

NATIVE FOREST MANAGEMENT PROJECT Uruguay-Germany

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Forest Area in Uruguay

	1980		2018	
Uruguay area (ha)	17,502,000		100 %	
Planted forest area (ha)	170,950	1 %	1,000,190	6 %
Native forest area (ha)	596,831	3 %	835,349	5 %
Total forest area (ha)	767,781	4 %	1,878,641	11 %





Parkland forest



Ravine forest



Low-mountain
range forest

Types of Native Forest

Riverine forest



Psammophyle forest



Palm
groves



RIVERINE FOREST



The most extended type of forest.

High number of shoots per strain and low number of monopodial trees determine human intervention

Species that we can find...

- ✓ Humboldt's willow | *Salix humboldtiana*
- ✓ White Sarandi | *Phyllanthus sellowianus*
- ✓ Myrtle | *Blepharocalyx salicifolius*
- ✓ Chal-Chal | *Allophylus edulis*
- ✓ Coronilla | *Scotia buxifolia*
- ✓ Guayabo colorado | *Eugenia cisplatensis*
- ✓ Espina Amarilla | *Berberis laurina*
- ✓ Molle rastrero | *Schinus longifolius*

LOW-MOUNTAIN RANGE FOREST



This type has shown the most increase.

Forest associated with high topographies, on shallow soils.

Dissemination and advance depend on bird fauna.

Species that we can find...

- ✓ Canelon | *Myrsine laetevirens*
- ✓ Coronilla | *Scotia buxifolia*
- ✓ Desert hackberry | *Celtis ehrenbergiana*
- ✓ Prickly ash | *Zanthoxylum rhoifolium*

PARKLAND FOREST

This is the type of forest that has suffered most deterioration.

Areas close to the Uruguay river shore, linking the riverine forest and the grass communities.

Associations with one predominant species and low individual density.



Species that we can find...

- ✓ Black mesquite | *Prosopis nigra*
- ✓ Ñandubay | *Prosopis affinis*
- ✓ Espinillo | *Acacia caven*

RAVINE FOREST



Forest with subtropical characteristics
and high density of tall species.

Highest biodiversity in the North.

Species that we can find...

- ✓ Laurels | *Ocotea acutifolia*
- ✓ Palo de jabón | *Quillaja brasiliensis*
- ✓ Camboatá | *Cupania vernalis*
- ✓ Queen palm | *Syagrus romanzoffiana*

PALM GROVES

✓ *Butia odorata*
(Southeast)

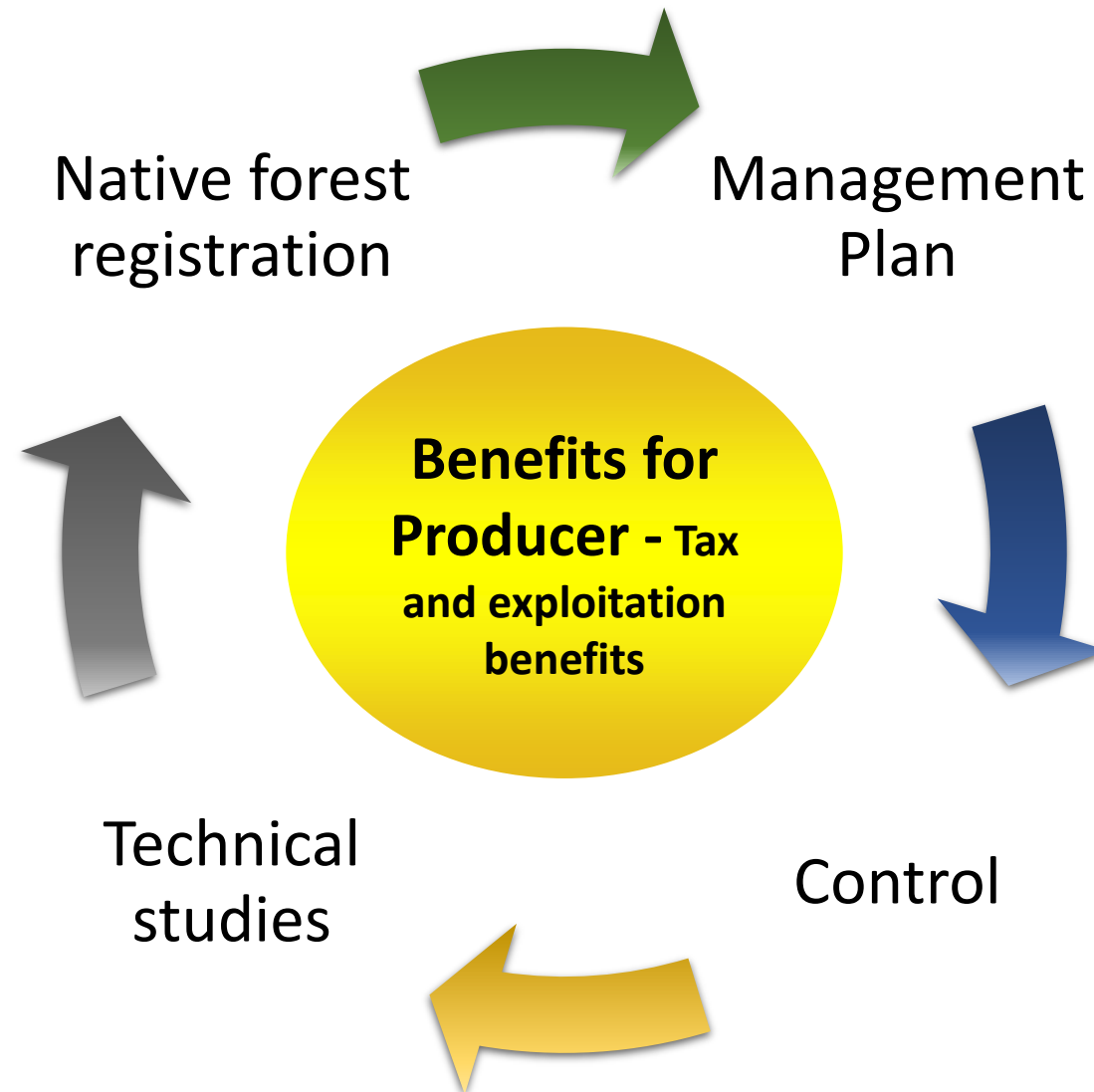
✓ *Butia yatay*
(Northeast)

No young specimens

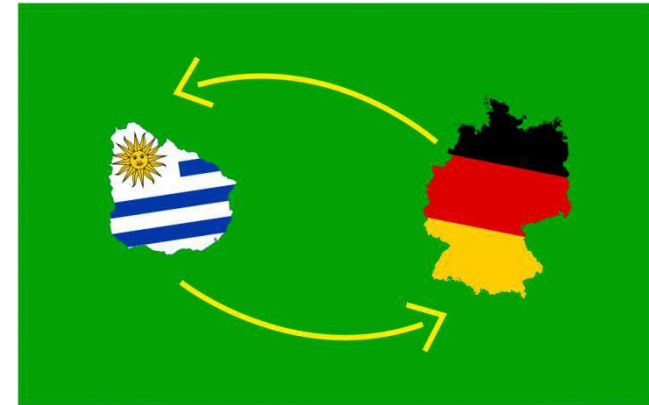
200 to 300 years of
age



CONSERVATION MANAGEMENT



MARCH 2015 - MARCH 2018



Main areas of work

1. Forest information system
2. Seeds of known origin, germplasm bank
3. Restoration of degraded/deforested forests
4. Management Plan
5. National Native Forest Strategy
6. Academic training, trials, “forest backpack”

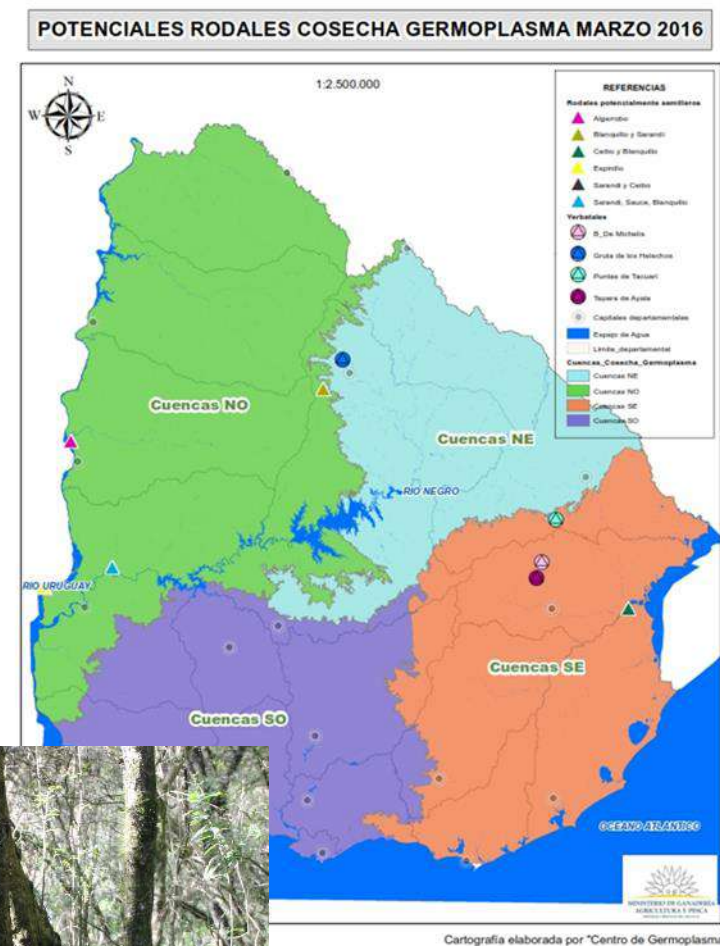
1. FOREST INFORMATION SYSTEM

- National Forest Inventory (NFI) Analysis
- Database structure to unify the three NFI stages with OpenForis
- Data analysis in three basins
- Digitization of 3 basins based on folders, management plans and historical records with an established methodology
- Virtual server installed OpenForis PostgreSQL and PostGIS

NFI data entered in a database so they can be processed

2. SEEDS OF KNOWN ORIGIN

- Identification of seed production areas
- Availability of seedlings of native species of known origin in ecozones
- Rooting and plant propagation trials
- Germplasm centre
- Data Sheets



2.2. *Sebastiania schottiana* (SARANDÍ COLORADO)

Distribución: Característico de América del Sur subtropical, desde el sur de Brasil, noreste de Argentina y todo Uruguay. Característico de todos los bosques ribereños del país, localizándose en las zonas más cercanas a los cursos de agua a modo de matorrales.

Hábito: arbusto que alcanza los 2 a 3 metros de altura. Muy ramificado, y sus ramillas castaño-rojizas son agudo-espinosas.



Hojas: En foliole caduco, verde claro y opaco. Hojas simples, alternas, discoloras, papiráceas, láminas lanceoladas a espatulolanceoladas, nervadura principal marcada, margen entero y base cuneada. Pecíolo muy corto, amarillento.



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Flores: Solitarias o en grupo. Cuando forman inflorescencias son espigas delgadas de hasta 3 cm de largo, terminales, situándose las masculinas hacia el ápice de las mismas y las femeninas, en menor número, hacia la base. Flores blanquecino-amarillentas, las masculinas con 3 estambres, las femeninas con ovario pubescente con seis cuernos característicos.



Fruto: Cápsula globosa de color castaño amaranado al madurar, de 0,7 cm de diámetro, generalmente con seis cuernos en la parte media, partiéndose en tres cocos bivalvos con pocas semillas.



Fenología: floración en setiembre y octubre, fructificando de noviembre a marzo, dependiendo del sitio y el año.

Propagación: Mediante semillas y estacas, siendo una especie muy destacada para la fijación de márgenes de cursos de agua, siendo capaz de resistir fuertes corrientadas, teniendo una gran capacidad de acodo por su ramaje horizontal.

3. RESTORATION OF DEGRADED FORESTS

- Identification of four degraded/deforested areas
- An area of study with Invasive Alien Species (IAS)
- Restoration with and without livestock
- Natural regeneration
- Enrichment test

300 ha suffering degradation with scientific trials

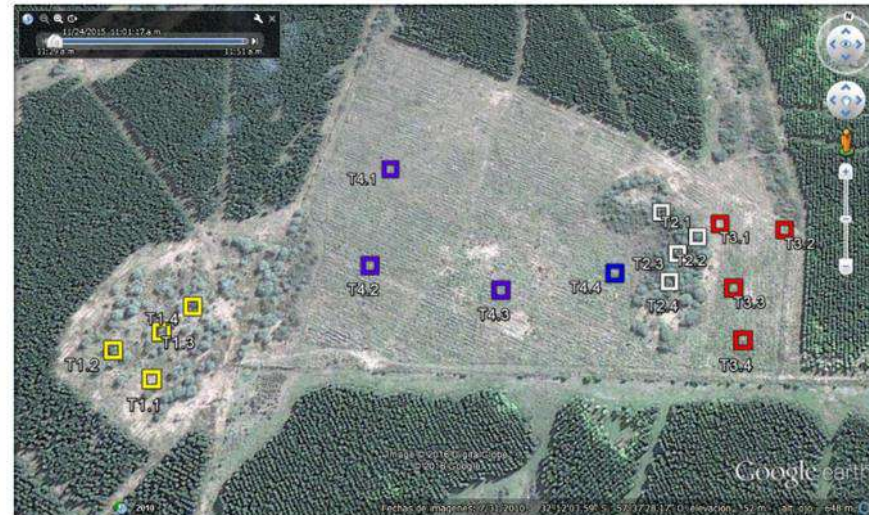


Figura 5. Localización de las 16 parcelas (20x20m) instaladas en el Ensayo Queguay 1. Se indican con diferentes colores los distintos tratamientos evaluados.

4. MANAGEMENT PLAN

Information on forest status and management

- Review and digitalization of basins, folders and management plans (3 basins)
- Field visit protocol
- New instructions
- Preliminary definitions of forest, advances, secondary forest, degradation
- Silvicultural treatments
- Native forest manual



5. NATIVE FOREST STRATEGY

Goal

Short, concise strategy for “politicians”, with a more detailed action plan

Next Steps

- Public Workshop 22.11.2017
- Drafting the strategy
- Launched in March 2018

Vision

Native forests and their biodiversity are conserved and sustainably managed and provide multiple environmental goods and services

Mission

Uruguay, through the General Forestry Directorate of the Ministry of Livestock, Agriculture and Fisheries, will coordinate efforts to conserve, restore and sustainably manage native forests by promoting joint actions and strategic partnerships between the civil society, the private sector and the public sector at local, national and international levels.

6. ACADEMIC TRAINING

Topics under study

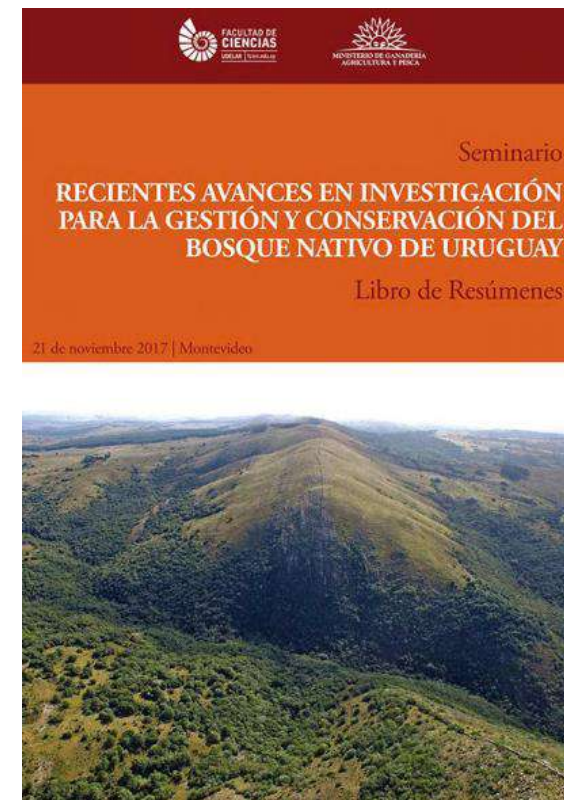
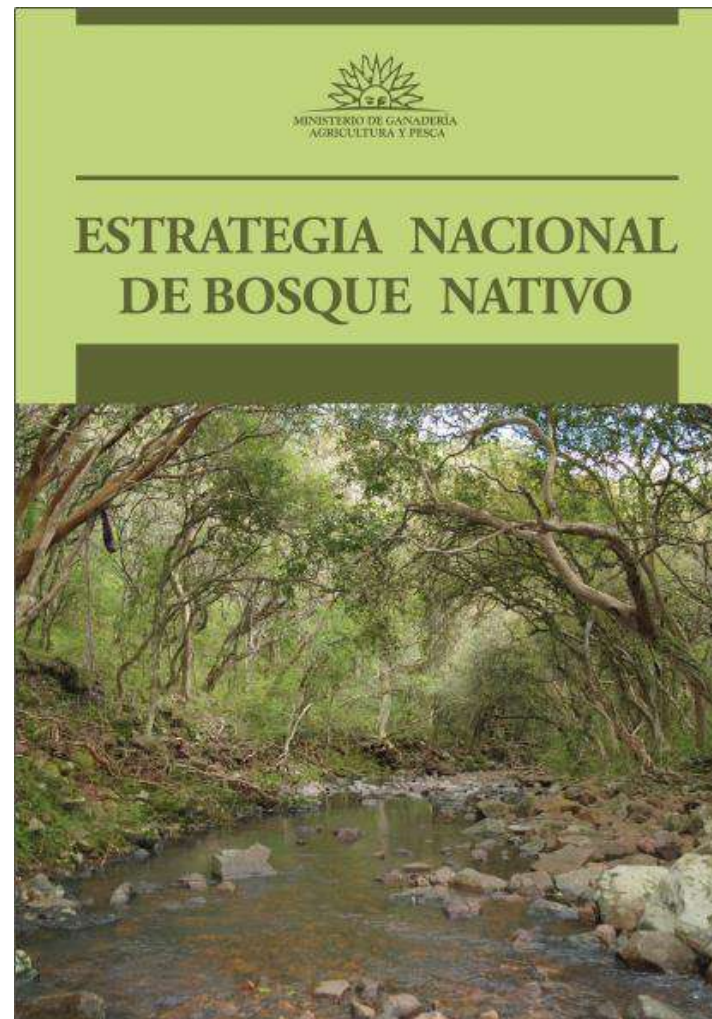
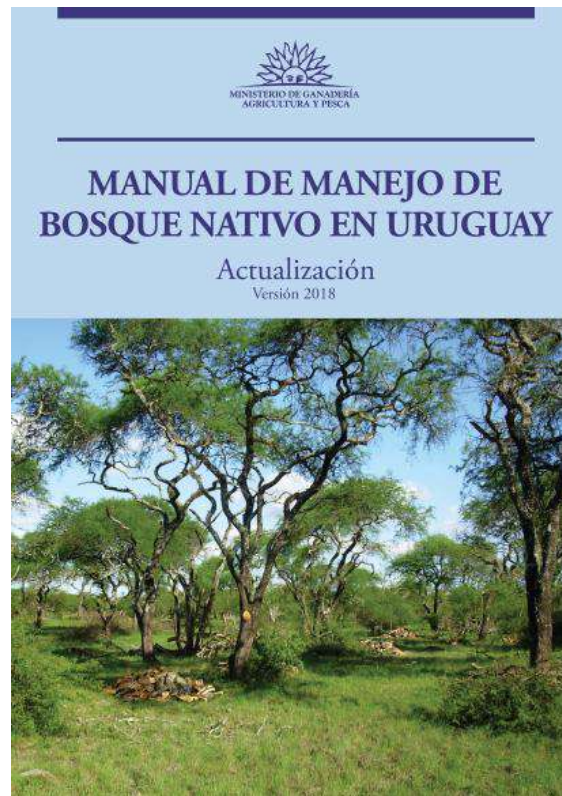
- Increase rates for 3 species
 - Restoration trials
 - IAS Control
 - Forest Ecosystemic Value
 - Low-mountain range forest regeneration and invasion
 - Effect of livestock on forest expansion on grassland
 - Basin digitalization and NFI data analysis
 - Evolution of the native forest in the Santa Lucia basin 1985 – 2016 (Landsat)
 - RedEdge spectral band applied to native forests (IAS detection in Santa Lucia)
 - NF Characterization based on the NFI
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- “Forest backpack” course with modules for a “Conservation and Sustainable Management of Uruguay's Forests Certificate”



27 works done or in progress.

Presented to the public on 21.11.2017

TOWARDS 2030





THANK YOU!