

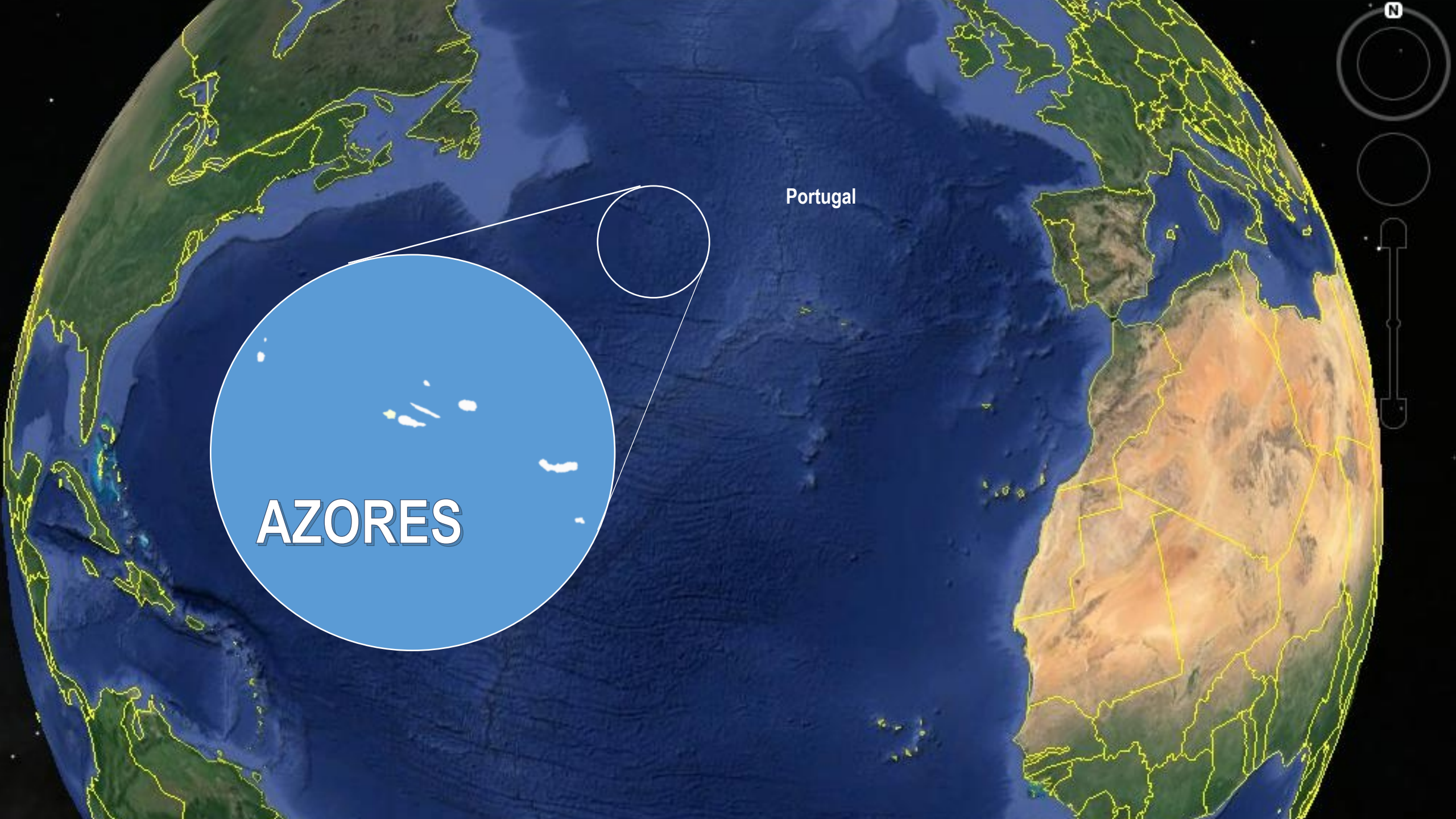


Governo dos Açores



Regional Plan for the Eradication and Control of Invasive Exotic Flora in Sensitive Areas (PRECEFIAS)

Some Examples



AZORES

Portugal

Temperate Oceanic Climate

17°C/18°C during the year

High humidity levels

High nebulosity

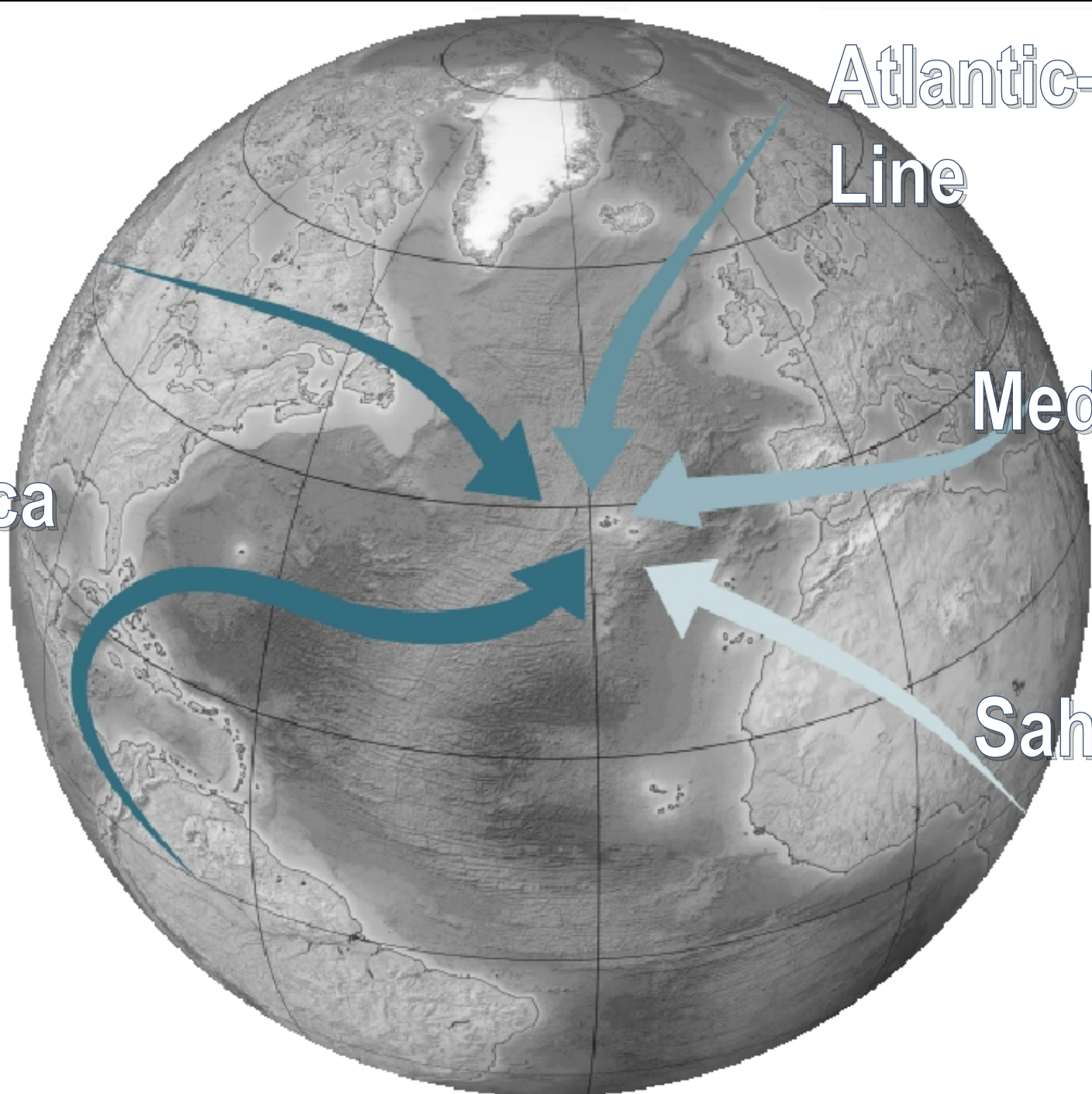
Regular and abundant rainfalls

Rigorous winds

Azores



America



Atlantic-Euro-Siberian
Line

Mediterranean Line

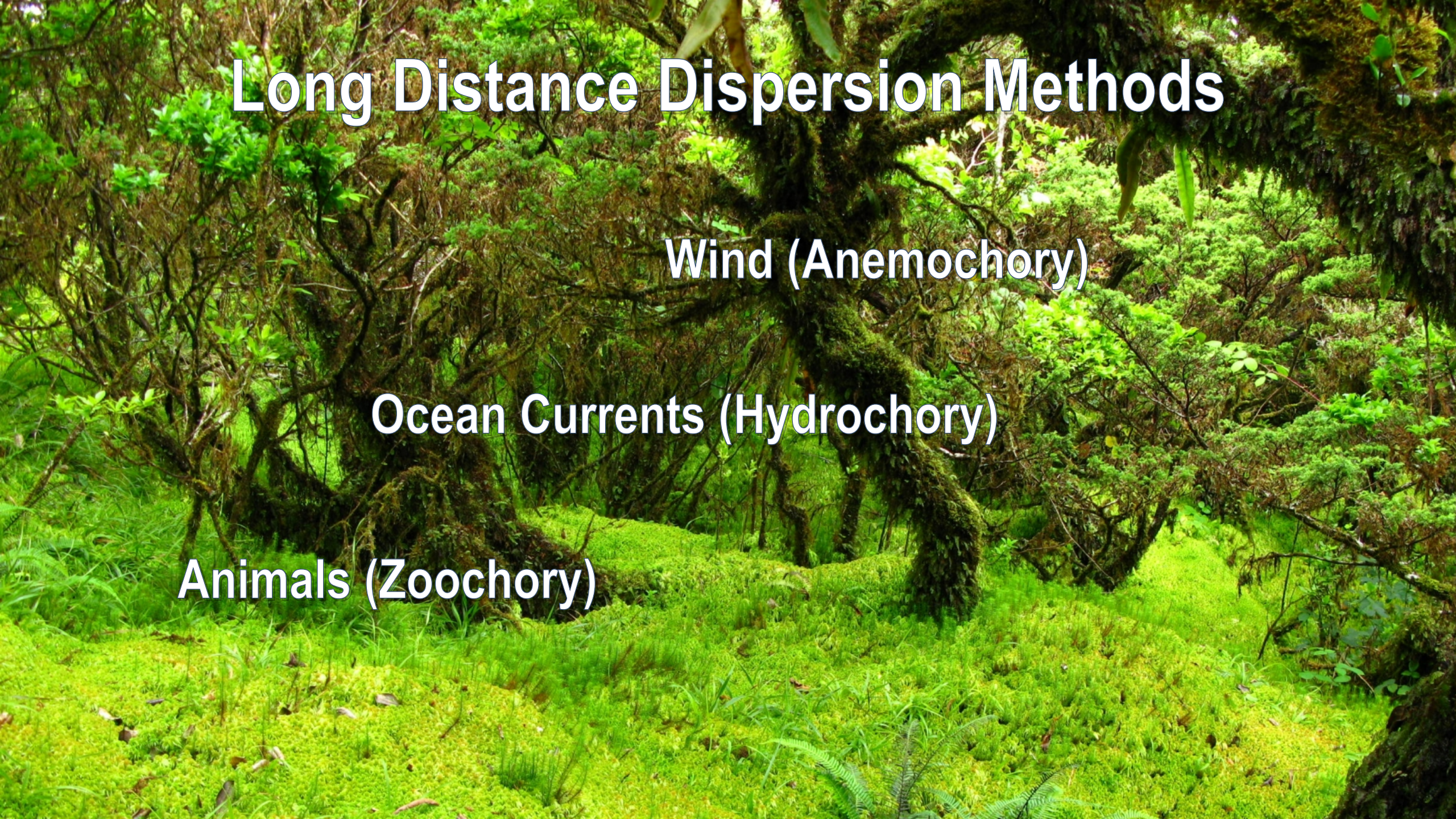
Sahara-Indic line

Long Distance Dispersion Methods

Wind (Anemochory)

Ocean Currents (Hydrochory)

Animals (Zoochory)





In the Azores

910 exotic plant Species

51 Invasive



Carpobrotus edulis (L.) N. E. Br. in E. Phillips



Arundo donax L.



Lantana camara L.



Pittosporum undulatum Vent.



***Rubus ulmifolius* Schott**



Hedychium gardnerianum Sheppard ex Ker Gawler



Hydrangea macrophylla (Thunb.) Sér.



Clethra arborea Aiton

Bern Convention



35 Azorean Plant Species

26 Endemic

Ammi trifoliatum (H. C. Watson) Trel.



Pericallis malvifolia (L'Hér.) B. Nord. ssp. *caldeirae* H. Schäfer



Prunus azorica (Hort. ex Mouillef.) Rivas Mart., Lousã, Fern. Prieto, E. Dias, J. C. Costa & C. Aguiar



Myosotis azorica S. Watson

A close-up photograph of a Sanicula azorica plant. The plant features a central green stem with two clusters of small, white, star-shaped flowers. The leaves are large, green, and deeply lobed with serrated margins. The background is a soft-focus green, suggesting a natural, outdoor setting.

Sanicula azorica Guthn. ex Seub.



Juniperus brevifolia (Seub.) Antoine



Vicia dennesiana H. C. Watson

Azorean Legislation

Regional Legislative Decree no. 15/2012 / A, of April 2nd, which establishes the legal regime for the Conservation of Nature and Biodiversity

PRECEFIAS

- **PRECEFIAS – Regional Plan for the Eradication and Control of Invasive Exotic Flora in Sensitive Areas**
- **Implemented in 2004**
- **In-Situ Conservation**

PRECEFIAS



2011 to 2013 – 30 species from 1200 ha

2014 to 2016 – 35 species from 2500 ha, Azores
Government spend 1.500.000€

PRECEFIAS

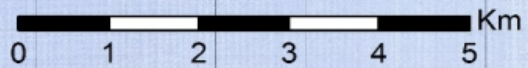
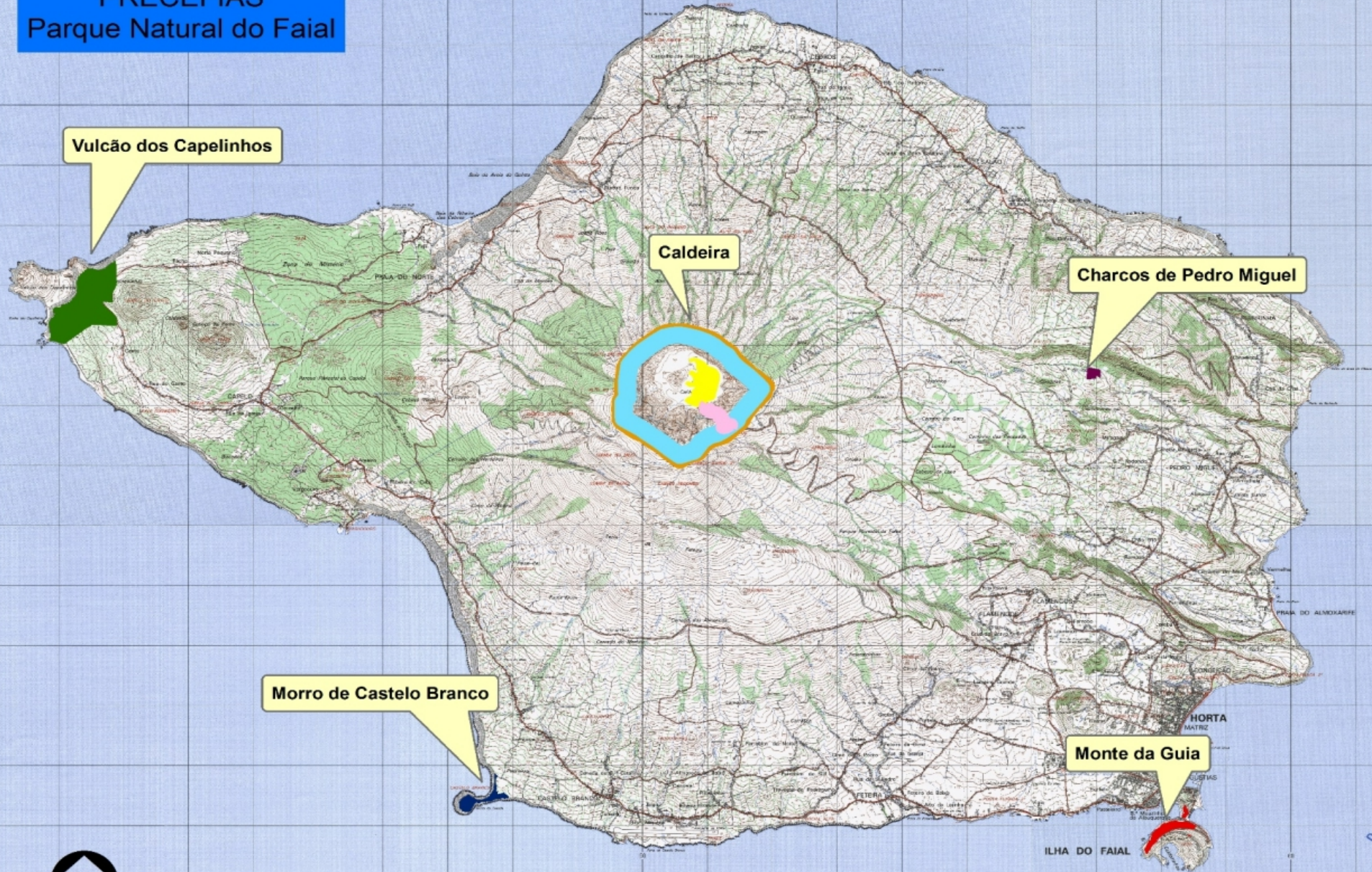
Pittosporum undulatum, Hedychium gardnerianum, Hydrangea macrophylla, Arundo donax, Gunnera tinctoria, Clethra arborea, Carpobrothus edulis, Lantana camara, Ailanthus altissima, Polygonum capitatum, Drosanthemum floribundum, Acacia melenoxylon, Ulex europaeus, Ipomoea indica, Ipomoea imperati, Rubus ulmifolius, Pteridium aquilinum, Leysesteria formosa, Metrosideros excelsa, Canna indica, Solanum mauritianum, Tritonia x crocosmiflora, Cortaderia selloana, Erigeron karvinskianus, Phormium tenax, Ageratina adenophora, Tamarix africana, Ficus carica, Rhapsiolepis umbellata, Crinum moorei, Zantedeschia aethiopica, Phytolacca americana, Tetragonia tetragonoides, Criptomeria japonica, Pinus pinaster.

Faial island as an Example



PRECEFIAS

Parque Natural do Faial



Examples



Capelinhos Volcano - Protected Area for the Management of Habitats or Species of Capelinhos, Northeast Coast and Varadouro

PRECEFIAS Capelinhos



■ Área Total de Intervenção



0 100 200 300 Mt

Hectares	Flora	Ação	Acesso	Restauro Ecológico
75	Arundo donax, Carpobrotus edulis	Corte e herbicida	Fácil	Myrica faya, Erica azorica, Festuca petraea

Before PRECEFIAS



After PRECEFIAS



Caldeira of Faial Nature Reserve

1st Nature Reserve of Azores– 1972

Category I IUCN – Nature Reserve

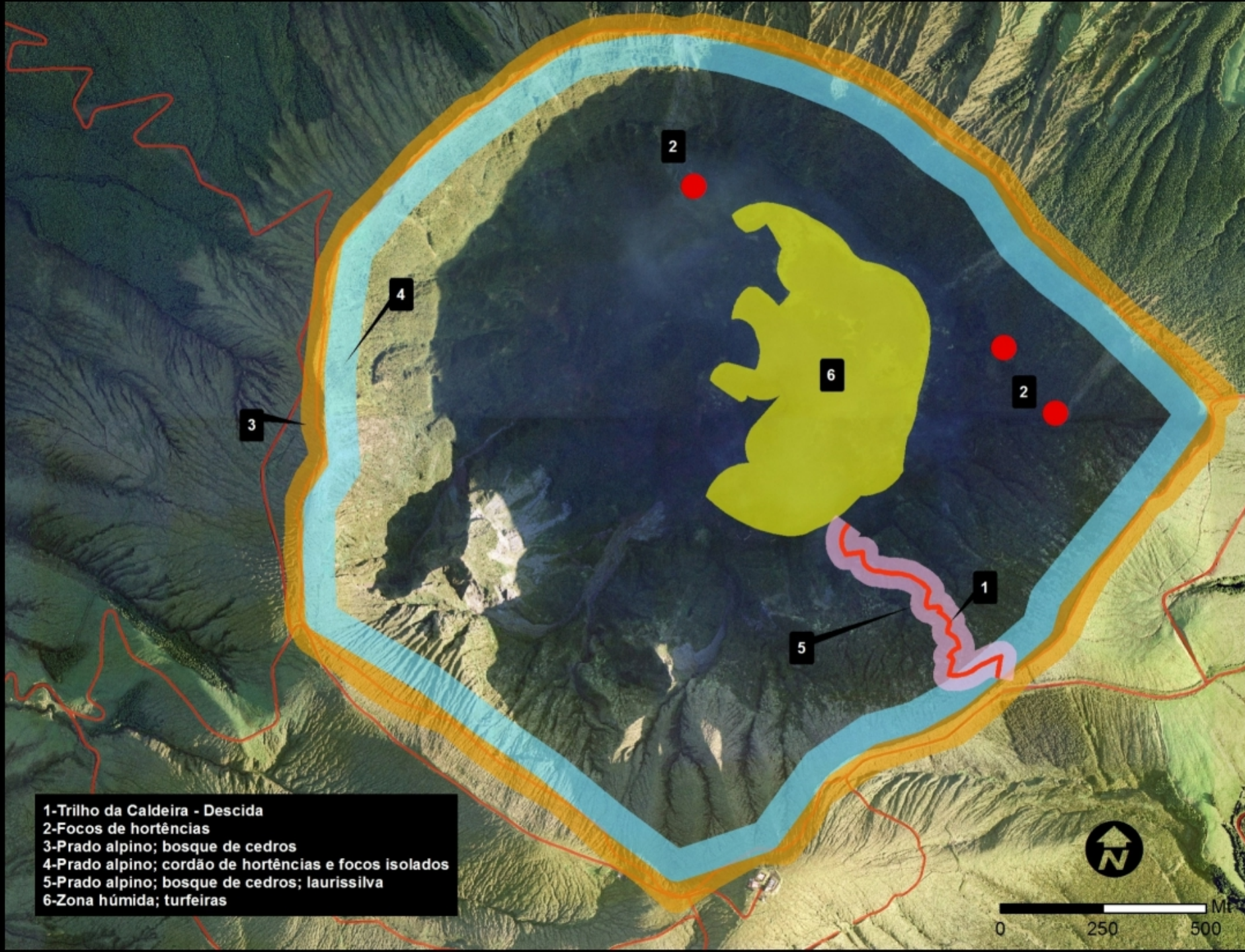
Natura 2000

Ramsar Area

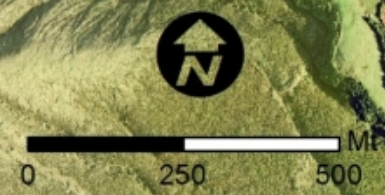
IBA - Important Bird Area

2/3 endemic species are there represented

7 Priority Habitats



- 1-Trilho da Caldeira - Descida
- 2-Focos de hortências
- 3-Prado alpino; bosque de cedros
- 4-Prado alpino; cordão de hortências e focos isolados
- 5-Prado alpino; bosque de cedros; laurissilva
- 6-Zona húmida; turfeiras









Morro of Castelo Branco Nature Reserve



PRECEFIAS Morro de Castelo Branco

■ Área Total de Intervenção



0 50 100 150 Mt

Hectares	Flora	Acção	Acesso	Restauro Ecológico
10	Arundo donax, Carpobrotus edulis	Corte e herbicida	Difícil	Myrica faya, Festuca petraea, Picconia azorica, Erica azorica

Before PRECEFIAS





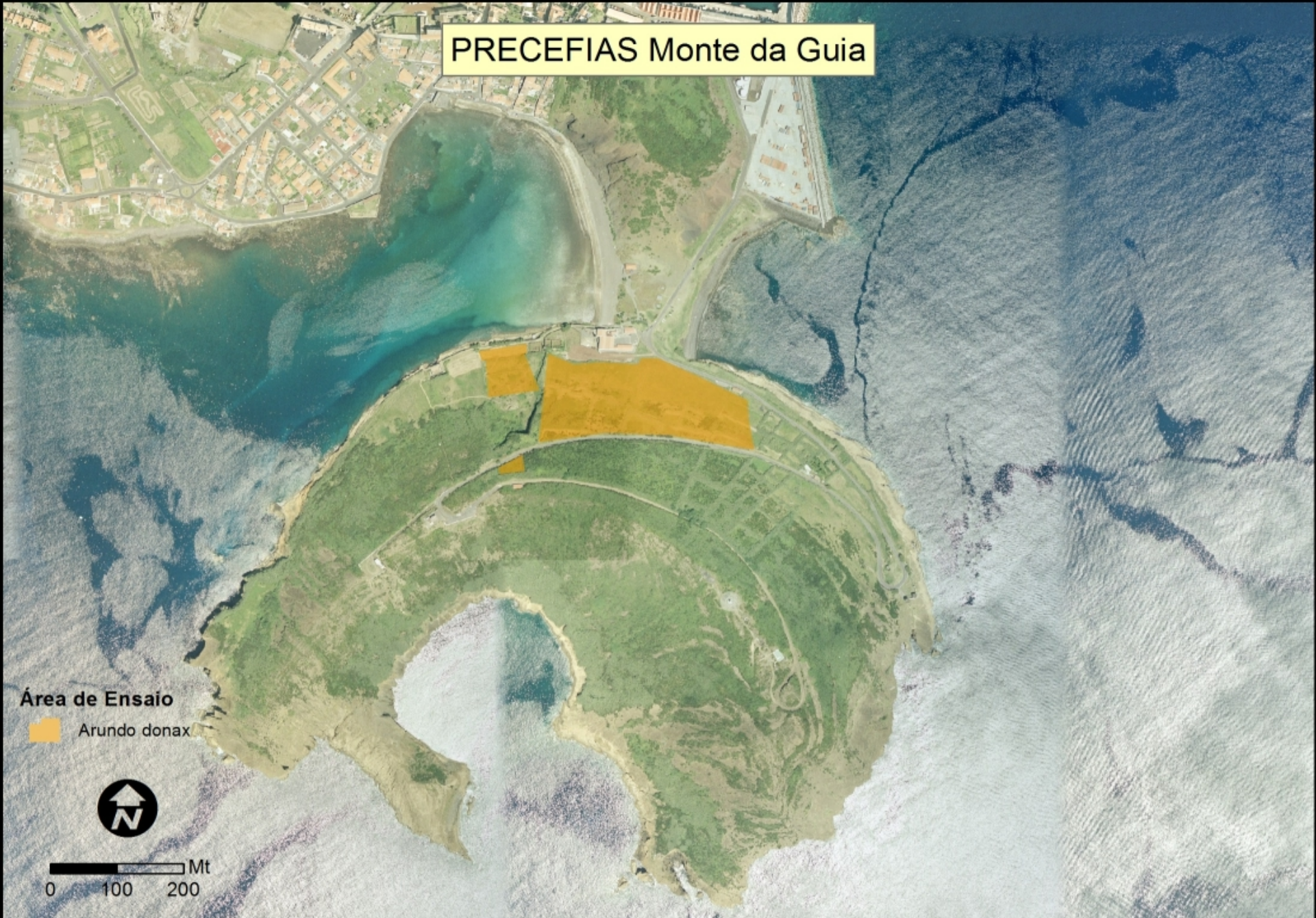
After PRECEFIAS



Protected Landscape Area of Monte da Guia



PRECEFIAS Monte da Guia



Área de Ensaio

Arundo donax

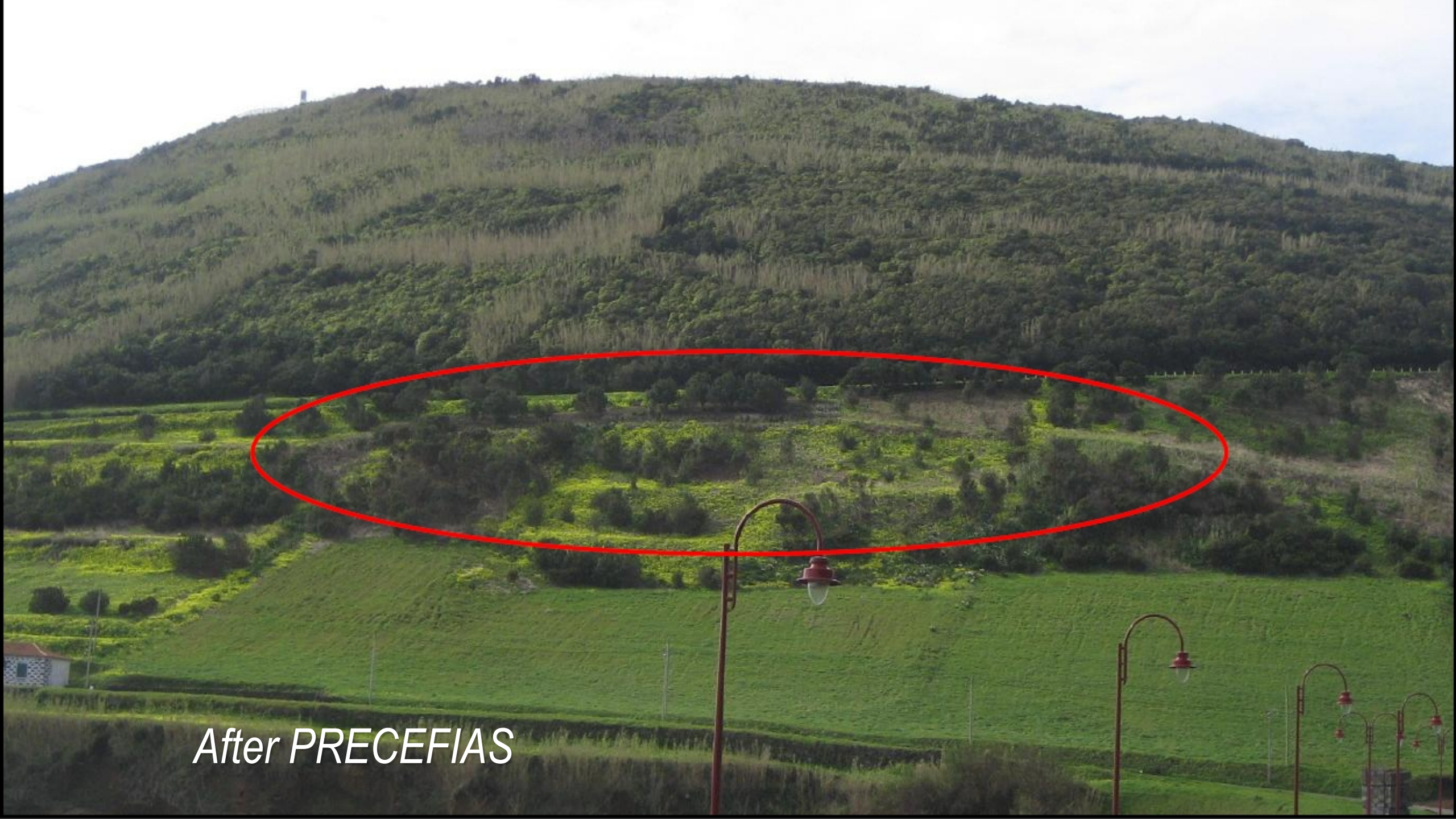


0 100 200 Mt

Hectares	Flora	Ação	Acesso	Restauro Ecológico
3,8	Arundo donax, Pittosporum undulatum, Lantana camara	Corte e herbicida	Fácil	Myrica faya, Picconia azorica, Erica azorica, Festuca petraea

Before PRECEFIAS





After PRECEFIAS



After these years, we reached the conclusion that the most effective way to remove exotic plants, is by manual process





Thank You