

# DESIGNING FOREST MANAGEMENT PRACTICES TO INCREASE MULTI-TAXA BIODIVERSITY LEVELS IN PRIORITY HABITATS (9210\* AND 9220\*) APENNINE BEECH FORESTS

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## Context: Apennine beech forests/Natura2000 priority habitats

9210\* Apennine beech forests with *Taxus* and *Ilex*

9220\* Apennine beech forests with *Abies alba*

Past management dramatically reduced the presence of *Taxus*, *Ilex* and *Abies*.

The EU LIFE **FAGUS project (2013-2016)** is implementing management strategies to **increase the presence of these target trees and diversity levels for focus taxa**

(e.g. epiphytic lichens, saproxylic beetles, birds), **while sustaining forest use by local communities**



## 1. Project areas

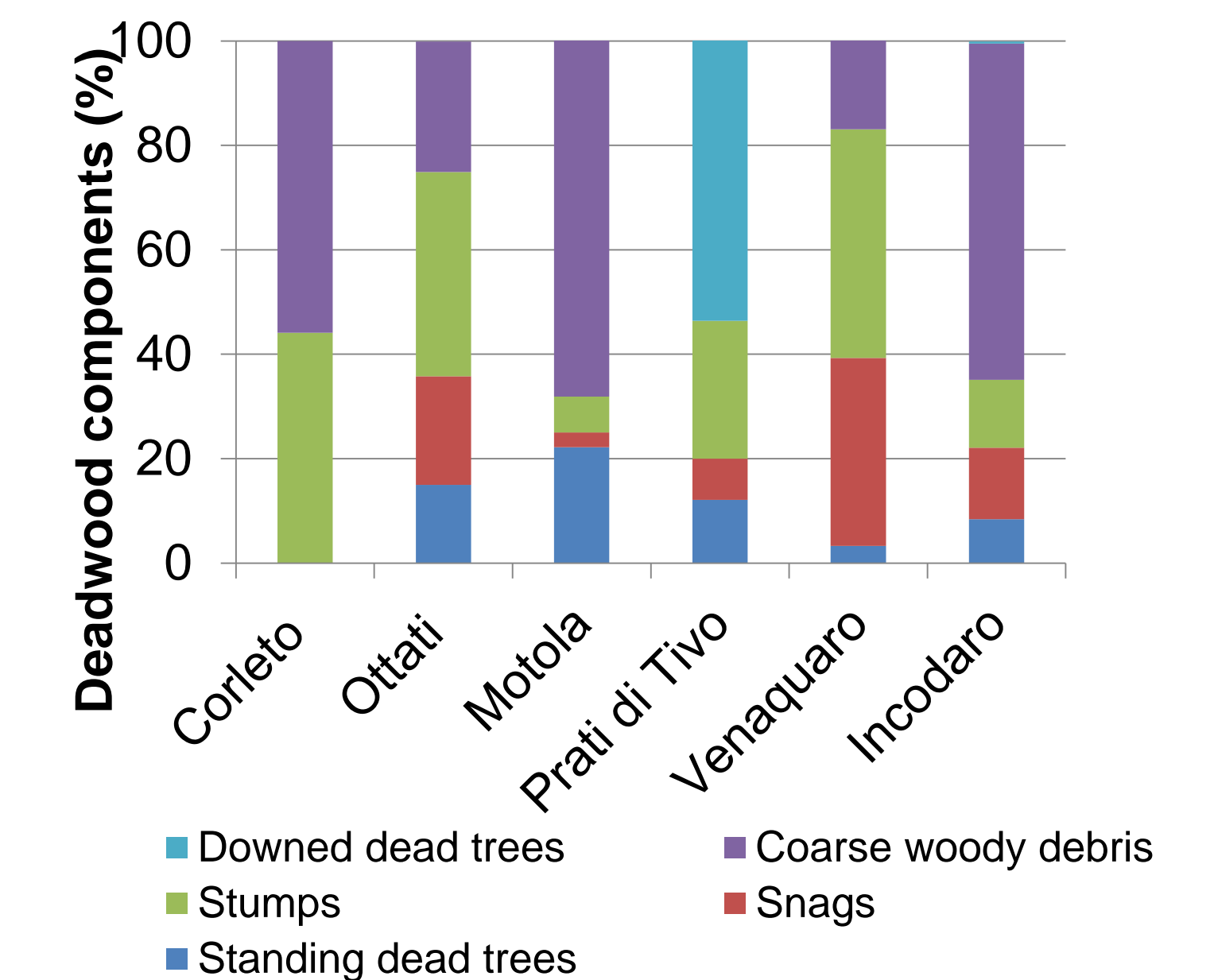
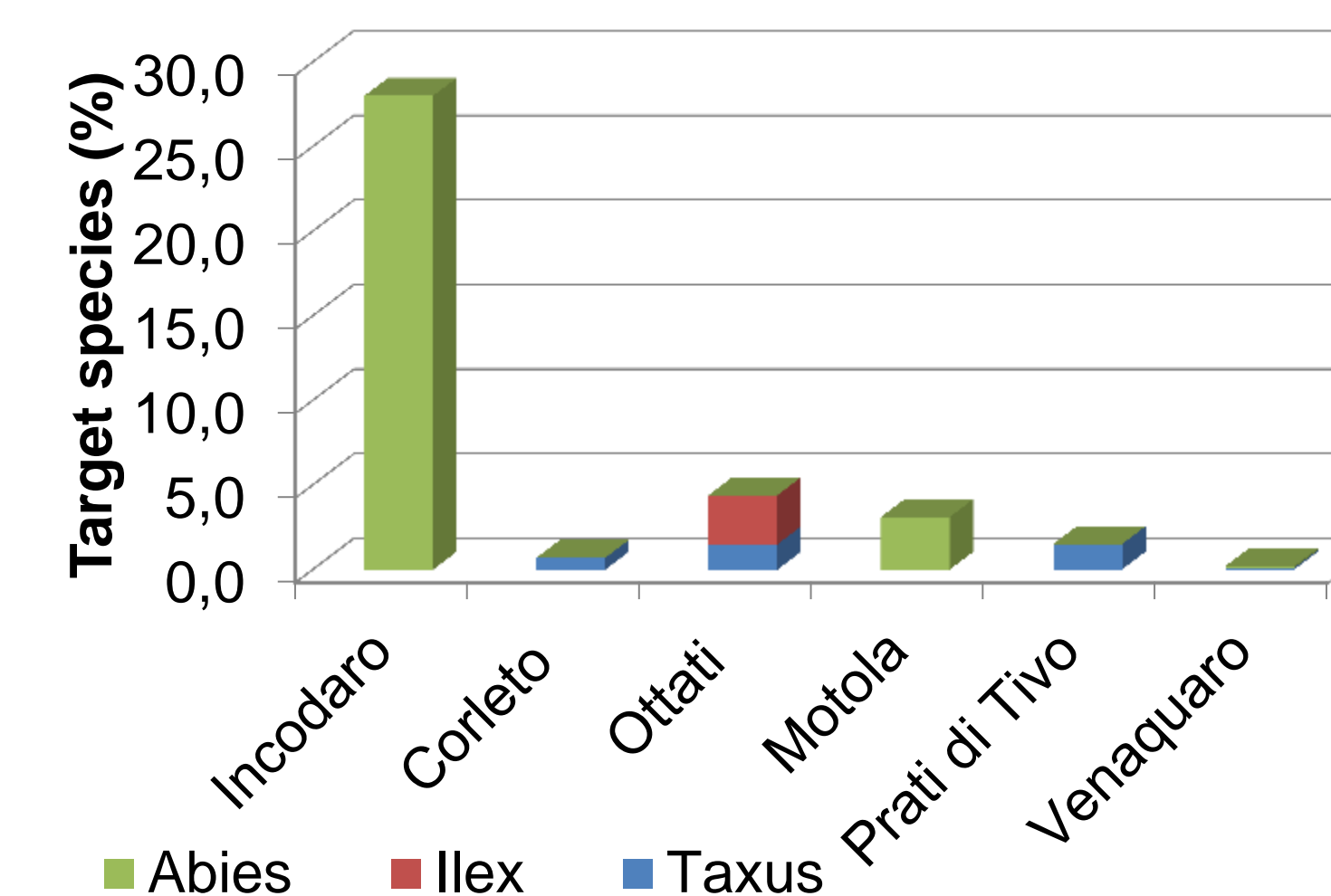


## 2. Monitoring approach

**BACI experimental approach** (Before-After, Control-Impact): comparison of *multi-taxa* biodiversity and beech stands structural diversity *before* and *after* the silvicultural actions to assess responses to treatments

National Park	Site	Sample plot (number)	Trees (number ha <sup>-1</sup> )	Basal area (m <sup>2</sup> ha <sup>-1</sup> )	Living wood volume (m <sup>3</sup> ha <sup>-1</sup> )	Deadwood volume (m <sup>3</sup> ha <sup>-1</sup> )
Cilento and Vallo di Diano	Corleto	3	548	46	752	2
	Ottati	8	2.745	43	408	5
	Motola	3	1.585	42	368	17
Gran Sasso and Monti della Laga	Prati di Tivo	5	2.433	54	601	6
	Venaquaro	7	1.522	51	554	13
	Incodaro	7	1.985	57	685	20

## BEFORE: Forest structural features (2013)



## 3. Conservation actions: silvicultural interventions 2014, monitoring AFTER treatments 2016

Conservation Actions	Silvicultural interventions	Breakdown by project sites					
		Corleto	Ottati	Motola	Prati di Tivo	Venaquaro	Incodaro
General data	Harvested area (ha)	20	11	0,7	6	16	6
	Felling volume (m <sup>3</sup> )	1734	766	28	387	996	680
Selective cutting (individual trees or groups of trees) to open small canopy gaps (max 100 m <sup>2</sup> )	Allowable cut (m <sup>3</sup> ha <sup>-1</sup> )	88	71	38	66	62	110
	Cutting rate (% living wood volume)	11-12	10-15	10	6-12	10	20
Opening of larger gaps (150 ai 400 m <sup>2</sup> ) and release of 2-12% of the harvested volume as lying deadwood	Coarse woody debris (m <sup>3</sup> )	304	123	28	44	84	472
	Gaps (number)	23	17	2	10	11	21
	Gaps area (ha)	0,76	0,35	0,04	0,19	0,3	0,5
conversion of living trees into standing deadwood	Stems ha <sup>-1</sup>	3-4					
creation of habitat trees ha <sup>-1</sup>	Habitat trees ha <sup>-1</sup>	3-4					



Selective cutting



Snags



Habitat trees