

Project LIFE14 NAT/IT/001128 STOPVESPA - Realized with the financial contribution of the LIFE Programme of the European Union



“Report on the effectiveness of selected indicators” Action F.4



July 2019



**POLITECNICO
DI TORINO**



Index

Indicator table of the LIFE STOPVESPA project.....	3
Project area/length (1.5)	4
Humans (to be) influenced by the project (1.6).....	6
Invasive Alien Species (7.5.1)	7
Involvement of non-governmental organisations (NGOs) and other stakeholders in project activities (10.2)	9
Website (11.1)	10
Other tools for reaching/raising awareness of the general public (11.2).....	12
Networking (12.1)	15
Jobs (13).....	17
Running cost/operating costs during the project (14.1)	17
Future fundings (14.3)	18

Authors of the report: Simone Lioy, Aulo Manino, Davide Cuttini, Peter John Mazzoglio, Marco Porporato.

Suggested citation: Lioy S, Manino A, Cuttini D, Mazzoglio PJ, Porporato M (2019) Report on the effectiveness of selected indicators - Action F.4. *European project LIFE14 NAT/IT/001128 STOPVESPA*. 18 pp.

Indicator table of the LIFE STOPVESPA project

Indicators are used to evaluate the effectiveness of actions during and at the end of a project. They can be either qualitative or quantitative, the latter ones being easier to be evaluated. This report summarises the indicators used by the LIFE STOPVESPA project for measuring the impacts of project actions, as foreseen by the LIFE Programme. The developed indicator table has taken into account the nature of this Pilot project, measuring the impact of the project in increasing the effectiveness of management actions against *Vespa velutina* through the development of a control strategy, new tools and the effort produced in disseminating results, experiences and new methods. An indicator table had been submitted at the beginning of the project, with the first progress report, and was updated during the midterm report, during year 2018 and at the end of the project. The initial situation from which the project started has been assessed in relation to project results, and progress have been regularly evaluated against it.

The indicator table of LIFE STOPVESPA contains the following sections:

- Project area/length (1.5);
- Humans (to be) influenced by the project (1.6);
- Invasive Alien Species (7.5.1);
- Involvement of non-governmental organisations (NGOs) and other stakeholders in project activities (10.2);
- Website (11.1);
- Other tools for reaching/raising awareness of the general public (11.2);
- Networking (12.1);
- Jobs (13);
- Running cost/operating costs during the project and expected in case of continuation/replication/transfer after the project period (14.1);
- Future funding (14.3).

Since the LIFE STOPVESPA project has been developed in two regions, some indicators are divided between the Mediterranean context (Liguria, Italy) and the Continental context (Piedmont, Italy). When values outside project area should be described (indicators 1.6, 10.2, 11.1, 11.2 and 12.1), an overall context named Italy has been created. Hereafter the point-by-point discussion of the selected indicators.

Project area/length (1.5)

This indicator aims to compare the overall area colonised by the Asian yellow-legged hornet *V. velutina* in Liguria and Piedmont at the end of the project, in relation to the overall area of presence estimated in 2015 at the beginning of LIFE STOPVESPA. Since monitoring efforts increased from 2015 onwards, with the beginning of project activities, and adults' records may have generated by *i*) the effective presence of a nest in the considered area or by *ii*) the accidental human-mediated transportation of hornets, a prudential approach was adopted for estimating the initial colonised area in Liguria and Piedmont regions. Moreover, only monitoring activities of multiple years (at least two years) could allow to confirm or exclude the presence of *V. velutina* from an area from which reports were recorded. Due to these considerations and uncertainties, the initial occurrence area was estimated by including all adults' records and introducing a buffer area around the estimated Minimum Convex Polygons that encompass all *V. velutina* data (MCP).

Occurrence data recorded until 2015 (Fig. 1) suggested that *V. velutina* could be present in a wide area of Liguria region (records from Ventimiglia to Savona) and two areas of Piedmont regions (Cuneo and Alessandria districts). The initial estimated areas of presence were 1,900 km² in Liguria and 1,400 km² in Piedmont (Fig. 2).

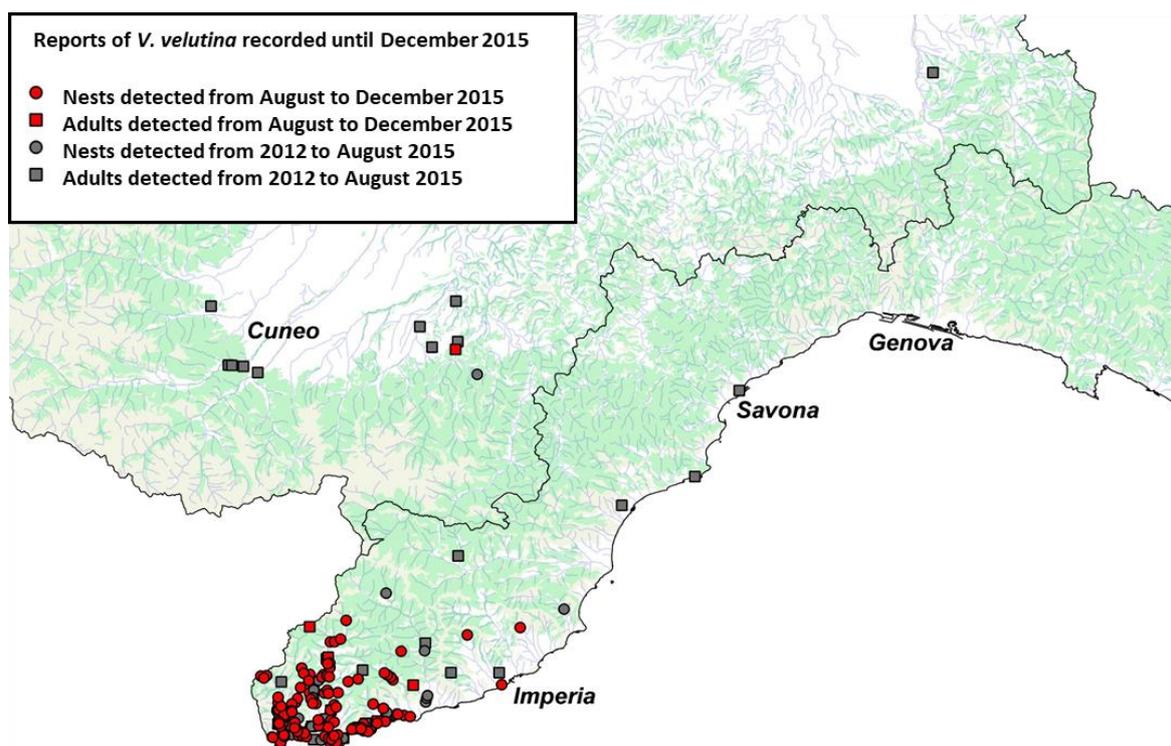


Figure 1 - Records of *V. velutina* (both nests and adults) at the beginning of LIFE STOPVESPA: records in red highlight the reports received after five months from the beginning of monitoring activities of the project, while reports in grey indicates all occurrence data recorded from the first detection in 2012 until August 2015.

On the contrary, the wide monitoring network developed by LIFE STOPVESPA during project activities allowed to estimate the area of presence in 2019 with a greater degree of accuracy. Occurrence data at the end of the project indicates that the species was present in an area of 1,490 km² in Liguria and 658 km² in Piedmont (Fig. 2). Table 1 reports the overall area of presence of *V. velutina* estimated at the beginning of LIFE STOPVESPA and at the end of the project, while table 2 reports the values for this indicator, which corresponds to the difference between the two occurrence areas.

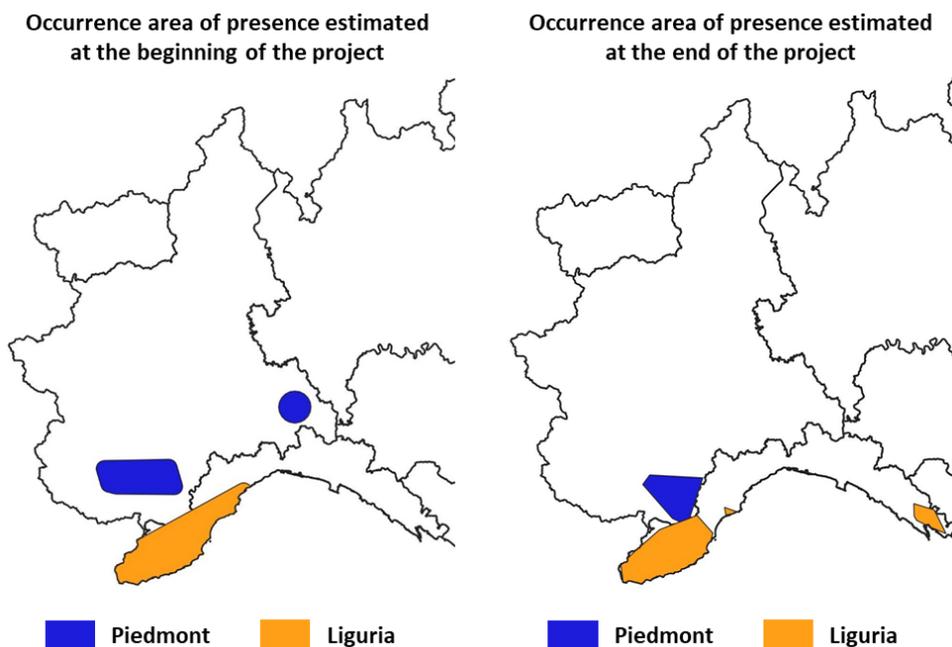


Figure 2 - Occurrence area of presence of *V. velutina* in Piedmont (blue) and Liguria (orange) regions estimated at the beginning (left) and at the end (right) of LIFE STOPVESPA project. At the beginning of the project, several *V. velutina* adults were recorded from areas that were not anymore colonised at the end of the project, e.g. Gavazzana (Alessandria district), Borgo San Dalmazzo, Caraglio (Cuneo district) and Savona, while two outbreaks were confirmed in 2019 in Liguria (Finale Ligure and La Spezia).

Table 1 - Area of occurrence of *V. velutina* assessed at the beginning of LIFE STOPVESPA and areas colonised at the end of the project, estimated with the minimum convex polygon method encompassing all occurrence data (both nests and adults). The area of Liguria at the end of the project includes the main colonized area nearby France and the two outbreaks of Finale Ligure and La Spezia.

REGION	AREA ESTIMATED IN 2015	AREA ESTIMATED IN 2019
Liguria	1,900 km ²	1,490 km ²
Piedmont	1,400 km ²	658 km ²

Table 2 - Values concerning the indicator 1.5 (Project area/length), which corresponds to the difference between the areas estimated in 2015 with the areas estimated by the end of the project. Values forecasted at the beginning of the project and real values observed at the end are reported. Since control activities will continue, we forecast that the species will not spread as before, so we provide the same picture for beyond end values as for the end of the project.

COMPOUND CONTEXT	VALUES FORECASTED AT PROJECT START			REAL VALUES AT THE END OF THE PROJECT		
	START VALUE	END VALUE	BEYOND END VALUE	START VALUE	END VALUE	BEYOND END VALUE
Mediterranean	0 km ²	1500 km ²	1500 km ²	0 km ²	410 km ²	410 km ²
Continental	0 km ²	1100 km ²	1100 km ²	0 km ²	742 km ²	742 km ²

Humans (to be) influenced by the project (1.6)

The LIFE STOPVESPA project implemented many activities for disseminating information, good practices and project results (Fig. 3), for example:

- Organization and participation to public meetings and conferences;
- Participation with stands to exhibitions and beekeeping fairs;
- Organization of meetings with authorities and stakeholders;
- Presentation of results to national and international conferences;
- Educational activities with schools and teachers;
- Organization of training courses and workshops;
- Development and maintenance of a dedicated webpage and social media page;
- Production of a documentary film and video pills;
- Dissemination of information through the media and press conferences.

All these activities allowed to spread information concerning *V. velutina* and project activities, involving thousands of people. Moreover, staff involved in monitoring and control activities actively disseminated information during their daily field activities. For example, monitoring teams of the University of Turin (UNITO) visited all the municipalities of the Imperia district, explaining the issue represented by *V. velutina* and distributing project materials (leaflet and brochure) in the town hall. This activity was fundamental to establish good practices and provide information to authorities and citizens in the area colonized by *V. velutina*. Furthermore, all destroyer teams and civil defence teams that were collaborating with LIFE STOPVESPA were provided with project materials (leaflet and brochure); after each destruction operation, the teams were distributing this material to the people that have reported the presence of the nest, thus contributing to the dissemination of information in project area.

Consequently, considering the multiple tools adopted to disseminate information, the number of humans that have been influenced by project activities could be estimated in at least **94,573 people** (Table 3). This value is an estimate, and the real number of people influenced by project activities could be considerably higher than the estimated value. Dissemination activities will continue in the After-LIFE period (e.g. meetings, conferences, courses, information on the project website), consequently we estimate that at least **120,000 people** will be influenced five years beyond the end of the project.



Figure 3 - Two examples of dissemination activities performed by LIFE STOPVESPA: press conference with Liguria Region (on the left) and Final Event of the LIFE STOPVESPA project (on the right).

Table 3 - Persons potentially influenced by the project independently by project area.

CATEGORY OF ACTIVITY	ENGAGED PEOPLE
Public meetings and conferences	2.064
Stands to exhibitions and beekeeping fairs	16.220
Meetings with authorities and stakeholders	239
Educational activities with schools	1.140
Training courses and workshops	151
Webpage	46.850
Social media page	20.987
Documentary film and video pills	3.379
Citizens in contact with destroyer teams and Civil Defence Teams	1.852
Citizens and beekeepers involved in the monitoring network for <i>V. velutina</i>	1.691

Invasive Alien Species (7.5.1)

This indicator intends to compare the number of colonies of *V. velutina* at the end of the project, in respect to the initial situation. At the beginning of the project, the species was already present in a wide area of Liguria (see Project area/length paragraph), and 233 colonies were detected in 2015 (Fig. 4). Considering that nests are difficult to be located since hidden by the tree canopy, it can be estimated that at least 250-600 colonies were initially present in project area.

The project activated a control strategy of nest detection and destruction, which contributed to decrease both the spread rate and the colonization rate of the species (Fig. 5). In fact, of the nest detected in Liguria in 2018, **98%** were located in areas already colonized in year 2015, before the beginning of LIFE STOPVESPA. This indicates a great efficacy of the project in controlling the spread of the species.

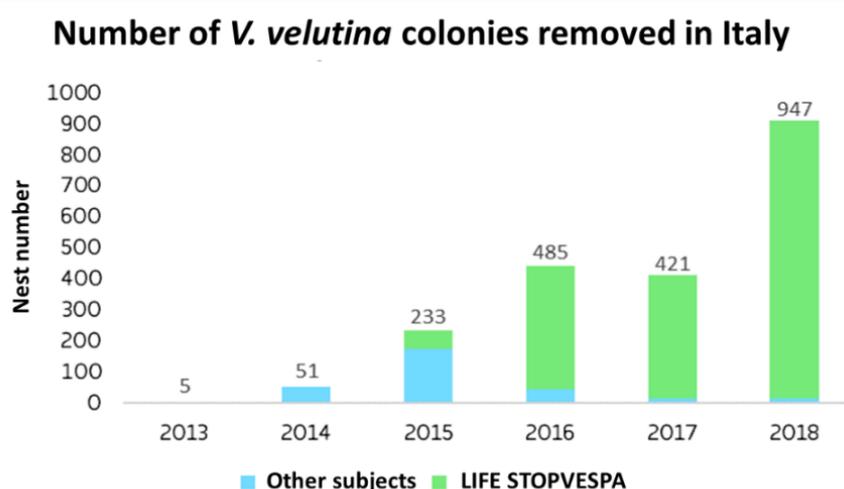


Figure 4 - Number of colonies detected and removed in Italy from 2013 to 2018. LIFE STOPVESPA started in August 2015, and the effort in nest destruction addressed directly by the project increased in the years (green).

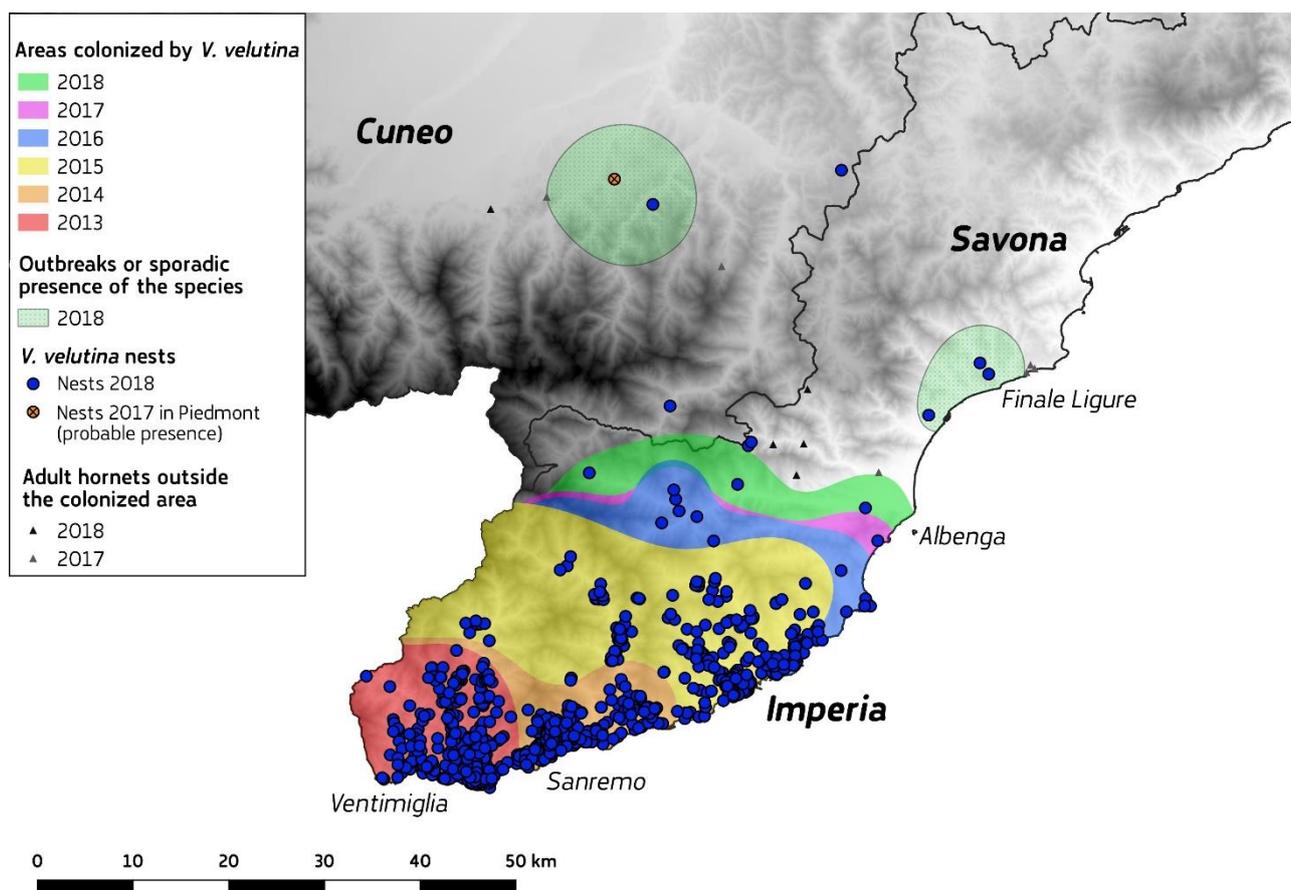


Figure 5 - Main distribution of *V. velutina* at the end of 2018 (the outbreak of La Spezia is not included). Nests detected and removed in 2018 (blue dots) are mainly included in the area that was already colonized by the species in year 2015.

Control activities of LIFE STOPVESPA continued until 31 July 2019 (end date of the project). Afterwards, procedures and strategies developed by the project were adopted by the Regional Authority of Liguria, which continued control activities thanks to the Civil Defence teams trained by the project and the collaboration of a regional Protected Area (Parco Alpi Liguri). In 2019, 222 colonies were detected and destroyed in Liguria by the end of October (123 within the framework of LIFE STOPVESPA and 99 in the After-LIFE period). Since some nests will be destroyed during the months of November and December, it is possible to forecast that at least 300 colonies per year should be removed in the future in Liguria. Instead, in Piedmont, five colonies were detected and destroyed in 2018 while no colonies are reported till now in 2019. However, considering the evolution of *V. velutina* population in this region (low-density populations, often at an undetectable level), it can be estimated that at least three colonies were present by the end of the project. Values for this indicator are included in Table 4, and density values calculated in respect to the areas reported in Table 1.

Table 4 - Indicator concerning the density and the number of colonies of *V. velutina* detected and removed in Liguria (Mediterranean context) and Piedmont (Continental context) at the beginning and at the end of the project. Values forecasted at the beginning of the project and real values observed at the end are reported.

COMPOUND CONTEXT	INDICATOR	VALUES FORECASTED AT PROJECT			REAL VALUES AT THE END OF THE PROJECT		
		START VALUE	START END VALUE	BEYOND END VALUE	START VALUE	END VALUE	BEYOND END VALUE
Mediterranean	No. Colonies	600	50	50	600	222	300
	Populattion/ha	-	-	-	0.0032	0.0014	0.0020
Continental	No. Colonies	10	0	0	10	3	3
	Populattion/ha	-	-	-	0.00007	0.00004	0.00004

Involvement of non-governmental organisations (NGOs) and other stakeholders in project activities (10.2)

Beekeepers and beekeeper associations are the main target group that should be involved in the management strategy for *V. velutina*. They are directly affected by the presence of *V. velutina*, and have the greatest probabilities of detect the presence of the species in the environment. Moreover, apiaries are widespread in the environment and are periodically checked by the beekeepers. Because of these reasons, LIFE STOPVESPA worked since the beginning of the project to engage beekeepers and their associations for the establishment of a monitoring network for *V. velutina*; such a network represented the starting point for the establishment of an early warning and rapid response system. Both the number of subjects involved and the number of monitoring stations in Liguria and Piedmont regions increased during the project period, passing from about 40 monitoring station by 2014 up to 1.693 monitoring stations by the end of the project (Table 5, 6 and Fig. 6).

Moreover, LIFE STOPVESPA performed dissemination activities with other stakeholders, to enlarge as much as possible the people engaged in the monitoring network. Among these stakeholders are: some Italian protected areas, different Civil Defence teams and firefighters teams in the project area, other people that frequent the environment (e.g. hunters).

Table 5 - Monitoring stations activated by the LIFE STOPVESPA project with the collaboration of beekeepers, beekeeper associations and other volunteers.

REGION	No. MONITORING STATIONS	STAKEHOLDERS INVOLVED IN THE MONITORING NETWORK
Piedmont	672	UNITO, ASPROMIELE, Agripiemonte Miele, C.A.P.T., Apicoltori Biella e Vercelli
Liguria	1008	DISAFA, Abbazia Padri Benedettini Santa Maria di Finalpia, Alpa Miele, Apiliguria, voluntary beekeepers
Tuscany	5	Voluntary beekeepers
Veneto	7	Voluntary beekeepers
Lombardy	1	Voluntaries of a protected area

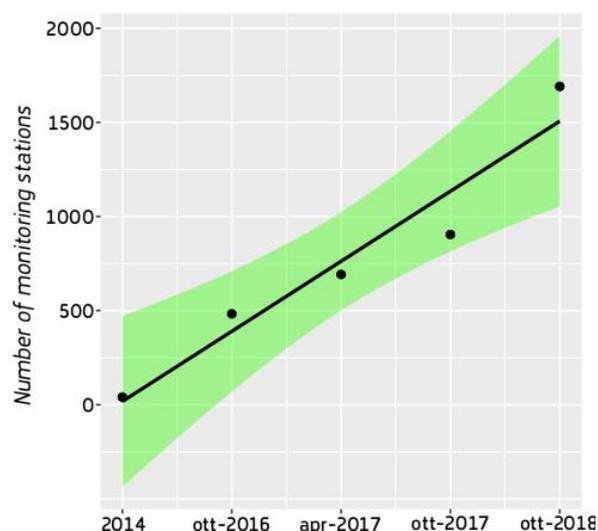


Figure 6 - Increase of the number of monitoring stations for V. velutina in Piedmont and Liguria regions.

Table 6 - Indicator concerning the number of stakeholders (mainly beekeepers) involved in the monitoring network of LIFE STOPVESPA in Liguria (Mediterranean context), Piedmont (Continental context) and outside project area (Italy context). Values forecasted at the beginning of the project and real values observed at the end are reported.

COMPOUND CONTEXT	VALUES FORECASTED AT PROJECT START			REAL VALUES AT THE END OF THE PROJECT		
	START VALUE	END VALUE	BEYOND END VALUE	START VALUE	END VALUE	BEYOND END VALUE
Mediterranean	0	50	50	0	1008	1008
Continental	0	50	50	0	672	672
Italy	0	0	0	0	13	13

Website (11.1)

Two main dissemination tools of LIFE STOPVESPA are the project website (www.vespavelutina.eu) and the social media webpage (facebook page: [LIFE StopVespa](https://www.facebook.com/LIFEStopVespa)). These pages have been monitored along the project, by recording monthly data on the number of sessions, the number of unique visitors (number of unduplicated visitors to the website over the course of a specified time period), number of interactions and downloads or news and post published by the staff of the project. This allowed understanding the public engagement throughout these tools and the reaction of the public to project activities.

People followed both the project website and social media webpage more than expected (Table 7), with an average of 1.618 single users per month for the website and 567 engaged users per month for the social media webpage (Fig. 7). Along the four years of project activities, the monthly number of single users increased (Fig. 8), despite some monthly variation in relation to the publication of news considered of more interest by the public. The number of users following the social media webpage (like or followers) increased also with a linear trend (Fig. 7). By the end of the project, **59.761 total sessions** were recorded for the project website, of these sessions **46.850 were single users** (78%), with a mean duration per session of 1 min and 51 sec. The potential total reach of the social media webpage is 9.036 people per month (further details are available in the Final Report of

action D.3 “Monitoring the level of information”). Project material in the download section was downloaded 10,434 times by the end of the project.

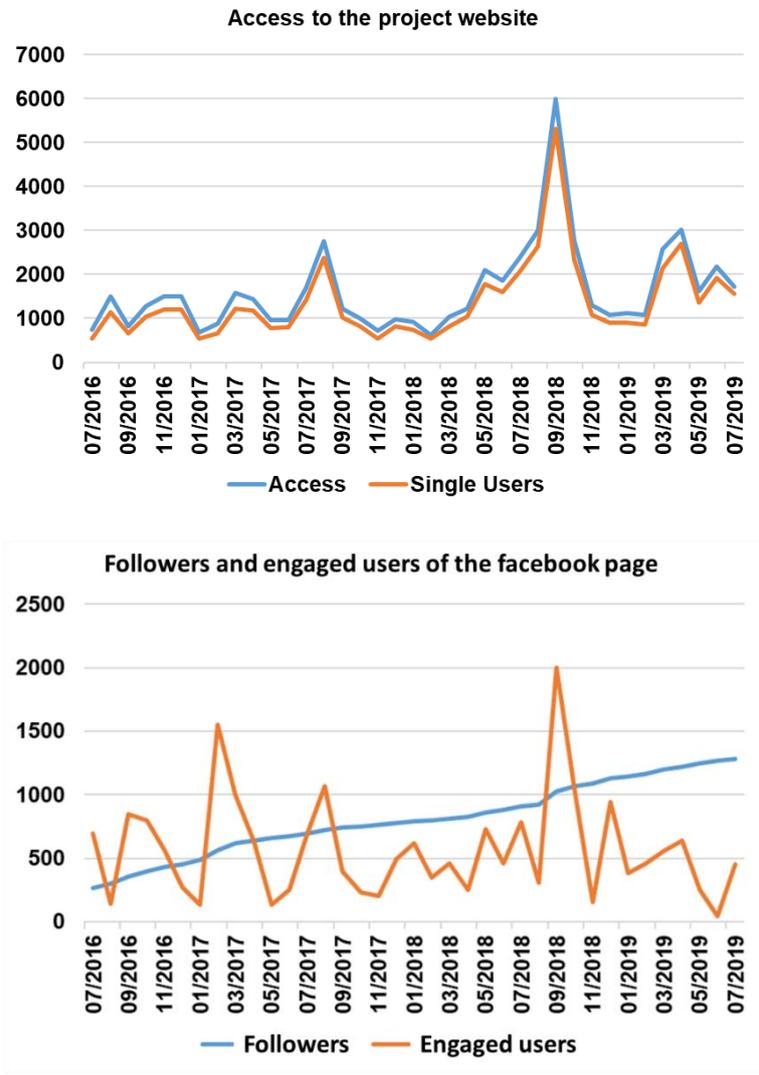


Figure 7 - Accesses to the project website and engaged users of the facebook page.

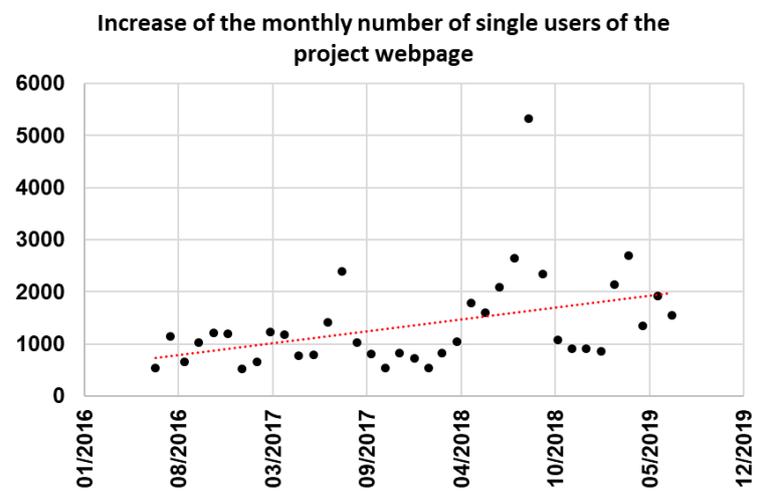


Figure 8 - Trend of the monthly number of single users of the LIFE STOPVESPA project website.

Table 7 - Indicator concerning public engagement through the project website in Liguria (Mediterranean context) and Piedmont (Continental context) at the beginning and at the end of the project. Values forecasted at the beginning of the project and real values observed at the end are reported. Beyond end values have been estimated.

COMPOUND CONTEXT	DESCRIPTOR	VALUES FORECASTED AT PROJECT START			REAL VALUES AT THE END OF THE PROJECT		
		START VALUE	END VALUE	BEYOND END VALUE	START VALUE	END VALUE	BEYOND END VALUE
Italy	Individuals	-	-	-	0	59,761	75,000
	Unique visits	0	22,800	33,000	0	46,850	56,000
	Mean visit duration	-	-	-	0	1:51	1:51
	Downloads	-	-	-	0	10,434	12,000

Other tools for reaching/raising awareness of the general public (11.2)

Other dissemination tools adopted by the project to rise citizen awareness foreseen the production of dissemination materials, posters, video clips, participation to public meetings and the dissemination of information through the media. Hereafter a detailed description of each category, while indicator values are reported in Table 8.

Printed publications and materials

The project realized and printed different materials to disseminate information to the public, both in Italian and English language to reach people at a national and international level: *i)* leaflet, 33,000 copies of which 28,000 in Italian and 5,000 in English; *ii)* brochure, 10,000 copies of which 9,000 in Italian and 1,000 in English; *iii)* Layman’s report, 5,000 copies double language (Fig. 9). All these materials are also available online on the project website. About 4,500 copies of the Layman’s report will be distributed after the end of the project, as part of the After-LIFE communication activities.



Figure 9 - Example of printed materials produced by LIFE STOPVESPA: leaflet (left); brochure (middle); Layman’s report (right).

Posters, banners and notice boards

Other tools used for public engagement are the materials that could be displayed during events, meetings or in beneficiaries’ premises (Fig. 10). These tools enclose: *i)* 3 banners, displayed during meetings and conferences; *ii)* 6 notice boards, permanently displaced in the premises of

beneficiaries and occasionally used during fairs or public events; *iii*) 11 posters produced by UNITO that were displayed at international conferences to disseminate project activities and results.



Figure 10 - Example of banner (left) and notice board (right) produced by LIFE STOPVESPA.

Video documentary and video pills

LIFE STOPVESPA produced a double language (Italian and English) video documentary on *V. velutina* and on the activities developed by the project (length 41:30), named “LIFE for the Bees”. Besides to the documentary, two short video pills and one trailer were produced. These materials were distributed during meetings and conferences and are available on the YouTube channel of the project¹.

Hotline and phone numbers

Since the early warning and rapid response system developed by LIFE STOPVESPA in Italy also foresees the acquisition of reports by citizens, the project activated hotline and dedicated phone numbers to gather reports from the public. In Liguria, LIFE STOPVESPA cooperated with the regional authority to activate a Regional hotline number (800 445 445), which was managed by project staff during the running period of STOPVESPA. Moreover, two phone numbers were activated by UNITO, to gather reports from Piedmont, Liguria and other Italian regions, and one mobile phone number by ASPROMIELE (Beekeeper Association of Piedmont partner of LIFE STOPVESPA), to gather reports from beekeepers in Piedmont.

¹ <https://www.youtube.com/channel/UCYU-pFlqlc0tvkyo8xXwyWQ>

Media engagement for publication of news concerning the project

The staff of LIFE STOPVESPA spread information to the media by producing periodically press releases and monitoring on the same time published news. Recorded data indicate that, of all the news monitored, 133 (40%) had a clear reference to the project or to activities developed by LIFE STOPVESPA. This result has been achieved by a constant effort in spreading information with journalist, but also thanks to the three press conferences organized in Liguria in coordination with the regional authority (Fig. 11).



Figure 11 -Final press conference of LIFE STOPVESPA project.

Participation to public meetings, conferences and events

The staff of the project organized and participated in many public meetings, conferences and events to engage stakeholders, disseminate project results and rise awareness in the public. Conferences and events were attended both inside (Liguria and Piedmont) and outside project area (Italy and Europe), to disseminate information to a national and international level (Fig. 12).

Hereafter the estimated number of events/meetings per category:

- **25 meetings with stakeholders** (18 in Liguria, 6 in Piedmont and 1 outside project area);
- **45 public meetings with citizens and beekeepers** (17 in Liguria, 17 in Piedmont and 11 outside project area);
- **14 participation to exhibitions and fairs** (4 in Liguria, 5 in Piedmont and 5 outside project area);
- **3 press conferences and 1 event on national television** (3 in Liguria and 1 outside project area);
- **19 educational activities with the schools** (9 in Liguria and 10 in Piedmont);
- **8 training courses and workshops** (5 in Liguria and 3 in Piedmont);
- **39 national or international conferences** (2 in Liguria, 4 in Piedmont, 14 in other Italian region and 19 in other European countries).

Moreover, UNITO will participate in International Conference Apimondia in Montréal (Canada) in September 2019, as part of the After LIFE communication activities.



Figure 12 - Example of stands of the LIFE STOPVESPA project.

Table 8 - Indicator concerning other tools for reaching/raising awareness of the general public used by LIFE STOPVESPA and divided between Liguria (Mediterranean context) and Piedmont (Continental context) at the beginning and at the end of the project. Values forecasted at the beginning of the project and real values observed at the end are reported. Beyond end values have been estimated.

COMPOUND CONTEXT	DESCRIPTOR	VALUES FORECASTED AT PROJECT START			REAL VALUES AT THE END OF THE PROJECT		
		START VALUE	END VALUE	BEYOND END VALUE	START VALUE	END VALUE	BEYOND END VALUE
Italy	Publications/reports	0	35,000	5,000	0	43,500	4,500
	Displayed information (poster, information boards)	0	10	10	0	20'	20'
	Other media (video/broadcast)	0	4	4	0	4	4
	Hotline/information centre	-	-	-	0	4	4
	Print media	-	-	-	0	133	145
	Events/exhibitions	-	-	-	0	116''	120''

' values that encloses banners, notice boards and 11 posters produced by UNITO for International Conferences.

'' values do not include educational activities with the schools

Networking (12.1)

LIFE STOPVESPA participated in different networking events (see previous chapter), on one side with citizens, beekeepers and school students of project area, but on the other side with other LIFE project and the scientific community, by attending national and international conferences.

Activities with the schools have been performed by UNITO and ASPROMIELE, by organizing 19 events in the four years of the project, of which 9 in Liguria region and 10 in Piedmont region (Fig. 13). The total number of students that took part to these events is **1,140** (637 in Liguria and 503 in Piedmont) of 63 classes.

Of the 39 national and international conferences (see previous chapter), 9 were events that allowed networking activities with other LIFE projects, as the Platform Meeting on Invasive Alien Species (Italy, 29-30/11/2017) or the Platform Meeting on Invertebrates (England, 18-19/09/2018).



Figure 13 - Example of educational activities with the schools.

Table 9 - Indicator concerning networking activities with schools, citizens and beekeepers divided between Liguria (Mediterranean context) and Piedmont (Continental context) at the beginning and at the end of the project. Values forecasted at the beginning of the project and real values observed at the end are reported. Beyond end values have been estimated.

COMPOUND CONTEXT	DESCRIPTOR	VALUES FORECASTED AT PROJECT			REAL VALUES AT THE END OF THE PROJECT		
		START VALUE	END VALUE	BEYOND END VALUE	START VALUE	END VALUE	BEYOND END VALUE
Mediterranean	Pupils (of school age)	0	300	300	0	637	637
	Members of interest groups	0	75	100	0	770'	800
Continental	Pupils (of school age)	0	300	300	0	503	503
	Members of interest groups	0	75	100	0	400'	450
Italy	Pupils (of school age)	0	0	0		0	0
	Members of interest groups	0	0	0		1,045	1,100

' values obtained by the estimate of people that took part to "Public meetings and conferences" and "Training courses and workshops".

Jobs (13)

LIFE STOPVESPA established a control strategy for *V. velutina* in Italy, employing additional staff for the development of the foreseen activities besides to the permanent staff that collaborated to the project. In the four year of the project, 30 people were directly employed by LIFE STOPVESPA, both full time or for a determined period of the year (e.g. 6 month). UNITO employed a Project Manager, a Technical support to the project, an average of four people per year for the two monitoring teams, one additional staff for the communication activities and one for evaluating the impacts of *V. velutina* on biodiversity. The Polytechnic University of Turin (POLITO) employed three Junior Engineer for the development of the harmonic radar prototypes used for tracking *V. velutina* back to the nests. The two associated beneficiaries ASPROMIELE and APIBEN (Abbazia dei Padri Benedettini S.M. di Finalpia) employed the destroyer teams that worked in the control strategy for nest destruction (generally three destroyer teams of at least two people, working from June-July to December).

The number of days worked by additional staff of UNITO and the POLITO is estimated in 8.931 days, equivalent to 24.5 FTE. Destroyers employed by ASPROMIELE and APIBEN worked for a total period of 2.992 days, despite their activity was not full-time for the employed period. Considering their work as a part-time (assuming a 50% of occupancy), it can be estimated a value of 4.10 FTE (Table 10). Moreover, an estimate of 2.9 FTE and 3.2 FTE of additional staff will continue to be employed beyond the end of LIFE STOPVESPA respectively in Liguria and Piedmont, for at least few years.

Table 10 - Indicator concerning the jobs originated by the implementation of the LIFE STOPVESPA project divided between Liguria (Mediterranean context) and Piedmont (Continental context) at the beginning and at the end of the project. Values forecasted at the beginning of the project and real values observed at the end are reported. Beyond end values have been estimated.

COMPOUND CONTEXT	DESCRIPTOR	VALUES FORECASTED AT PROJECT			REAL VALUES AT THE END OF THE PROJECT		
		START		BEYOND END VALUE	PROJECT		
		START VALUE	END VALUE		START VALUE	END VALUE	BEYOND END VALUE
Mediterranean	Jobs (FTE)	0	2.2	0	0	4.1	2.9
Continental	Jobs (FTE)	0	18.2	0	0	24.5	3.2

Running cost/operating costs during the project (14.1)

LIFE STOPVESPA is a EU funded project with a foreseen total running cost of 2.273.738,00 €, of which 60% financed by EU and 40% by the beneficiaries. Three of the four beneficiary are in Piedmont region, while one is in Liguria. Consequently, most of the project budget has been managed in the Continental context, while a minor proportion in the Mediterranean context (Table 11). The final real running cost of LIFE STOPVESPA is 2.255.975,20 €. The three beneficiaries of the Continental context recorded a final total cost of 1.999.053,96 €, while the beneficiary in the Mediterranean context a final total cost of 256.921,24 €.

To continue the communication and the monitoring activities for *V. velutina*, UNITO will use its own resources beyond the end date of the project, as no other external financial sources have been identified. The other project partners will also use own resources for carry on their respective

activities. Beyond end values included in this indicator corresponds to the final costs of the project plus part of the costs of permanent staff of the beneficiaries, in particular:

- APIBEN, 6% per year of one permanent staff for five years;
- ASPROMIELE, 11% per year of one technician for five years;
- POLITO, 2% per year of one senior engineer for five years;
- UNITO, 15% per year for Project Leader for five years, 50% of Project Manager for about one year, 10% of a Professor for about two years and 30% of a Research fellowship for about two years.

Table 11 - Indicator concerning the running cost of LIFE STOPVESPA divided between Liguria (Mediterranean context) and Piedmont (Continental context) at the beginning and at the end of the project. Values forecasted at the beginning of the project and real values observed at the end are reported.

COMPOUND CONTEXT	DESCRIPTOR	VALUES FORECASTED AT PROJECT START			REAL VALUES AT THE END OF THE PROJECT		
		START VALUE	END VALUE	BEYOND END VALUE	START VALUE	END VALUE	BEYOND END VALUE
Mediterranean	Running cost	0	252.071,00 €	252.071,00 €	0	256.921,24 €	264.786,24 €
Continental	Running cost	0	2.021.667,00€	2.021.667,00€	0	1.999.053,96 €	2.111.787,96 €

Future fundings (14.3)

For continuing the control activities against *V. velutina*, the Regional Authority of Liguria has already allocated 50,000 € to the protected area “Parco Alpi Liguri”, for covering the costs of nests destruction since the beginning of August 2019. At the moment, it is not possible to confirm the availability of dedicated financial resources for the following years, however we are confident that funds will be allocated also for the following five years, thus a total of 250,000 € is estimated as future fundings for Liguria, considering a constant effort of Liguria Region as performed in 2019.

No values are provided for Piedmont, since the Regional Authority has not declared the availability of future fundings dedicated to control *V. velutina* in this region.

Table 12 - Indicator concerning the estimated future funding in Liguria (Mediterranean context).

COMPOUND CONTEXT	DESCRIPTOR	BEYOND END VALUE
Mediterranean	Future fundings - Grants, subsidies	250,000 €