Seattle, WA.
- * “Experimental tests of the processes controlling complex interactions in stream food webs” and
“Organic matter dynamics in small streams of coastal BC” 25 – 27 January 2006, University of
Alaska, Fairbanks, AK.
- * “The biology of headwater streams and their riparian areas in forested landscapes: Where to next?” 18
November 2005. Oregon Headwaters Co-operative, Corvallis, OR.

- “Experimental tests of the processes controlling complex interactions in stream food webs” 15 September 2005, Dept of Biological Sciences, University of Alberta, AB.
- “Evaluating effectiveness and uncertainty of forest management around small streams in British Columbia” FORWARD Annual Meeting, 16 May 2005, University of Alberta, AB.
- “An experimental approach to understanding the linkages between ecosystems: forest-stream interactions and management” and “Sustainable forest management and protecting aquatic ecosystems: Can we have it all?” 22 and 23 October 2004, Lakehead University, ON.
- “Meeting the conflicting objectives of stream conservation and land use through riparian management: another balancing act.” Keynote speaker. 28 April 2004. Forest-Land-Fish Conference II – Ecosystem Stewardship Through Collaboration, Edmonton, AB.
- “Experimental tests of processes regulating complex interactions in stream and riparian food webs” 2 February 2004. Dept of Biological Sciences, University of Calgary, AB.
- * “Understanding complex interactions in stream and riparian food webs, and management effects” 20 November 2003. School of Natural Resources, Ohio State University, OH.
- * “Amphibians associated with headwater streams and population responses to forest management” 15 April 2002. College of Forest Resources, University of Washington, Seattle, WA.
- * “Experimental studies of the effects of riparian management on communities of small streams: establishing causal mechanisms.” 30 October 2001. Headwaters Research Cooperative, Oregon Department of Forestry, OR.
- “Forestry and aquatic resources: biodiversity, water quality, and ecosystem integrity. Oh yes, ...and salmon” 15 August 2001. Canadian Institute of Forestry Annual Meeting. Whistler, BC.
- “Species at risk - amphibians and other life on the edge in British Columbia”. Keynote speaker. 17 February 2001. Canadian Society of Environmental Biologists, Vancouver, BC.
- “Are our current guidelines for riparian reserves doing the job?” 25 January 2001. Coastal Silviculture Committee, Winter Meetings, Nanaimo, BC.
- “Controls on the productivity of food webs of small streams: seasonality and resource limitation” 23 November 2000. Bamfield Marine Laboratory, BC.
- * “Headwater streams, forest harvesting, and the conservation biology of tailed frogs” 20 April 2000, Department of Natural Resource Sciences, Washington State University, Pullman, WA.
- * “Controls on the productivity of food webs of small streams: seasonality and resource limitation” 13 April 2000, School of Fisheries, University of Washington, Seattle.
- * “Ecological objectives for stream and watershed restoration along the Pacific coast of North America” International Workshop on Environmental Hydrodynamics and Ecological River Restoration in Cold Regions, 22 September 1998, Trondheim, Norway.
- “Fish don’t eat trees so why do we need to leave riparian buffers along streams?” National Rivers Conference, 3 May 1998, Richmond, BC.
- * “Conservation of stream ecosystem dynamics and biodiversity through streamside management” 19 November 1997. World River Conference, Gifu, Japan.
- * “Forest management and the effects on food webs of temperate rainforest streams of Canada’s Pacific coast” 17 November 1997. Hokkaido University, Sapporo, Japan.

- “Do fish eat trees? Stream food webs and forest harvest practices” 27 September 1996. Natural Resources and Environmental Studies, University of Northern British Columbia, Prince George.
- “Epidemiology as a branch of ecology: feedbacks between disciplines.” 16 July 1995. Canadian Association of Veterinary Epidemiology and Preventive Medicine Annual Meeting, Victoria, BC.
- * "Regulation of foodweb structure in temperate rainforest streams." 6 March 1995. and "Forestry impacts on stream communities in the Pacific Northwest." 7 March 1995. University of Maryland.
 - * "Autocorrelations and discontinuities in ecosystems across space, time, and disciplines: the case of the Fraser River." 11 September 1994. Sampling Designs in Aquatic Networks Across Scales Workshop, Mt Hood, Oregon. Center for Analysis of Environmental Change.
 - * "From organic matter to fish: stream food webs and forest harvest practices." 13 May 1994. EAWAG, Swiss Federal Institute of Environmental Science and Technology, Zürich, Switzerland.
 - * "Foodwebs of temperate rainforest streams: rate-limiting processes and community structure." 17 March 1994. Department of Zoology, University of Hong Kong, Hong Kong.
- "From organic matter to fish: stream food webs and forest harvest practices." 7 March 1994. Department of Forest Sciences and Fisheries Centre, University of British Columbia.
- "Forest-stream interactions: understanding the connections and predicting the consequences." 26 April 1993. Scarborough Campus, University of Toronto, ON.
- "Forest-stream interactions: population dynamics of lotic organisms limited by forest-driven processes." 10 March 1993. West Vancouver Laboratory, Department of Fisheries and Oceans, BC.
- "Manipulating stream food webs: limits to productivity and forestry-stream interactions." 25 September 1992. Department of Biology, York University, Ontario.
- "Food limitation of stream benthos: implications for community organization." 10 March 1992. Pacific Biological Station, Fisheries and Oceans, Nanaimo, BC.
- "Population and community consequences of food limitation in west coast streams." 7 June 1990. Département de Biologie, Université Laval, Québec.
- "Natural disturbances in streams: how might they affect stream communities?" 1 March 1986, A Symposium on the Role of Disturbance, Pacific Ecology Conference, Vancouver, BC.
- * "Abundance patterns of seston feeding invertebrates in lake-outlet streams: why is *Neureclipsis bimaclata* restricted to these habitats?" 19 November 1984, Department of Fisheries and Wildlife, Oregon State University, Corvallis, OR.

(e) *Other Presentations*

Regular conference presentations (average of about 5 - 8 per year); departmental seminars; talks to community groups.

Coastal Silviculture Committee Summer Field Program, June 2001

(f) *Other*

(g) *Conference Participation (Organizer, Keynote Speaker, etc.)*

Regular conference participation (international and regional – about 5 to 8 meetings a year) – presentations given at most conferences, as well as by my students and postdocs on which I am usually an author (abstracts and titles not listed – estimated 15 presentations per year on which I am an author). I chair and/or organise sessions at conferences at least once per year.

Organizer – Centre for Applied Conservation Research Symposium, organized the first 6 symposia up to and including 2003

Co-organizer: Headwater systems, April 2000 - co-organizer for the meeting along with Roy Sidle & Dan Moore

Keynote speaker:

- Forest-Land-Fish Conference II – Ecosystem Stewardship Through Collaboration, Edmonton, AB 28 April 2004.
- Annual Meeting of the Canadian Society of Environmental Biologists, 2001.
- IV Congreso Argentino de Limnologia, Bariloche, Argentina, 2008.

Organizing committee member : Headwater Ecosystems and their management - member of the organizing committee for this regional meeting held at UBC 19-21 February 2002.

Organizing Committee Member, American Society of Limnology and Oceanography Annual Meeting, Victoria, 2002

Chair, Organizing Committee, North American Benthological Society Annual Meeting, UBC, 2004.

Organiser: Biomonitoring 2003, Biomonitoring 2005, Biomonitoring 2006 (all at UBC)

Program co-chair, North American Benthological Society Annual Meeting, Anchorage, Alaska, 2006

Organizing committee member : Headwater Ecosystems and their management - member of the organizing committee for this regional meeting held at UBC 19-21 February 2007.

Workshop invitations (recent): Future Forest Ecosystems Monitoring, Victoria, BC, 15 January 2009 (organised by Dr. John Innes, BC government-funded); Linking hydromorphology and ecology, Aberdeen, Scotland, 1 – 5 March 2009 (organised by Dr. Hamish Moir, Scottish Environment funding); Workshop to Develop a National Network of Conservation Professionals to Address Complex and Pressing Conservation Problems in Canada, Ottawa, ON, 5 – 7 April 2009 (Organised by Dr. Steven Cooke, Carleton, NSERC-funded)

10. SERVICE TO THE UNIVERSITY

(a) *Memberships on committees, including offices held and dates*

Safety committee: member 1996-1998

Fire Safety Director: Faculty of Forestry, UBC. 1999 - present

Best graduating essay selection committee 2000

Best graduating thesis selection committee 2001

Hiring committee member: departmental technician 2001

Hiring committee member: faculty of forestry web specialist 2001

Faculty IT committee: member 2002 – present

College of Life Sciences Graduate Student Evaluation Committee 2002 – 2003

Search Committee: New head of Geography, UBC 2008-2009

Search Committee: NSERC-Industry chair in Forest and Forest Products Entomology 2009

(b) *Other service, including dates*

11. SERVICE TO THE COMMUNITY

(a) *Memberships on scholarly societies, including offices held and dates*

Trustee and Chair: (1999-2003) North American Benthological Society Endowment Fund.

Member: Place and nominations committee - North American Benthological Society (1999 and 2000).

Member: North American Benthological Society

Member: Ecological Society of America

Member: British Ecological Society

Member: American Society of Limnology and Oceanography

Chair (2010 – 2014) Society for Freshwater Science, Award of Excellence and Distinguished Service Award Subcommittee

(b) *Memberships on other societies, including offices held and dates*

(c) *Memberships on scholarly committees, including offices held and dates*

(d) *Memberships on other committees, including offices held and dates*

Co-chair: Oregon Spotted Frog Recovery Team (Listed 'endangered' in Canada). 1999 – 2003, currently a team member: 2003 - present

Member: South Okanagan-Similkameen Conservation Program Scientific - Technical Committee. 1999 – 2005

Member: Scientific Advisory Committee, Kenai River Watershed Studies Program, Alaska (2002-2003).

Member: Rocky Mountain tailed frog recovery team (2002 to 2004)

Member: Coastal giant salamander recovery team (2004 – present)

Member: Freshwater fishes of BC recovery team (2003 – present)

Member: South Coast Conservation Program – BC Government-nominated consortium for coordinating recovery teams and other conservation efforts in the lower mainland of BC (2005 – present).

(e) *Editorships (list journal and dates)*

Editorial Board, Associate Editor – *Journal of Applied Ecology* (British Ecological Society journal), 1 Oct 2005 – 1 January 2012 (impact in 2008 – 4.56)

Editorial Board, Associate Editor – *Journal of the North American Benthological Society*, 1 June 2002 – 30 May 2007 (impact in 2008 – 2.36)

Editorial Board, Associate Editor – *Canadian Journal of Fisheries and Aquatic Sciences* 1 June 2005 – present (impact in 2008 – 2.28)

Guest Associate Editor – *Canadian Journal of Forest Research* (2002, 2005) (impact in 2004 – 1.531)

(f) *Reviewer (journal, agency, etc. including dates)*

Reviewer for: American Midland Naturalist, Archiv für Hydrobiologie, Boreal Environment Research, Canadian Entomologist, Canadian Journal of Fisheries and Aquatic Sciences, Canadian Journal of Forest Research, Canadian Journal of Zoology, Ecography, Ecological Indicators, Ecological Applications, Ecological Monographs, Ecology, Ecology Letters, Écoscience, Entomologia Experimentalis et Applicata, Environmental Biology of Fishes, Forest Ecology and Management, Freshwater Biology, Global Change Biology, Hydrobiologia, International Review of Hydrobiology, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Aquatic Ecosystem Health, Journal of Herpetology, Journal of the North American Benthological Society, Marine Ecology (Progress Series), Nature Climate Change, New Zealand Journal of Marine and Freshwater Biology, Oecologia, Transactions of the American Fisheries Society. (average of about 15 reviews per year in addition to my editorial duties)

Reviewer – Pacific Scientific Advice Review Committee, Fisheries and Oceans Canada. Marine and estuarine riparian habitats and their role in coastal ecosystems. June 2001

Grant proposal Reviews

Member: Science Council of BC: review panel member for Forest Renewal BC research program. 1996-2001.

Review panel member for Forest Sciences Program (BC) – 2003-2004, 2004-2005

Portuguese Science Foundation – Fundação para a Ciência e a Tecnologia – panel member 2009 - 2012

National Science Foundation (US) – grant proposal reviews (2)

Living Legacy Trust, Ontario (a forestry research granting agency) - grant proposal reviews (6)

Natural Sciences and Engineering Research Council (Canada) – grant proposal reviews (8)

Hong Kong Research Grant Council (ref. # HKU 7619/05M) (2004 – 2009) – grant proposal reviews (6)

Promotion reviews (no details for privacy reasons)

University of Birmingham, University of Alaska – Fairbanks, Massey University, University of Washington

(g) *External examiner (indicate universities and dates)*

M.Sc., Chris Teichreb, Simon Fraser University, July 1999

M.Sc., Nicole McCutchen, Simon Fraser University, May 2001

PhD examiner, Antti Haapala, University of Jyväskylä, Finland, May 2001.

M.Sc., Eric Lamb, Lakehead University, Thunder Bay, ON. April 2002.
 M.Sc., Andrea Riedel, Simon Fraser University, August 2002.
 M.Sc., Paula Furay, University of Victoria, Apr 2003.
 PhD examiner, Deborah Walks, University of Toronto, Feb 2003.
 PhD examiner, Robyn Irvine, University of Calgary, Feb 2004.
 PhD examiner, Cameron Stevens, University of Alberta, Sept 2005.
 PhD examiner, Brent Wootton, Trent University, ON, Apr 2006.
 PhD examiner, Joanne Clapcott, University of Tasmania, August 2007
 PhD examiner (opponent), Rob J.M. Franken, Wageningen Universiteit, Netherlands, Nov 2007
 PhD examiner, Alistair Danger, Deakin University, Australia, Nov 2007
 M.Sc., Shah Newaz, Lakehead University, Thunder Bay, ON. Aug 2009
 PhD examiner (opponent), Pauliina Louhi, University of Oulu, Finland, Nov 2010.
 PhD examiner, Lilitiana García Lago, University of Vigo, Spain, Jan 2012
 M.Sc., Noel Swain, Simon Fraser University, Jan 2013

(h) *Consultant (indicate organization and dates)*

(i) *Other service to the community*

Biodiversity Research Council of BC: member. 1998-1999.

Scientific advisor for British Pacific Properties' tailed frog monitoring program. 1998- present

TV interviews – Pacific giant salamanders (CBC), amphibians (Discovery), Oregon spotted frog (Discovery), bullfrog (Global)

Radio interviews – tiger salamanders (CBC Kelowna)

Newspaper articles – riparian management in BC (Sun - Gordon Hamilton), south Okanagan newspapers about tiger salamanders

Presentation about urban wildlife for the Urban Stewardship Program

Musqueam Creek Day – led tours to describe fish and fish habitats, and manned a booth to provide information, 28 July 2001.

Selection committee for associate editor for Journal of Ecosystem Management, SIFERP 2000

Public talks: Langley Field Naturalists (2010); Nature Vancouver (2011); Abbotsford Field Naturalists (2011); Wetlands Keepers – “Wetlands – what lurks below” (2012); Beaty Biodiversity Museum – “Caddisflies are way cool ...” (2012); Let's Talk Science – 200+ public school students (2012); Fukuoka Jonan program – 20 Japanese High School students (2012); Indian Forest Service – Water Management in Canada (twice 2012)

Amphibians of the Fraser Valley: at risk and declining. 15 Jan 2002, Richmond Nature Park, BC.

Endangered amphibians, Restoration Series, U. Victoria, Oct 2001

Endangered species, south Surrey rest home, Nov 2004.

Organiser of benthic biomonitoring workshops (2003, 2005, 2006)

12. **AWARDS AND DISTINCTIONS**

- (a) *Awards for Teaching (indicate name of award, awarding organizations, date)*
- (b) *Awards for Scholarship (indicate name of award, awarding organizations, date)*
 Appointment to the Peter Wall Institute for Advanced Studies, Early Career Scholars, UBC – Sept 2004
 NSERC postgraduate scholarship 1980, 1981
 NSERC postgraduate scholarship 1983, 1984, 1985
 NSERC post-doctoral fellowship 1989, 1990
 Visiting scientist in a government laboratory fellowship 1993
- (c) *Awards for Service (indicate name of award, awarding organizations, date)*
- (d) *Other Awards*
 Best of Way Cool 2012 – winner for the “Way cool” seminar series at Beaty Biodiversity Museum

13. OTHER RELEVANT INFORMATION (Maximum One Page)

Publications and authorship

I work very diligently with my students (post-graduate and undergraduate) and post-doctoral fellows to develop our ideas and designs for testing them. Among the rewards of mentoring students and post-doctoral fellows are the exchanges of ideas, inputs into projects, and the eventual publication of their work. I have been particularly strident about making sure that we strive to publish all the work from our research efforts. My students and post-doctoral fellows have been very successful in publishing their work and I have made large contributions to the work that each of them have done, and as such I am an author on all their work. In some cases I have had to do the majority of the writing in order to get a thesis into manuscript format, but I have always kept the student as the first author, as it is more important for their career progress to have senior authorship. All of the projects have been funded by grants for which I had the lead or a major role in securing the funding. Our convention is typically that the order of authorship represents the order of the magnitude of the contributions from the people involved, in terms of intellectual contribution and amount of work.

Choice of outlet for publications

My research efforts are most suited for the ecological and aquatic biology journals, and I publish in both applied and basic science journals depending upon the particular topic of the paper. In my field there are many highly-ranked, international journals and I aim to publish my work there, for instance *Ecology*, *Ecological Applications*, *Journal of Animal Ecology*, *Journal of Applied Ecology*, *Proceedings of the Royal Society of London B*, *Freshwater Biology*, and *Canadian Journal of Fisheries and Aquatic Sciences*. Some of my papers have been as part of a series of papers, *Canadian Journal of Forest Research*, *Journal of the American Water Resources Association* (papers in 2 special issues: Small streams and their riparian areas, and The importance of ecosystem services of small streams on downstream rivers [related to the US Clean Water Act restrictions by the US Supreme Court]), and *Forest Sciences* (forthcoming issue on the roles of small streams in landscapes, including managed forests). There are many other journals that I also use as outlets for particular kinds of publications that have readerships interested in particular topics, rather than more broadly-based journals.

Achievements of our research group:

A large number of my graduate students have gone on to work in consulting or for government agencies, or have moved on to further degrees. Six have gone on to become professors (Texas State University, University of Montana, Université of Toulouse, University of the Ryukus, University of Hokkaido, University of Maine) and another is working as an Instructor at UBC. Students and former post-doctoral fellows work as researchers for Fisheries and Oceans Canada, US Department of Commerce NOAA Fisheries, BC Ministry of Environment, Japanese Ministry of Construction, and Countryside Council for Wales. The majority of the former members of my research group have published their work in international, peer-reviewed journals.

Metrics

H-score = 28, citations = 2742 – Web of Science (28 January 2013) Author=(Richardson JS NOT Richards JS) AND Address=(BC OR Alberta OR Simon Fraser OR Toronto OR Ontario OR West Vancouver OR British Columbia)

THE UNIVERSITY OF BRITISH COLUMBIA
Publications Record

SURNAME: RICHARDSON

FIRST NAME: John

Initials:

MIDDLE NAME: Stuart

Date: May 2013

1. REFEREED PUBLICATIONS (publications with students and post-doctoral fellows underlined)

(a) *Journals* (total: 126)

Klemmer, A.J. & J.S. Richardson. Quantitative gradient of subsidies reveals a threshold in community-level trophic cascades. *Ecology* accepted

Little, P., J.S. Richardson & Y. Alila. Channel and landscape dynamics in the alluvial forest mosaic of the Carmanah River valley, British Columbia, Canada. *Geomorphology* accepted

Sakamaki, T. & **J.S. Richardson.** Nonlinear variation of stream-forest linkage along a stream-size gradient: an assessment using biogeochemical proxies of in-stream fine particulate organic matter. *Journal of Applied Ecology* accepted

Atwood, T.B., E. Hammill, H.S. Greig, P. Kratina, J.B. Shurin, D.S. Srivastava & J.S. Richardson. 2013. Predator-induced reduction of freshwater carbon dioxide emissions. *Nature Geoscience* 6:191-194 doi: 10.1038/NGEO1734

Bondar, C.A. & J.S. Richardson. 2013. Stage-specific interactions between dominant consumers within a small stream ecosystem: direct and indirect consequences. *Freshwater Science* 32:183-192.

Martin, A., T. Hoover & J.S. Richardson. 2013. Modeling the role of stage-structured agonistic interactions in ontogenetic habitat shifts. *Behavioral Ecology* 24:355-365.
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García, L., J.S. Richardson & I. Pardo. 2012. Leaf quality influences invertebrate colonization and drift in a temperate rainforest stream. *Canadian Journal of Fisheries and Aquatic Sciences* 69: 1663-1673. doi: 10.1139/F2012-090

Burt, J.M., M.R. Donaldson, K.A. Hruska, S.G. Hinch & **J.S. Richardson.** 2012. Interactive field site visits can help students translate scientific studies into contextual understanding. *Fisheries* 37(7): 315-319. <http://dx.doi.org/10.1080/03632415.2012.696016>

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- Sanpera-Calbet, I., E. Chauvet & **J.S. Richardson**. 2012. Fine sediment on leaves: shredder removal of sediment does not enhance fungal colonisation. *Aquatic Sciences* 74:527-538.
- Kreutzweiser, D.P., P.K. Sibley, **J.S. Richardson** & A.M. Gordon. 2012. Introduction and a theoretical basis for using disturbance by forest management activities to sustain aquatic ecosystems. *Freshwater Science* 31:224-231.
- Richardson, J.S.**, R.J. Naiman & P.A. Bisson. 2012. How did fixed-width buffers become standard practice for protecting freshwaters and their riparian areas from forest harvest practices? *Freshwater Science* 31:232-238.
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3. BOOKS

(a) Authored

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Weiler, M., R. Pike, D. Spittlehouse, R. Winkler, D. Carlyle-Moses, G. Jost, D. Hutchinson, S. Hamilton, P. Marquis, E. Quilty, R.D. Moore, **J. Richardson**, P. Jordan, D. Hogan, P. Teti, & N. Coops. 2010. Chapter 15 – Watershed Measurement Methods and Data Limitations. In Compendium of Forest Hydrology and Geomorphology in British Columbia. R.G. Pike, T.E. Redding, R.D. Moore, R.D. Winkler and K.D. Bladon (editors). B.C. Ministry of Forests and Range Research Branch, Victoria, B.C. and FORREX Forest Research Extension Partnership, Kamloops, B.C. Land Management Handbook (TBD). URL: http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh66/Lmh66_ch17.pdf

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Richardson J.S. 2005. Wildlife Ecology and Management. pp. 189-205 in S.B. Watts and L. Tolland (eds.), Forestry Handbook for British Columbia. Fifth Edition. University of British Columbia Forestry Undergraduate Society, Vancouver, BC.

Richardson, J.S. and M.J. Jackson. 2002. Chapter 16. Aquatic Invertebrates. Pp. 300-323 In: Perrow, M.R. & A.J. Davy (Eds.) Handbook of Ecological Restoration. Cambridge University Press.

4. PATENTS

5. SPECIAL COPYRIGHTS

6. ARTISTIC WORKS, PERFORMANCES, DESIGNS

7. OTHER WORKS

Richardson, J.S. 2012. “Stream Ecology.” In Oxford Bibliographies Online: Ecology. Ed. David Gibson. New York: Oxford University Press.

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Book Review: Williams, D.D. 2006. The Biology of Temporary Waters, Oxford Press. *Quarterly Review of Biology* 82:167-168.

Branchlines (Faculty of Forestry Newsletter) – September 1996; December 2000; March 2002; March 2004

Website: Stream and Riparian Research Laboratory. <http://faculty.forestry.ubc.ca/richardson/> - this is a site I maintain for my research group.

8. WORK SUBMITTED (including publisher and date of submission)

Klemmer, A.J. & **J.S. Richardson**. Quantitative gradient of subsidies reveals a threshold in community-level trophic cascades

Stenroth, K., J. Herrmann, T.M. Hoover, I. Bohman & **J.S. Richardson**. A model-based comparison of coarse particulate organic matter dynamics in forested and open-canopy streams

Atwood, T.B., M. Kang, J.S. Kominoski & **J.S. Richardson**. Are fractionation 'constants' constant? The influence of coniferous versus deciduous plant litter on isotopic fractionation of C and N in a common stream detritivore. *Hydrobiologia* submitted

Lovatt, C., J.S. Kominoski, T. Sakamaki, B. Macleod & **J.S. Richardson**. Leaf-litter leachate and light interactively influence stream biofilms. *Freshwater Biology* submitted

Chan, C. & **J.S. Richardson**. Effects of the antimicrobial triclosan on a detrital-based, aquatic food web. *Aquatic Toxicology* submitted

Little, P., **J.S. Richardson** & Y. Alila. Channel and landscape dynamics in the alluvial forest mosaic of the Carmanah River valley, British Columbia, Canada. *Geomorphology*

Murakami, A. & **J.S. Richardson**. The relationships between summer low-flow events and the benthic macroinvertebrate community in forested headwater streams. *Ecohydrology* in review

9. **WORK IN PROGRESS** (including degree of completion)

Manuscripts

Mallik, A.U., R.D. Moore, & **J.S. Richardson**. Periodic droughts followed by wet periods enhance vegetative regeneration of step-moss (*Hylocomium splendens*): Experimental evidence from riparian buffers of varying widths and stem density along 15 temperate forest streams

Bondar, C.A. & **J.S. Richardson**. Survival, movement and microhabitat choice of signal crayfish in a small temperate stream: does individual size matter?

Sakamaki, T. & **J.S. Richardson**. Attenuation of forest-environmental control of instream particulate organic matter properties with increase of stream width.

García, L., I. Pardo & **J.S. Richardson**. Congeneric patterns in litter breakdown and invertebrates in two temperate, forested headwaters of different continents.

Many others

Studies in progress

Ecology and management of riparian-stream ecosystems: a large scale experiment using alternative streamside management techniques.

This is an integrated, multidisciplinary program with 6 principal investigators and our students, lead by myself. This program tests the effectiveness of riparian management practices using an ecosystem approach. My portion of this multi-year study includes measures of stream invertebrate communities, terrestrial invertebrate communities (in particular carabid beetles), amphibians, small mammals, organic matter dynamics, and ecosystems modelling. This is a replicated, before-after control-impact (BACI) experiment requiring many years.

Studies of the ecology of small streams.

Small streams form a convenient model system for the exploration of processes across many scales in space and time. I use experimental and descriptive methods for testing hypotheses about the key variables that structure and control processes within these stream systems, and including connections with adjacent ecosystems (riparian areas and downstream). These systems are largely detrital-based, donor-controlled systems, which have interesting properties as systems. They are also of a convenient scale that we can modulate driving variables experimentally from small chambers within streams, to entire catchments. An example of the latter is the riparian management experiment noted above. We also have plans in the long term to use both long-term data series, and experimental manipulations to look at the consequences of temporal variation in forcing functions, including climate variation.

Restoration ecology of small streams.

These studies evaluate the ecosystem-level effects of instream placements on organic matter dynamics and macroinvertebrate diversity and productivity. We are also investigating the effects of riparian vegetation management (composition) for stream communities. There are two papers published (Negishi), and a thesis (Kolodziejczyk).

Ecology of threatened and endangered species, and the effects of forest practices.

Several of our studies are devoted to understanding the demography and population dynamics of amphibians, as well as the mechanisms affecting those properties. Long-term, mark-recapture (Coastal giant salamanders; whole amphibian communities) or quantitative sampling (tailed frogs) are being used to contrast demographics of populations in harvested versus control areas, or in a before-after control-impact contrast experiment. The studies of Coastal giant salamanders and tailed frogs are nearly complete. The long-term mark-recapture of amphibians as part of the riparian management experiment is ongoing.