



**FIG Environmental Planning Department
FIG Biosecurity Section**

Biosecurity & Invasives Strategy

2017 – 2020

1.0 Purpose

This strategy is intended to guide implementation of the Biodiversity Framework by considering the relevant Aichi Targets and setting out locally appropriate goals and indicators/targets. The activities delivering the mechanisms will be detailed in Species Action Plans for priority species*.

The relevant Aichi Targets are set out below.

- *Target 9: By 2020, invasive alien species and pathways are identified and prioritised, priority species* are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.*

**As identified in Appendix 1 of this strategy*

2.0 Goals, Strategies and Indicators:

The table below translates the global Aichi targets into locally appropriate goals, with indicators/ targets to measure progress.

A. Invasives:

Goal	Strategy	Indicator/Target
A. Contain and reduce the spread and populations of priority terrestrial and marine invasive species to minimise their harmful impacts by 2020.	<ul style="list-style-type: none"> • Baseline understanding of impacts of all priority invasives established • Determine pathways and vectors for spread of priority invasives • Map and monitor the spread of all priority invasives • Foster positive mindset and provide enabling guidance for stakeholders to contribute to goals. • Formulate and implement Species Action Plans for all priority invasive species 	<ul style="list-style-type: none"> • The known locations or spatial extents of all priority invasive species do not increase by 2020. • The known locations or spatial extents of the priority invasives identified in Appendix 1 have been decreased through control within the timescale indicated. • The priority species identified in Appendix 1 have been eradicated within the timescale indicated.

B. Biosecurity:

Goal	Strategy	Indicator/Target
Prevent the introduction and establishment of high risk terrestrial and marine non-native species to avoid impacting the environment, economy and health of the Falklands.	<ul style="list-style-type: none"> • Black and White lists are formalised to prevent high risk introductions • Primary vectors and pathways for invasive species have been identified • Effective pre and post-border biosecurity measures in place • Quarantine facility for high-risk import checks invasives control • Foster positive mindset and provide enabling guidance for stakeholders to contribute to goals 	<p>No new invasive species have been established*</p> <p>Policy protocol mechanisms have been effectively implemented</p>
Develop and enhance the capacity to identify, report and effectively respond to newly discovered/localised alien species.	<ul style="list-style-type: none"> • Effective early intervention monitoring and control system in place • Establish reference collections to aid identification of invertebrates • Contingency planning system in place • Establishment of Biosecurity & Noxious Weeds Legislation • Inter-island biosecurity procedures formalised • Foster positive mindset and provide enabling guidance for stakeholders to contribute to goals • Build capacity to provide effective treatments and decontamination for imported goods. 	<p>By 2020, any newly identified species accidentally introduced are eradicated or effectively controlled within 6 months**</p> <p>Policy protocol mechanisms have been effectively implemented</p>

* 'Established' means present and breeding or multiplying for a full year – demonstrating the species can survive year round.

**species identified as being established will be prioritised under the criteria in section 3.

3.0 Criteria for selection of invasive priorities

Prioritisation criteria (From Whitehead 2008 Risk Assessment methodology)

Twelve questions asked under Stage one of the risk assessment are based on questions from the Irish Risk Assessment (Quercus and Envirocentre, 2006) that was used as a model. Each question has three to five possible answers each with an associated score of between zero to four. There is a deliberate emphasis to give higher scores to traits considered to make a species potentially invasive, or easily controlled to prevent invasion. Species which are deemed already beyond control and have been accepted by the community (such as Gorse) are scored lower. The combined score from all twelve questions provides the overall invasiveness ranking of the introduced species. The Stage One Questions are found in in full Appendix 2

Once scored, species with invasiveness rankings of 17 or above are considered the most appropriate for listing as priority species because they have most, if not all, of the following characteristics:

- Recorded as invasive on the Falklands or elsewhere
- Have the ability to establish and spread
- Likely to cause economic, ecological and/ or agricultural damage
- Pose risks to human and/ or livestock health
- Their current distribution on the Falklands is localised
- Effective control methods are available
- Control would be supported by the community

It is important to note that some potentially invasive species may not receive a risk assessment score of 17 or above if no appropriate control techniques are known or if the local community would not be in support of control.

Some priority species which are included do not meet the score of 17 or more but have been retained as priority species due to historic assessments and listings or on-going work regarding potential multi-species eradications (described in Appendix 1 notes).

A number of naturalised/culturally important species which have some perceived benefits in the Falkland Islands are identified which require action plans for control.

4.0 Development of Invasive Species Action Plans and Ongoing Monitoring

The development of Invasive Species Action Plans will be led by the Environmental Department with support from the Department of Agriculture Biosecurity Section. Plans will be considered by the Biodiversity Action Planning Group, which is a sub group of the Environment Committee.

All priority Invasive Species will have action plans in place for them by June 2018.

A review of priority Invasive Species will be undertaken on an annual basis each June.

Progress will be relayed and publicised through the Environment Committee which has oversight of any changes to priorities.

Appendix 1

Priority invasive species list (requiring a Species Action Plan)

Scientific Name	Common Name	Score	Comments/ control status	Timescale
<i>Rattus rattus</i>	Black/Ship rat	20	Control has occurred and is planned. Species only recorded on New Island. Good potential to eradicate species from the Falkland Islands	Eradication 5yrs
<i>Berberis buxifolia</i>	Calafate	19	Large scale control urgently required in large localised areas. Outlier population control programme underway.	Eradication 7yrs
<i>Rattus norvegicus</i>	Brown/ Norway rat	19	Successful eradication has occurred on circa 80 small islands in FI and more planned. Monitoring of small island eradications required. Potential for larger island eradication projects.	Eradication (suitable small islands only) 10 yrs
<i>Berberis darwinii</i>	Darwin's barberry	18	Localised distribution. Remove plants to prevent spread	Eradication 5yrs
<i>Senecio jacobea</i>	European ragwort	18	Localised distribution. Control undertaken and more planned	Eradication 5yrs
<i>Senecio squalidus</i>	Oxford ragwort	18	Localised distribution. Control undertaken and more planned	Eradication 5yrs
<i>Mus musculus</i>	House mouse	17	Small Island eradication efforts have been trialled successfully	Eradication (suitable small islands only) 10 yrs
<i>Lycalopex griseus</i>	Patagonian fox	17	Small Island eradication has occurred and is planned. Potential to eradicate species from the Falkland Islands	Eradication 5yrs
<i>Capra hircus</i> *	Goat	17	Eradication of feral herds is a priority.	Eradication 2yrs
<i>Cirsium vulgare</i>	Spear/Scotch thistle	16	Agricultural weed. Eradication desired.	Control

Note: European Earwig (*Forficula auricularia*) is not identified as a priority species; scoring 14

Naturalised/Culturally Important Species which require action plans for control

<i>Ulex europaeus</i>	Gorse	19	Some cultural and aesthetic importance locally. Control of outlying plants and in ecologically sensitive areas required
<i>Cytisus scoparius</i>	Broom	18	Localised distribution. Used as a garden shrub. Monitor for spread.
<i>Felis catus</i> *	Feral Cat	17	Some local control has occurred. Small island eradication is a priority
<i>Anser anser</i> *	Feral domestic goose	17	Some local control has occurred

Note: Brown Trout (*Salmo trutta*) is not identified as a priority species; scoring 15

Note: Species highlighted with * are currently domestic and/ or agricultural species that would only be considered for control if or when animals are feral or unmanaged.

Appendix 2

Stage One Questions

A species was determined to have the above traits by answering the following ten questions. The possible answers for each question and their associated scores are given in brackets.

Q1: Does the species currently have a widespread recorded distribution in the Falklands? (3 - very localised, only at one site; 2 - recorded at several sites in small geographic area, less than 10 hectares or uncertain; 1 - recorded in >10ha, widespread across significant proportion of Island; 0 - island wide distribution).

Q2: Is the species currently expanding its range in the Falklands? (0-no; 1-uncertain; 2-yes)

Q3: Is the species in its present range (including the Falklands) known to be invasive i.e. to threaten species, habitats or ecosystems? (0-no; 1-uncertain; 2-yes)

Q4: Is there potential for this species to be spread intentionally or unintentionally across the Falkland Islands? (0-no; 1-uncertain; 2-yes)

Q5: How widespread are suitable habitats to allow establishment of the species? (0-localised; 1-uncertain; 2-island wide {with respect to available habitats})

Q6: If the species becomes established, will it or has it negatively affected the conservation goals in a region (0-no, 1-uncertain, 2-areas/spp. of domestic concern; 3- areas/spp. of national importance, 4- Affect protected areas/species of international concern)

Q7: Is the species poisonous, or does it pose other risks to human health, and/or plant and animal welfare due to its parasites or pathogens? (0-no direct or indirect risks to human, plant or animal health; 1-poisonous, parasitic or carrier of pathogen/parasites to humans, plants or animals or uncertain; 2-poisonous, parasitic or carrier of pathogen/parasites to a protected species)

Q8: Has the species directly or indirectly caused economic losses in the Falklands or elsewhere? (0-no economic impact, 1-low/unknown economic impact, 2- moderate economic impact, 3-high economic impact)

Q9: Are there effective control method/s that can be applied and what is their wider ecological impact? (0- No effective methods described; 1- Moderately effective methods with high ecological impact; 2- Moderately effective with low ecological impact; 3- Effective methods with high/mod ecological impact; 4- Effective methods with low ecological impact)

Q10: Are there societal factors that may hinder the control of the species? (0-wider public opinion that may favour the establishment of the species; 1- difficulties associated with a co-ordinated response by stakeholders; 2-no problems anticipated)

Q11: Discount species if it is domesticated and widely spread on this basis for farming or aquaculture purposes.

Q12: Significant effort has been put into control of this species previously.