Wildlife Ecology and Conservation

Period 2, Academic Year 2021-2022

Contact persons

Dr. Anouschka Hof
Anouschka.hof@wur.nl,
Dr. Pim van Hooft
Pim.vanhooft@wur.nl

Within a theoretical and learning-by-doing context, this course focuses on solving problems in the field of wildlife ecology and conservation. The problem-based learning approach is based on the idea that it is an effective and durable way to develop into a professional. Weblectures provide the needed theory, and assignments are offered to obtain hands on experience with quantitative data analyses. During these assignments you will use advanced methodologies and software (for example excel, R, GIS programs, and conservation planning programs) to address problems spanning a wide range of wildlife conservation issues such as threats to species, genetic analysis, population viability analysis, the role of protected areas, and ecosystem/landscape management and planning. Furthermore, students will work in groups on a case study that allow them to independently address species conservation issues using advanced methodologies learned earlier during the course.

Wildlife Ecology and Conservation (REG 32806)

Language	English
Credits	6
Period	2 2020-2021, Weeks 9 - 14
Time and venue	Mornings; online
Contact persons	Dr. Anouschka Hof (Anouschka.hof@wur.nl), Dr. Pim van Hooft (Pim.vanhooft@wur.nl)
Lecturer(s)	Dr. Anouschka Hof, Dr. Pim van Hooft, Dr. Joost de Jong, Dr. Henjo de Knegt
Examiner(s)	Dr. Anouschka Hof, Dr. Pim van Hooft, Dr. Joost de Jong, Dr. Henjo de Knegt

Contents of the course

In the first three weeks we offer a set of assignments that address problems spanning a wide range of conservation issues. The assignments are developed by ourselves, derived from recent literature and from the book 'Problem-solving in conservation biology and wildlife management' by Gibbs et al. (2008). Students work independently.

In the first week, lectures and accompanying assignments give an introduction into wildlife management, conservation biology, and the threats to biodiversity. We will address threats like overexploitation, habitat loss and fragmentation, pollution, and invasive species. Objectives are amongst others to learn how to identify the threats particular species face and quantify the impact of alien species. In addition, students get the opportunity to familiarize themselves with the program R.

The second week and accompanying assignments continue with species and area protection and the importance of genetic diversity and connectivity. The assignments deal with practical applications to species conservation. In one assignment a population viability analysis is made of a population. An example is the Galapagos penguin in relation to El Nino frequency. In other assignments we assess the genetic diversity in species and genetic distance between populations.

The third week and accompanying assignments continue with practical applications to species conservation. Through a set of assignments you will learn how to determine what limits the geographic distribution range of species and how to assess the impact of climate change on species' ranges. You will further learn how to create a network of protected areas to benefit species conservation.

In week four, five and six, students will work in groups of four on a case study in which students are able to apply their knowledge gained in the first three week to work towards a conservation action plan for a threatened species. Results will be presented during an oral presentation at the end of week six which will count for 50% towards your final grade.

Assumed prerequisite knowledge

Ecology I and II (PEN-10503 and PEN-20503); Applied Animal Ecology (REG-20803).We apply different quantitative analyses using various software packages, so a basic level of quantitative skills and a working knowledge of excel (e.g. ability to do simple analyses and make graphs) are required.

Learning outcomes

After successful completion of the course students are expected to be able to:
- Outline and interpret the theoretical framework underlying wildlife conservation issues
- Explain some of the techniques relevant for the conservation of wildlife species
- Analyse complex wildlife species conservation problems using the scientific literature
- Evaluate various wildlife management approaches in terms of their contribution to wildlife conservation
- Present results in an understandable way for both managers and policy makers
- Use various software for the purpose of species conservation

Course materials and resources

The materials used for this course are derived from various sources. All information is provided through Brightspace. Literature search by the students is done through Web of Science or Scopus. Brightspace provides:
- Lecture notes (Powerpoints)
- Detailed information on the assignments and spreadsheets needed as well as other relevant information
- General background literature and additional information

Educational activities

- Lectures and knowledge clips
- Interactions between lecturers and students
- Reading and studying literature
- Carrying out the (spreadsheet-based) assignments
- Working on the case study in groups of four.
- Each group of students gives an oral presentation about the case study.

Assessment strategy

Your final mark will be based on the oral presentation (50%) of the case studies in week 4, 5 and 6, and on the final exam which will be held in week 8 (50%). Students need to have a minimum partial grade of five and a half (5.5) for both components.

Item	Percentage of total mark
Summary and recorded oral presentation case study	50%
Final exam	50%
Total	**100%**

Attendance policy

Students are expected to view the lectures and knowledge clips and complete all assignments and the case study.

Only if absence is due to factors beyond student's control and if excused by the course coordinator, an exception can be made. In this case, the coordinator can ask the student to carry out an additional assignment compensating for the missed element.

Lectures: As important material is covered each lecture, missing (part of) the classes means missing valuable information that should enable you to successfully pass the course. Participation in the classes is therefore strongly recommended. It is assumed students have read and reflected upon the assigned readings BEFORE coming to class. Doing so will help understand the topic better and will enhance the learning experience. Students are expected to ask questions about material they did not understand and to comment on and discuss the material. It is *strongly recommended* to take notes on questions and thoughts while reading and bringing these to lecture for discussion. PDFs of powerpoint presentations will be made available on Brightspace after the lectures to enhance learning experience. There will be on a few occasions guest speakers. Your acknowledgement of their effort by attending the guest lectures and actively participating in them is important. It will be made possible to attend the lectures online. The lectures will be recorded. Links to the recordings will be made available on Brightspace a few days after the lecture is given.