



Information Hub

The following presentation was developed by Elaine Horne to outline the *Return to 1616* Ecological Restoration Project and the results.

Return to 1616

Dirk Hartog Island National Park
Ecological Restoration Project



The Vision



- A special place with healthy vegetation and ecosystem processes which supports a suite of reintroduced native mammal species.
- The removal of introduced grazing animals (sheep and goats) and feral predators (cats).
- The ecological restoration of the island is appreciated and strongly supported by the community.

Dirk Hartog Island



The story before...

- Dirk Hartog, the first European to make landfall on Western Australia, landed on the island in 1616 and left an inscribed plate.
- Dirk Hartog Island (in the Shark Bay World Heritage Property) is the largest island off the Western Australian coast at about 62,000 ha.
- Pastoralism established from 1867 – 2009.
- Grazing of introduced herbivores.
- Invasion of feral predators (cats) 19th and early 20th Century.

The plan to restore an ecosystem

- Eliminate feral and non-native animals from the island,
- Habitat regeneration and fauna recovery,
- Reintroductions,
- Ecotourism & community support,
- Continued scientific research.



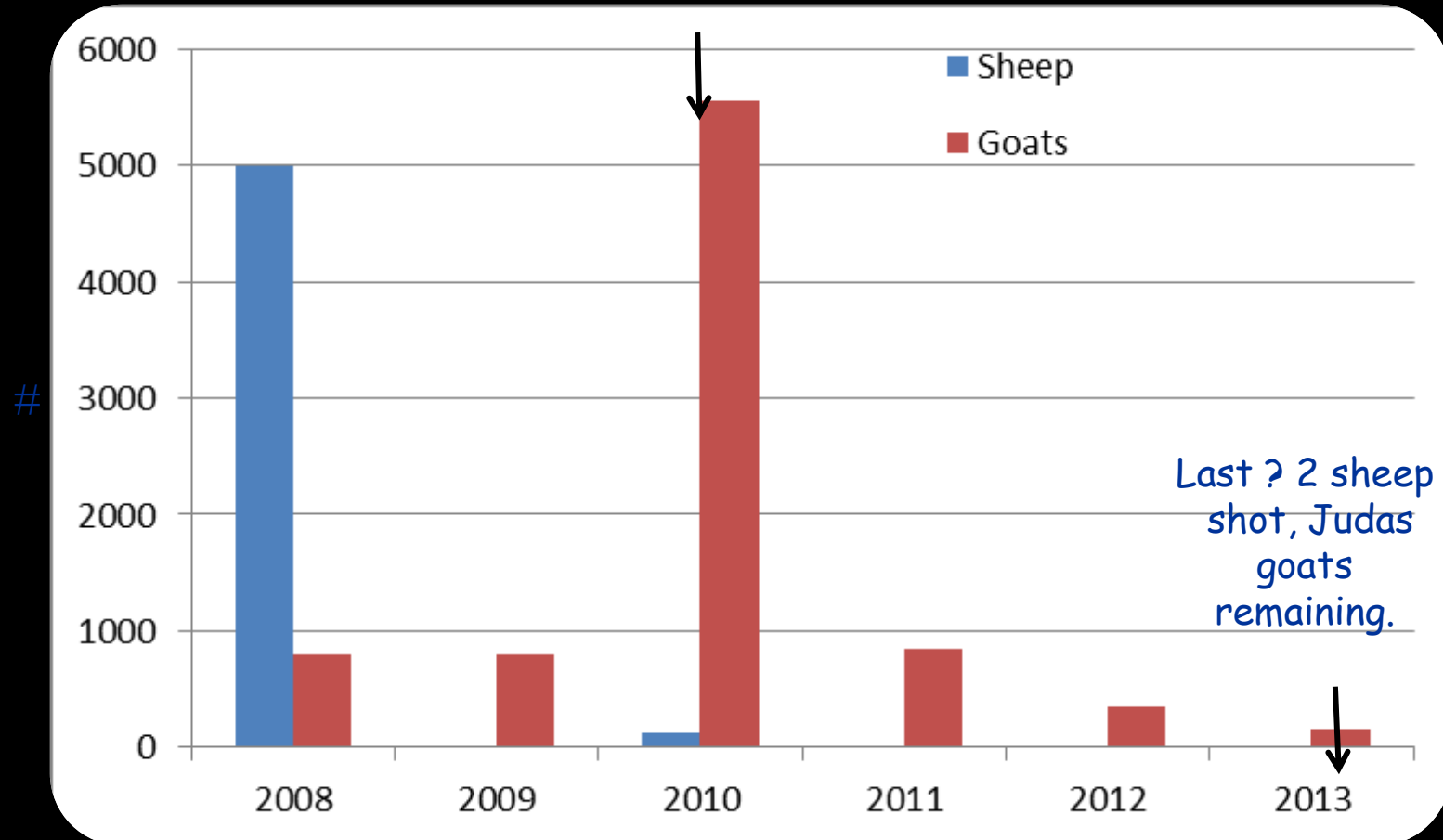
Feral Control - Introduced Herbivores - Goats and Sheep



- Over 5,000 sheep and 11,000 goats have been removed from Dirk Hartog Island. Habitat and vegetation has shown recovery.

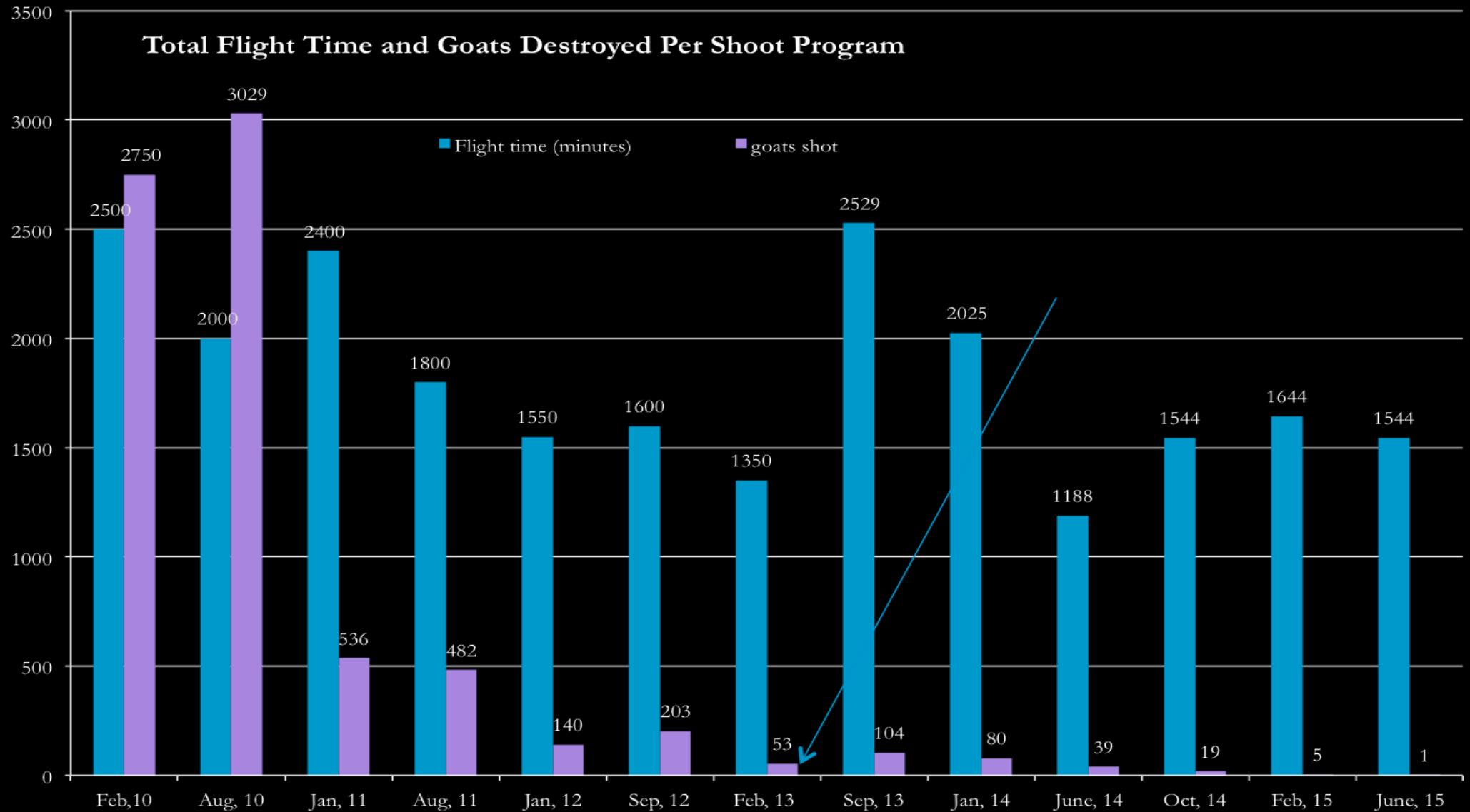
Sheep and Goat Eradication

Aerial shooting commenced



Numbers of sheep and goats removed from Dirk Hartog Island

Sheep and Goat Eradication



Feral Control - Introduced Predator

Feral Cats

- Feral cats were removed using a mixture of baiting and traps.
- Specially trained dogs, automated cameras and sand pads were used to check for any remaining feral cats.
- Translocation of native fauna back to the island began once it was declared feral cat free in 2018.



Fauna Monitoring

- Track counts
- Trapping
- Diggings
- Radio telemetry
- IR remote cameras
- Spotlighting



Dirk Hartog Island Small Vertebrate Monitoring

- Using pitfall traps and Elliott traps, this study began in 2007 and has been running for 13 years.
- Its function is to monitor the changes in vertebrate animal numbers before and after feral animal removal.

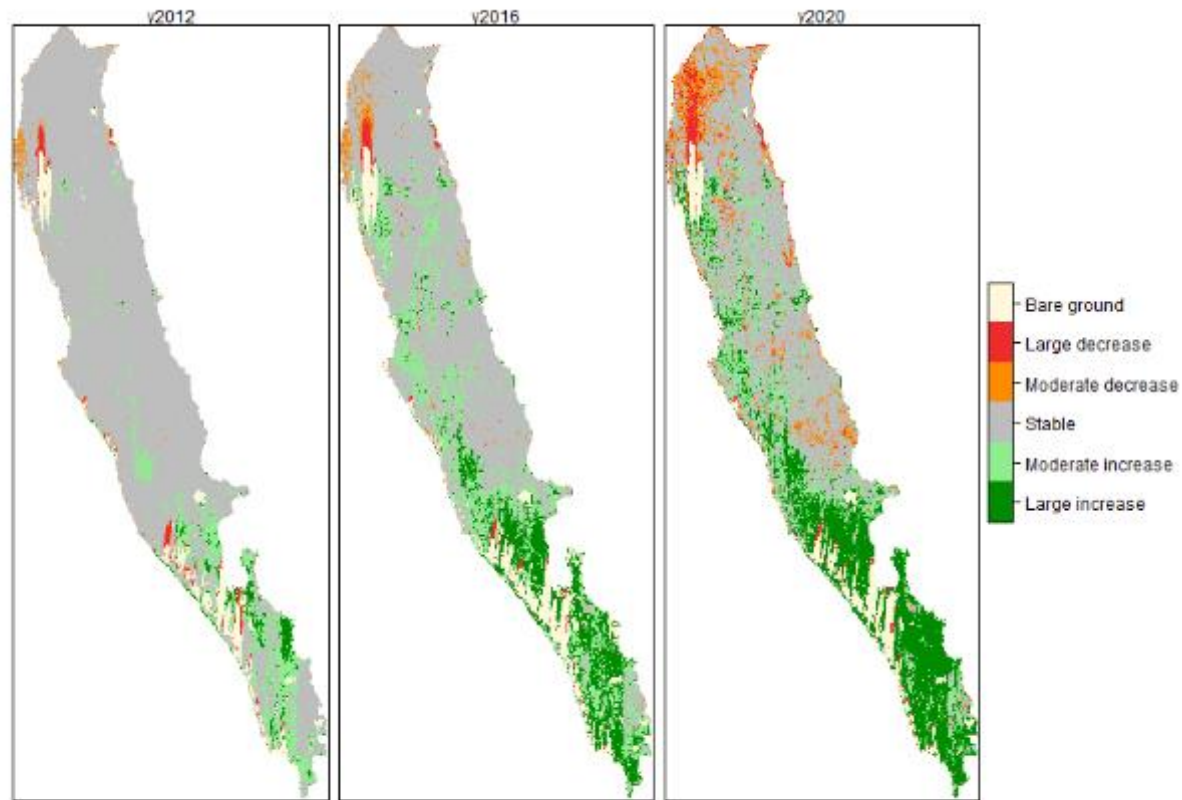


Fauna Reconstruction

- Translocation strategies are developed for each species.
- 10 mammal species and one bird species will be reintroduced to the island and two additional mammal species will be introduced over ten years.
- Translocations began, after feral cats were declared eradicated, with two hare-wallaby species.

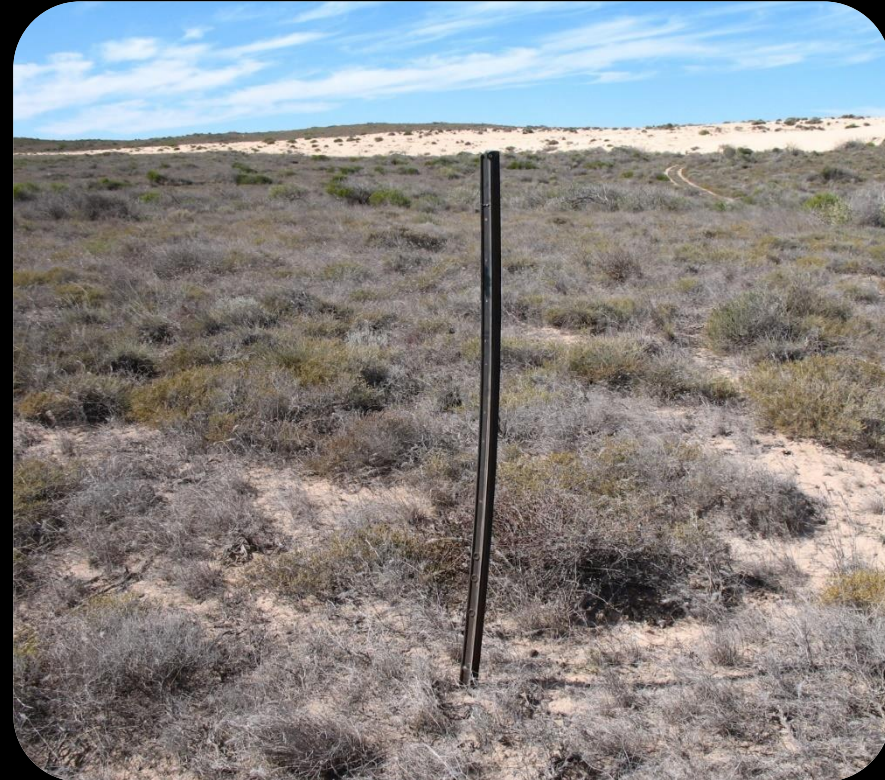


Vegetation Cover Change



Dirk Hartog Island Vegetation Monitoring

Vegetation photo points



Weed Management

- Weed survey, 68 species, distributions mapped.
- Assessed using DBCAs invasive plant prioritisation process
- Weed management plan developed.
- Monitor island access points, part of biosecurity plan.



Mammals for Re-Introduction

DHI Mammals for Re-Introduction

Boodie - *Bettongia lesueur*,

Woylie - *Bettongia penicillata*,

Shark Bay Bandicoot - *Perameles bougainville*,

Chuditch - *Dasyurus geoffroii*,

Brush-tailed Mulgara - *Dasycercus blythi*,

Dibbler - *Parantechinus apicalis*,

Greater Stick-nest Rat - *Leporillus conditor*,

Desert Mouse – *Pseudomys desertor*,

Shark Bay Mouse - *Pseudomys gouldii*,

Heath Mouse - *Pseudomys shortridgei*.

Additional mammals for introduction to DHI

Banded Hare-wallaby - *Lagostrophus fasciatus*.

Rufous Hare-wallaby - *Lagorchestes hirsutus*.

Bird species for introduction to DHI

Thick-billed grasswren

Banded hare-wallaby



Reintroductions began in 2017

Rufous hare-wallaby



Reintroductions began in 2017

Shark Bay bandicoot



Reintroductions began in 2019

Restoration of DHI Ecosystem

- involves management of an island ecosystem,
- would result in original, more complex ecosystems and increased biodiversity,
- would preserve threatened species and important habitats,
- achieves the aims of its National Park status and World Heritage listing,
- would be a world showcase of successful rehabilitation and conservation.



Return to 1616...



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