

Department of Biological Sciences and Center for Environmental Studies

COLLEGE OF ARTS & SCIENCES

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 1, 2007

The Department of Biological Sciences and Center for Environmental Studies are pleased to offer the following research project for the summer of 2007. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and if possible, develop a timetable for the twelve-week research period.

**EFFECTS OF FOREST HABITAT ON THE DISPERSAL OF ALPINE MEADOW
BUTTERFLIES**

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Project Description

Rising tree-line is fragmenting alpine meadow habitat in the Rocky Mountains. Our previous research (Roland et al. 2000, Matter et al. 2004) has shown that encroaching forest habitat severely isolates populations of a meadow-specialist butterfly, *Parnassius smintheus*, by decreasing the dispersal. The reduction is largely due to edge avoidance and inability to fly at low light levels in forest (Ross et al. 2004). Despite the importance of these findings, *P. smintheus* likely represents an extreme example. Other butterflies may be relatively insensitive to forest habitat, thus rising tree-line may result in habitat loss, but less substantial isolation.

We will use mark-recapture and experimental techniques to examine how forest habitat affects additional species, particularly, the Clouded Sulphur (*Colias philodice*) and Milbert's Tortoiseshell (*Aglais milberti*). The research project will take place in Cincinnati (Cincinnati Nature Center) and in Kananaskis Country, Alberta, Canada. A valid passport is required to enter Canada. Accessing research sites in Canada requires strenuous hiking.