

NSERC Industrial Undergraduate Summer Student Research Positions

Bird Studies Canada (BSC) is seeking university students for NSERC summer internships. Up to 5 positions may be available for projects described below. Potential candidates should indicate which of the positions they are interested in applying to. All positions will be full-time (temporary) for a maximum of 16-weeks (May-August), 35 hours/week. Students should meet the following criteria to be considered for these positions:

- Eligible for an Industrial Undergraduate Student Research Award, please see website for details: http://www.nserc-crsng.gc.ca/NSERC-CRSNG/Eligibility-Admissibilite/students-etudiants_eng.asp.
- Willing to work unusual hours (i.e., early mornings, some evenings and weekends) to complete field work.
- Experience with biological fieldwork and/or research. Applicants with interest and/or experience in ornithology are preferred.
- Strong written and oral communication skills.
- Strong self-motivation.
- Strong computer skills, MS Word, MS Access, MS Excel
- Have a valid driver's license (e.g., G or G2)
- Positions will be for a 16-week period, starting on or around 1 May 2012; salary range:\$1,800-\$2,300/mo, depending on experience

List of current BSC job opportunities:

1. BANK SWALLOW RESEARCH AND MONITORING

The problem: Bank Swallow populations in Ontario (and throughout eastern Canada) are experiencing rapid declines. The reason for the decline is not well understood, but may come from several direct and indirect sources, such as widespread habitat loss and climate change. Despite being a common and widespread bird, we know little about habitat requirements for Bank Swallows, especially

Background: In 2010, BSC initiated research and monitoring efforts to address questions about the distribution, population ecology and habitat use for Bank Swallows in southern Ontario. Our research focused on Bank Swallows breeding along the bluffs of Lake Erie (i.e., from Long Point west to Rondeau Provincial Park). The study area supports the largest known concentration of breeding Bank Swallows worldwide (~50,000 breeding pairs). In 2012, BSC will be undertaking a new research avenues using radio telemetry to track Bank Swallow breeding and post-breeding movements. Our objectives are to (1) determine how Bank Swallows use the local landscape to forage and identify factors that affect behavioural choices in foraging locations (e.g., weather patterns, nesting stage); (2) determine what factors best explain variation in post-breeding movements, timing of migratory departures and nocturnal roost site choice.

Responsibilities: This position is suitable for candidates who: possess a strong work ethic; are highly motivated and organized; have an interest in ornithology or conservation biology and; enjoy long hours working outdoors. The candidate's responsibilities may include landowner contact, capturing and handling birds at nest sites, radio transmitter application, manual radio tracking (i.e, triangulation or homing methods), nest monitoring, colony surveys by boat, data retrieval, and data entry, organization, and analysis. In addition, if the student desires to conduct a B.Sc. honours thesis using data from this research project, BSC will support the student in this

endeavour; however the student should be prepared to secure an academic (co-) supervisor for the project at their university.

Location: Work will be based out of Port Rowan, ON. Accommodations will be available at a reasonable monthly rate.

Additional qualifications:

Experience with the following is helpful, but not required:

- capturing and handling birds
- radio telemetry
- nest monitoring

2. MARSH MONITORING SURVEYS

The problem: The Great Lakes rank as some of the most polluted and stressed aquatic ecosystems in the world. They also contain some of the best remaining examples of large extensive wetlands, most of which have been destroyed by development. Despite extensive efforts to restore and conserve these remaining wetlands, scientists know relatively little about the status and trends of the health of Great Lakes coastal wetlands.

Background: In the early 2000s, BSC became a partner in the [Great Lakes Coastal Wetlands Consortium](#), a massive collaboration of organizations from throughout the Great Lakes basin. The consortium's goal was to develop a comprehensive suite of ecological indicators that would track the health of Great Lakes coastal wetlands. The final set of indicators consists of bird, amphibian, vegetation, fish, macro-invertebrate, and water quality metrics, summarized in a comprehensive [monitoring plan](#). The goal of this project is to carry out the bird and amphibian component of the monitoring plan in 2012 at Great Lakes coastal wetlands in Ontario, Michigan, and Ohio. Numerous other collaborating organizations will be collecting information on the remaining indicators throughout the rest of the Great Lakes basin.

Responsibilities: Work as part of a crew to prepare for and conduct point count surveys of wetland birds and calling amphibians in the field using standardized survey protocols; enter survey data into an online database throughout and/or after the field season; and assist the Aquatic Surveys Biologist to complete other tasks associated with the project as needed.

Location: Work will involve travelling throughout southern Ontario and parts of Michigan and Ohio, with Port Rowan, ON, serving as a base of operations. Transportation, accommodations, and food will be provided by the project during field work. Successful candidates will be required to attend a mandatory one-day training session in mid- March 2012 at BSC headquarters in Port Rowan, Ontario, although alternative arrangements are possible if excessive travel prevents attendance.

Additional qualifications:

- have a valid passport and be able to travel in Canada and the United States;
- have canoeing skills and be certified (or can easily be certified) to operate small outboard boat motors and small vessels in Ontario;
- have demonstrated ability to identify birds by sight and sound and frogs and toads by sound that breed in southern and central Ontario wetlands (e.g., treed swamps, wet meadows, marshes); and

- be able to camp and work outdoors under harsh conditions (heat, biting insects) for long periods of time, including working outdoors at night to survey calling amphibians.

The applicant should also:

- be enrolled in year 3 or 4 of a Bachelor of Science **or** equivalent community college diploma in biological science, environmental science, wildlife/natural resource studies, or another similar subject;
- be familiar with Great Lakes Marsh Monitoring Program survey protocols or similar bird and amphibian field survey techniques;
- have practical knowledge and experience using maps and GPSs;
- have valid First Aid and Cardio Pulmonary Resuscitation (CPR) certification; and
- be willing and able to travel to Port Rowan, Ontario at her/his expense.

3. CHIMNEY SWIFT RESEARCH AND MONITORING

The problem: Once considered an abundant species, Chimney Swifts, like many other aerial insectivores in North America, are experiencing strong population declines across their range. Due to a lack of basic knowledge about Chimney Swift behaviour and ecology, it is difficult to identify the reasons or pinpoint locations of the most severe declines. Decreases in suitable chimneys for roosting and nesting, a decline of aerial insect availability, and an increase in unpredictable weather are among several suspected causes.

Background: In 2009, BSC initiated a research and monitoring project that focused on determining if loss of nest and roosting habitat was contributing to the decline of Ontario's Chimney Swifts. Through a combination of volunteer and staff efforts we collected data that identified and described active nest and roosting habitat within Ontario's urban communities. Our objectives are to: (1) Identify chimney characteristics that are important to urban swifts; (2) Determine whether there is enough habitat to support the population; (3) Determine how many birds are present in key urban areas; (4) Collect data that will contribute to the design of artificial nesting towers; and (5) Increase awareness of the importance of urban biodiversity and facilitate the conservation of Chimney Swift habitat. In 2012, BSC will continue build on our previous work efforts, conducting presence/absence surveys and locating previously unknown nest and/or roosting chimneys in targeted communities throughout southern Ontario.

Responsibilities: This position is suitable for candidates who: possess a strong work ethic; are highly motivated and organized; have an interest in ornithology or conservation biology and; enjoy long hours working outdoors and in urban landscapes. The candidate's responsibilities may include landowner contact, nest monitoring and population surveys in urban areas, data retrieval, and data entry, and organization. In addition, if the student desires to conduct a B.Sc. honours thesis using data from this research project, BSC will support the student in this endeavour; however the student should be prepared to secure an academic (co-) supervisor for the project at their university.

Location: Work will be based out of Port Rowan, ON. Accommodations will be available at a reasonable monthly rate.

4. FOREST BIRD SPECIES AT RISK SURVEYS

The problem: This project will focus primarily on the Norfolk Sand Plain. This diverse region supports several unique avian species at risk (SAR). This project will gather knowledge on the distribution, abundance and productivity of five forest bird SAR with significant populations in this region: Acadian Flycatcher, Cerulean Warbler, Hooded Warbler, Louisiana Waterthrush, and Eastern Whip-poor-will. Baseline knowledge is lacking for most of these species and is needed by land managers in this region.

Background: BSC - Ontario region has been actively involved in SAR research, monitoring, stewardship, outreach and conservation for more than 20 years. The main objective of BSC's SAR monitoring is to collect baseline data on species at risk occurrence, abundance and productivity within the Norfolk Sand Plain. Forested areas within the Norfolk Sand Plain are of high conservation value, but are owned and managed by several different agencies and organizations. We will work in cooperation with interested landowners including the Long Point Region Conservation Authority, Nature Conservancy of Canada, Norfolk County and the St. Williams Conservation Reserve Community Council to ensure that data collected will be used to develop site based management plans. At present, current SAR occurrence data is not readily available for these sites.

Responsibilities: The candidate's responsibilities will primarily include bird surveys throughout the Norfolk Sand Plain focusing on areas with known or potential habitat for Acadian Flycatcher, Hooded Warbler, Louisiana Waterthrush, Cerulean Warbler and Eastern Whip-poor-will. Other duties will include nest monitoring, capturing and handling birds at nest sites, habitat inventories, data entry, organization, and analysis. In addition, if the student desires to conduct a B.Sc. honours thesis using data from this research project, BSC will support the student in this endeavour; however the student should be prepared to secure an academic (co-) supervisor for the project at their university.

Location: Work will be based out of Port Rowan, ON. Accommodations will be available at a reasonable monthly rate.

Additional qualifications:

- have demonstrated ability to identify southwestern Ontario birds by sight and sound;
- have previous experience with nest monitoring, habitat inventories and the capturing and handling of birds;
- be able to work outdoors under harsh conditions (heat, biting insects, Poison Ivy) for long periods of time;
- have practical knowledge and experience using maps and GPS;

5. GOLDEN-WINGED WARBLER SURVEYS

The problem: The Golden-winged Warbler is listed a Threatened species in Canada. The species is found in early successional habitats in southern Ontario, and are most common in eastern Ontario along the edge of the Canadian Shield. Threats to the population include habitat loss, hybridization with Blue-winged Warblers and nest parasitism by Brown-headed Cowbirds.

Background: BSC is partnering with Environment Canada to conduct Golden-winged Warbler surveys in priority areas in eastern Ontario. The goal of the project is to provide updated population numbers, describe habitat characteristics, and identify threats. Surveys will take place at 6 sites in Ontario within priority focal areas identified in conservation plans.

Responsibilities: The candidate's responsibilities will primarily include surveys for Blue-winged and Golden-winged Warblers in eastern Ontario. Other duties will include: the collection of habitat data, deployment of audio recorders and possible nest searching and monitoring. In addition, if the student desires to conduct a B.Sc. honours thesis using data from this research project, BSC will support the student in this endeavour; however the student should be prepared to secure an academic (co-) supervisor for the project at their university.

Location: TBD, but will be within the Kingston/Ottawa area. Accommodations may be available at a reasonable monthly rate.

Additional qualifications:

- have demonstrated ability to identify southern Ontario birds by sight and sound;
- have previous experience with nest monitoring, and habitat inventories;
- be able to work outdoors under harsh conditions (heat, biting insects, Poison Ivy, Prickly Ash) for long periods of time;
- have practical knowledge and experience using maps and GPS;

HOW TO APPLY:

Students are encouraged to apply by **Wednesday, Feb 22, 2012** (however, competition remains open until positions are filled). Please send a brief (one page) cover letter outlining your interest in the position(s), along with your resume and 2-3 references.

While BSC appreciates all applications, only applicants selected for an interview will be contacted. The most qualified applicants will proceed with the NSERC award application.

Apply to :

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Bird Studies Canada,
P.O. Box 160, 115 Front Street,
Port Rowan, ON, N0E 1M0.
Fax: 519-586-3532;
email mfalconer@birdscanada.org.

Bird Studies Canada is the country's only national charitable organization dedicated to advancing the understanding, appreciation, and conservation of wild birds and their habitats. For more information please visit www.birdscanada.org.