An integrated approach for a strategy against *Vespa velutina* in Italy

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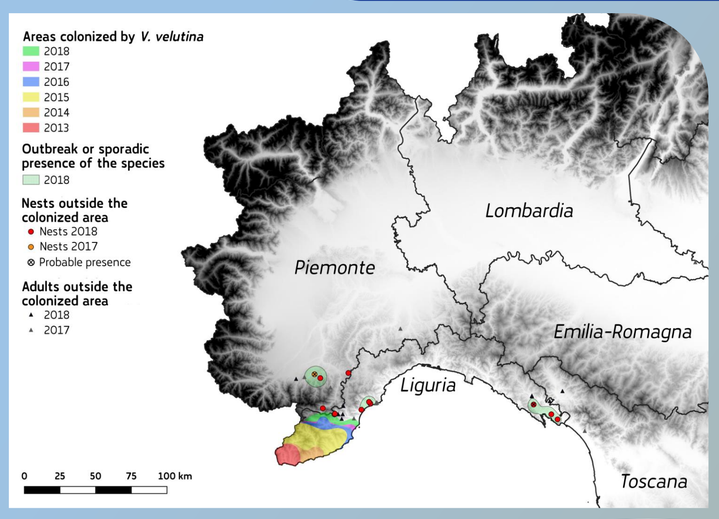
LIFE STOPVESPA

Invasive alien species can cause serious damage to biodiversity and ecosystems in areas where they are introduced. This is the case of the **Yellow-Legged Asian Hornet**, *Vespa velutina* Lepeletier 1836, accidentally introduced in France in 2004: the species is rapidly colonizing various European countries. Its invasive potential and its predatory activity create serious damage to beekeeping, biodiversity and ecosystem services since honey bees, wild bees, and other native insects are among the preys of *V. velutina*. Moreover, the presence of nests in the environment generates concern among citizens and important economic costs for nest destruction.
For this reasons the species has been included in the **black-list of invasive alien species** of European Union (EU) concern (IAS Regulation - EU 1143/2014, EU 1141/2016) and EU countries are enforced to develop actions to limit its spread as well as control and containment strategies.

The **LIFE programme** is the main financial instrument supporting the EU's environmental policy, established in 1992. Projects for the protection of environment and climate are co-financed through this programme. LIFE STOPVESPA was funded by EU with the aim of **containing the expansion of *V. velutina* in Italy, defining and developing a strategy of early warning and rapid response**. LIFE STOPVESPA activities started in August 2015. The areas involved in the project are Liguria, the Region which is presently colonized at the highest level by the species, and Piemonte.



The efficacy of the containment strategy increased in the years, thanks to the increase of the percentage of nests destroyed before the reproductive period. The strategy contributed to reduce the spread rate of the species thus limiting its diffusion. The two harmonic radars prototypes are capable of tracking hornet flights and detect nest position, and their use in outbreaks were fundamental to rapidly remove *V. velutina* colonies.

The strategies should be differentiated between invaded areas in relation to the presence and diffusion of *V. velutina*

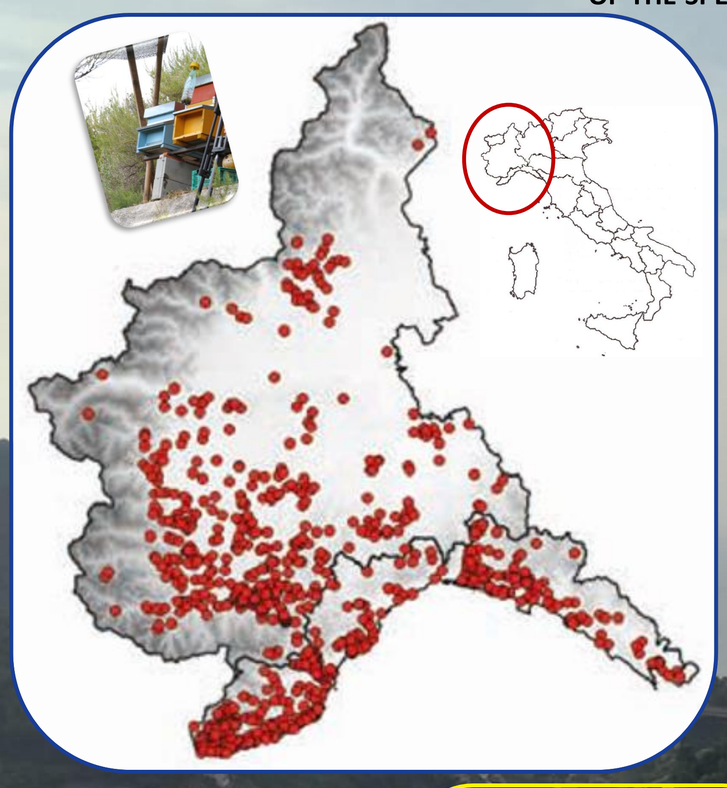
Absence of the species

Limited presence of the species

Stable presence of the species

SURVEILLANCE STRATEGY

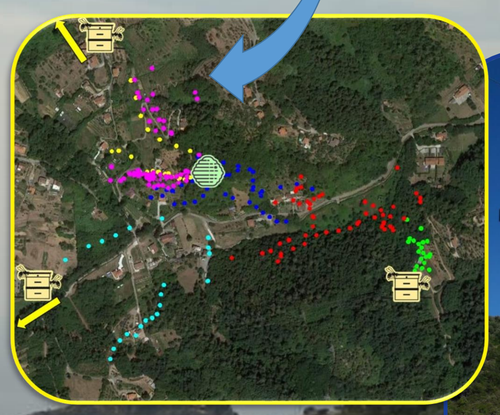
INCREASE THE MONITORING NETWORK WITH THE INVOLVEMENT OF BEEKEEPERS AND OTHER STAKEHOLDERS



EARLY WARNING AND RAPID RESPONSE SYSTEM

DEVELOP A STRATEGY FOR THE MANAGEMENT OF *V. VELUTINA* REPORTS AND THE CONTAINMENT OF THE SPECIES

DEVELOP A HARMONIC RADAR PROTOTYPE FOR TRACKING HORNETS AND DETECT NEST POSITION



CONTROL STRATEGY

LIMIT THE SPREAD OF THE SPECIES BY NEST DETECTION AND DESTRUCTION

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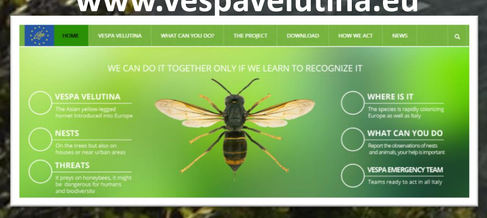
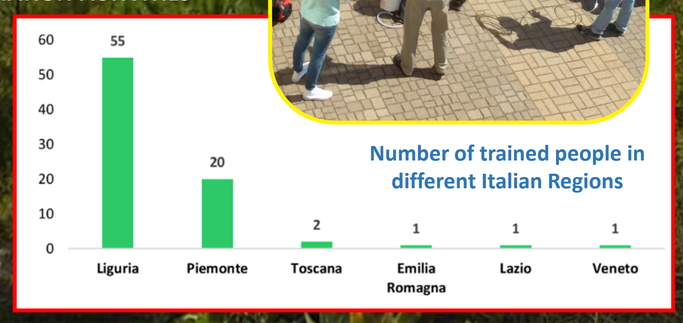


TRAINING AND DISSEMINATION ACTIVITIES



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