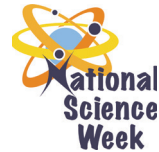




science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

COLLEGE OF AGRICULTURE,
ENGINEERING AND SCIENCE



SAASTA
South African Agency for Science
and Technology Advancement

In celebration of National Science Week 2017

You are cordially invited to attend a

Public Talk

Persistence of wildlife in urban areas- a KwaZulu-Natal perspective

by

Professor Colleen T. Downs

School of Life Sciences, UKZN, Pietermaritzburg Campus



Date:

Friday, 11 August 2017

Venue:

Colin Webb Hall, UKZN Main Campus, Pietermaritzburg

Time:

13h00 - 14h00

RSVP: Sally Frost at frosts@ukzn.ac.za

INSPIRING GREATNESS



ABSTRACT

Urbanization is one of the most damaging and rapidly expanding forms of anthropogenic landscape modification and is having profound consequences on biodiversity worldwide. Urban environments transform space from complex natural diversity to artificial uniformity or a mosaic of green remnants and infrastructure. Urbanization is thought to result in an overall decrease in species diversity and abundance because the changes to the environment become unfavourable for native species. Indeed native species diversity decreases with increasing urbanization, however overall species abundance does not necessarily decline. There is a shift in species composition from those species that cannot tolerate the urban environment, i.e.

urban avoiders, to species which can use urban resources effectively and survive in an urban environment, i.e. urban exploiters. Urban exploiters can survive and in some cases thrive in an urban environment, such as synanthropic and synurbic species, by altering their life histories and behaviour, as well as using habitats or elements that are unique to urban areas. Some argue that urban environments are "novel ecosystems" and that both native and alien species that persist there are invaders. Nevertheless species can react in one of three ways to urbanization of natural areas, i.e. die out, take refuge, or adapt to the urban environment. Species that adapt to the urban environment go through the adjustment stage where behavioural and ecological niche flexibility, life history traits, and phenotypic plasticity contribute to their success. In this stage species shift from using natural resources to using urban resources, mainly for foraging and breeding. Urban areas have unique habitats which offer alternate food and nesting sites, in the case of birds and mammals, to those species which can use them effectively. The next stage, which is spread, occurs when a species has become established in the urban environment by achieving a large population size and being able to exploit urban and anthropogenic resources effectively. Once a population is established, it can spread further out into the urban area and/or spread to surrounding urban areas. With the rapid urbanisation of parts of South Africa, we are investigating vertebrate species responses to urbanization. In particular we are determining whether herp, bird or mammal species that persist there are urban adaptors or exploiters in KwaZulu-Natal and various examples will be presented.



About the Speaker

Professor Colleen Downs has been recognised nationally and globally for her work in biology, particularly in terrestrial vertebrate ecology, having conducted research on animals from Nile crocodiles to hadedas. Her more than 264 international peer-reviewed publications reach a wide audience, helping her meet her goal of furthering and communicating science. She has also been featured on popular platforms such as BBC Earth. Downs is consistently named the top-published female academic at UKZN, and has supervised more than 80 postgraduate students. She holds the South African Research Chair (SARChI) in Ecosystem Health and Biodiversity in KwaZulu-Natal and the Eastern Cape, is a

Fellow of the International Ornithologists' Union and a member of the Academy of Science of South Africa, and was recently announced the 2017 winner of the highly acclaimed National Science and Technology Forum (NSTF)-South32 Award for Research Capacity Development. She was also awarded the Zoological Society of Southern Africa Gold Medal in July 2017 for her outstanding achievements in Zoology in southern Africa over a number of years. Downs is also the BirdLife South Africa's Honorary President for 2016-2020.