

Project Plan SP 2015-009

Development of an environmental risk strategy for sustainable agricultural planning in the Kimberley

Ecosystem Science

Project Core Team

Supervising Scientist	Christine Munday
Data Custodian	Christine Munday
Site Custodian	

Project status as of Aug. 30, 2016, 12:20 p.m.

Pending project plan approval

Document endorsements and approvals as of Aug. 30, 2016, 12:20 p.m.

Project Team	granted
Program Leader	required
Directorate	required
Biometrician	required
Herbarium Curator	not required
Animal Ethics Committee	not required

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Science and Conservation Division Program

Ecosystem Science

Parks and Wildlife Service

Service 2: Conserving Habitats, Species and Ecological Communities

Project Staff

Role	Person	Time allocation (FTE)
Research Scientist	Christine Munday	0.4
Supervising Scientist	Margaret Byrne	0.0

Related Science Projects

SP 2004-003 Management of environmental risk in perennial land use systems.

The Management of environmental risk in perennial land used systems project and its components were developed for the Future Farm Industries Cooperative Research Centre (FFI CRC) by Dr Lynley Stone. I (Christine Munday) joined the project and, working initially with Dr Stone and then with other project members. I gained relevant knowledge in the development of the genetic risk assessment protocol, updating the weed risk protocol and designing the field trial guidelines. I also prepared and edited a number of weed risk assessments for species with agricultural potential and worked with a technical committee of weed and agricultural experts. This has given me a good understanding of the FFI CRC WRA system and Environmental risk strategy developed in this project.

The FFI CRC WRA system and supporting framework will be modified for the WA rangelands and non-indigenous species proposed for introduction to pastoral systems will be assessed for weed risk.

Proposed period of the project

Nov. 1, 2014 – June 30, 2017

Relevance and Outcomes

Background

This project forms part of the Department of Agriculture and Food WA (DAFWA) Strategic planning for sustainable mosaic agriculture in WA project.

The anticipated increase in export beef markets from the WA rangelands, including the Kimberley and Pilbara, must be supported by an increase in production. Expansion of mosaic agriculture around irrigation precincts and improved rainfed forage can potentially broaden the feed base of rangeland grazing systems with the potential to improve productivity and profitability. It is proposed in the DAFWA project that species not native to the WA rangelands may be introduced for irrigated fodder production and improved forage plants (dryland). However there may be risks to the existing natural biodiversity if these species have the potential to become environmental weeds and result in a loss of biodiversity from natural environments. Risk assessment systems can be used to inform selection and management of agriculturally useful species to minimise the risk to natural environments. To increase the transparency and understanding of the decision making process assessments and other information will be disseminated to a wide audience through the DAFWA website. Advice will be provided to encourage adoption of risk assessment procedures and management to minimise risk to the natural environment.

Aims

The project aims to develop a WRA and supporting framework to help assess and manage the risk posed by the introduction of non-indigenous species for mosaic agriculture and pasture production in the WR rangelands. The project will modify the FFI CRC WRA system and supporting environmental risk framework to provide information to a wide range of decision makers around the selection of species and management to minimise environmental weed risk. The Invasiveness and impacts sections of the WRA will be revived and updated to ensure the relevance and clarity of the questions. Possible methodologies for calculating potential distribution will be investigated and recommendations provided for a revised system appropriate for the WA rangeland. WRAs will be completed for a range of species considered to have agricultural potential in irrigated mosaic or dryland pastoral agricultural systems

Expected outcome

The refinement and use for the WA rangeland of the weed risk assessment protocol and supporting framework developed, by DPaW, for the Future Farm Industries Cooperative Research Centre. Non indigenous species considered to have agricultural potential in pastoral areas of the rangelands will undergo WRA using the modified system and the results will be published on the DAFWA website. WRA can inform species selection and the management of planted species to minimise the risk to natural environments, including those areas under the control of DPaW.

Knowledge transfer

The WRA protocol, supporting framework and species assessments will be made available through DAFWA, with publication on their website, to a wide range of stakeholders including government departments, local authorities, land managers and the general public. The information may be used in the selection of species and to inform those involved in decision making processes, including the Pastoral Lands Board, around introduction and the choice of management strategies to minimise weed risk to the environment.

Tasks and Milestones

Signing of this research agreement by both parties Due date: 1/12/14

Milestone 1: Draft version of WRA for rangelands in WA with development of revised Invasiveness and Impacts sections with a preliminary draft on site factors (i.e. context).

Due date: 30/5/15

Milestone 2: Final version of Invasiveness and Impacts sections of WRA together with an updated draft of site selection factors (i.e. context). Due date: 31/12/15

Milestone 3: Using the new WRA, the assessment of 5 to 10 species with reports published on-line (DAFWA website) for those species with a moderate high or very high rating

Due date: 30/5/16

Milestone 4: Using the new WRA, the assessment of a further 10 to 20 species with reports published on-line (DAFWA website) for those species with a moderate high or very high rating
date: 31/12/16

Due

Milestone 5: Final version of WRA for Rangelands WA (Including Invasiveness, Impacts, Site) plus assessments of 5 -10 new species with reports published on-line (DAFWA website) for those species with a moderate high or very high rating

Due date: 30/6/17

References

Study design

Methodology

Biometrician's Endorsement

required

Data management

No. specimens

Herbarium Curator's Endorsement

not required

Animal Ethics Committee's Endorsement

not required

Data management

Data will be backed up regularly using shared files and hardcopies

WRAs and other documents will be available on the DAFWA website as part of the project outcomes

Budget

Consolidated Funds

Source	Year 1	Year 2	Year 3
FTE Scientist	0.4 FTE	0.4 FTE	0.4 FTE
FTE Technical			
Equipment			
Vehicle			
Travel			
Other			
Total			

External Funds

Source	Year 1	Year 2	Year 3
Salaries, Wages, Overtime	31640	50300	51550
Overheads			
Equipment			
Vehicle			
Travel	5000	5000	5000
Other			
Total	36640	55300	56550