

FOREST INTERVENCION ZONE - ZIF

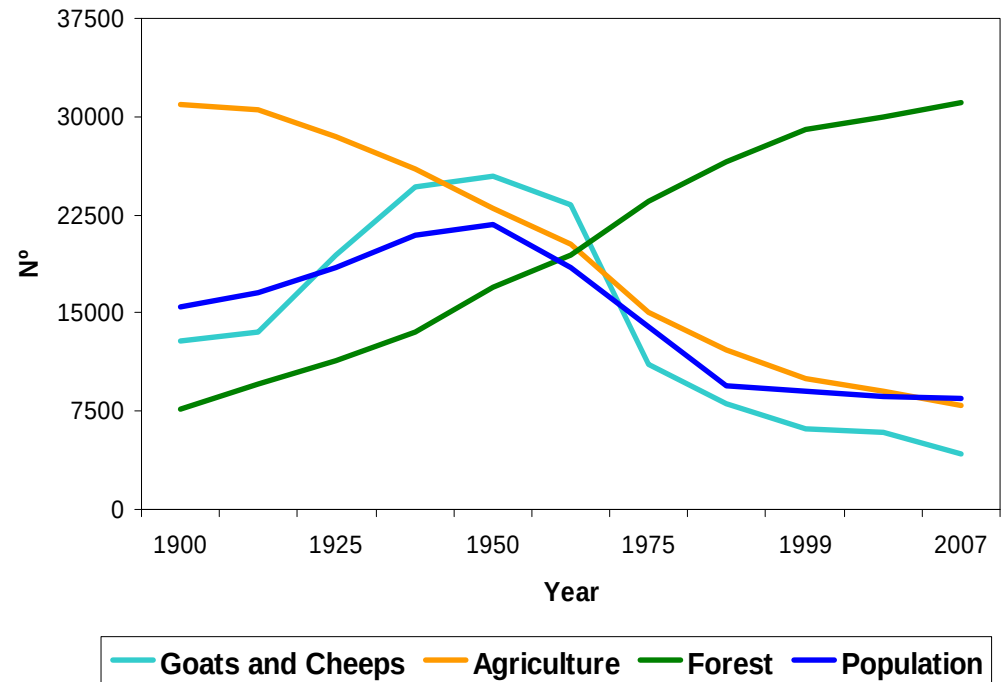
THE EXPERIENCE OF THE MUNICIPALITY OF MAÇÃO

Santiago de Compostela 24/10/2012



Occupation Evolution of Municipality of Mação

- Profitability decrease of agriculture and livestock systems
- Rural exodus and land abandonment
- Forest areas cover all territory
- The wild fires arrived



Municipality Total Area: 40.232ha

WILD FIRES











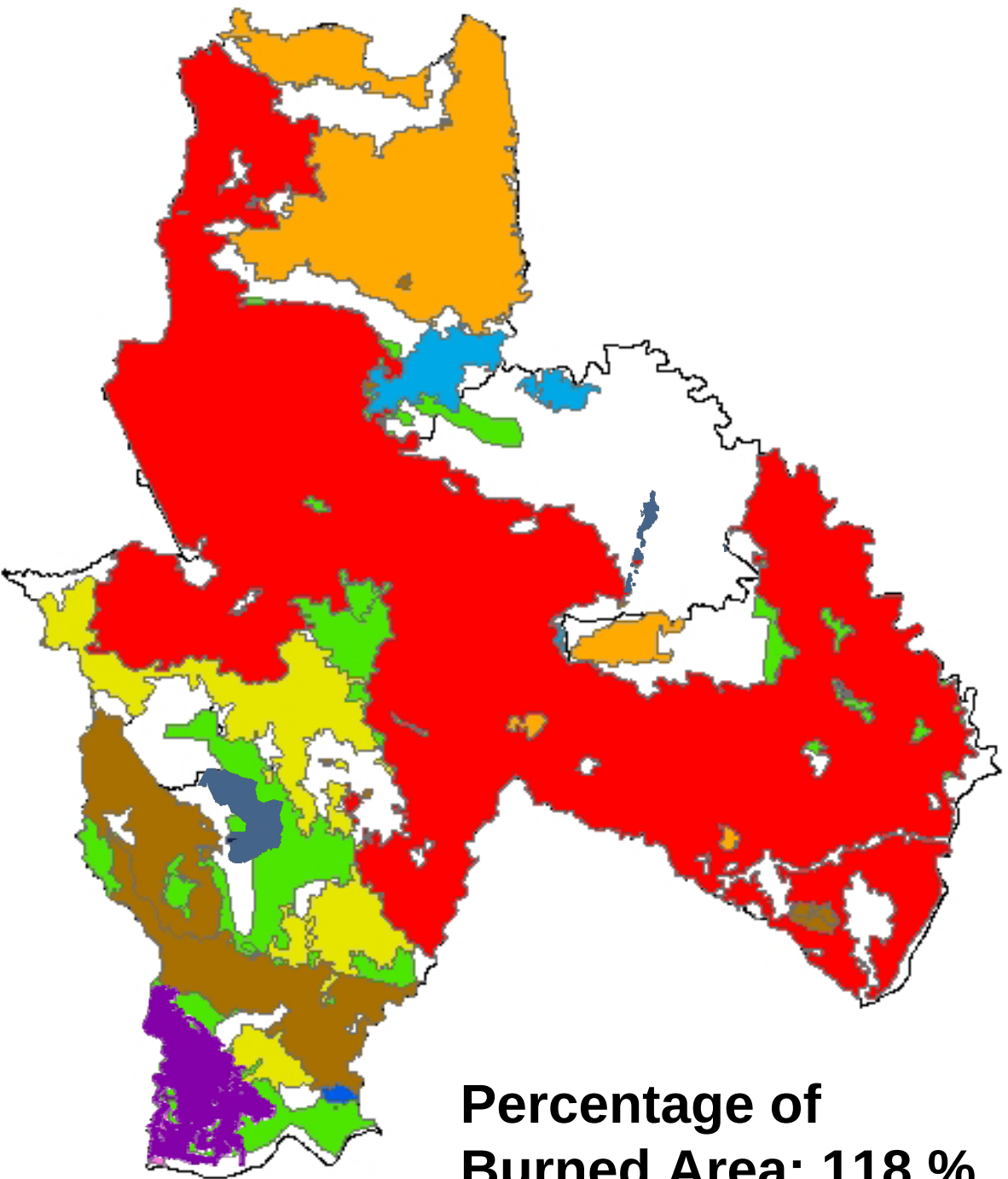






BEM VINDOS
NOSSA ^A FESTA

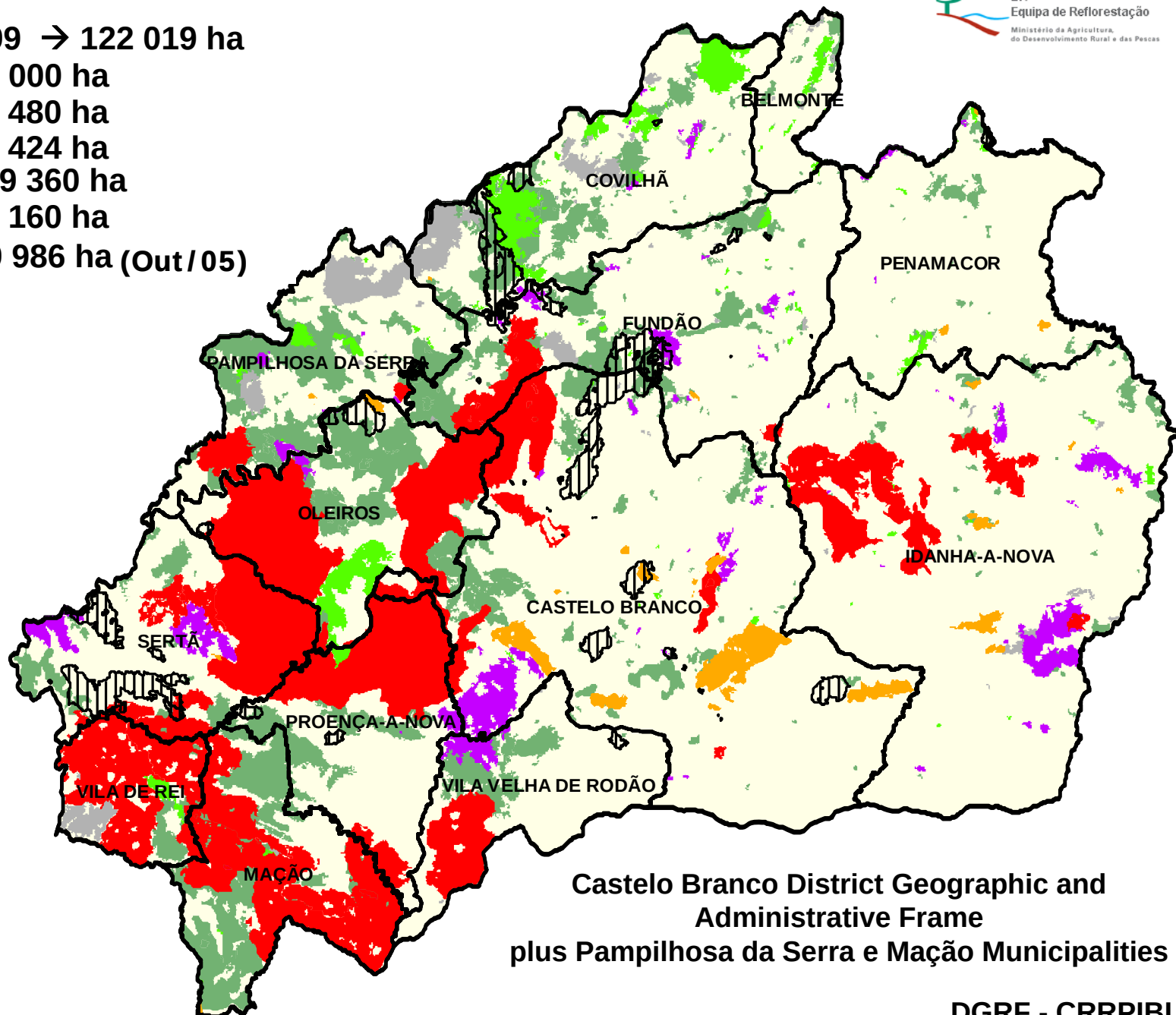
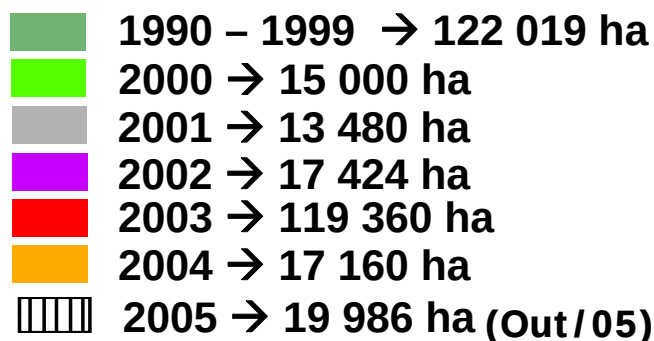




**Percentage of
Burned Area: 118 %**

1991	Nº Fires – 70
1995	Burned Area– 17 146 ha
1996	Nº Fires – 15 Burned Area– 8 ha
1997	Nº Fires – 84
1998	Burned Area– 4 127 ha
1999	Nº Fires – 65 Burned Area– 995 ha
2000	Nº Fires – 60 Burned Area– 242 ha
2001	Nº Fires – 57
2002	Burned Area– 162 ha
2003	Nº Fires – 52 Burned Area– 21.400 ha
2004	Nº Fires – 12 Burned Area– 67 ha
2005	Nº Fires – 18 Burned Area– 2 435 ha
2006	Nº Fires – 25 Burned Area– 286 ha
2007	Nº Fires – 20 Burned Area– 633 ha
15 Years	Nº Wild Fires – 9 Burned Area– 47.500 ha

Forest Wild Fires





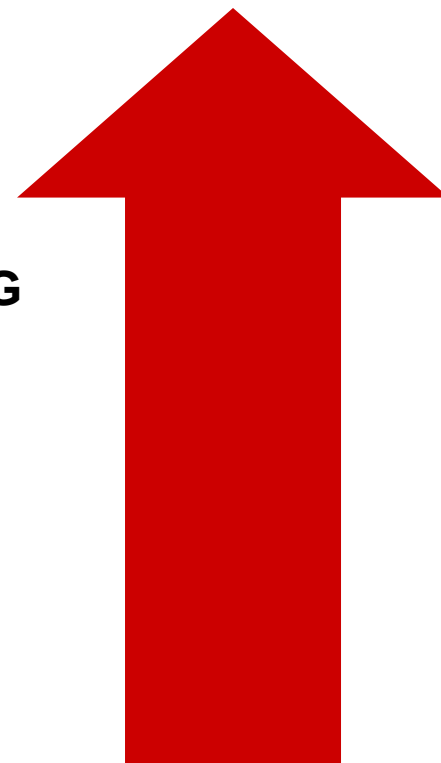
**Variation
on
Population
Pinhal
Interior Sul**

**NUTS III
(1991- 2011)**

-25 %

FUTURE?

- POPULATION**
- AGRICULTURAL AREA**
- EXTENSIVE CATTLE BREEDING**



- + WILD FIRES**
- + BURNED AREA**
- + FIRE'S PROPAGATION SPEED**

Small Size of the Properties and Population



**The population is absent and aged
There's no capacity to work and intervene in the forest**

The ZIF de Aldeia de Eiras (about 1047 hectares) has:

- 1542 properties
- 515 owners
- 0,7 hectares of average size of the property

The smallest property has 0,004 hectares

The largest property has 15,74 hectares



Of 515 owners incorporated in ZIF Aldeia de Eiras only 10% live in the area covered by the ZIF, including:

- 25% are between 15 and 64 years
- 75% are older than 64 years

Owners residents in the area of ZIF, are in the majority retired (85%)

Silvopastoral system

Grassland

Grassland

Olive trees

Orchard

Cereals

Orchard

Vineyard

Olive trees

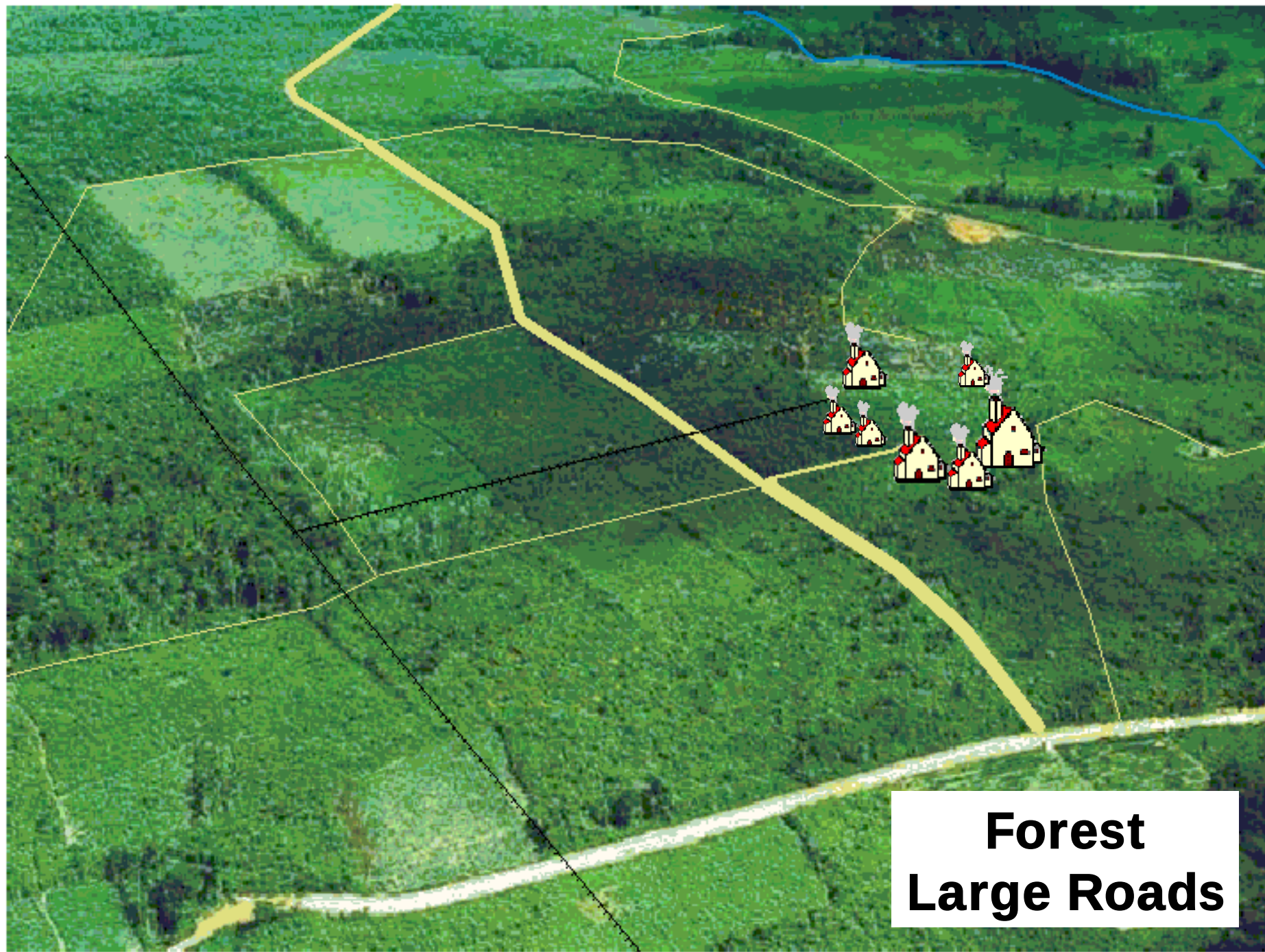
Olive trees

Vineyard

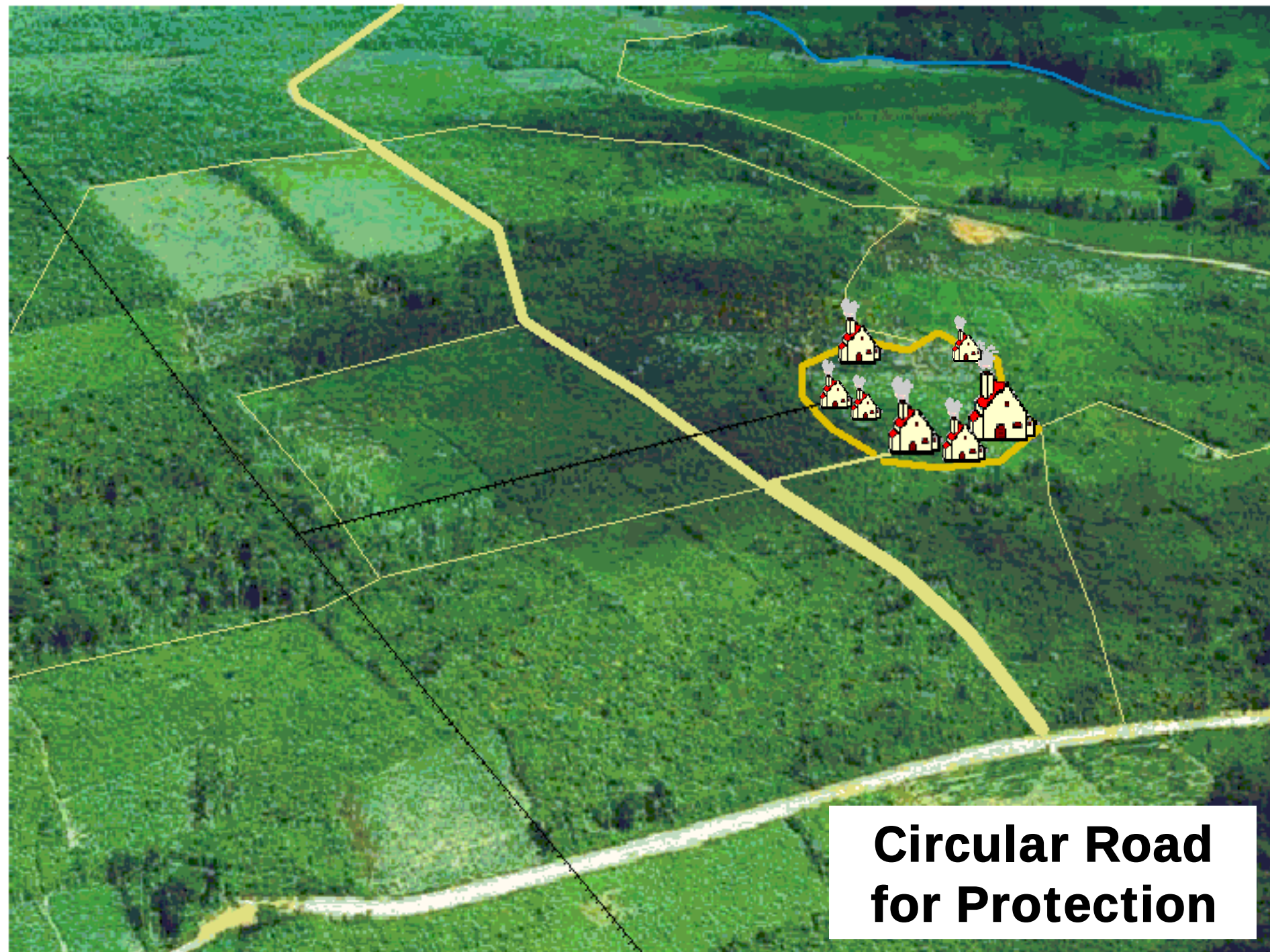




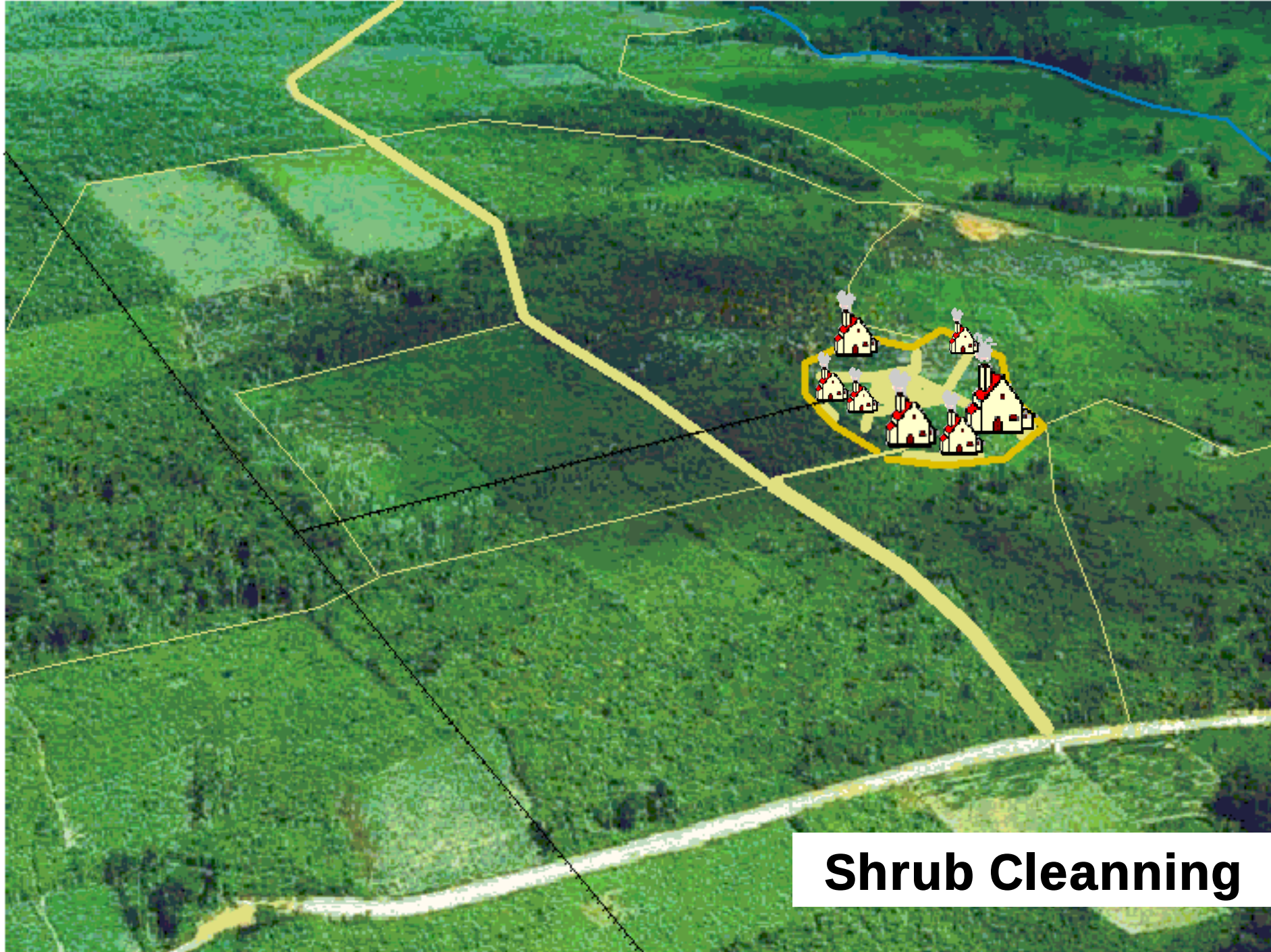




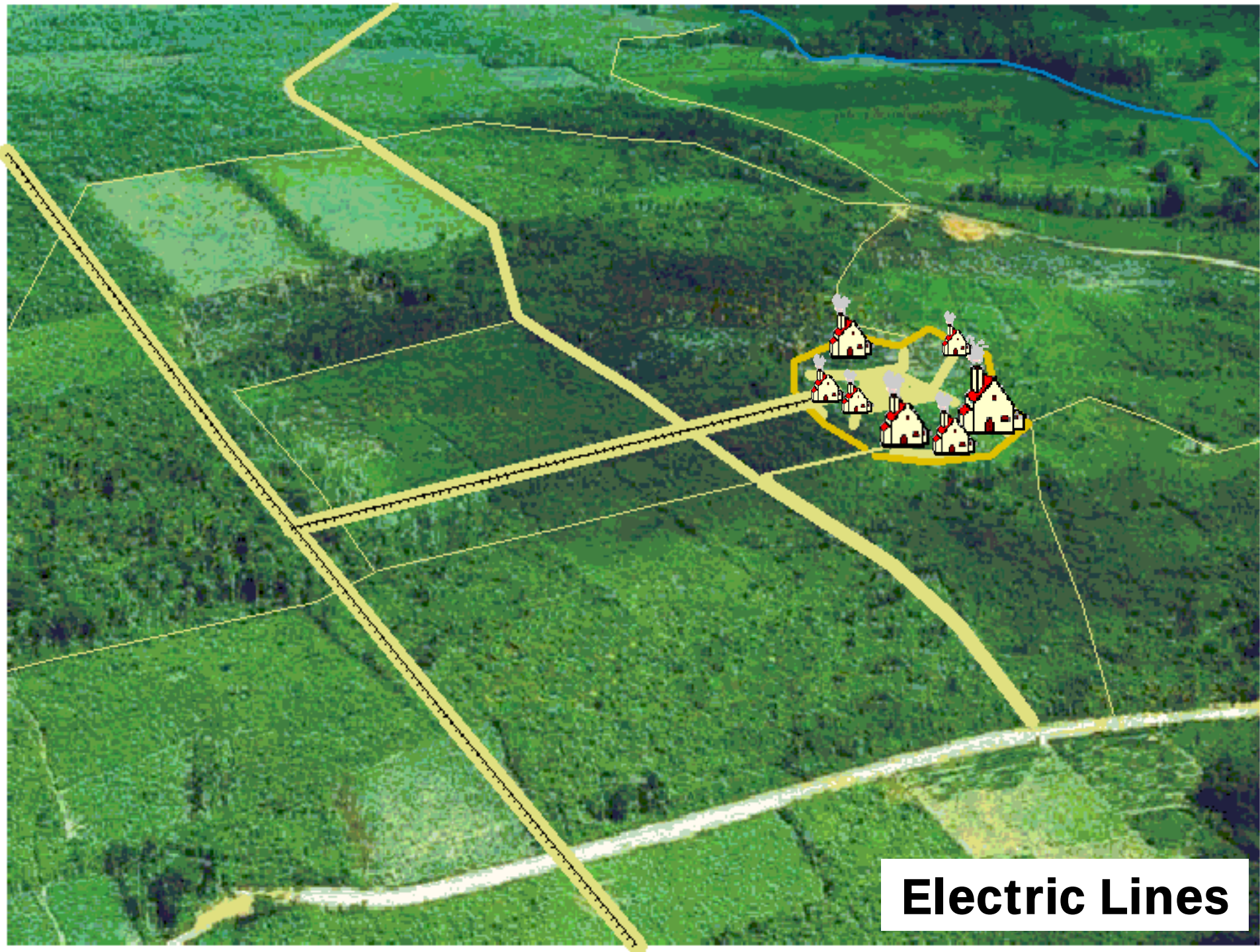
**Forest
Large Roads**



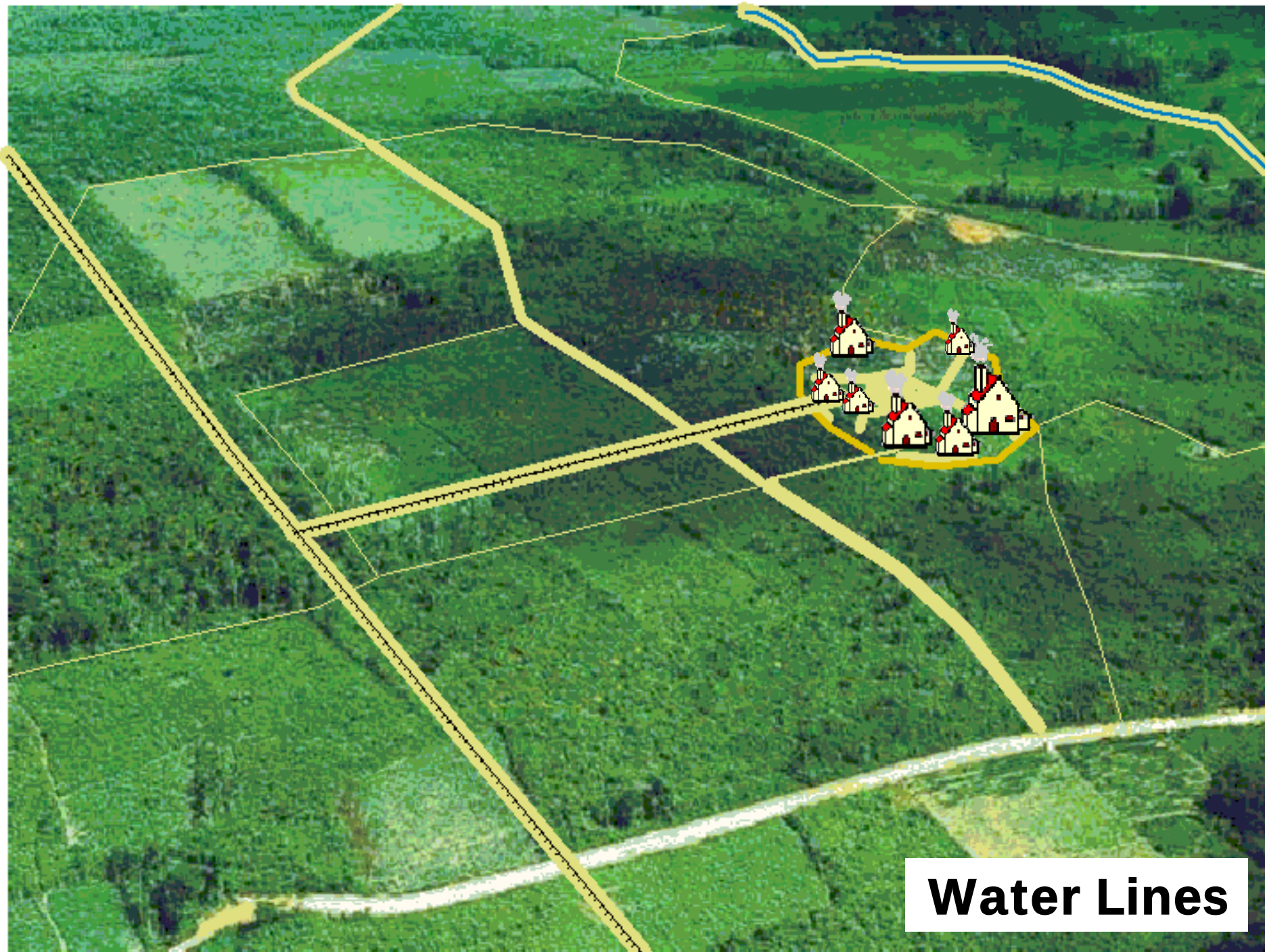
**Circular Road
for Protection**



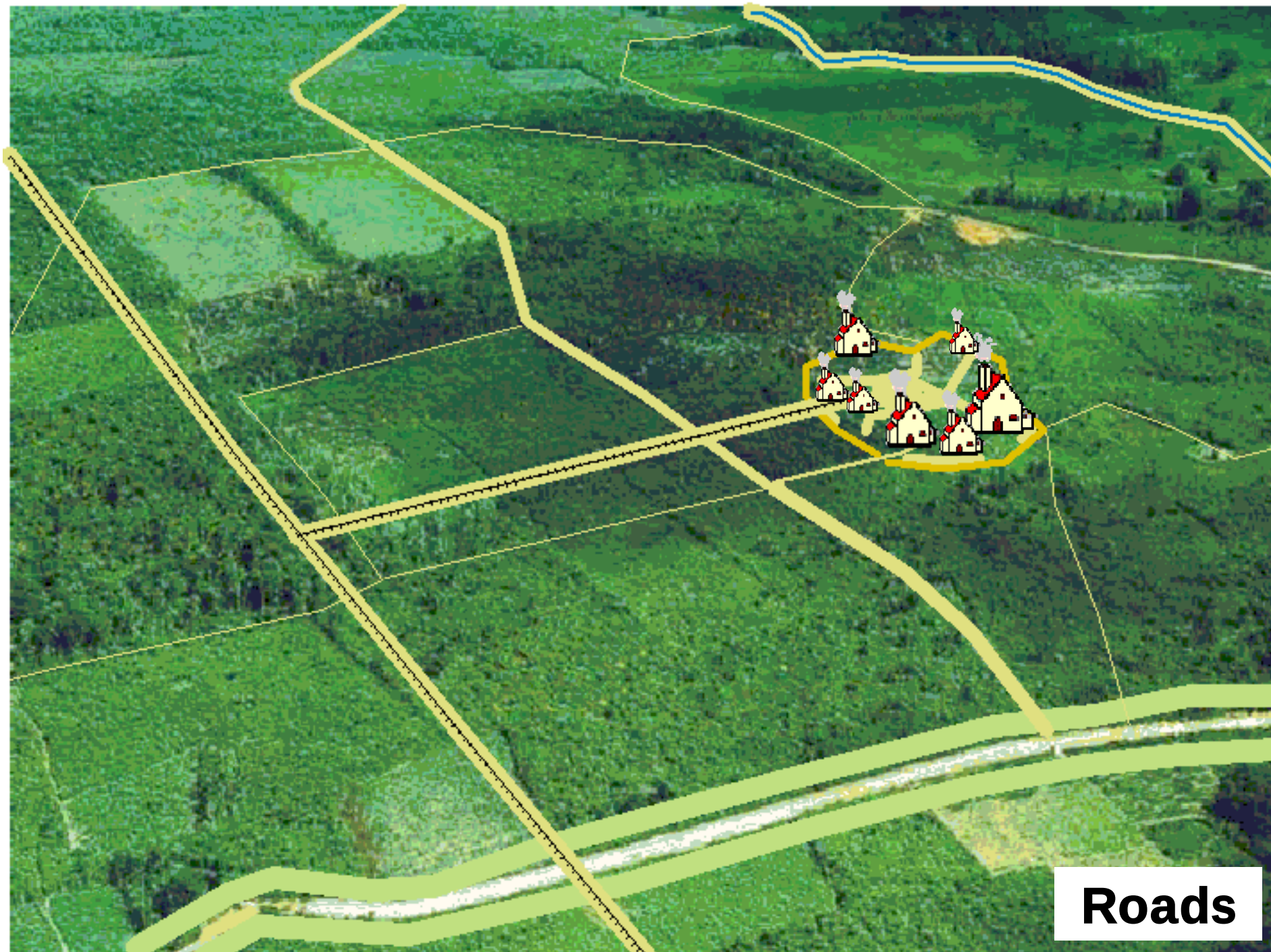
Shrub Cleanning



Electric Lines



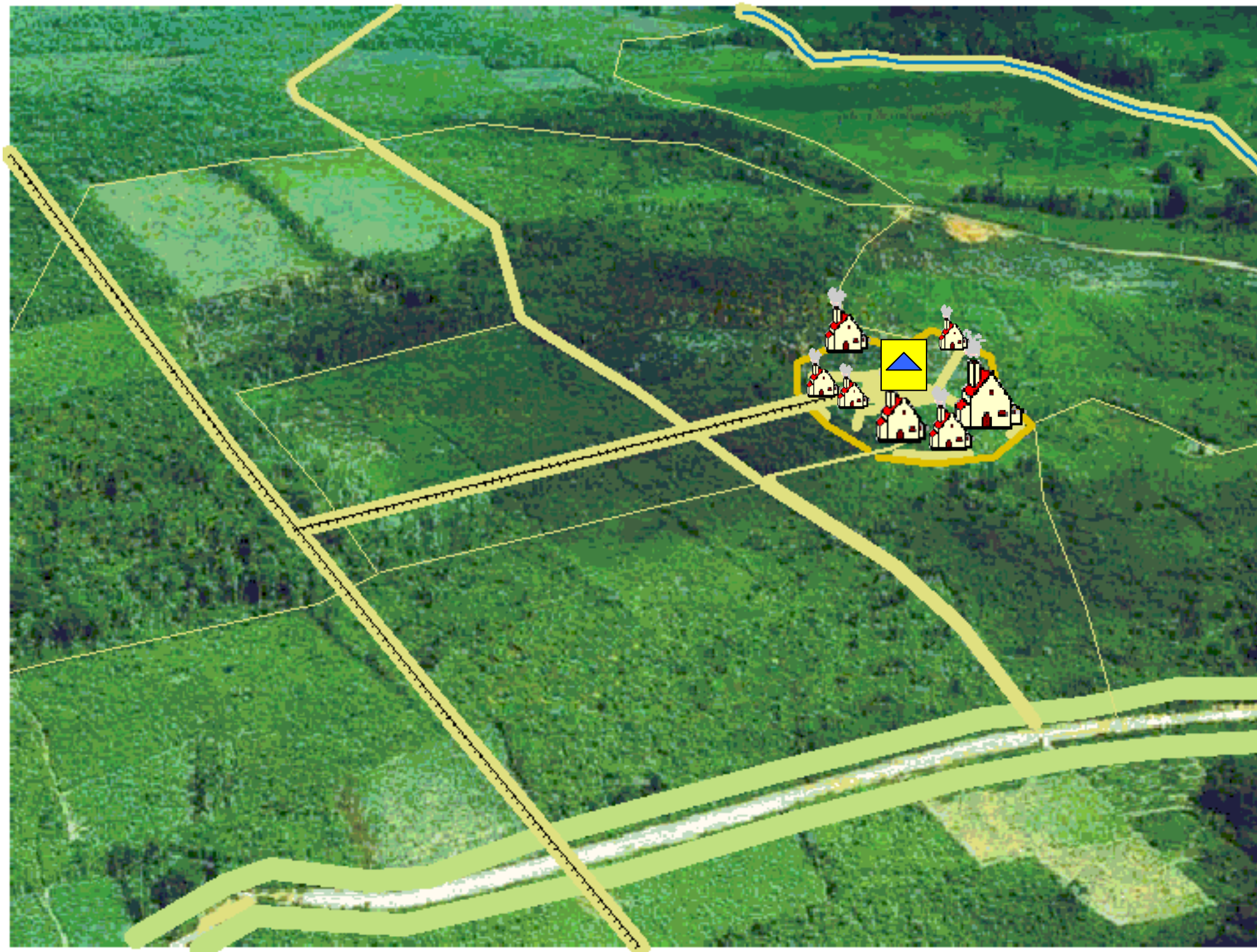
Water Lines



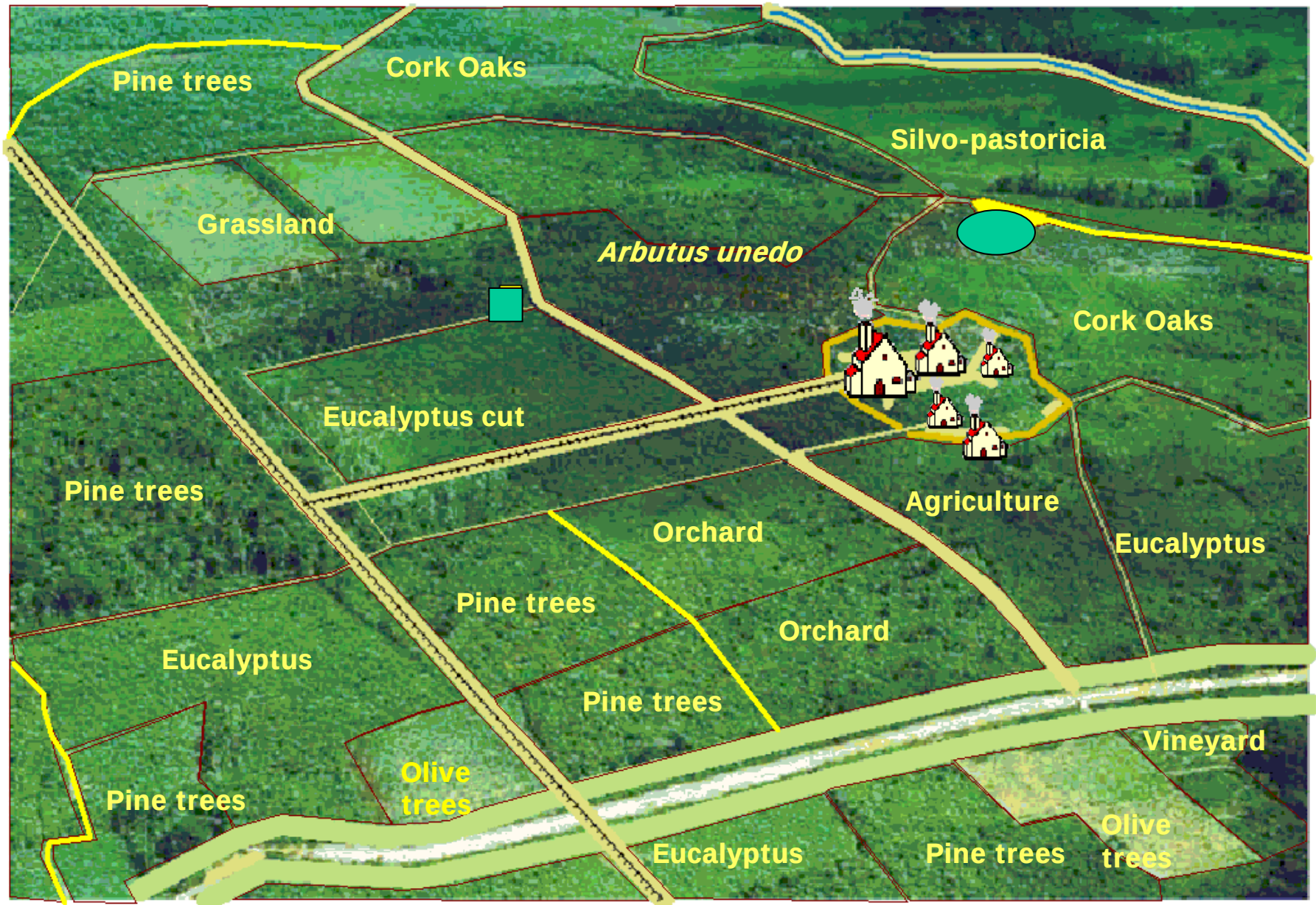
Roads



**Locating fire pumps
in the village**



Forest Intervention Zones (ZIF)

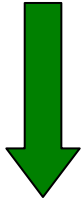


AND NOW?

And Now??



DO NOTHING!!

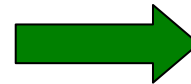


ZIF

TOTAL MANAGEMENT

- Forest
- Agriculture
- Livestock
- Beekeeping
- Olive culture
- Hunt
- Leisure

New model of
sustainable
landscape

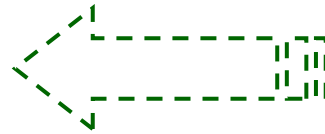


- Landscape shaped by fire
- No rentability
- No Future

- **Live Territory**
- **Productive**
- **With Income**
- **Prepared to handle climate change**

Managing Entity

Non-profit association



Directorate

AFLOMAÇÃO

General Assembly

Element of the Board of Aflomação

Forester

President

Treasurer

Secretary

Management Committee

ZIF 1

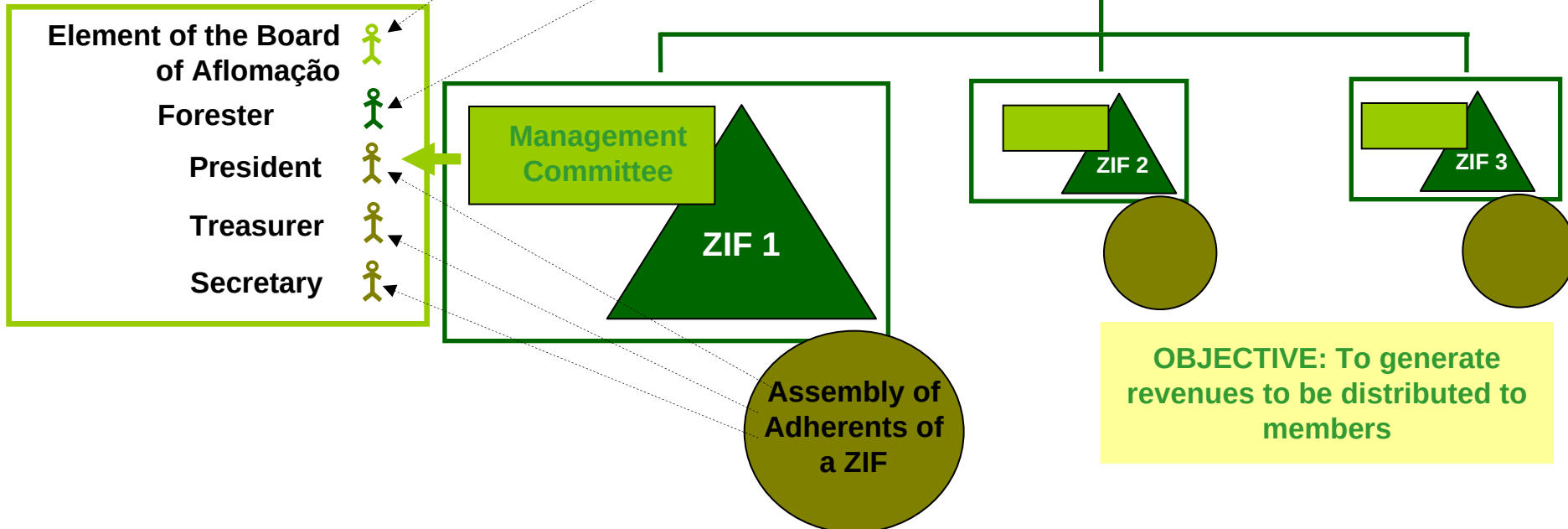
ZIF 2

ZIF 3

Assembly of Adherents of a ZIF

OBJECTIVE: To generate revenues to be distributed to members

Technical capacity
Management skills
Organized accounting
Strategic Management
Concentration of purchases and sales of products of ZIF
Resource Center

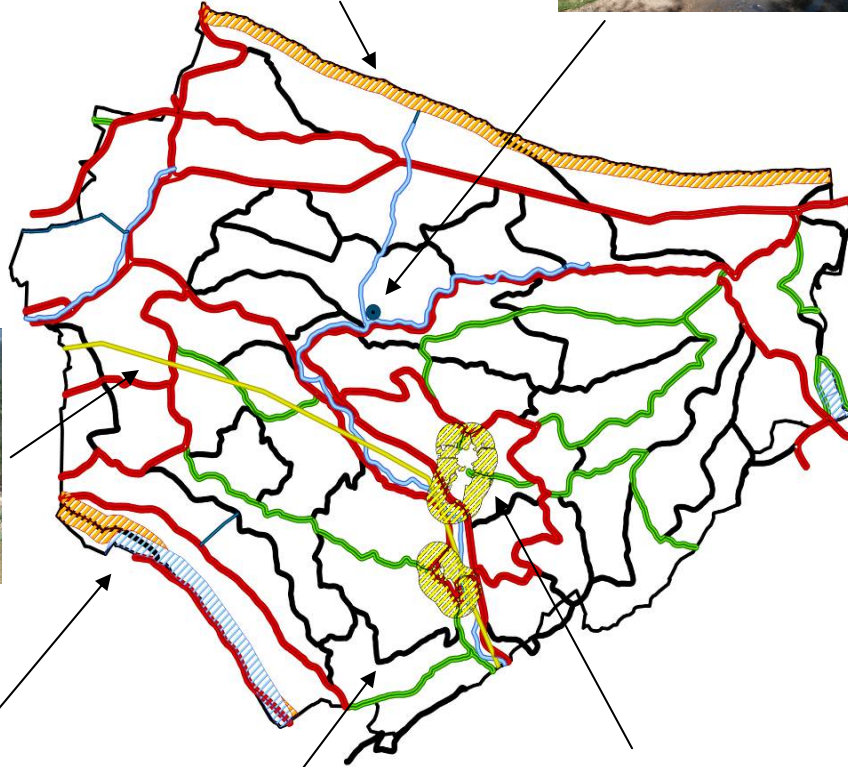


PDFCI

Defense Against Forest Fires Plan

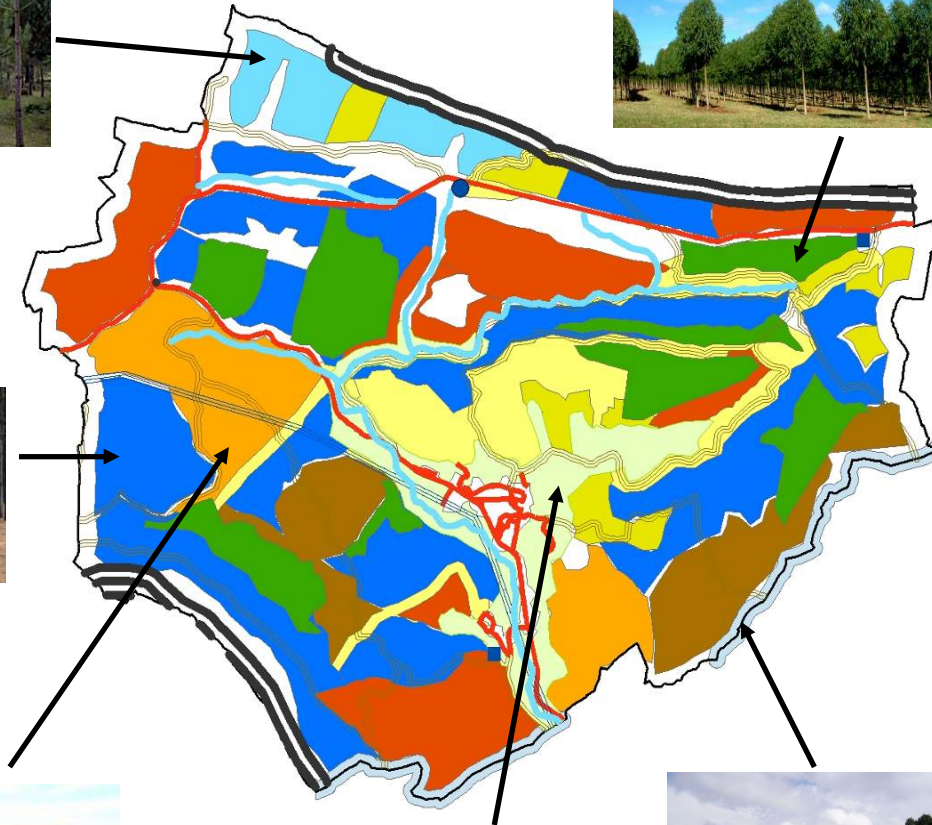
Plano Defesa Floresta Contra Incêndios

- Tomada de Água
- Faixa Baixa Densidade 1ª Ordem
- Faixa Baixa Densidade 2ª Ordem
- Faixa Baixa Densidade 3ª Ordem
- Faixas Protecção Linhas Água
- Faixas Linhas Eléctricas
- Aceiros
- Faixa Aglomerado Urbano
- Faixa Polígonos Industriais
- Rede Primária
- ZIF Aldeia de Eiras



Criteria

- Directorate of dominant winds and east winds (associated with the larger fires)
- Directorate preferential of forest fires
- Topography
- Need for partitioning of the forest areas
- Definitions and guidelines of the national laws
- Definitions and Guidelines of the instruments of national and regional planning and the protection of forests against fire
- Existing Infrastructure
- Areas with High risk of fire



Criteria

- Forest Policy of the territory
- Potential production
- Taking Advantage of natural regeneration vs Reforestation
- Ensuring the availability and sustainability of the protection zones
- Risk of fire, vulnerability to erosion and maintenance of biodiversity
- Degree of flammability and resistance of the species to fire
- Definitions and guidelines of the national laws
- Definitions and Guidelines of the instruments of national and regional planning

Budget Estimate – 1047ha (ZIF ALDEIA DE EIRAS)

Defense Against Forest Fires Plan : 310.000€

Forest	Area	Investment (€)
New Reforestation		
<i>Pinus pinaster</i>	91	195.000€
<i>Eucalyptus globulus</i>	102	180.000€
<i>Quercus suber</i>	71	136.000€
Other		200.000€
Natural Regeneration – <i>Pinus pinaster</i>	48 ha	58.000€
Reforestation		
<i>Pinus pinaster</i>	68	60.000€
<i>Eucalyptus globulus</i>	65	55.000€
Total		884.000€

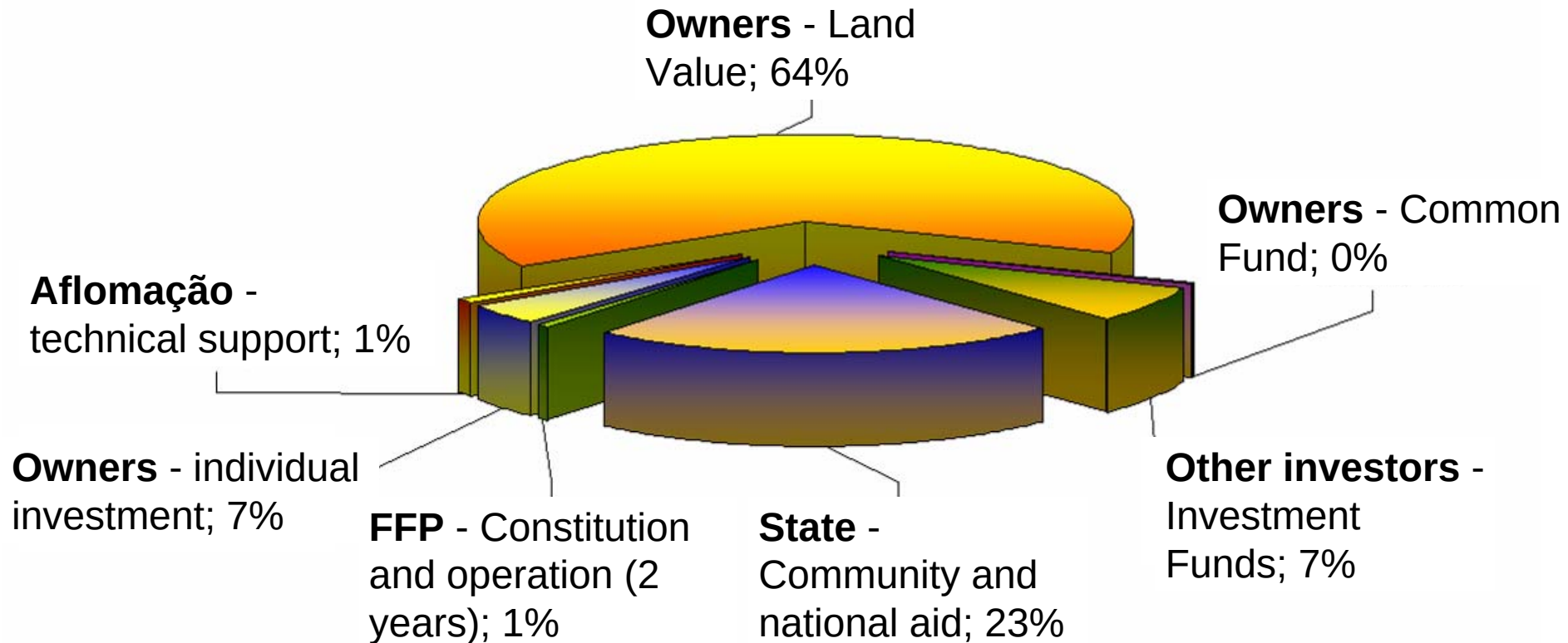
Other		Investment (€)
Beekeeping – (500 Colmeias)		23.000€
Olive culture	44 ha	21.000€
Livestock (Annual)		20.000€
Hunt (Annual)		10.000 €
<i>Arbutus uned</i>	42 ha	64.000€
Total		138.000€

12 years later:
Only the first cut
of 167ha of
Eucalyptus we
can receive
1.653.300€

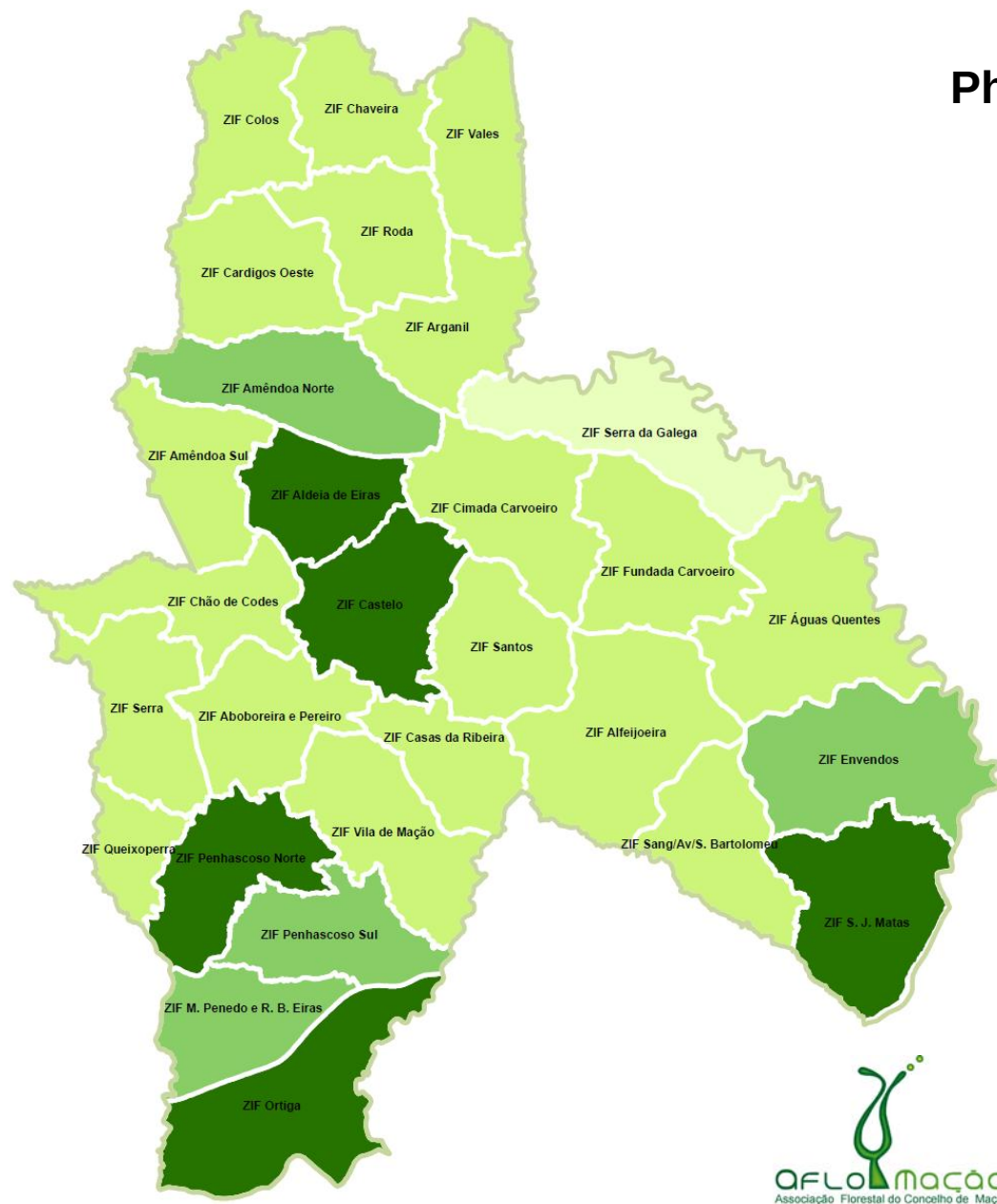
Other to consider: Production of mushrooms, red fruit production, and medicinal herbs.

Total Investment: 1.332.000€

ZIF – Source of Investment



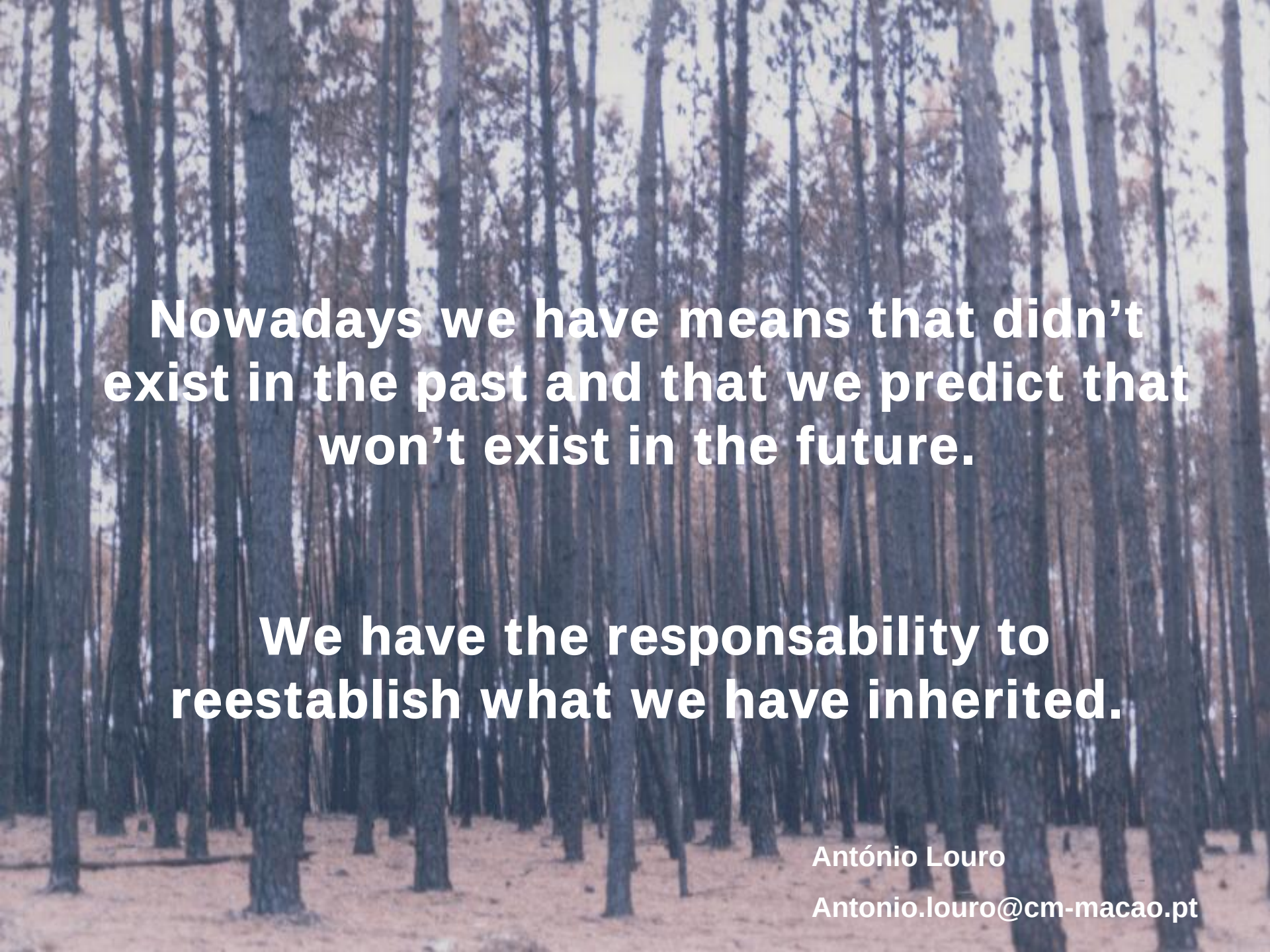
Forest Intervention Zones (ZIF) of Municipality of Mação



Phases of the constitution process

- Process not **iniciated**
- Process **iniciated** (- 10% of the necessary area for the ZIF constitution)
- Founder Nucleus** constituted (+ 20% of the necessary area for the ZIF constitution)
- Incorporated ZIF**

ZIF	Área Total (ha)	Área de Adesão (ha)	Aderentes (nº)
Aldeia de Eiras	1.047	593	80
Castelo	1.496	772	125
Ortiga	1.777	1.008	240
S. J. Matas	1.694	906	201
Penhascos o Norte	1.234	632	102
TOTAL	7.248	3.911	748



Nowadays we have means that didn't exist in the past and that we predict that won't exist in the future.

We have the responsibility to reestablish what we have inherited.

António Louro

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