

Western Australia - The State of Islands

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Our environment, our future

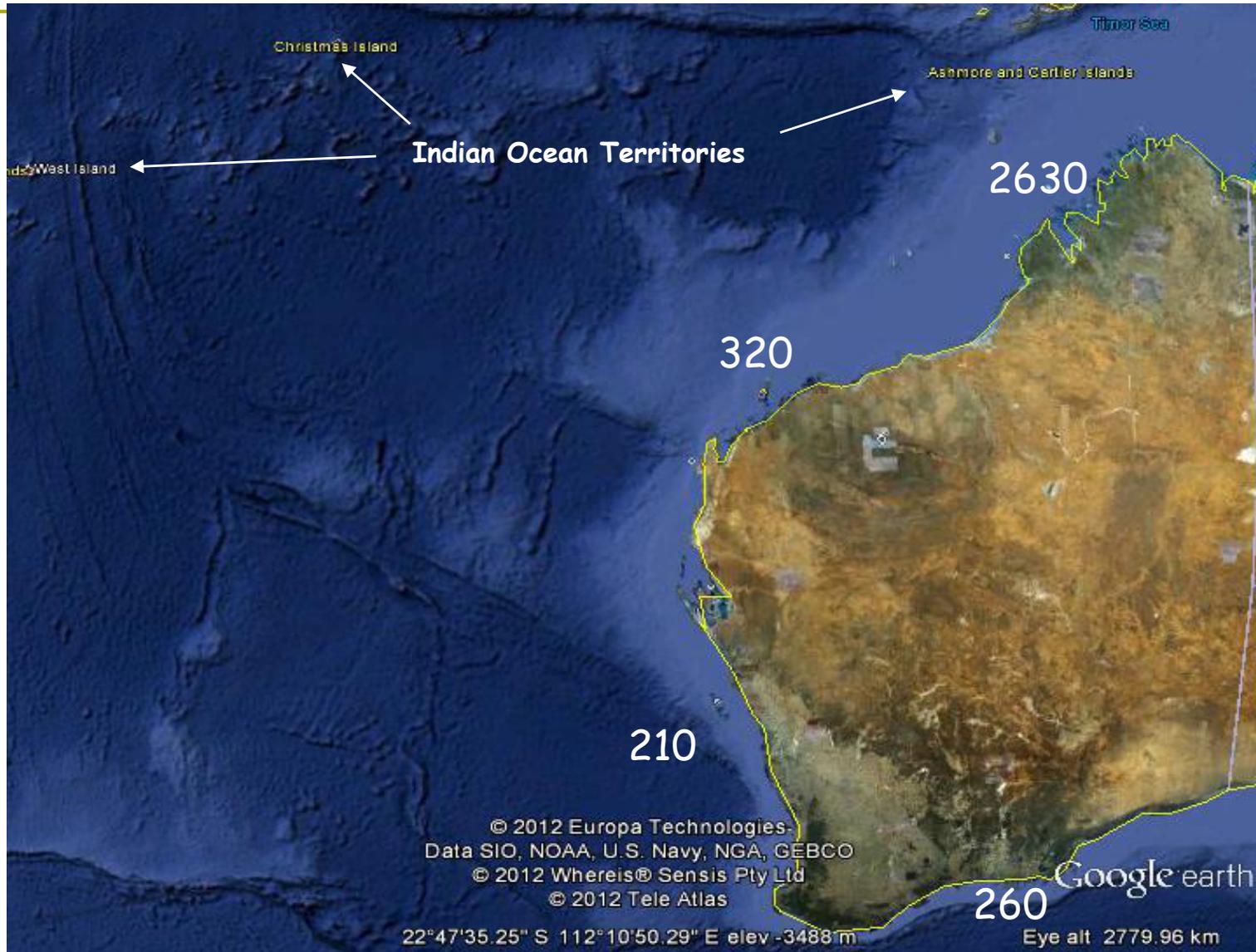


How many islands?



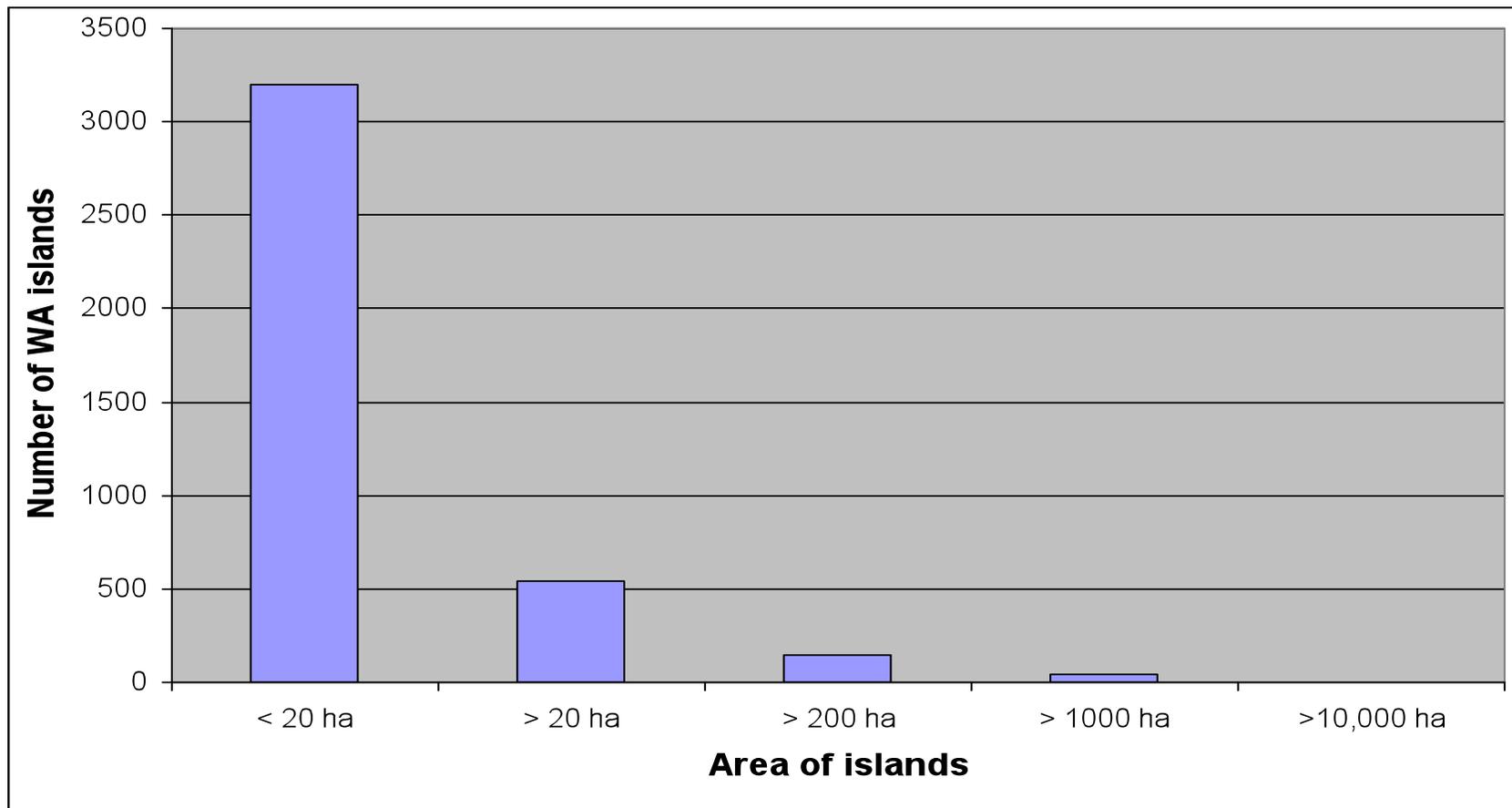
- There are c. 3700 islands off the coast of WA
 - 2 estimates: 3424 (State), 3747 (Commonwealth) mainly continental islands in State waters, most managed by WA Govt.
 - Remote sensing resolution issues.
 - Some more recent sandy cays.
 - Only c. 30% are named.
 - Another 30 are Indian Ocean Territories and managed by Commonwealth.
 - 45% of Australia's total.

Where are they?



Size of WA islands

- Most are < 20 ha in size.
- Only 39 are > 1,000 ha, and 4 > 10,000 ha
- Largest is Dirk Hartog Island- 68,000 ha



Many archipelagos

- Most islands are grouped into archipelagos
 - 26 archipelagos with ca. 2000 islands
- Larger ones are:
 - Buccaneer: 800 - 1000 islands
 - Bonaparte: 200 - 300
 - Recherche: 235
 - Montebello: 180
 - Houtman Abrolhos: 130
 - Dampier: 42



Island conservation status



- About 980 (28%) of WA islands are reserved for conservation:
 - Most outside the Kimberley are reserved (Houtman Abolhos).
 - Major gaps are in the Kimberley where only 8 / 2630 Kimberley islands are conservation reserve.
 - Most Kimberley islands are UCL, subject to native title claims by traditional owners.
 - Some progress being made in increasing island conservation estate with joint management - 31 additional islands.



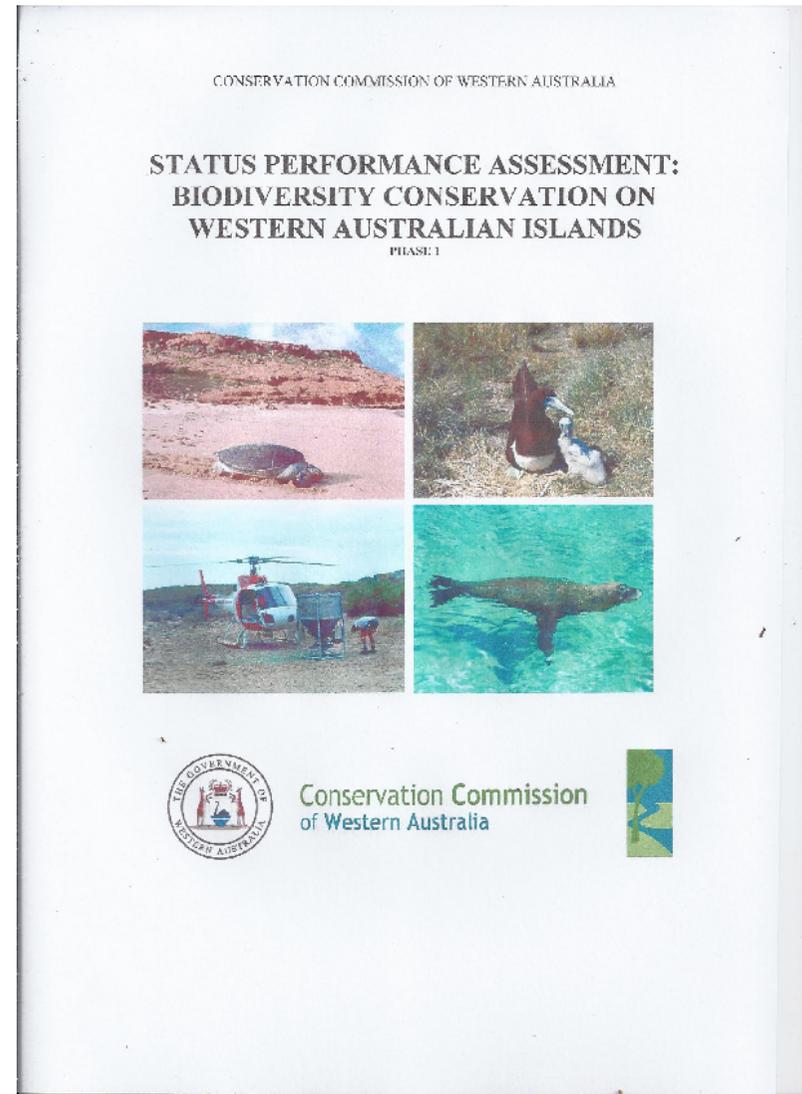
Other uses

- ❑ Other purposes include fisheries (pearling, rock lobster), industrial / mining uses, recreation, lighthouses, defence force facilities and atomic weapons testing.
- ❑ Some of those reserved for conservation are being used for oil and gas processing.
- ❑ None in private ownership, but several have been used for grazing / pastoral activities over the last 150 years
 - Some freehold on Dirk Hartog Island



Conservation Commission of WA – 2009 Review

- ❑ Reviewed current information and management of islands.
- ❑ 29 recommendations for future action:
 - Biosecurity management.
 - Reserve management plans.
 - Management of threats.
 - Acquisition of reserves, including littoral zones.
 - Most accepted by DEC.



Knowledge

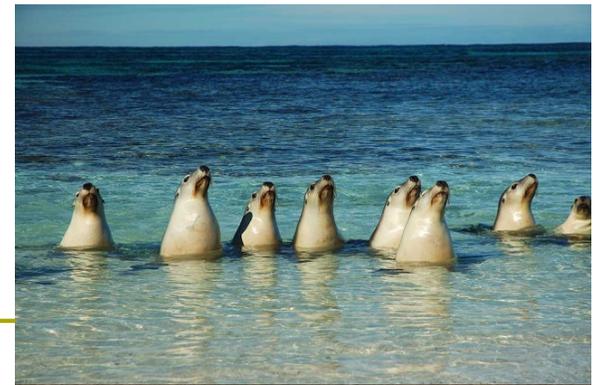


- ❑ Many island groups / archipelagos have been surveyed for flora and fauna
 - ❑ Surveys started in the 1970s, ongoing.
 - ❑ Increase in knowledge through ERMP / EIS process for oil / gas developments on islands.
- ❑ But only 6 approved Management Plans covering ca. 210 islands.
 - ❑ The c. 25 Shark Bay islands are covered by the Shark Bay World Heritage Area Strategic Plan.
 - ❑ Some islands have marine parks / reserves adjacent.



Values of WA islands

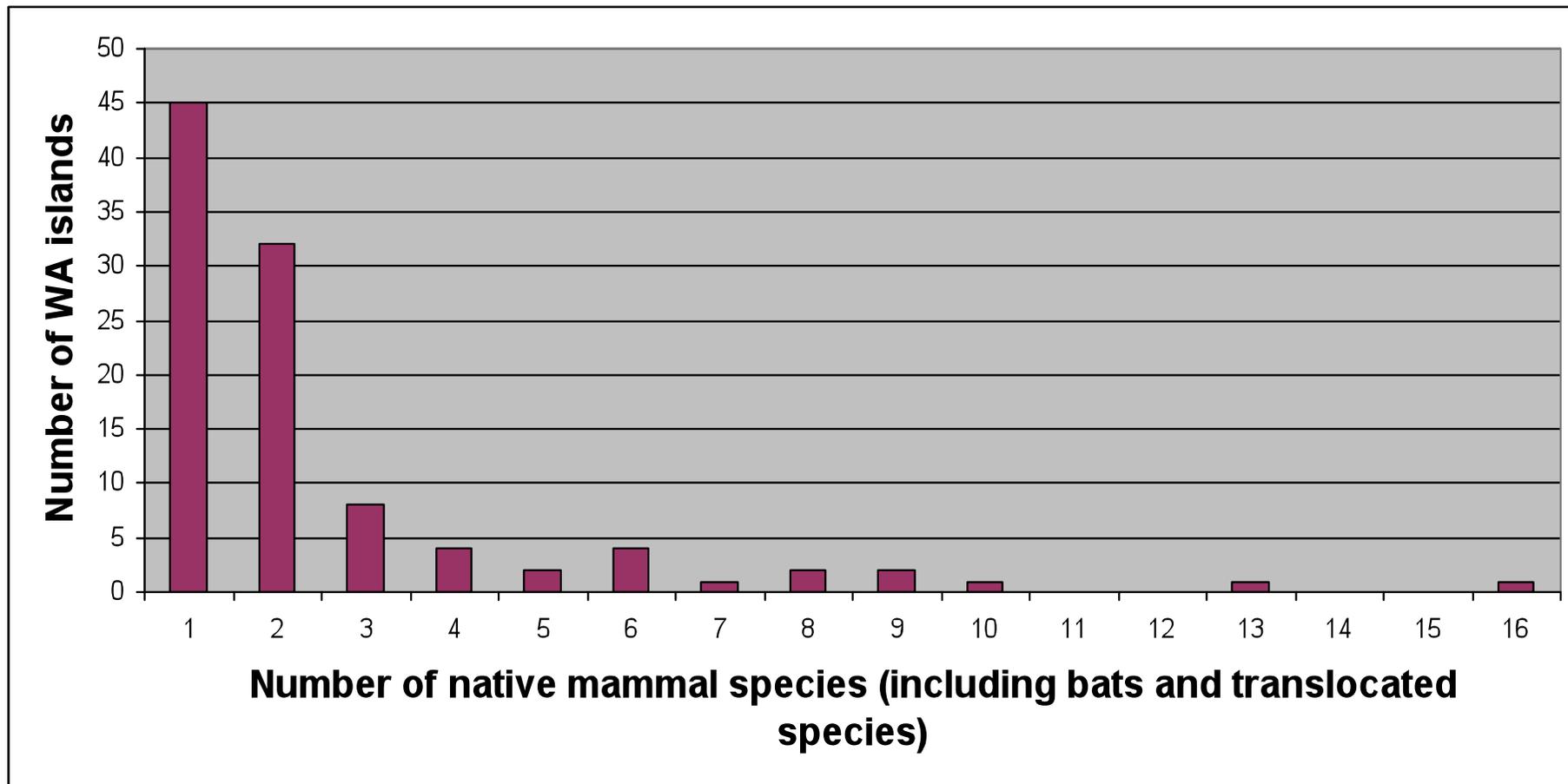
- ❑ Less disturbance than adjacent mainland
 - Fire, weed, grazing.
- ❑ Threatened terrestrial fauna conservation
 - Endemic / restricted taxa
 - Source and site for translocations
- ❑ Nesting seabirds on most islands.
- ❑ Feeding and roosting sites for migratory waders
- ❑ Nesting marine turtles
 - 5 species
- ❑ Breeding Australian sealions and NZ fur seals
- ❑ Some Priority plant species, no endemics



WA islands with native mammals



- Total number of WA islands with native mammals = 103 (c. 3%)
- Total number of native species on WA islands = 65 (c. 40% of total)
- Barrow, and Bernier and Dorre Islands most significant.



Values - endemic / restricted taxa

- WA islands support 104 endemic fauna taxa
 - 10 mammals, 6 birds, 10 reptiles and 78 invertebrates.
 - Taxonomy needs resolving for some.
- 5 mammal species that once occurred on the mainland would be extinct if not for populations remaining on WA islands
 - Bernier and Dorre Islands.
- Another 6 mammals that have declined significantly on the mainland, have secure island populations, e.g golden bandicoot, golden backed tree rat.
- No endemic plants.



Values - Reintroductions

- Islands have been used to secure several fauna species via translocations.
- Reintroductions
 - 20 spp mammals have gone extinct on 9 islands, seabird extinctions on at least 3 islands, mainly cats and rats.
 - 5 spp mammal and 2 spp bird have been successfully reintroduced to 3 islands - Hermite, Boodie and Faure Islands.
 - DHI fauna restoration - 12 species.
- Some mainland reintroductions sourced from islands
 - Only population, relatively abundant.
 - Fenced enclosures, e.g Lorna Glen



Values - Introductions

□ Conservation Introductions

- 11 mammals to 11 islands, plus noisy scrub-bird and Lancelin Island skink.
- Not all successful.
- 1 threatened plant attempt, but failed.

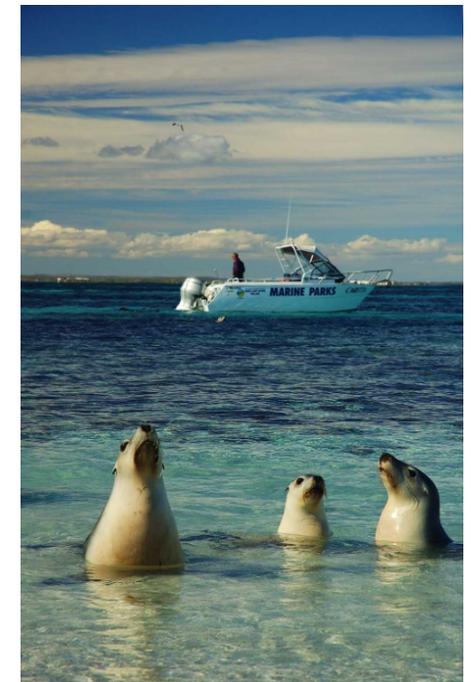
□ Unauthorised introductions of native mammals

- Tamar wallaby, western grey kangaroo, euro and echidna



Values - nesting / breeding marine fauna

- 5 species marine turtle, significant rookeries.
- Most islands have some seabird nesting, at least 43 species ~~known to New Zealand~~ ~~known to Westland~~ ~~known to NZA~~ islands.
- Australian sealion and NZ fur seal.



WA islands with introduced fauna



- ❑ 13 species of exotic mammals have been recorded on 121 islands:
- ❑ 19 species of exotic birds recorded on 11 islands
 - 10 species on Rottnest Is.
- ❑ Intentional release e.g pastoral use, hunting, Acclimatisation Society.
- ❑ Unintentional release or invasion e.g black rats, house mice, pigeons.
- ❑ Some have died out or been removed.
- ❑ Eradication programs for more invasive species underway since the 1970s
 - Reasonably successful.

Introduced mammals on WA islands



Species	Total # islands known from	# islands eradicated/no longer present	# islands still present
Black Rat	38	29	9
House Mouse	21	5	16
Feral Cat	16	12	4
Red Fox	16	5	11
Sheep	11	10	1
Goat	8	4	4

Introduced mammals on WA islands (cont)

Species	Total # islands known from	# islands eradicated/no longer present	# islands still present
Rabbit	8	4	4
Dingo	4	0	4
Pig	3	1	2
Horse	3	2	1
Pacific Rat	1	0	1
Dog	1	1	0
Camel	1	1	0

Priorities for introduced mammal eradication: next 5 - 10 years.

- ❑ Continue / complete CFOC program by Sept 2013.
- ❑ Eradicate feral cats and goats on Dirk Hartog Island, reintroduce fauna.
- ❑ Eradicate house mice on Thevenard Island.
- ❑ Eradicate house mice on Boullanger island.
- ❑ Eradicate rabbits on Breaksea Island, reintroduce quokkas ?
- ❑ Eradicate / control foxes on Depuch Island, reintroduce rock-wallabies ?



Weeds



- ❑ No database of weed occurrence on islands.
- ❑ Most islands surveyed have some weeds, mostly those that are / have been settled, close to towns, or with nesting seabird colonies.
- ❑ Kimberley islands are relatively weed free except for those that have been settled.
 - *Passiflora* is widespread.
 - Seabirds have spread weeds to more distant islands.
- ❑ Most Pilbara islands have a few species of weeds
 - Buffel grass and kapok bush the most common.
 - Some control undertaken, e.g Barrow, Boodie and Airlie islands.
- ❑ Most west coast islands have weedy annual grasses and herbs, iceplant, management plans for control of boxthorn.
- ❑ All south coast islands surveyed have some weedy annual grasses and herbs, Recherche archipelago is relatively weed free.

Biosecurity arrangements

- ❑ Increasing use of islands for oil/gas industry and tourism, increased risk of incursions
 - Increasing awareness
- ❑ Barrow Island
 - Gorgon Quarantine Management System in operation.
 - Draft Management Plan
- ❑ Needs to be extended to the recreational use of islands
 - Important component of DHI restoration
- ❑ CFOC project eradicating exotic rodents on 6 WA islands
- ❑ Biosecurity planning project - DEC / JCU.



Other issues

- ❑ Cane toad spread to Kimberley islands.
- ❑ Public awareness / education re values.
- ❑ Wildfire impacts, larger islands
- ❑ Climate change
 - Rising sea levels, increased aridity.
 - Use of southern islands for marooning.



Other island activities in WA



- ❑ Acquisition of Dirk Hartog Island as National Park
 - Ecological restoration project
 - Translocate 12 mammals
- ❑ Program to translocate threatened taxa from Barrow Island to other Pilbara islands and mainland sites.
- ❑ Biological surveys of more Kimberley and Recherche Archipelago islands.





Conclusions

- ❑ WA islands an important part of Australia's natural heritage and warrant further coordinated protection.
- ❑ Given the difficulties in controlling foxes and feral cats on the mainland, islands are crucial for fauna conservation in WA, and the rest of Australia.
- ❑ Improved biosecurity planning and implementation is crucial.

Thank you,
any questions??

