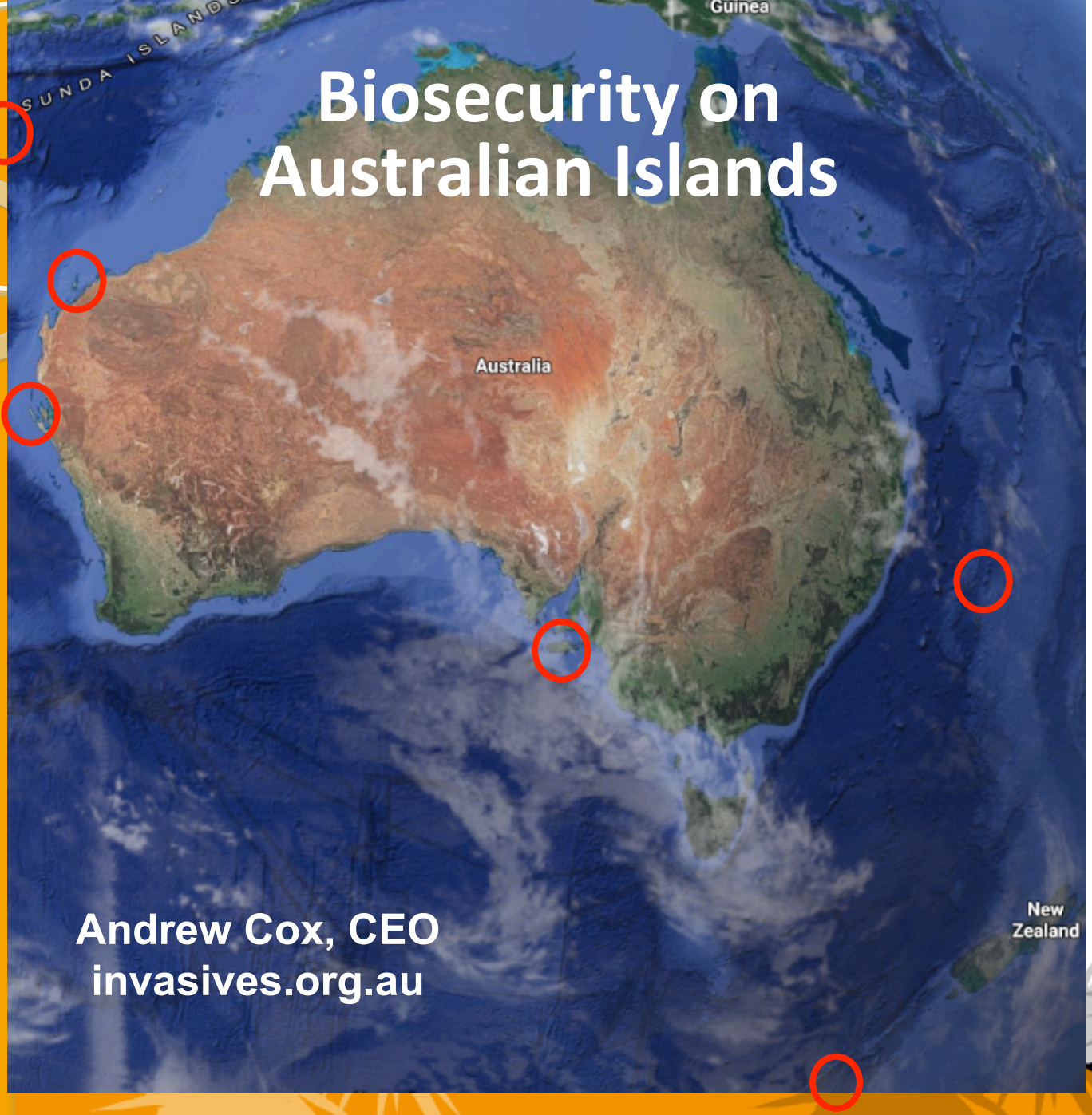
Biosecurity on Australian Islands



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Island biosecurity system

GUEST EDITORIAL

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Island arks: the need for an Australian national island biosecurity initiative

By Raymond C. Nias, Andrew A. Burbidge, Derek Ball and Robert L. Pressey

Threats to island biotas from non-indigenous species have been extensively documented and remain among the most powerful drivers of biotic extinction. Despite this, Australia does not have a

The importance of maintaining the natural condition of Australian islands is underlined by their unique biodiversity values. Oceanic islands are home to many endemic species. Both oceanic and

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Priorities based on ecological values and risk assessment, including estimates of eradication costs

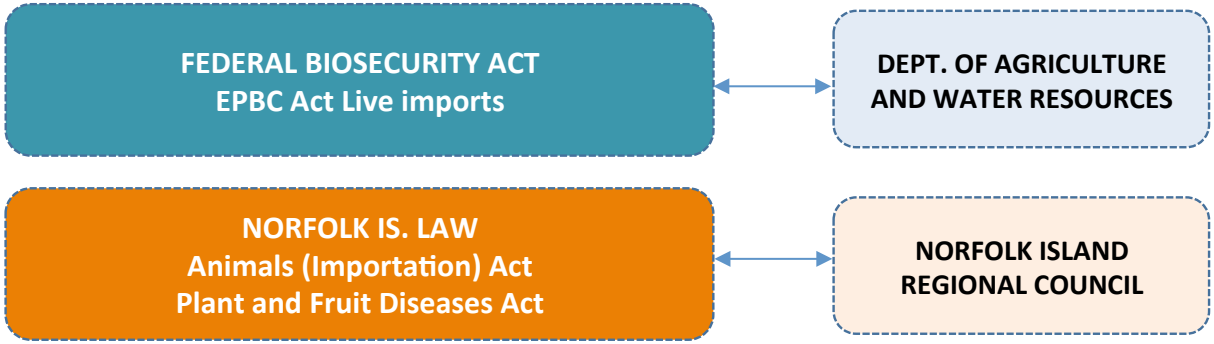
System components;

- quarantine and import control
- regular surveillance
- best-practice approaches and training
- response capability (including equipment and expertise)
- education programs for islanders and visitors

Norfolk Island

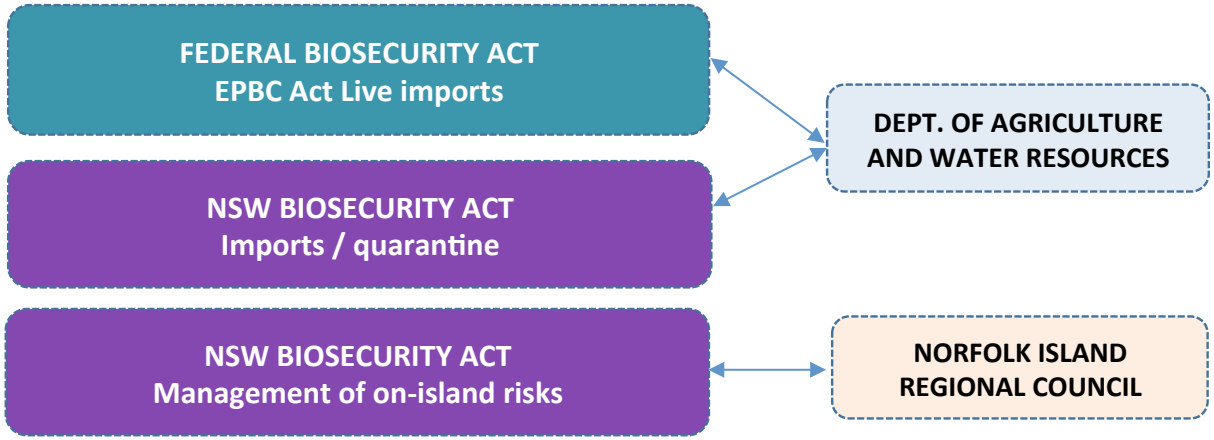
ORIGINAL BIOSECURITY SYSTEM – PRE 1 JUL 2016

INTERIM BIOSECURITY SYSTEM – POST 1 JULY 2016

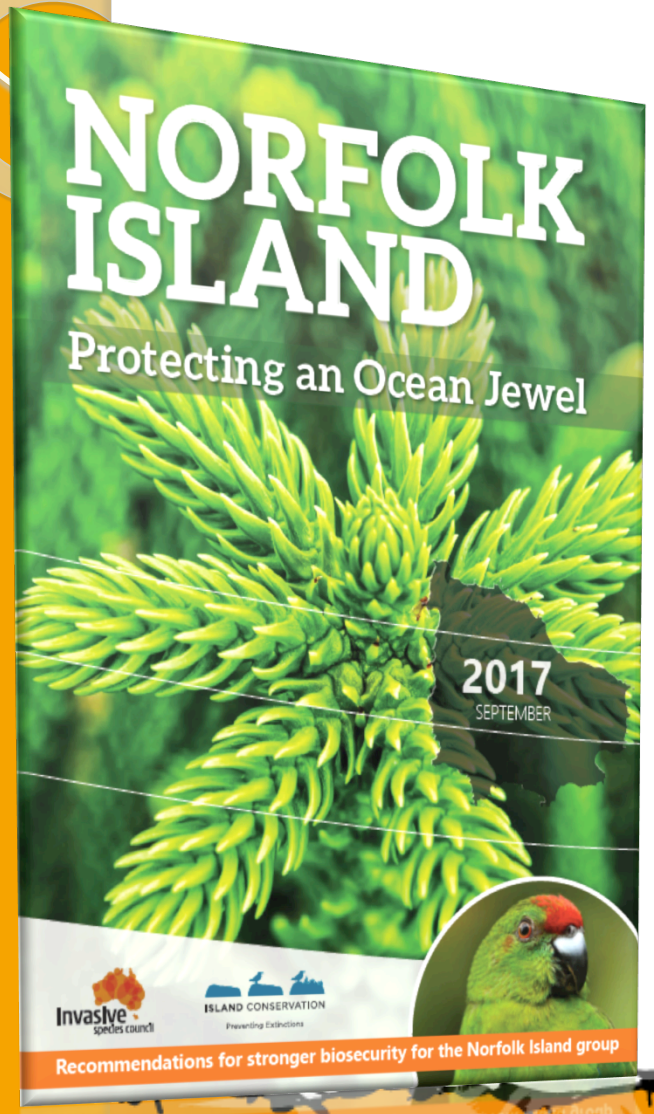


Norfolk Island

PROPOSED BIOSECURITY SYSTEM



Norfolk Island



Protecting an Ocean Jewel

25 biosecurity recommendations

- Harmonise biosecurity arrangements
- Conduct risks and pathways analysis
- Develop a Norfolk Island biosecurity strategy
- Declare Norfolk Island a biosecurity zone
- Secure commitment from all biosecurity participants
- Prepare for new incursions
- Undertake eradications
- Establish Norfolk Island as an NRM region
- Develop partnerships with other island managers

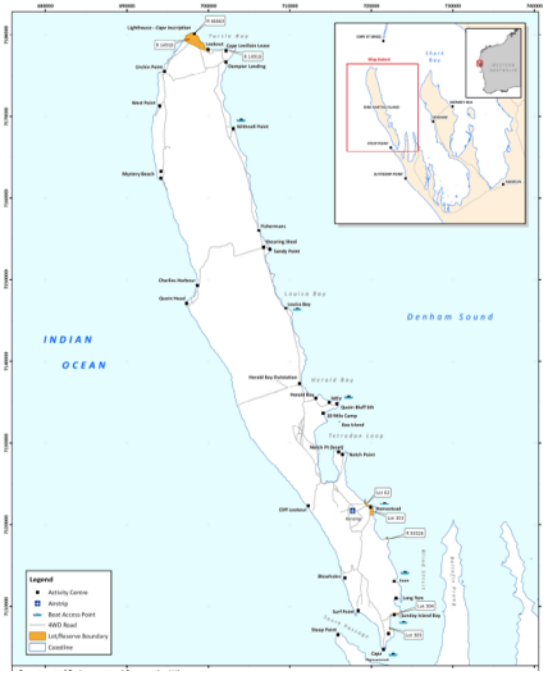
Lord Howe Island

- Strong controls in place for plants, animals and other cargo
- Improvements in progress
  - infrastructure upgrades and increased inspections
  - Biosecurity zone under NSW Biosecurity Act
  - increasing awareness for visitors, residents and suppliers
  - increasing ability to detect and respond to new incursions
  - collaboration and partnerships with key stakeholders

Dirk Hartog Island

- Goat and cat eradication June 2018
- High priority risks and pathways identified
- Education for campers, boaters, 4WDers
- Procedures for barge operators, boats
- Regular inspections
- Conservation staff lead by example
- Community reporting encouraged
- Response plans for rats and cats
- Planned reintroduction of western barred bandicoot, chuditch, mulgara, dibbler, greater stick-nest rat, desert mouse, Shark Bay mouse, heath mouse, woylie and boodie.

DIRK HARTOG ISLAND
RETURN TO 1616



Christmas Island

- Similar to Cocos / Keeling and Norfolk islands
- Strong import controls
- Legacy of poor quarantine with many pests introduced such as yellow crazy ants, giant centipedes, giant African landsnails, geckoes and wolf snakes
- Utilises Western Australian biosecurity law

JustinGilligan/Christmas Island Tourism Association archives

Kangaroo Island

- Free of foxes, rabbits, invasive marine pests and many invasive weeds. Targeting goats, deer and by 2030 - cats
- New biosecurity strategy developed
- Random awareness and compliance check of 5,000 vehicles and 20,000 visitors
- ’Clean and green’ image
- Strategies:
  - 1. Monitoring & surveillance
  - 2. Risk assessments
  - 3. Awareness
  - 4. Response
  - 5. Control
  - 6. Governance arrangements

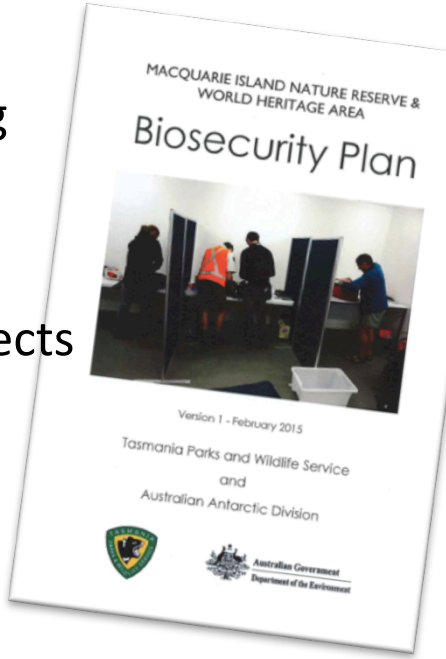
Photo: Kangaroo Island Natural Resources

Barrow Island

- Huge resources committed to biosecurity planning, implementation and surveillance
- 100% cargo subjected to pre-border cleaning, treatment, packaging and inspection
- 2009-16: 12 million tonnes sea freight from 20 countries, 12,332 flights transporting 693,781 passengers
- 600,000 separate inspections, 1.5m person hours
- Previous 45 years, 32 invertebrate and 16 plant species established with freight 2,500 tonnes/yr
- Adaptive learning and auditing lowered detection rate
- No establishments detected since start of Gorgon Project

Macquarie Island

- Restricted access to 3nm
- Detector dog inspections of cargo centre, cargo on-arrival, scientific station, field huts and tourist landing area
- Rodent and invertebrate traps in cargo containers
- Pre-departure screening of expeditioner personal effects
- Restrictions on fresh foods and hydroponics facility
- Boot washdown facilities on each visiting ship
- Reverse screening from New Zealand sub-Antarctic islands (dieback risk to endemic upland cushion plant *Azorella macquariensis*)
- Vessel hull cleanliness ship sanitation certificate
- Incursion response plans for rodent, weed and invertebrates



Performance

	Norfolk	Lord Howe	Dirk Hartog	Christmas	Kangaroo	Barrow	Macquarie
Import controls	✔✔	✔✔	✔✔	✔✔	✔	✔✔✔	✔✔✔
Surveillance	✔✔	✔✔	✔	✔✔	✔	✔✔✔	✔✔
Best-practice approaches	✔	✔✔	✔	✔	✔✔	✔✔✔	✔✔✔
Response capability	✔	✔✔	✔	✔✔	✔	✔✔✔	✔✔
Education	✔✔	✔✔	✔✔	✔✔	✔✔	✔✔✔	✔✔

Observations

- Good biosecurity generally follows an investment in eradication
- An institutional driver is essential
- Uninhabited islands have stronger controls, but fewer eyes watching
- For inhabited islands, support from islanders critical to success

Thank you

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Visit invasives.org.au

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DANGEROUS INVASIONS