

CHANGING MEDITERRANEAN LANDSCAPE – THE PORTOFINO CASE

T. van der Sluis & B. Pedroli

Mytilini, September 2012



*



ALTERRA
WAGENINGEN UR

Contents

- Introduction – Volante project
- Monte di Portofino Regional Park
- Research objective
- Methods
- Results
- Conclusions, discussion and recommendations

VOLANTE

VISIONS OF LAND USE TRANSITIONS IN EUROPE



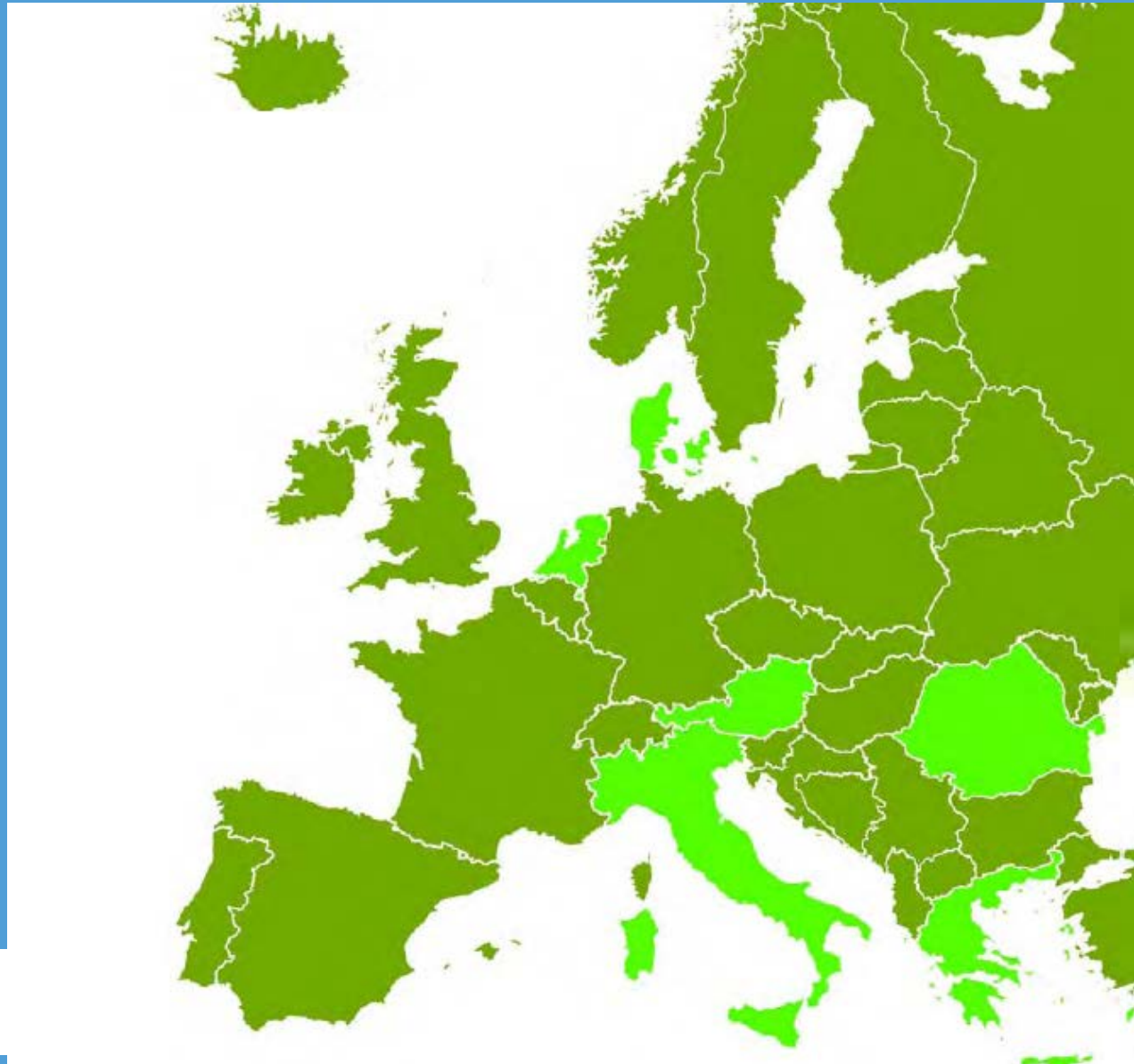
ALTEERRA
GREEN WORLD RESEARCH

www.volante-project.eu



VOLANTE project

- Netherlands
- Denmark
- Austria
- Romania
- Greece
- **Portofino**



Monte di Portofino regional park



Monte di Portofino



ALTERRA
WAGENINGEN UR

Monte di Portofino



ALTERRA

WAGENINGEN UR

Monte di Portofino

- Natura 2000 area
- Some endemic species
- Rare fauna (birds, amphibians)



Monte di Portofino



ALTERRA

WAGENINGEN UR

Monte di Portofino

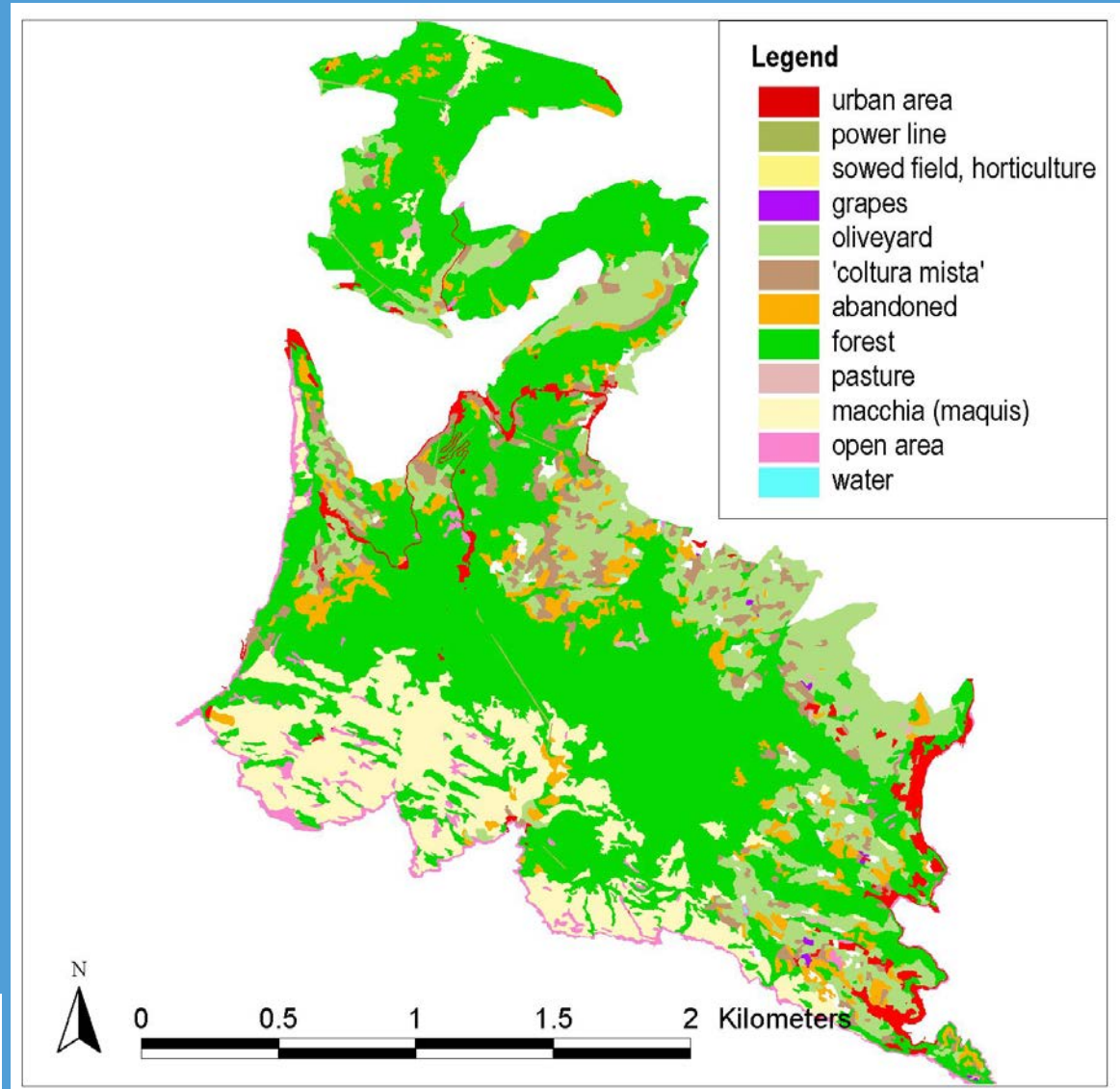


ALTERRA

WAGENINGEN UR

Monte di Portofino

Vegetation
consisting of: forest,
agricultural area,
dry macchia
vegetation



Monte di Portofino – ecosystem processes



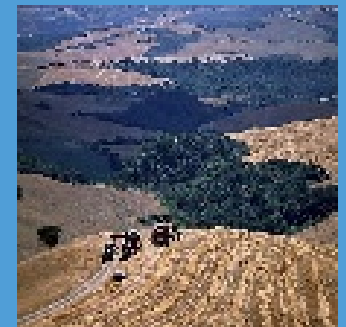
Macchia vegetation
Fire
Aspect



Forest vegetation
Wild boar
Soil depth

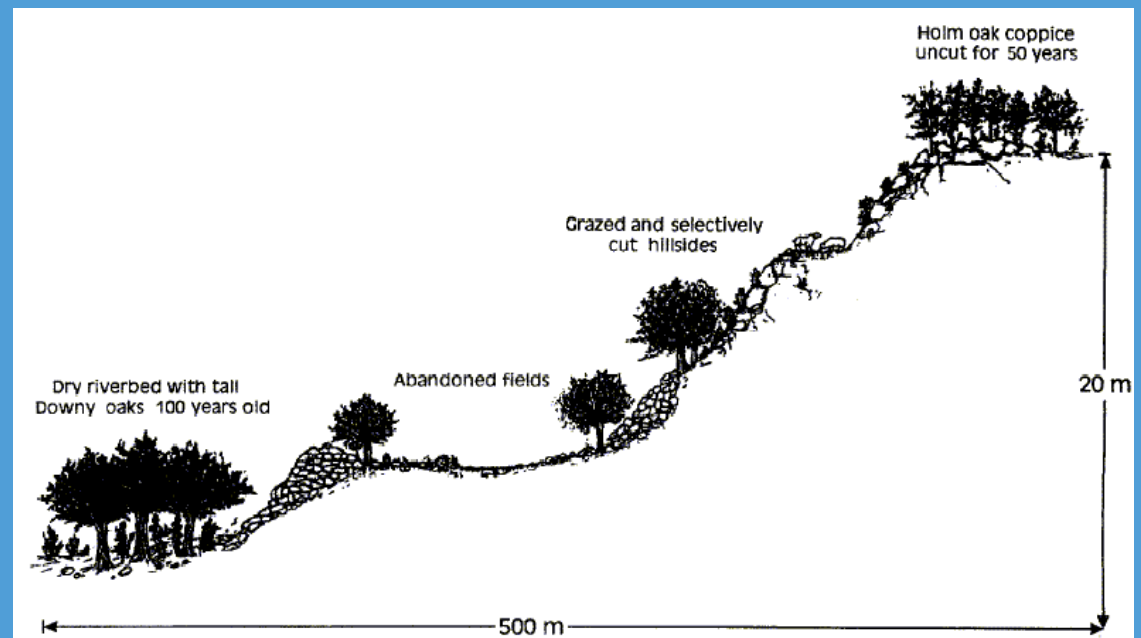


Cultivated land:
Intensity of cultivation
Management
(van Doorn 2001)



Monte di Portofino – ecosystem processes

Mediterranean landscape was modified by man for centuries



Landscape change: loss of biodiversity

More homogeneous habitats

specific habitats & species
disappear (stone walls, grasslands,
agricultural fields)

species can not grow under dense
forest canopy

management changes

fragmentation vs. homogenisation



ALTERRA

WAGENINGEN UR

Traditional farming - landscape conservation

Conflicts exist between local residents, farmers especially,
and the Ente del Parco:

Conflicts result in limited local acceptance of park



Traditional farming - landscape conservation

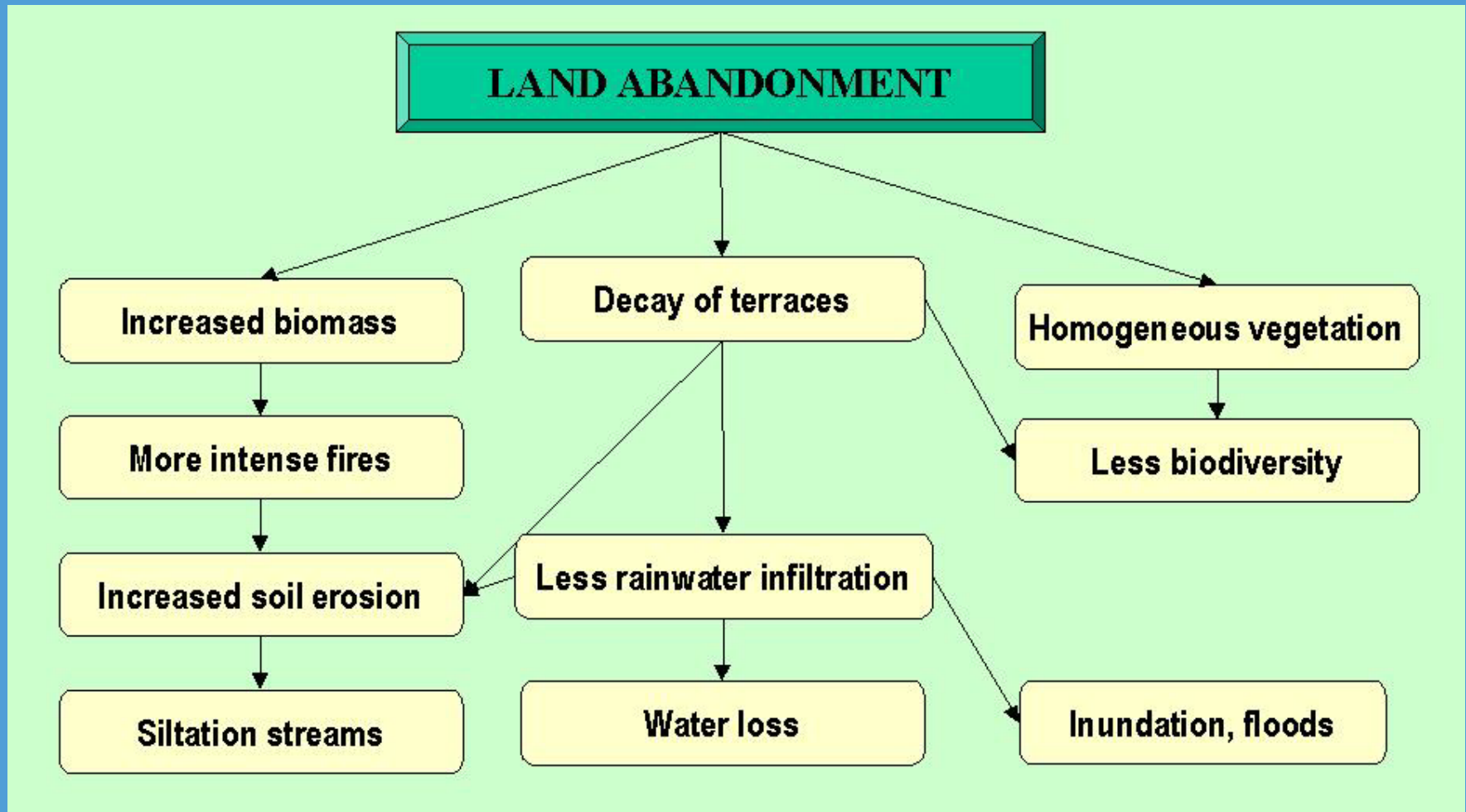
Alternative income and opportunities in other sectors leads to Land abandonment

Lack of maintenance results in loss of biodiversity, decay of terraces, and homogeneous landscapes



ALTERRA
WAGENINGEN UR

Traditional farming - landscape conservation



Research methods

- Historical document analysis
- Landscape ecological survey
- Farmers interviews (1999 and 2012)
- Farmers group meeting
- Resource mapping
- Land use mapping 4 periods from 1936 onwards



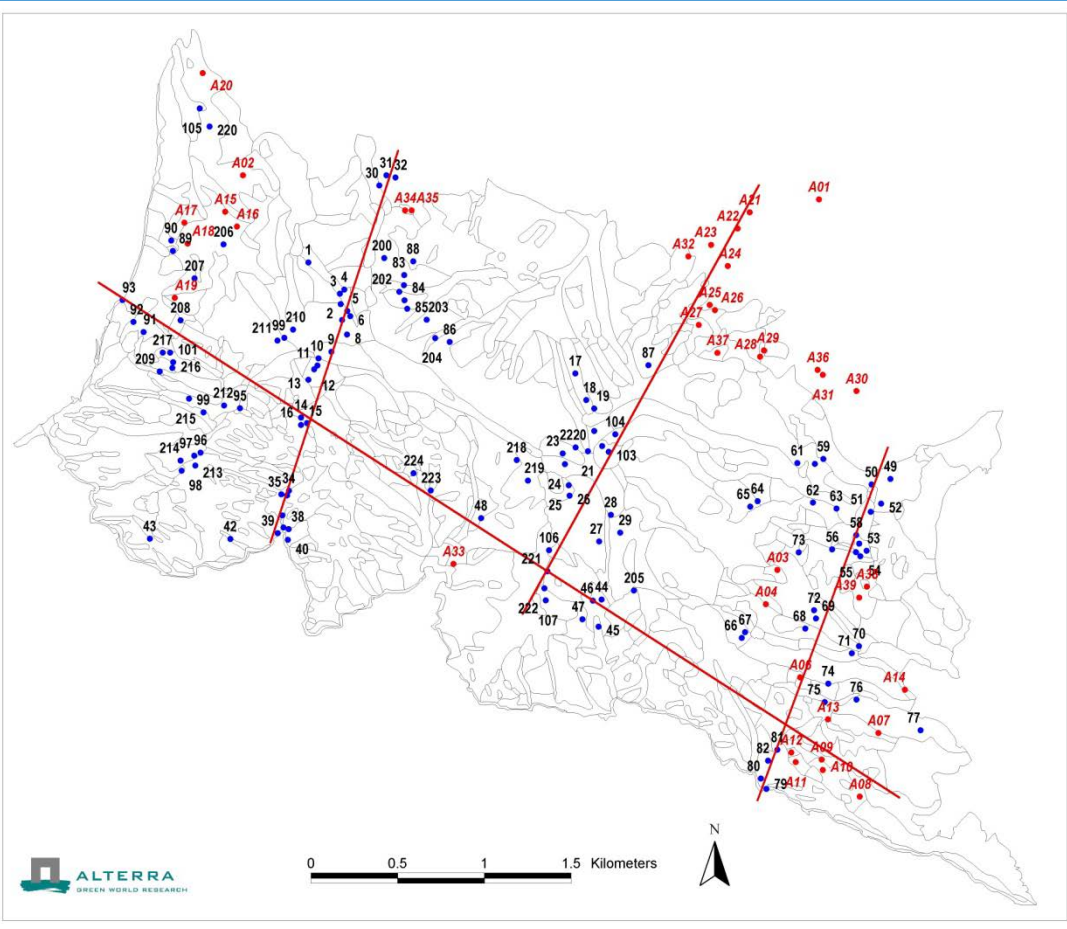
Interdisciplinary research!



ALTERRA
WAGENINGEN UR

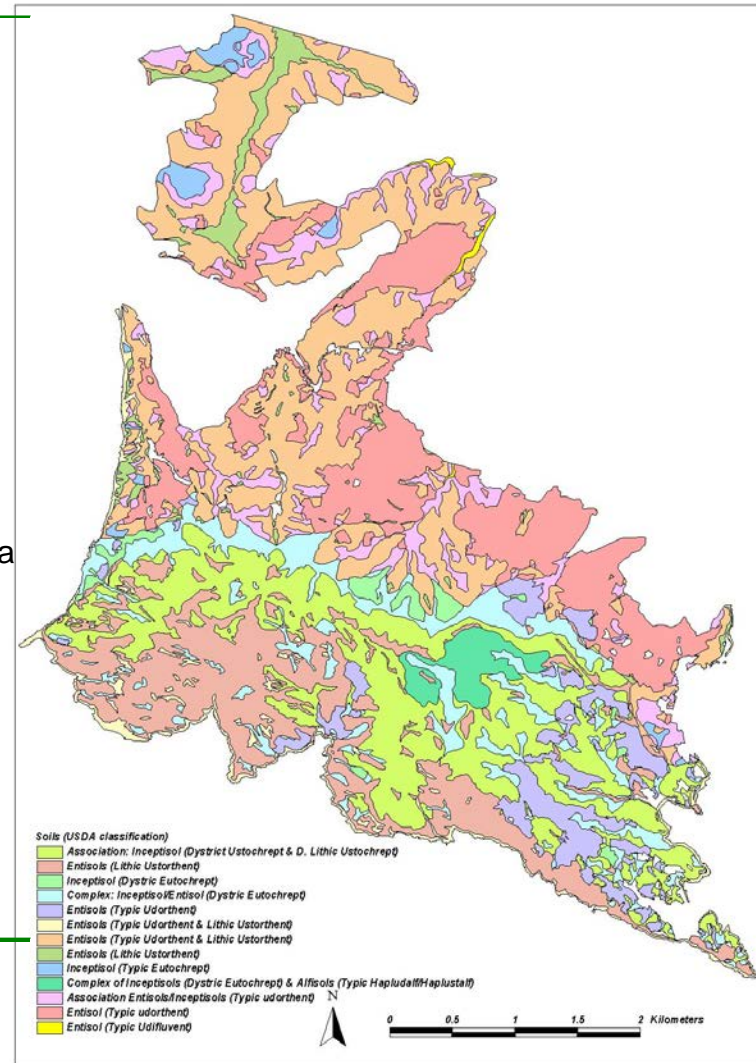
Landscape ecological Survey

Fieldwork ALTERRA during 1999, 2000 and 2001: 140 releves
Park and bufferzone survey



Research: Resources mapping

Data	Scale	Compiled by:
Physical data:		
geology	1:5,000	GEOMAP
geological units	1:10,000	GEOMAP
fractures	1:10,000	GEOMAP
geomorphology	1:5,000	GEOMAP
Digital Terrain Model	1:5,000	GEOSYSTEMS
pedology	1:5,000	Studio Pancaro
lithology	1:5,000	Studio Pancaro
hydrology	1:5,000	GEOMAP
hydro-geology	1:5,000	GEOMAP
hydrographic network	1:5,000	GEOMAP
risks	1:5,000	GEOMAP
Biotic data:		
Vegetation	1:5,000	University of Genoa
Fauna	1:10,000	Studio Pancaro
Landscape ecology	1:5,000	ALTERRA
Land Use data:		
present land use (2000)	1:5,000	GEOMAP
historical land use (1936, 1954, 1974, 1991)	1:10,000	GEOMAP
wildfires	1:5,000	GEOMAP
paths and trails	1:5,000	GEOMAP
historical features	1:5,000	GEOMAP
administrative boundaries	1:5,000	GEOMAP

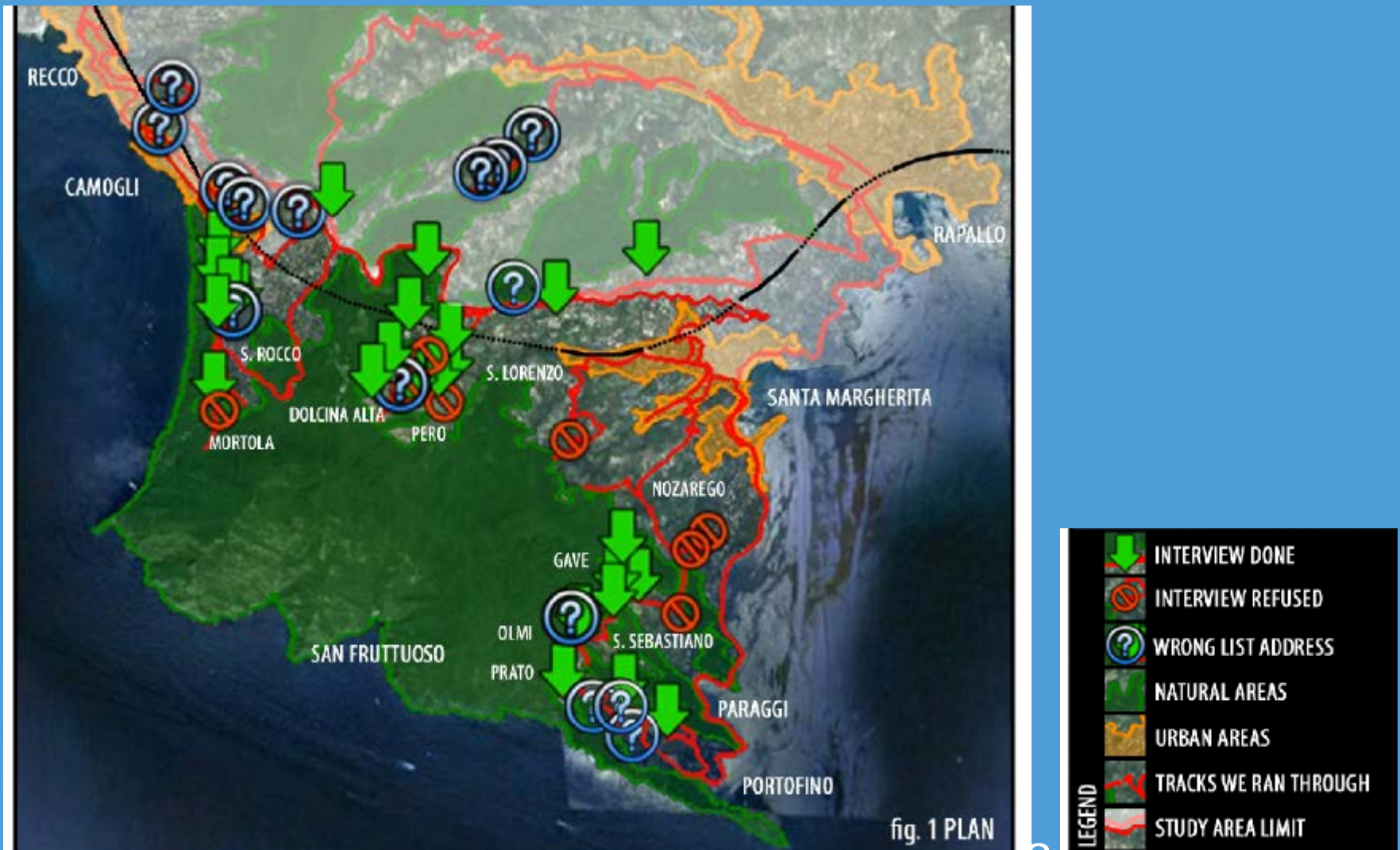


Interviews (1999)

- Interviews in 1999: 28 respondents
- Most farmers beyond retirement age
- Farmers hesitant in revealing information
- Conflicts with the Regional Park
- Reported problems with wild boars
- Management of the park is put into question
- Less wildlife, decline of biodiversity
- Stability of slopes has declined, due to lack of maintenance



Interviews (2012)



Dates: 23/02 – 27/02 – 28/02 – 01/03 – 7/03

Interviews (2012)

- 25 respondents, which is almost a 100 % coverage of active farmers
- No respondents from the previous survey were found back; only one, who was too old to participate



ALTERRA

WAGENINGEN UR

Property & Land owners

No. and characteristics of respondents

Respondent	Number (r=25)	%
Male	19	76
Female	2	8
Unknown	4	16



Property & Land owners

Property size

Size	Number (r=25)	%
< 1 ha	14	56
1-5 ha	9	36
> 5 ha	2	8



Property & Land owners

Do you have a successor for the farm?

Successor	Number (r=25)	%
No	10	40
Yes	5	20
Most likely	3	12
Don't know	3	12
Other	4	16



Property & Land owners



Income source	Number (r=25)
Agro-tourism	1
Cooperative	7
Only farm	0
Non-agricultural activity	8
Farm, with tourism, cooperative & non-agricultural activity	9

Use of subsidies

2 farmers received 'subsidy':

Subsidy scheme	Quantity
Farm equipment young people	-
Restoration dry stone walls	150 m



But: none of the farmers aware or eligible for CAP subsidies; complaints about lack of information

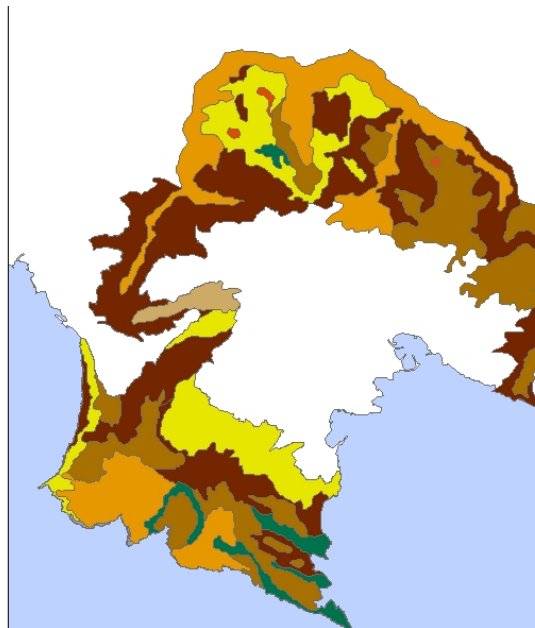


Historical land use

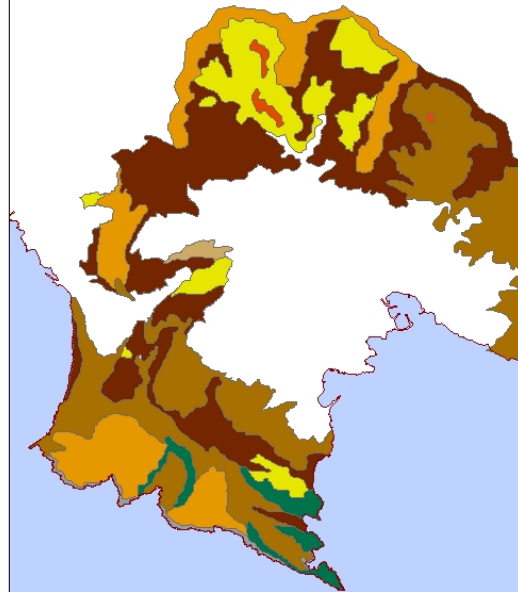
Pedroli, Van der Sluis, Tagliasacchi, in press)

legend

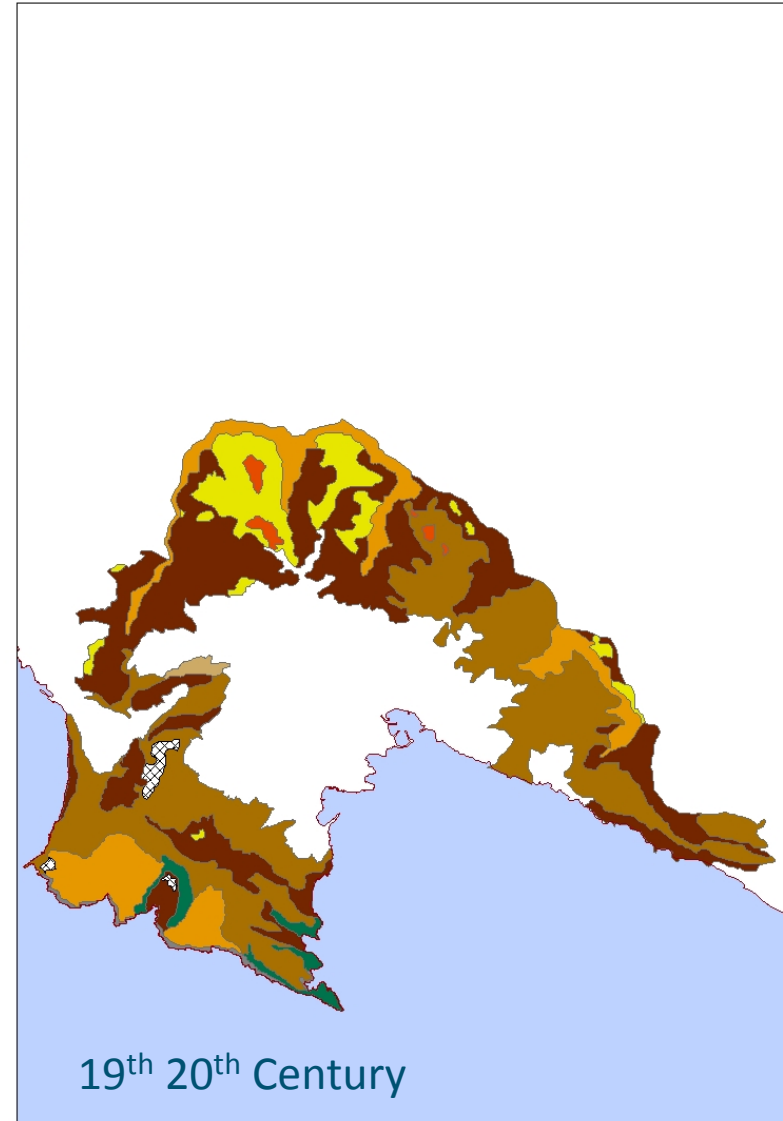
- Abandoned agriculture / Coltivazione in abbandono
- Coppice woodland = pole chestnuts / Bosco ceduo = castagneto da taglio
- Field = grain crop / Campo = coltivazione cerealicoli
- Fruit chestnuts - deciduous oak woodland / Castagneto da frutto - rovereto
- Mixed culture on terraces = olives and annual crops / Coltivazione mista su fa
- Pine groves = Pinus halepensis / Pineta = pini domestici
- Rocks / Roccia
- Vineyard / Vigneto
- Wasteland = grazing land / Gerbido o selvatico = pascolo



16th-17th Century



18th-19th Century



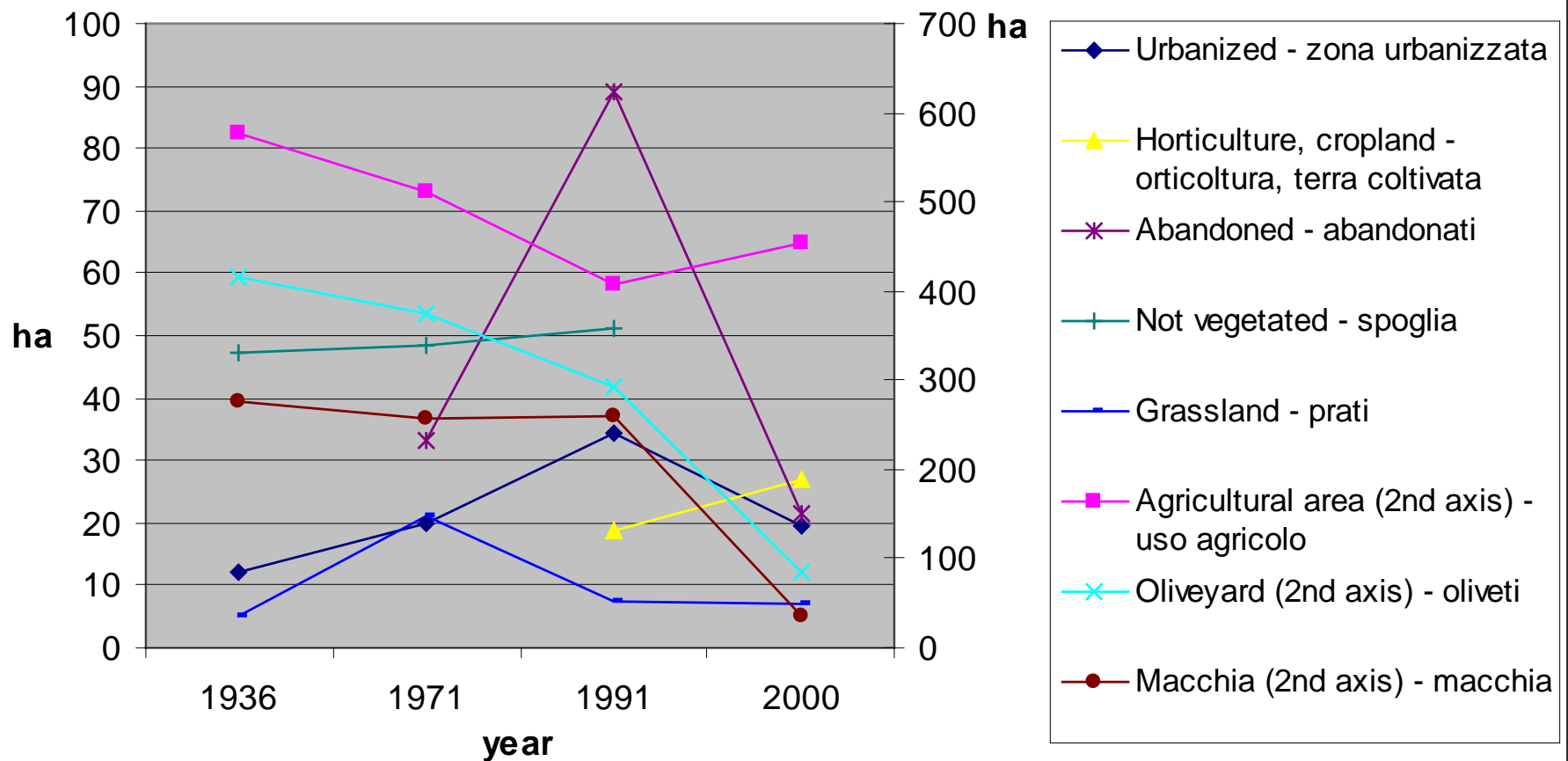
19th 20th Century

Historical land use

Statistics underline that this seems to be the end of a process of land abandonment:

- In 1936 still some 31% or 577 ha was used for farming.
- Land abandonment started after World war II (Pedroli et al, in press).
- In 1954 some 35 ha had been abandoned.
- In 2000 some 40 ha of abandoned land was registered, and in the meantime the older abandoned lands reverted to macchia or forest land.
- Current survey: 40 ha only?

Historical land use



Pedroli, Van der Sluis, Tagliasacchi, in press)

Conclusions

- Through use of many different sources of information we have been able to reconstruct the landscape and land use change in Portofino
- Portofino is iconic for many Mediterranean areas, under pressure from urban development and tourism
- Farming has almost ceased within the Portofino peninsula
- Without new functions for traditional cultural landscapes, there is no future for multifunctional agriculture

Questions ?



ALTERRA

WAGENINGEN **UR**