

A course developed by ...



RANGELANDS AUSTRALIA

RANGELAND PEST ANIMALS, WEEDS AND BIOSECURITY

Postgraduate Course – AGRC7027

Available Semester 2, biennially (odd years)

In External Mode

(Subject to minimum numbers)

OVERVIEW

One of the biggest threats to profitability and success of a rangeland enterprise is the pressure on the natural resource base and production resources from pest animals and weeds. Pest animals and weeds can severely impact on the 'triple bottom line' (ie. economic, social and environmental) outcomes of an enterprise or region in the Rangelands. This is a serious threat not only for the agricultural sector, but also in terms of the consequences that it may have for the Australian economy and farming communities, and in the impacts on the rangelands ecosystem structure and function, and the maintenance of biodiversity.

How you deal with pest and weed problems can 'make or break' an enterprise. The effective management and control of invasive plants and animals is a key capability for a rangelands manager, and requires skills in strategic pest management as well as understanding of associated knowledge fields such as the ecology, biology, dispersal pathways, etc, of invasive species. This knowledge underpins the manager's ability to develop and evaluate effective, integrated and coordinated strategies to deal with invasive species, so their impact on the environment and production is minimised.

This course will help you to identify these threats by monitoring the health of the rangeland, and develop your understanding of pest control, weed control and biosecurity strategies which not only allow cost-effective management, but also minimise environmental risks. The course also includes a module on designing and implementing communication and action plans, in order to engage relevant stakeholders and implement a coordinated and effective approach to invasive species management.

LEARNING OUTCOMES

On completion of this course you will be able to:

- Recognise and appreciate the triple-bottom-line (economic, environmental and social) impact of weeds and animal pests, and the benefits of pest control in the rangelands
- Identify the impact of invasive species within rangeland landscapes and on ecological processes
- Implement a systems approach to the management of invasive species, incorporating understanding of the characteristics and biological processes of weeds and pests
- Resource and use best practice strategies, tools and technologies to implement catchment and regional – scale invasive species management programs
- Monitor, evaluate and participate in reporting systems for the detection, management and control of animal pests, weeds and biosecurity risks
- Identify and engage with the various legislative and regulatory frameworks, agencies and processes related to the management of invasive species
- Apply methods and strategies for engaging communities and stakeholders in pest, weed and biosecurity management issues

- Source information to assist in the identification of potential pest and weed problems, and strategies for enterprise, catchment and regional management of pest and weed invasions.

COURSE STRUCTURE

Course modules include:

- The impact of pest animals and weeds – now and tomorrow
- Pest animals and weeds in the ecosystem
- Management and control principles and systems
- Government, legislation and regulations
- Engaging people in solutions

LEARNING FACILITATOR

TBA

REQUIRED TEXT BOOKS

There is one book required for this course.

Olsen, P 1998, *Australia's Pest Animals: New Solutions to Old Problems*, Bureau of Resource Sciences and Kangaroo Press, Canberra.

Students are also supplied with a book of readings that includes articles and other materials required for completion of learning activities and assessment items.

ASSESSMENT

There are no 'examinations', just four assessment items for this course:

Assessment 1: Online discussion activities – 25%

You will need to engage in a number of online learning activities. These will involve responding to readings and other stimuli, considering and reflecting on points raised in the modules, and interacting with other students.

Assessment 2: Presentation – 25%

Conduct a 'triple bottom line' assessment of the impacts of a pest animal or weed in your rangelands area of choice, and then give your assessment in the form of a presentation to the facilitator and other students (10 minutes).

Assessment 3: Strategic Management Plan – 30%

Develop a strategic management plan for the control of a pest animal or weed problem, including an assessment of the scope of the problem, details of resources and costings, and a monitoring and evaluation strategy (3,000 words).

Assessment 4: Communication Plan – 20%

Produce an Invasive Species Communication Plan for a pest animal or weed which you consider needs to be more widely dealt with in the community. The aim of your plan is to develop community awareness and/or action regarding this invasive species problem, including exploration and discussion of any legal and regulatory frameworks relevant to the problem (2,000 words).

BACKGROUND TO THIS COURSE

The need for this course was identified by a national survey of education and skills needs for success in the rangelands. The course was developed by Rangelands Australia. The structure, content and resources used in this course were influenced by experienced producers (private and corporate), advisors and researchers, and staff from NRM and other government agencies.

A draft of the course was reviewed by experienced producers, and advisors and researchers from CSIRO, the Queensland Murray-Darling Committee in 2009, Desert Channels, the Tamworth Agricultural Institute, the NSW Dept of Primary Industries, the QLD Dept of Natural Resources and Water, the QLD Dept of Primary Industries and Fisheries, the Bureau of Rural Sciences, Biosecurity QLD, and Savanna Solutions.

REVIEWERS' COMMENTS

External reviewers have provided the following general comments on a draft of this course:

- *'The guide is well-written and covers all of the topics relating to pest and weed management in the rangelands. For anyone undertaking rangeland study, this course is of a high standard and provides an excellent background to rangeland pests, weeds and biosecurity. The reading lists are comprehensive and up-to-date and would be an invaluable resource to rangeland students and practitioners.'* Senior Agronomist, Pastures and Rangelands, NSW
- *'As a person working in the weeds and pest field I have no issues with the content. It covers the many issues with each of the weed, pest animal and biosecurity issues well. The course was very relevant and easy to understand as a person who is currently working in the field.'* Pest Management Coordinator, Desert Channels, QLD.
- *'The course is well structured and the exercises in each section relevant to the learning objectives in each section.'* Officer, Bureau of Rural Sciences, Australian Govt Dept of Agriculture, Fisheries and Forestry.