

Module No. (P/WP)	Module name
PX	Population and Community Ecology
Module coordinator	
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Additional teaching staff	
Prof. Dr. I. Storch, Prof. Dr. A. Reif	
Syllabus	
<p>In addition to individuals, populations and communities are important ecological entities. Plant species associating on certain sites form plant communities, which in turn, provide the basis for animal communities. Shifts in site conditions or successions result in a gradual turnover of species occurrences, both in plants and animals, that are linked in multiple and complex ways. Ecosystem management is based, in part, on population management by enhancement or suppression, respectively. Management goals include harvesting, conservation, and control of populations.</p> <p>Basic principles of population dynamics (biotic as well as abiotic factors) are significant for the understanding of various types of population dynamics. Some contexts are particularly highlighted because different factors have different impact according to species or management context:</p> <ul style="list-style-type: none"> • Insect populations: examples for communities and their dynamics • Wildlife Ecology: introduction to wildlife population ecology as a basis of wildlife management • Neobiota: influences of alien species on their 'new' environment • Relationships between sites and vegetation; indicator values of species • Plant formations and communities: concepts, definitions, examples • Ecological gradients 	
Learning goals and qualifications	
<p>In this module students learn and study biological basics of populations and communities such as structure, dynamics, and determining factors. Major objective is to understand relationships between pedology, climatology, species compositions; the formation of plant and animal communities and populations, their ecological function, the relations among animals and between plants and animals. Furthermore, cases are presented and analysed to understand complexity of biotic and abiotic influences.</p> <p>Since every single problem of managing populations is unique; case studies are used to develop general principles and concepts that can be transferred to analyse any case for identifying biological factors crucial for management approaches. Students will be enabled to develop and implement adapted concepts and to consider and synthesize information from other sources (literature, modules).</p>	

Teaching and learning methods	
Lectures, tutorials	
Prerequisites	
none, recommended: propaedeutic self-study according to list of keywords	
Requirements for registration	
None	
Distribution of workload	
<i>Contact hours</i>	60 h (lectures, exam)
<i>Independent learning</i>	65 h (preparation, reading ...)
Proposed assessment	
written exam protocol of 'take-home-messages'	
Link to learning resources	
http://www.fzi.uni-freiburg.de/lehre/.....	
Literatur	
Alcock, J (1993) Animal Behavior. Sunderland/Mass.: Sinauer Begon M, Thompson M, Mortimer M (eds) (1990) Population Ecology. Blackwell Science Campbell NA, Reece JB (2004) Biology. Heidelberg: Spektrum Gullan PJ, Cranston PS (1994) The Insects: An outline of entomology. London: Chapman & Hall Krebs JR, Davis NB (1993) An introduction to behavioural ecology. Oxford: Blackwell Krausman PR (2002) The basics of habitat. Chapter 16 (pp 292-302) <i>in</i> Krausman PR (2002) (ed.) Introduction of Wildlife management. Upper Saddle River, New Jersey: Prentice Hall Bolen EG & Robinson WL (1999) Population Ecology. Chapter 5 (pp 45-66) <i>in</i> Bolen EG & Robinson WL (eds) (1999) Wildlife ecology & management. 4th ed. Upper Saddle River/NJ: Prentice Hall Van der Maarel E (ed.) (2005) Vegetation Ecology. Oxford: Blackwell	
Bemerkungen	