

Seminar Title: *Road Ecology in the St. Lawrence Valley: Collaborative Opportunities in Teaching & Research among the Associated Colleges*

Seminar Administrator: Dr. Tom A. Langen, *Assoc. Professor, Dept. of Biology, Clarkson University*

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Committed Participants

Glenn Johnson, *Dept. of Biology, SUNY Potsdam*

Tom Langen, *Dept. of Biology, Clarkson University*

Kerop Janoyan, *Dept. of Civil & Environmental Engineering, Clarkson University*

Rick Welsh, *Humanities & Social Sciences, Clarkson University*

Erika Barthelmess, *Dept. of Biology, St. Lawrence University*

Carol Cady, *Launders Science Library, St. Lawrence University*

Ron Tavernier, *Dept. of Biology, SUNY Canton*

Guest Seminar Speakers

Lenore Fahrig, *Director, Ottawa-Carleton Institute of Biology, Department of Biology, Carleton University*

Debra Nelson, *Environmental Analysis Bureau, New York State Department of Transportation*

Seminar Text: **RRT Forman et al. (2003) *Road Ecology – Science & Solutions*. Island Press.**

Overview: Roadways are one of the most extensive and expansive forms of land-use in human-dominated landscapes, and the environmental impacts of roads and road traffic can be severe. Within the last two decades, the interdisciplinary field of road ecology has emerged. Research in this field focuses on understanding the environmental impacts of roads, and on designing, implementing, and evaluating methods of mitigating these impacts. The St. Lawrence Valley and nearby Adirondack Mountains provide an excellent landscape for studying road ecology. Research on road ecology within the region is more urgent than ever, given recent local initiatives to create a ‘roof-top highway’, accumulating environmental problems caused by road salt and sand abrasive use in winter, and growing populations of large ungulates (deer and moose) that present a serious hazard to motorists.

Within each of the four Associated Colleges there are faculty members who have a research and teaching interest in road ecology. We have each discovered that our students are also interested in learning about and conducting research on road ecology. The participants listed on this proposal have identified a need for those of us with this common interest to collaborate in a seminar focused on road ecology, with the intention of developing substantive collaborations and new directions to our research and teaching.

Seminar Objectives

- (1) Critically review the field of road ecology, with the aim of incorporating key concepts and empirical research in this topic into participants' research and teaching.
- (2) Develop research and teaching collaborations among faculty at the Associated Colleges who have a common interest road ecology.
- (3) Network with the Environmental Analysis Bureau of the New York State Department of Transportation, with the goal of making NYSDOT more aware of Associated Colleges expertise in road ecology, and for participants to learn about research and funding opportunities in partnership with NYSDOT.
- (4) Network with the Ottawa - Carleton Institute of Biology (Directed by Canada's foremost road ecologist), with the goals of becoming informed about research on road ecology conducted nearby in Canada, making our Canadian counterparts aware of road ecology initiatives at the Associated Colleges, and explore potential binational collaborations in the St. Lawrence Valley.

Seminar Format: The seminar will meet once per month for two hours during the academic year 2009-2010, for a total of eight meetings. Each meeting will include a discussion of an assigned reading (using the seminal text *Road Ecology*), followed by a discussion of how that material can be incorporated into our teaching and applied to research problems in the North Country of New York. One meeting will be reserved for a seminar and discussion with Debra Nelson of the New York State DOT Environmental Analysis Bureau, who will discuss research and potential collaborations with this agency. Another meeting will be reserved for a seminar and discussion with Dr. Lenore Fahrig, Director of the Ottawa-Carleton Institute of Biology, and one of the foremost road ecologists (and landscape ecologists) in the world. She will discuss research done by her and her collaborators on road ecology in the nearby St. Lawrence & Ottawa Valleys of Canada. Both Nelson and Fahrig have agreed to participate in the invited seminars.

Schedule

September: *Current Research & Teaching on Road Ecology; Objectives, Aspirations, & Organization of the Seminar.*

October: *Roads, Vehicles & Ecology* (text).

November: *Vegetation & Wildlife* (text).

December: *Water, Chemicals, & Atmosphere* (text).

February: *Road Systems* (text).

March: *NYSDOT Research and Academic Collaborations on Road Ecology* (guest speaker/discussant).

April: *Research on Road Ecology in the St. Lawrence Valley of Canada* (guest speaker/discussant).

May: *Plans for Developing Research & Teaching Collaborations among Participants, Wrap-up.*

Budget

Refreshments: 7 participants x \$5/participant x 8 meetings = **\$280**

Travel Fahrig (RT Ottawa-Potsdam): 200 miles x \$0.55/mile = **\$110**

Travel Nelson (RT Albany-Potsdam): 400 miles x \$0.55/mile = **\$220**

Guest Speaker Meals: 2 speakers x \$35/speaker = **\$70**

Text (Road Ecology): \$40/text x 7 participants = **\$280**

Total Budget = \$960