



# GoProFor

LIFE17 GIE/IT/000561



## LIFE GoProFor: Le buone pratiche dei progetti LIFE per la biodiversità forestale

*LIFE GoProFor:  
LIFE projects good practices  
for forest biodiversity*

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PALERMO | 11 NOVEMBRE 2019

**LIFE E RETE NATURA 2000**

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**  
From Projects experience to a shared model for Forest Management



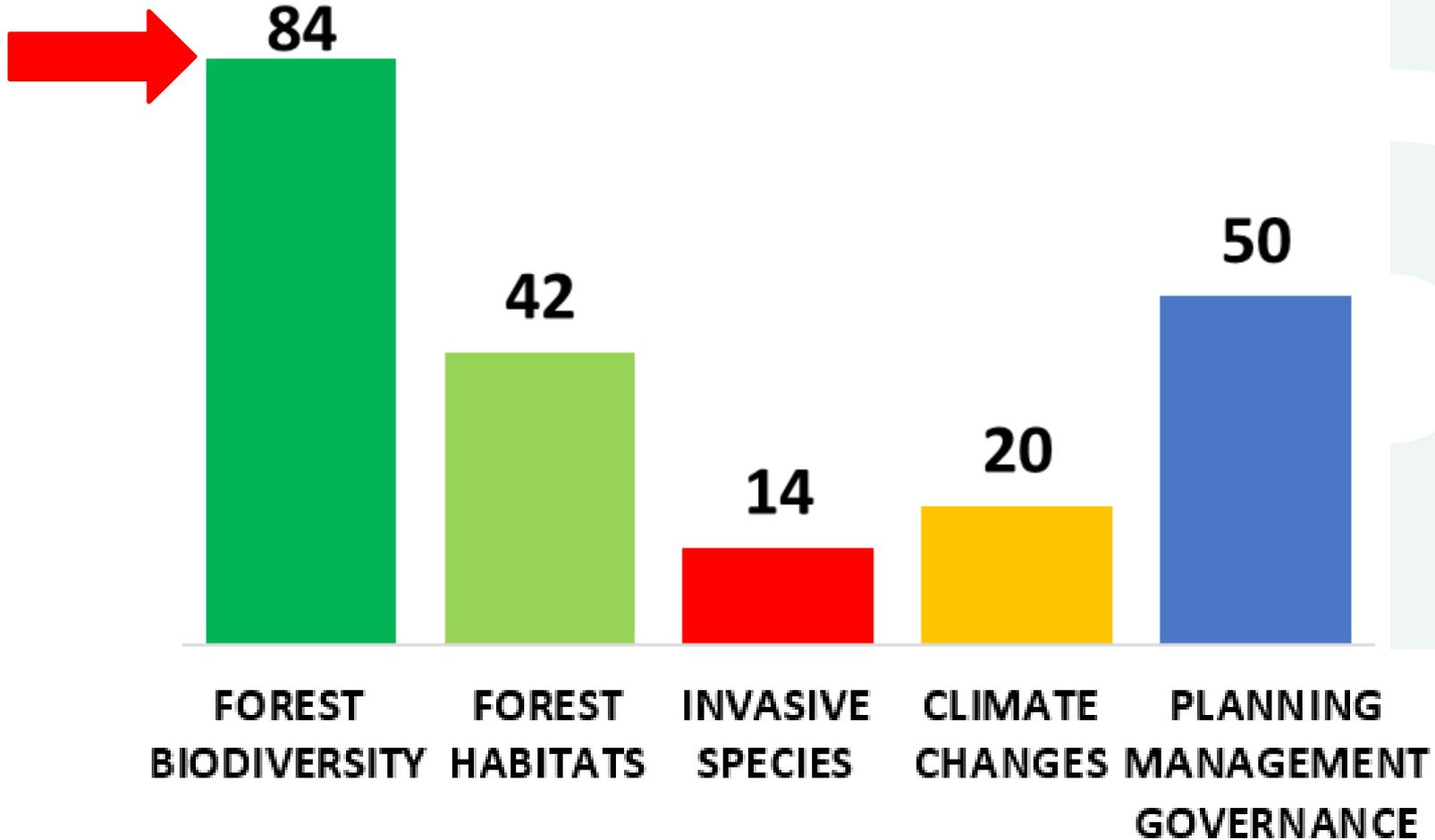
# OBJECTIVES

Promote **active forest management** capable of **improving the conservation status of species and habitats** through the definition of a set of practices and behaviors concerning the following issues:

- **conservation of forest biodiversity** 
- conservation of forest habitats
- control of invasive alien species control
- adaptation and mitigation to climate changes
- planning, management and governance

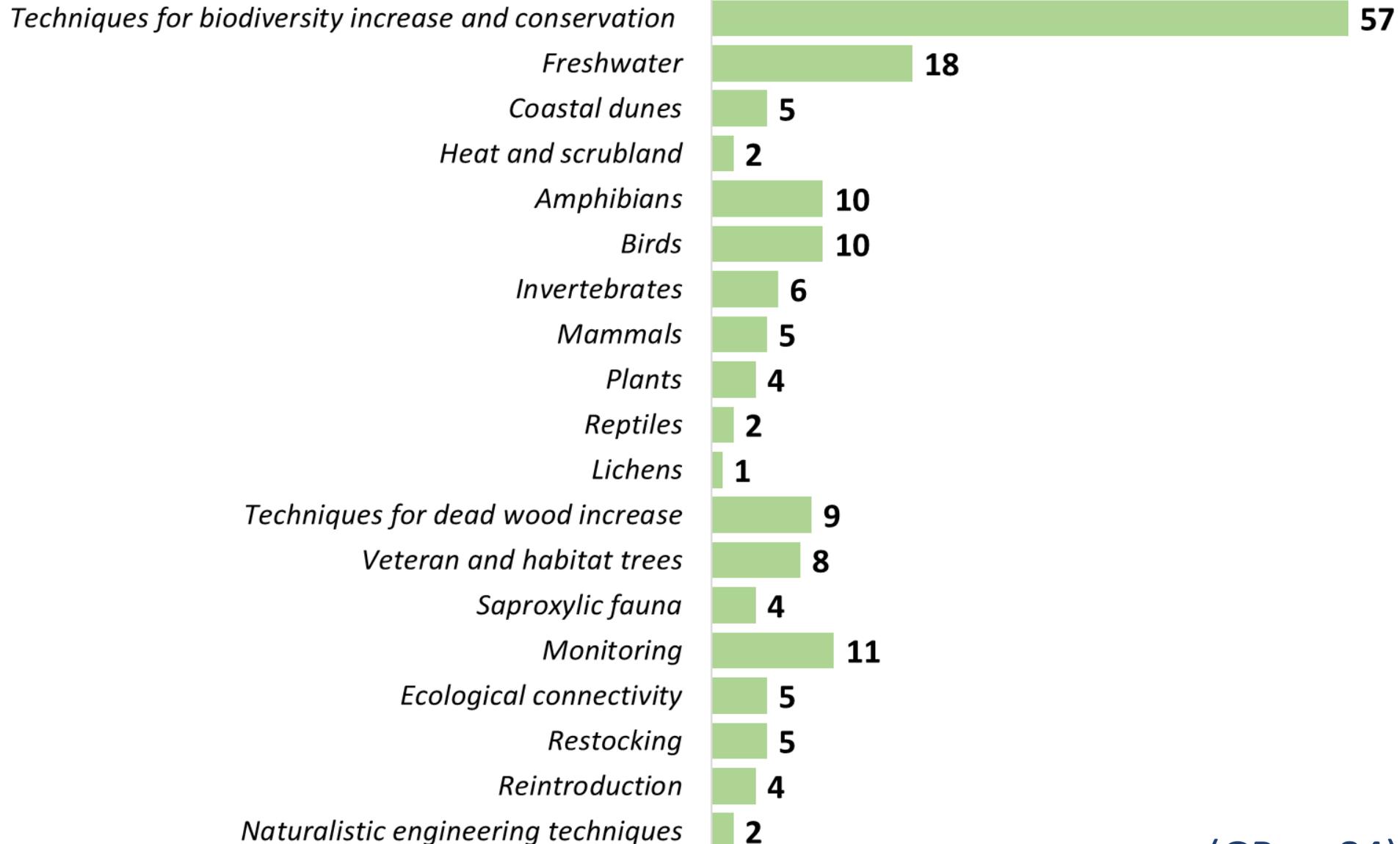


# Issues (GPs = 102)





# Forest biodiversity



(GPs = 84)

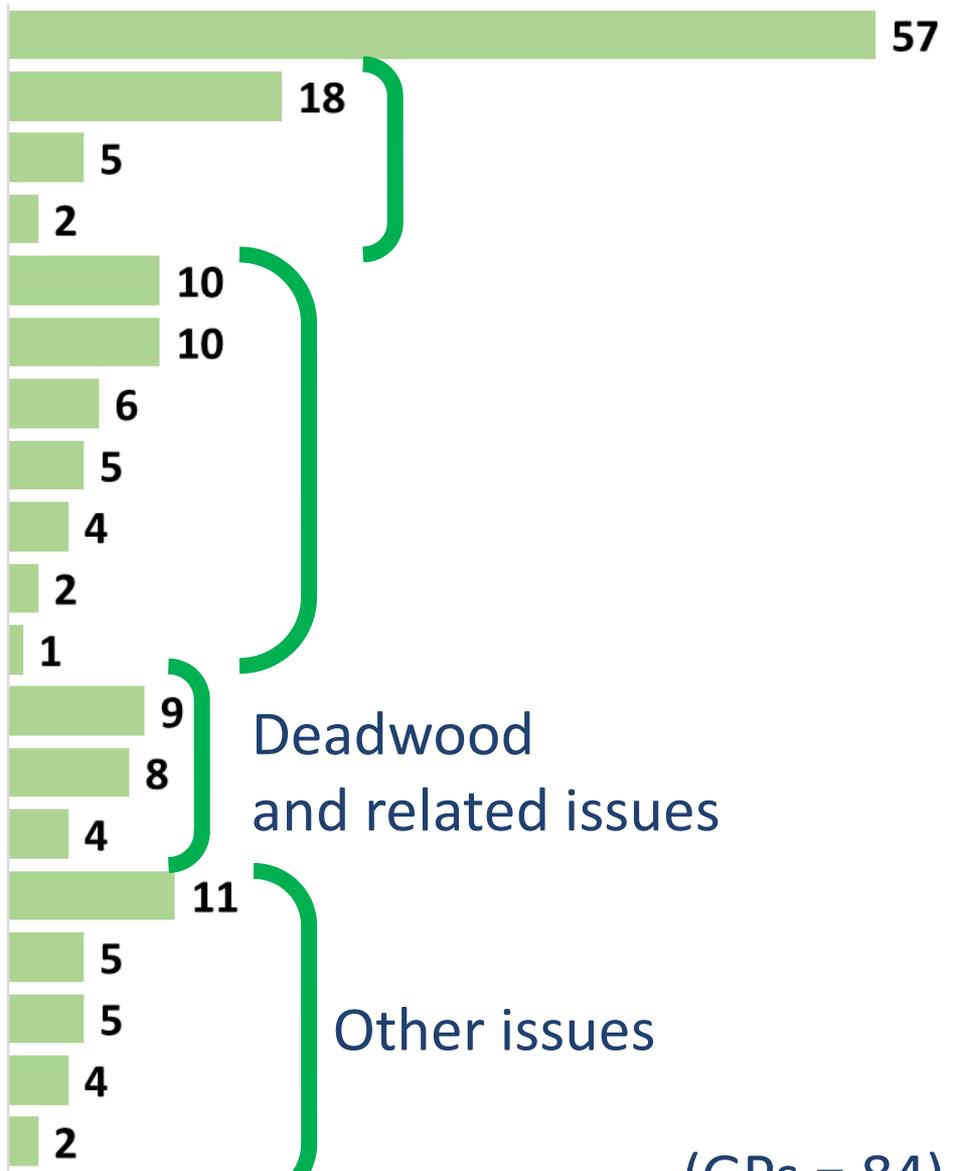


# Forest biodiversity

*Techniques for biodiversity increase and conservation*

Habitat

Species



(GPs = 84)



## CASE STUDIES

### Good practices as tools for application of Conservation Measures

*The maintenance or restoration, at favourable conservation status, of the natural habitats and species of wild fauna and flora of Community interest is the primary objective of Directive 92/43/EEC*

Habitat  
Directive

Conservation  
Measures

Interventions  
(GPs)

(MCPFE - Operational level guidelines for sustainable forest management)

*“Forest management practices should **promote a diversity of both horizontal and vertical structures** such as uneven-aged stands and the **diversity of species** such as mixed stands”*

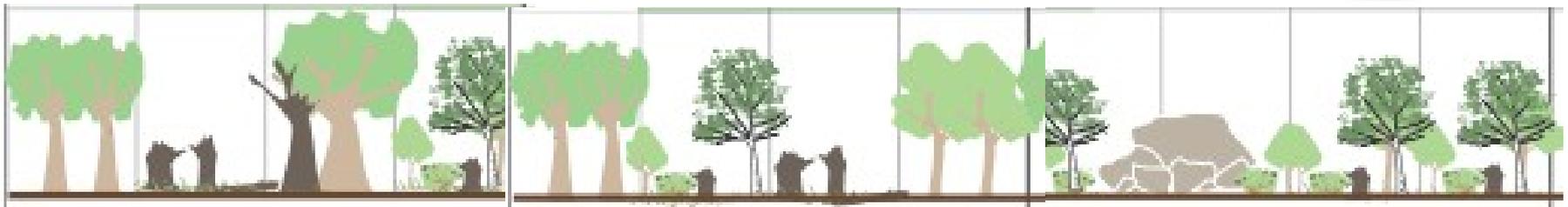
## Forest structure

Forest management impacts species of those taxonomic groups that are limited by

- the lack of deadwood and of senescing trees
- the homogeneous structure of managed forests

(for example: saproxylic beetles, fungi, vascular plants, lichens, birds)

**Structural heterogeneity enhances biodiversity!**



# Conservation Measures

WHO	HABITAT	CONSERVATION MEASURES
Molise Region	91AA*, 91L0, 91M0, 9210*, 92A0, 9340	Incentive the transformation of even-aged high forests into irregular or uneven-aged high forests, through irregular cuttings.
Toscany Region	9110, 9120, 9210*, 9220*, 91L0	Interventions that favour uneven-aged structures and species diversity throught local thinnings (mainly from above and selective) wherever it is concretely possible the spontaneous entrance of other species
National Park «Foreste Casentinesi»	9210*, 9220*	Interventions that favour uneven-aged structures and species diversity throught local thinnings (mainly from above and selective) wherever it is concretely possible the spontaneous entrance of other species
National Park «Sila»		Maintain the presence of stands with complex structure, possibly mixed stands, throught the application of proper interventions that favour and maintain uneven-aged structures
National Park «Aspromonte»		Forest management that promotes the evolution towards high forests, uneven-aged status and increase of dead vegetal biomass



# CASE STUDY



## Life+ Fagus (LIFE 11 NAT/IT/135)

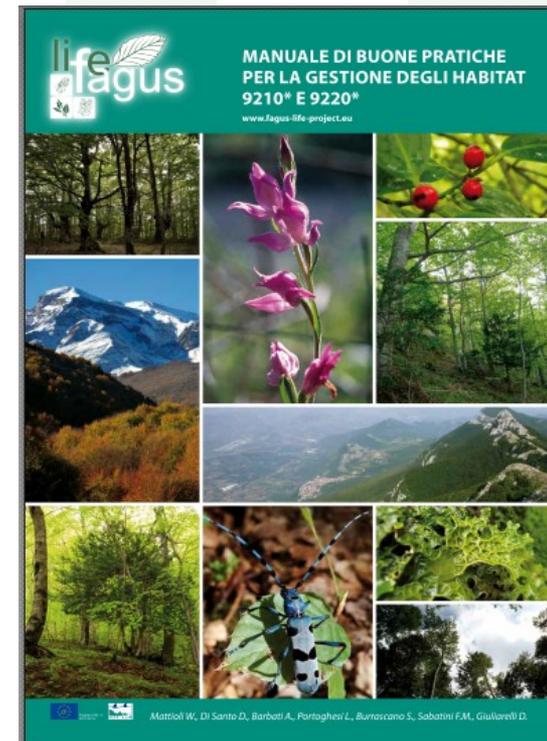
“Forests of the Apennines:  
Good practices to conjugate Use and Sustainability”

### Main aim

Ensure the long-term conservation of the habitats 9210\* and 9220\* in the National Parks: Cilento, Vallo di Diano and Alburni and Gran Sasso and Laga Mounts

### Specific objectives

- Develop Sustainable Management Strategies for the habitat 9210\* and 9220\*;
- **Enhance the levels of biological diversity for vascular plants, lichens, birds, saproxylic beetles and fungi;**
- Monitoring of the habitats to assess the effects of the conservation actions;
- Promote the participation of relevant stakeholders to point out the advantages of sustainable management for the habitats.





# CASE STUDY



## Life+ Fagus (LIFE 11 NAT/IT/135)

“Forests of the Apennines:  
Good practices to conjugate Use and Sustainability”

Code	Good practices
11 NAT/IT/000135 0001 BH00G	Sustainable silviculture in beech forest habitats, through thinnings and creation of gaps
11 NAT/IT/000135 0002 B0000	Application of techniques for the increase of different typologies of deadwood in beech forest habitats
11 NAT/IT/000135 0003 B0000	Creation of microhabitats related to dead wood in beech forest habitats
11 NAT/IT/000135 0004 B0000	Opening of artificial gaps in beech forest habitats, for increasing biodiversity in terms of understory species (vascular plants and epiphytic lichens)

# Sustainable silviculture in beech forest habitats, through thinnings and creation of gaps

11 NAT/IT/000135 0001 B000G



**Objectives:** promoting of the regeneration of *Taxus baccata*, *Abies alba*, *Fagus sylvatica*, with the increase of forest biodiversity (number of **plants species** and vegetation structure), guaranteeing at the same time wood products for local communities

**Good Practice:** 1) creation of small gaps (maximum 100 m<sup>2</sup>) in the upper canopy in correspondence of regeneration of target species and beech, or near clusters or individual trees of other tree species (such as service trees, poplars, maples and willows); 2) qualitative and quantitative selection within well established beech regeneration groups or on yew stumps 3) wood extraction with mules

**Transferability:** Forests in protected areas



# Application of techniques to increase several typologies of deadwood

11 NAT/IT/000135 0002 BH000

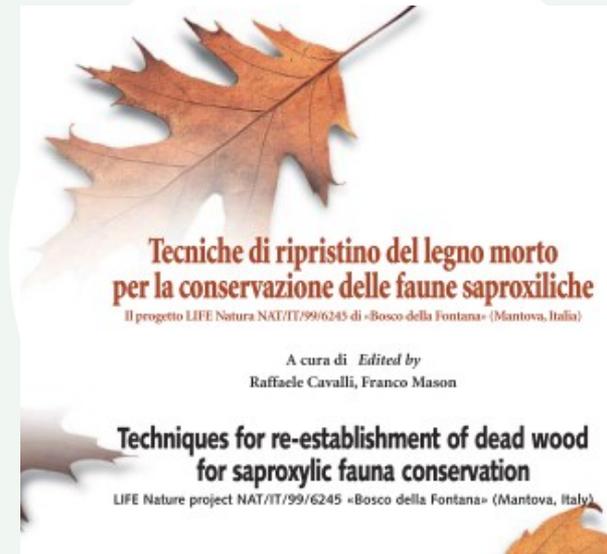


**Objectives:** Enhancement of the diversity of **saproxylic organisms** by improving structural and compositional diversification of the forest

**Good Practice:** creation of 1) standing dead trees 2) snags 3) uprooted trees 4) leaning dead trees. Trees preferably selected among large-sized beeches (DBH  $\geq$  50 cm).

**Transferability:** broadleaves species, Forests in protected areas

LIFE99 NAT/IT/6245 «Bosco Fontana»



# Creation of microhabitats related to dead wood in beech forest habitats

11 NAT/IT/000135 0003 B0000

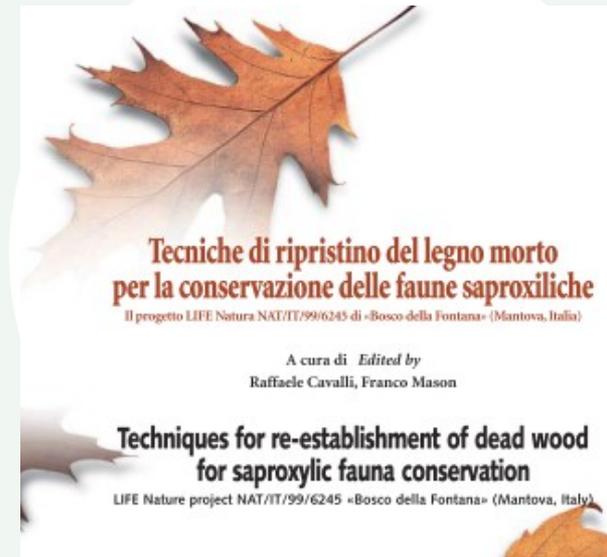


**Objectives:** Enhancement of the diversity of **birds** and **small mammals** that use senescing or dead trees as a component of their habitat

**Good Practice:** Creation of different type of microhabitat like 1) nest holes of variable size, in relation to the ornithological species to be hosted 2) basal slits 3) den trees (living trees with inner holes). Preferably selected among large-sized beeches (DBH  $\geq$  50 cm).

**Transferability:** broadleaves species, Forests in protected areas

LIFE99 NAT/IT/6245 «Bosco Fontana»



# Artificial gaps for increasing biodiversity in terms of understory species

11 NAT/IT/000135 0004 BH00G



**Objectives:** Enhancement of the diversity in terms of **understory species (vascular plants)** and **epiphytic lichens** through artificial gaps that simulate the effects of a stormwater event..

**Good Practice:** Gaps of different shape and size (from 100 to 400 m<sup>2</sup>) based on the exposure and average height of the topsoil. Gaps are created by felling 2-3 individuals in the biostatic phase, (crown about 200-250 m<sup>2</sup>). Within the clearings release all of the fallen trunks on the ground. Trunks with a diameter  $\geq 30$  cm must be bucked into 2-3 sections. Trunks with  $10 \geq \text{diameter} > 30$  cm can be debranched and stacked, covered with brushwood in order to create structures which are particularly useful for insects, reptiles and fungi; finally, small-sized wood (diameter  $< 10$  cm) can be used for the creation of deadwood piles that can be used as refuges for reptiles, amphibians, birds and small mammals.

## Transferability:

Forests in protected areas



(MCPFE - Operational level guidelines for sustainable forest management)

*“Special key biotopes in the forest such as water sources, wetlands, rocky outcrops and ravines should be protected, or restored when damaged”*

## Key biotopes for Amphibians conservation

Maintenance of freshwater habitats in forests is vital for forest-related amphibians conservation



# Conservation Measures

WHO	SPECIES	CONSERVATION MEASURES
Molise Region	Amphibia	Intervention to restore and maintain springs and watering holes
Molise Region	Amphibia	Implementation of structures for amphibians reproduction, restoration and maintenance of springs and watering holes
Molise Region	Amphibia	Implementation of interventions for ecological restoration of degraded rivers
Tuscany Region	Amphibia	Promotion of action aiming at creating, maintaining and adapting watering holes, springs, ponds, small wetlands with characteristics suitable for fauna (e.g. amphibians)
Tuscany Region	Amphibia	Natural habitat restoration such as temporary and permanent wetlands
Tuscany Region	Amphibia	Implementation of active restoration to contrast dryness and / or burial of wet environments



# CASE STUDIES

**LIFE14 NAT/IT/000759**  
**WetFlyAmphibia**



**LIFE08 NAT/IT/000362**  
**Colli Berici Natura 2000**



**LIFE10 NAT/IT/000241**  
**TIB**



**LIFE08 NAT/IT/000371**  
**Resilfor**



**LIFE10 NAT/IT/000224**  
**C.I.SPI.VE.HAB.**



**LIFE07 NAT/IT/000433**  
**Water SCIs**



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# CASE STUDIES

Code	Good practices
03 NAT/IT/000109 0001 BHA00	Forest and hydraulic interventions for the maintenance and / or re-establishment of suitable conditions for the existence of formations with <i>Alnus glutinosa</i> (habitat 91E0*)
07 NAT/IT/000433 0002 BH0C0	Wetlands and surrounding surfaces restoration for the conservation of target species of birds and amphibians
08 NAT/IT/000362 0001 B0000	Interventions to restore small pools for amphibians, both of community interest and locally threatened
08 NAT/IT/000371 0002 B0000	Implementation of nurseries for <i>Salamandrina perspicillata</i> , to reduce the risk of reproductive failure due to climatic causes
10 NAT/IT/000224 0001 B0000	Implementation of ex-novo ponds to improve the reproduction of amphibians of community interest
10 NAT/IT/000224 0004 B0000	Interventi di ripristino di aree umide per favorire la riproduzione di anfibi
10 NAT/IT/000241 0003 B0000	Restoration of wetlands to promote the reproduction of amphibians
14 NAT/IT/000759 0001 B0000	Ex-situ reproduction protocol for <i>Bombina pachypus</i> and restocking on suitable sites
14 NAT/IT/000759 0002 B0000	Techniques for the translocation of eggs for <i>Salamandrina perspicillata</i> restocking
14 NAT/IT/000759 0003 BH000	Wetland construction techniques for forest amphibians: <i>Bombina pachypus</i> and <i>Triturus carnifex</i>

# CASE STUDY



## WetFlyAmphibia LIFE14 NAT/IT/000759

“Conservation of amphibians and butterflies of open wet areas and their habitats at the Foreste Casentinesi National Park”

### Main aim

Improve the conservation status of the populations of amphibians and butterflies of habitats of open wet of Foreste Casentinesi National Park

### Specific objectives

- Improvement of the conservation status of *Bombina variegata*, *Salamandrina terdigitata* and *Triturus carnifex* populations, through (...) the improvement of the conservation status of their habitats and the creation of new breeding areas.
- ...



# Techniques for the realization of wet areas for *Bombina pachypus* and *Triturus carnifex*

14 NAT/IT/000759 0003 BH000



**Objectives:** Improvement of the conservation status of **Yellowbelly Toad** and **Italian Crested Newt** by increasing the number of wet areas suitable for their life and reproduction (restoration or creation of new habitats)

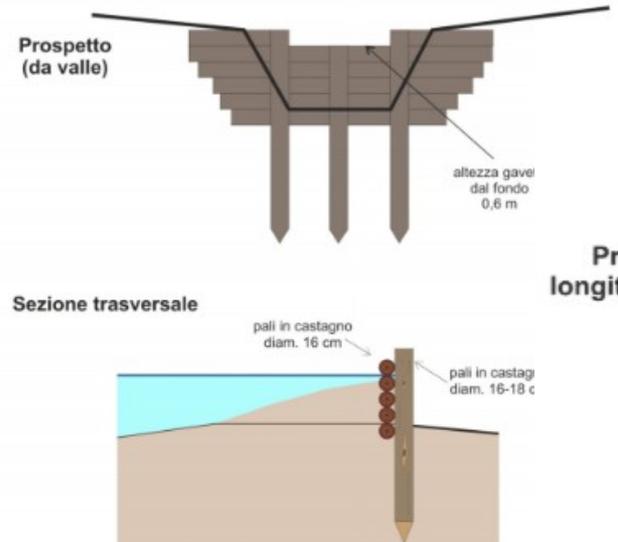
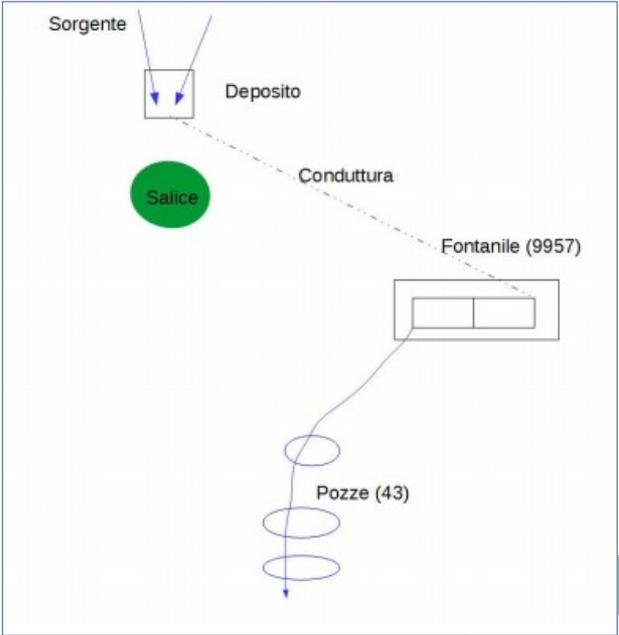
**Good Practice:** construction techniques for restoration or establishment of 1) fountains and watering holes adapted for target species reproduction 2) permanent ponds for Yellowbelly toad reproduction 3) non-impermeable ponds 4) impermeable ponds 5) wetlands, ponds and small lakes

**Transferability:** areas where the same target species, or species with similar ecology, are present

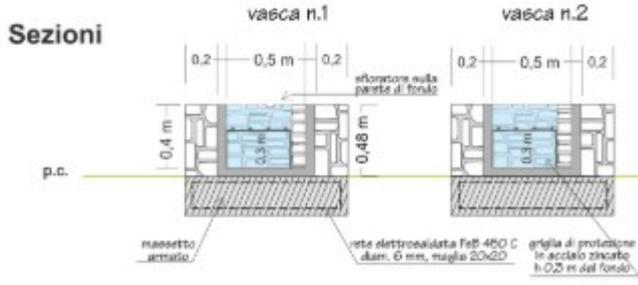
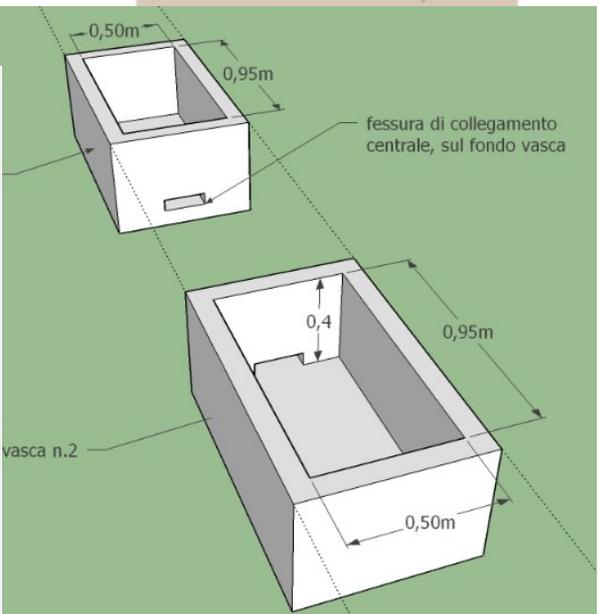
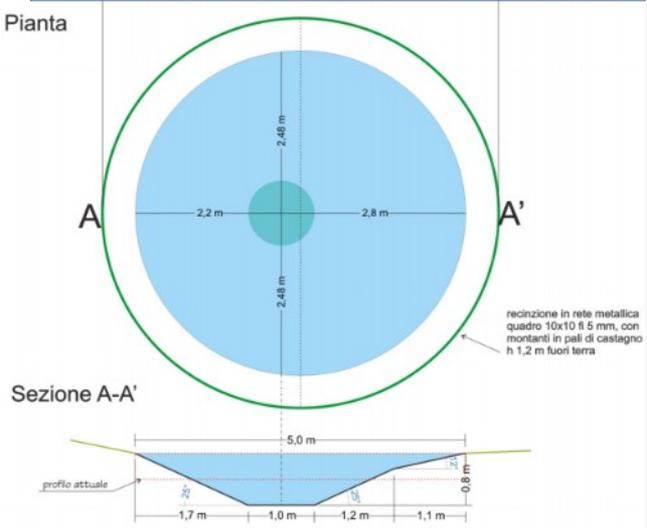
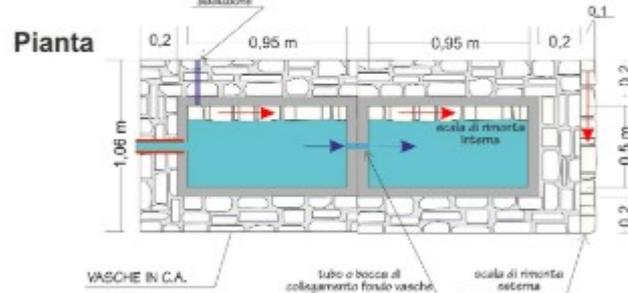
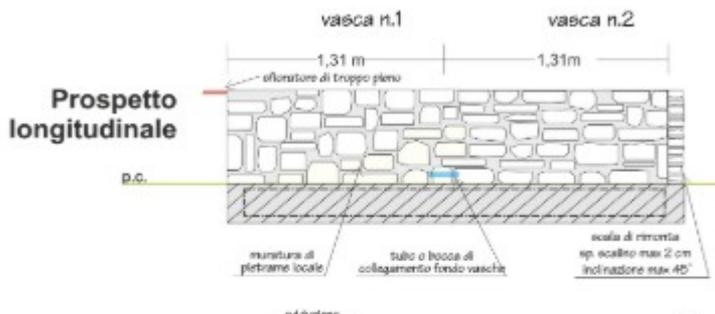


# Techniques for the realization of wet areas for *Bombina pachypus* and *Triturus carnifex*

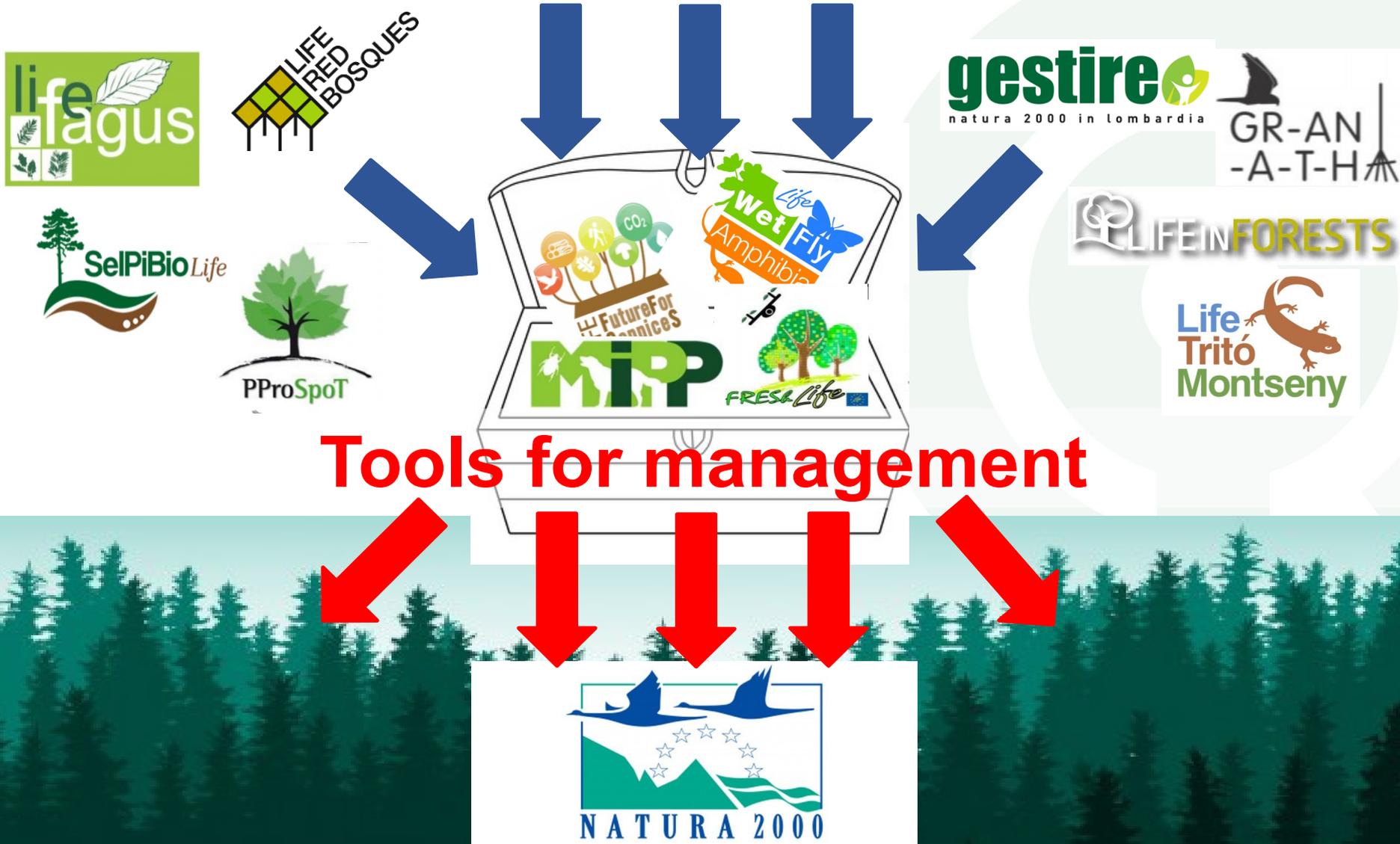
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SCHEMA GRAFICO n. 7 PER COSTRUZIONE DI FONTANILE A 2 VASCHE a bassa profondità e a corrente libera



# GoProFor Database capitalizes the experience of LIFE projects





**THANKS FOR  
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