Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

# SLUkurs

## Syllabus

## PFS0156 Nature conservation across Europe: traditions, current practices and future challenges, 6.0 credits

### Syllabus approved

2018-06-25

### Subjects

Forest Management

### Education cycle

Third cycle

### Grading scale

Pass / Failed
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

### Language

English

### Prior knowledge

Master degree in forest ecology / ecology, forestry, geography, environmental sciences, climatology, quaternary geology and related subjects.
The course is primarily intended for PhD students with interest in the following areas: nature conservation, plant ecology, paleo- and dendrochronology, quaternary ecology, forestry, vegetation modelling, boreal and temperate forest ecology, and climate change issues. The potential applicants should be active PhD students at

SLU or other Swedish or European universities, and have Master degree completed in one of the above mentioned areas. We would like to stress that any PhD student interested in the course topic is invited to apply and the above-listed subject areas is not mean to exclude students from other areas.

**Objective, including learning outcomes**

Scope and purpose. The course will provide a theoretical overview of the modern challenges and trends in nature conservation across Europe and linkages between conservation measures and research areas which provide data support for developing conservation strategies. The course will provide a possibility for the students to immerse into the topics of several ongoing research projects focused on establishing conservation targets in boreal and hemi-boreal zone of the Northern Hemisphere.
Learning outcomes. After the course completion students will acquire knowledge to understand current conservation challenges, critically analyze potential solutions to address them, and evaluate applicability of different methods to evaluate success of conservation programs in boreal and temperate forest landscapes.
Background and rationale. Increasing rates of exploitation of the forest cover and climate change put at risk a considerable amount of biodiversity associated with the European forests. Development of biological conservation policies face a considerable amount of uncertainty associated with temporal and geographical variability in future dynamics of both of these risk factors. Ways and the effort invested to address these uncertainties in different parts of Europe varies considerably and often reflect (a) the degree of transformation of national vegetation cover in particular region, (b) socio-economic constrains, (c) dominance of particular conservation/forestry paradigms. Whatever the situation we face in a particular European country, understanding long-term dynamics of vegetation cover and its reaction to external stressors is of paramount importance for data-supported analyses and development of conservation policies. Knowledge of natural disturbance regimes is particularly important in this context since disturbances are the principal drivers of vegetation dynamics, species and biome distribution, which cause perturbations in the energy and nutrient flows in ecosystems. In the modern times, the importance of disturbances is highlighted by the likely association between their frequency and the ongoing climate change. Linking ecosystem dynamics with their disturbance histories, and more generally - past and modern environmental variability, is done through various reconstruction and modelling techniques.
The course will adopt a multi-disciplinary approach to provide an overview of the recent advancements in conservation biology and particularly - the ways the modern forestry addresses the need to protect forest biodiversity.

**Content**

The course will cover, among others, the following topics:
1. History of biological conservation in Europe, with the focus on Central and Northern Europe.
2. Review of the research fields which have been providing baseline data for developing conservation targets.
3. Case studies across boreal and temperate regions of Europe and North America.
Pedagogical form. The course will stretch over the course of 5 weeks and will consist of a series of presentations , supervised group discussions, a project work done in mini-groups (3-4 students per group), and an excursion to Ilia State University, Tbilisi, Georgia and Georgian national parks and forests. A pre-course assignment will include reading of the selected research papers. These papers will be presented during a seminar during the course. A post-course assignment will be in the form of a short (3-5 pages) synthesis paper on the topic related to one of the course themes.
Student evaluation. Evaluation of student performance will be carried out in three ways:
(a) assessment of student activity during discussions following lectures.
(b) presentation of a report written within a mini-group during the course
(c) post-course assignment, a 3-5 page synthesis on a topic covered by the course program.
Pass grade requirements. Students should actively follow the lectures, excursions, actively participate in discussions and group work, and complete post-course assignment.
Timetable. Will be available at a later stage and dependent on the logistics of the course venue.
Responsible institution. Southern Swedish Forest Research Centre, SLU Alnarp, Sweden and Institute of Ecology, Ilia State University, Tbilisi, Georgia.

**Requirements for examination**

Students should actively follow the lectures, excursions, actively participate in discussions and group work, and complete post-course assignment.

**Additional information**

Due to logistical constrains, the number of students is limited to 20 participants. There is no course fee, however students are expected to cover their travel and accommodation costs during the course.
The course activities at the SLU Alnarp will be coordinated by Igor Drobyshev

(Inst. för Sydsvensk skogsvetenskap). In particular, he will be responsible for inviting presenters for the course lectures, distributing course materials (research papers), and arranging two excursions to locations in Southern Sweden. He will also arrange video linking and recording of the lectures and seminars at SLU Alnarp. Among confirmed presenters are a researcher from St. Petersburg State University (Asiya Zagidullina), senior researcher from Iceland Forest Research (Olafur Eggertsson), and Professor of University of Latvia (Guntis Brumelis). We also plan to involve a number of professors at Southern Swedish Forest Research Centre. The course activities in Georgia will be coordinated by Lars Drossler, currently holding an Associate Prof. position at Ilia State University in Tbilisi (Lars.Drossler@iliauni.edu.ge). During this component of the course, the studies will be presented with a series of lectures on biodiversity and its conservation in Georgia and will visit several national parks in the country.

**Responsible department**

Department of Southern Swedish Forest Research Centre