# A PROGRAMME OF TARGETED SURVEILLANCE AND DETECTION OF SHB (*Aethina tumida*) IN GREECE (2018-2019)

## (use of sentinel hives in high risk areas)

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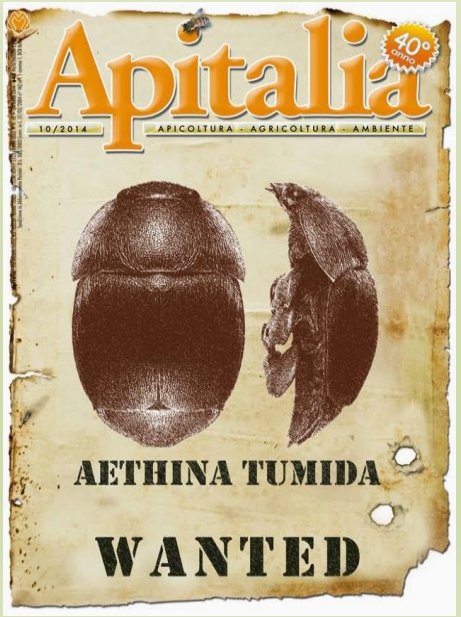


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# Drafting a programme

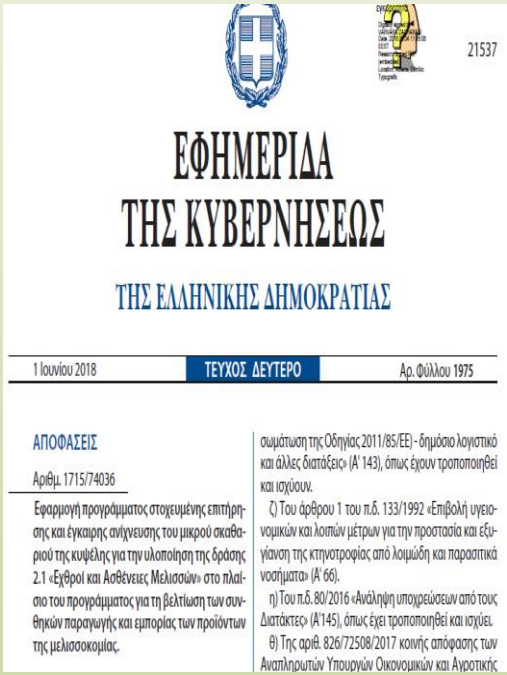
- **Based on: Guidelines for the surveillance of the small hive beetle (*Aethina tumida*) infestation Updated version (April 2016)**

CHAUZAT M.P., LAURENT M., BROWN M., KRYGER P, MUTINELLI F., ROELANDT S., ROELS S., VAN DER STEDE Y., SCHÄFER M., FRANCO S., DUQUESNE V., RIVIÈRE M.P., RIBIÈRE-CHABERT M. & HENDRIKX P. (2016). Guidelines for the surveillance of the small hive beetle (Aethina tumida) infestation. **European Union Reference Laboratory for honeybee health (EURL), Anses Sophie-Antipolis, France, pp. 21**.

- Useful tools
  - Small hive beetle diagnosis and risk management options European Food Safety Authority (EFSA)
  - Other publications
- Result: **Ministerial Decision 1715/74036/01.06.2018**

**The Ministry of Rural Development and Food designed a**

**PROGRAMME OF TARGETED SURVEILLANCE AND DETECTION OF SHB**



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ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ

ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

1 Ιουνίου 2018 | ΤΕΥΧΟΣ ΔΕΥΤΕΡΟ | Αρ. Φύλλου 1975

ΑΠΟΦΑΣΕΙΣ

Αριθμ. 1715/74036

Εφαρμογή προγράμματος στοχευμένης επιτήρησης και έγκαιρης ανίχνευσης του μικρού σκαθαριού της κυψέλης για την υλοποίηση της δράσης 2.1 «Εχθροί και Ασθένειες Μελισσών» στο πλαίσιο του προγράμματος για τη βελτίωση των συνθηκών παραγωγής και εμπορίας των προϊόντων της μελισσοκομίας.

σωμάτωση της Οδηγίας 2011/85/ΕΕ) - δημόσιο λογιστικό και άλλες διατάξεις» (Α' 143), όπως έχουν τροποποιηθεί και ισχύουν.

ζ) Του άρθρου 1 του π.δ. 133/1992 «Επιβολή υγειονομικών και λοιπών μέτρων για την προστασία και εξυγίανση της κτηνοτροφίας από λοιμώδη και παρασιτικά νοσήματα» (Α' 66).

η) Του π.δ. 80/2016 «Ανάληψη υποχρεώσεων από τους Διατάκτες» (Α'145), όπως έχει τροποποιηθεί και ισχύει.

θ) Της αριθ. 826/72508/2017 κοινής απόφασης των Αναπληρωτών Υπουργών Οικονομικών και Αγροτικής

# Main objective of the programme

- **The timely detection of SHB through active and targeted surveillance of sentinel apiary's in designated high risk zones.**
- **Other objectives of the programme**:
  - Awareness of the beekeeper community
    - Editions & distribution of information material (e.g. Leaflet SHB, *Tropilaelaps spp., Vespa velutina*)
    - Training sessions
    - Close cooperation with the beekeeper and their representatives
  - Awareness & training of the beekeeper in the risk zones
  - Awareness & training of the officials (bee related public servants)

# Involved stakeholders

- **Drafting, coordination and supervision of the programme:**

  Ministry of Rural Development and Food,

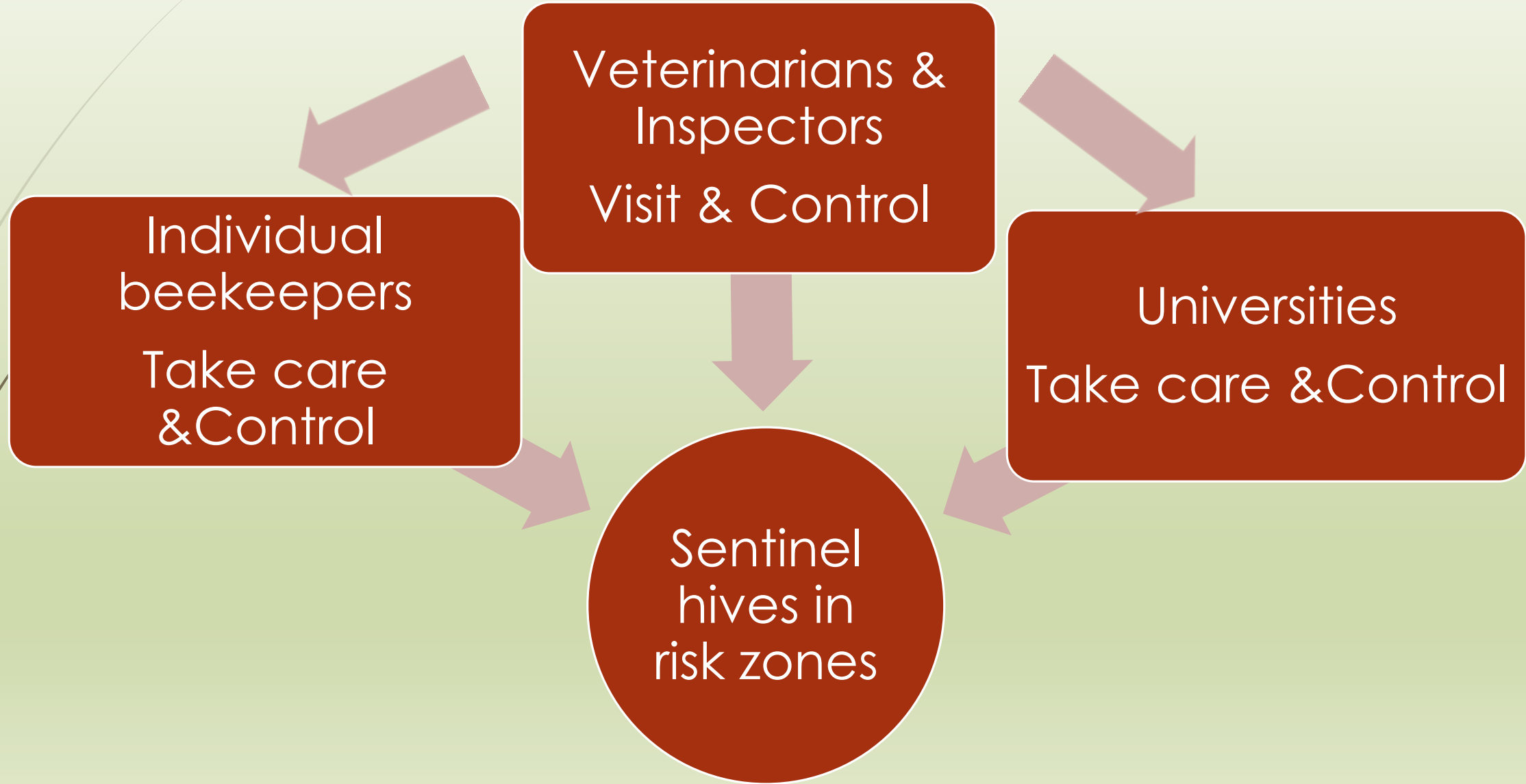
  General Directorate of Veterinary Services, Directorate of Animal Health

- **Application of the programme in the field:**
  - **Veterinarians** from the State Veterinary Departments of the involved regions
  - Assisted by the **Beekeeping Inspectors** (Agriculturists or Veterinarians) of the regional Beekeeping Centres
- **Examination of the samples, training, technical support:**

  Veterinary Laboratory of Kavala (NRL)

- **Beneficiaries of the programme:**
  - Individual Beekeepers
    - **Eligible apiaries in the programme: 21**
    - **Eligible bees hives in the programme: 395**
  - Universities & Bee Research Institutes
    - **Eligible apiaries in the programme: 5**
    - **Eligible bees hives in the programme: 90**

# Summary outline of the programme



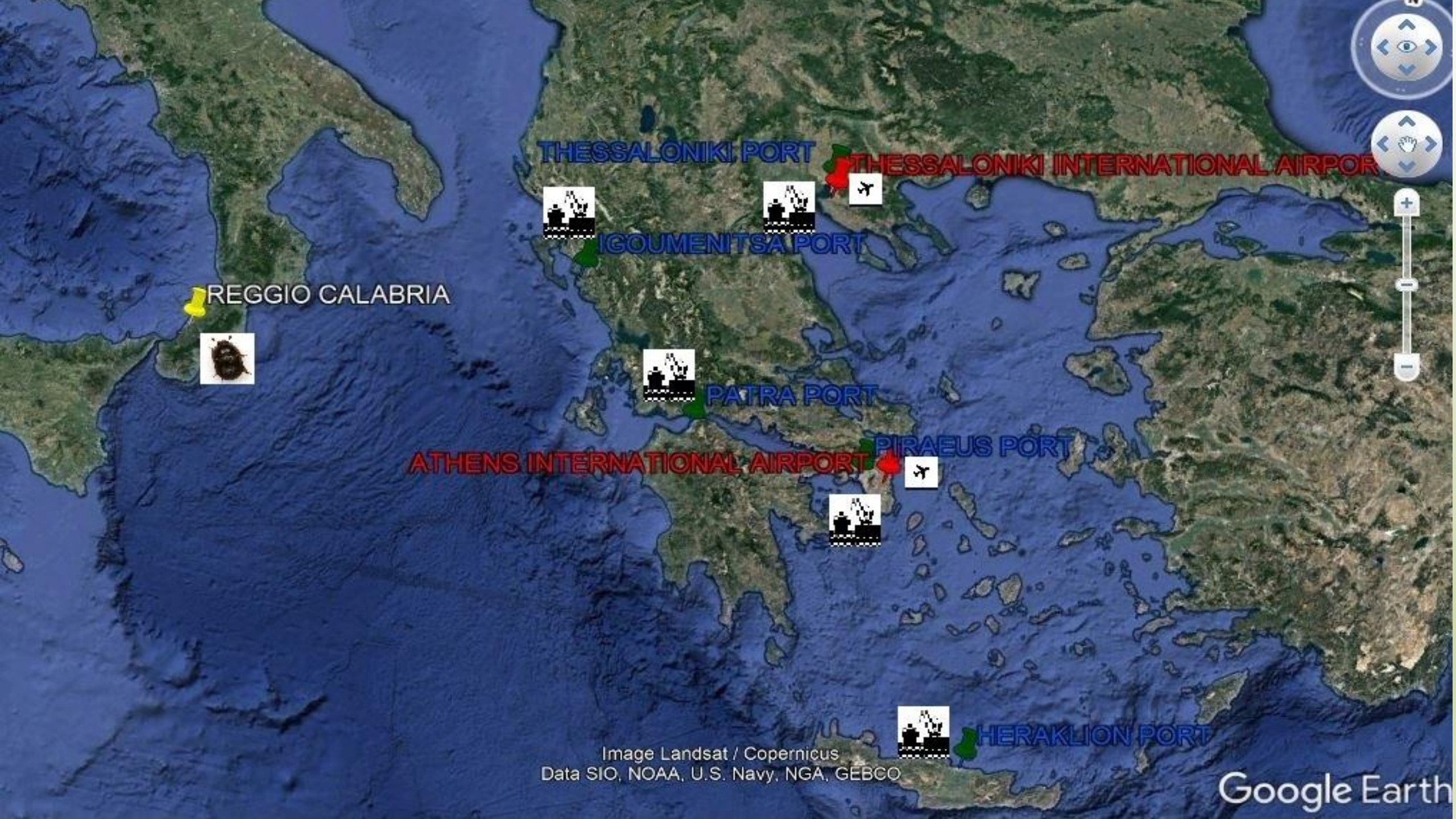
# Financing this programme

- **financing of the compensation of sentinel hives**
  - **European Union 50% (European Agricultural Guarantee Fund (EAGF), KA 4324)**
  - **National means 50% (Regular Budget of the Ministry of Rural Development and Food, K.A.E. 5423Φ.29/110)**

  implementation of the **action 2.1 "*Enemies and Diseases of Bees*" in the framework of the programme to improve the conditions of production and marketing of beekeeping products**
- **financing traps, leaflets, aspiratory devices**
  - **Regular Budget of the Ministry of Rural Development and Food**
- **financing the cost of inspections of sentinel apiaries, sending and examination of samples, trainings, etc.**
  - **Regular budget of state authorities and beekeeping centers)**
- **total cost of the programme (2018-19): about 110,000€**

# Determination of the high risk zones

- Determination of probable gateways
  - **Ports and airports** with international trade of high risk materials (two airports & five ports)
- Precise delimitation of high risk zones
  - **In a radius of 10km** from the probable gateways
  - In a radius of 15km under special circumstances
- Placement of sentinel apiaries in high risk zones
  - **Three apiaries of individual beekeepers in every risk zone (obligatorily)**
    - **10 to 20 sentinel hives in every apiary**
  - Up to three apiaries of Universities or Bee Research Institutes in every risk zone (optional)
    - 10 to 20 sentinel hives in every apiary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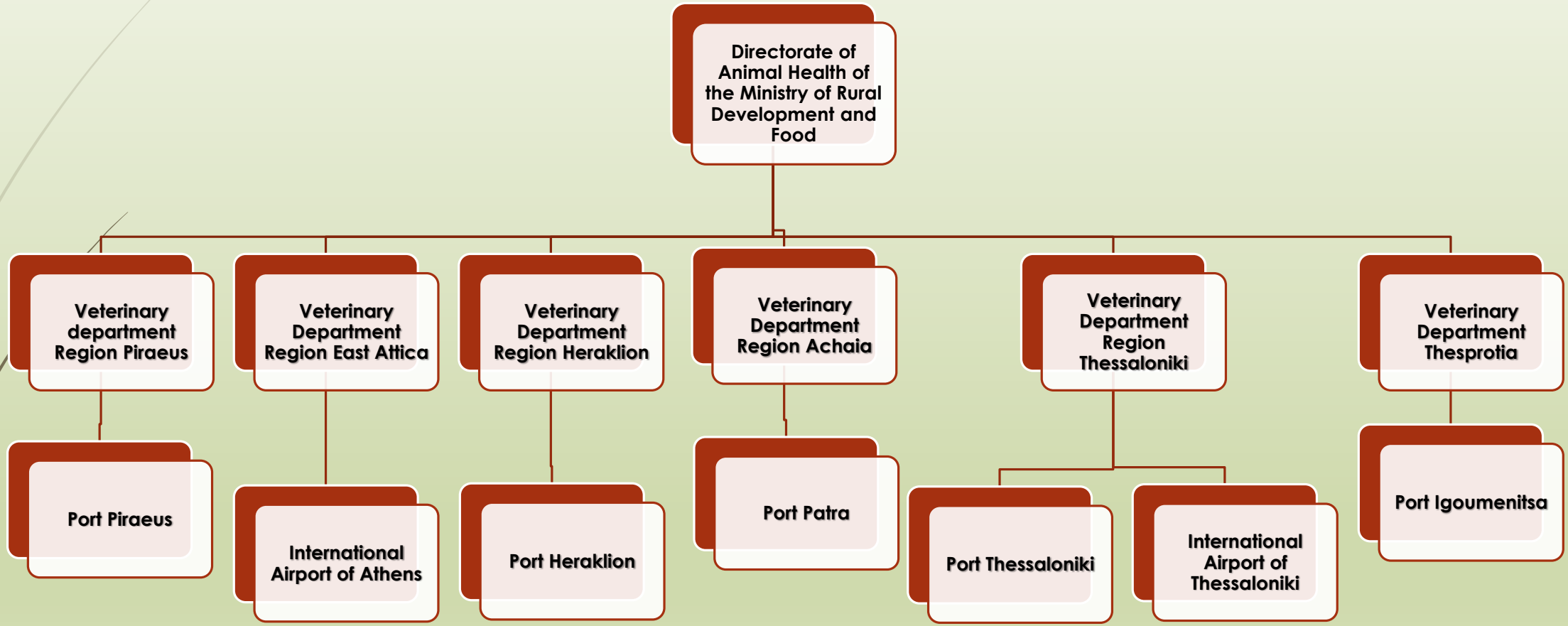
THESSALONIKI INTERNATIONAL AIRPORT
IGOUMENITSA PORT
REGGIO CALABRIA
PATRA PORT
PIRAEUS PORT
ATHENS INTERNATIONAL AIRPORT
HERAKLION PORT
Image Landsat / Copernicus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Google Earth

# Structure of the programme



# Information about the involved beekeepers

- Prerequisite: **beekeeper with 40 or more hives**
- Selection: **randomly**, from the official list of beekeepers of the region
- Participation: Voluntary
- Number of selected hives: **min. 10**, **max. 20 per beekeeper** in a high risk zone
- Reimbursement per hive for beekeepers: **75€** for the year 2018 & **150€** for the year 2019 (**60€** & **120€** for Institutions)
- Liabilities of beekeepers:
  - They have to keep hives: with **5 ± 1 frames**, **in the risk zone, all year round** (movements are allowed only in risk zone), **with a queen and frames with bee bread, honey and brood as well**.
  - They have to **manage the beekeeping practices** to keep the hives alive, to feed the bees if it is necessary, to depress the swarming, etc.
  - They have: to **visit the hives every 15 days** if it is possible (according to the weather conditions), **to inspect for SHB**, to keep a diary of the visits and the beekeeping practices

# Information about the involved beekeepers

- They must report the Case immediately to the authorities if they find suspicious beetles or larvae
- They have to **use and maintain traps in sentinel hives** (**beetle blaster®** between the frames) and (**corrugated plastic strips,** 100 x 478 x 4 mm or alternatively 75 x 500 x 4mm) in the bottom board of the sentinel hive (Schäfer type)
- They have to take part in every training session - they have to collaborate with authorities



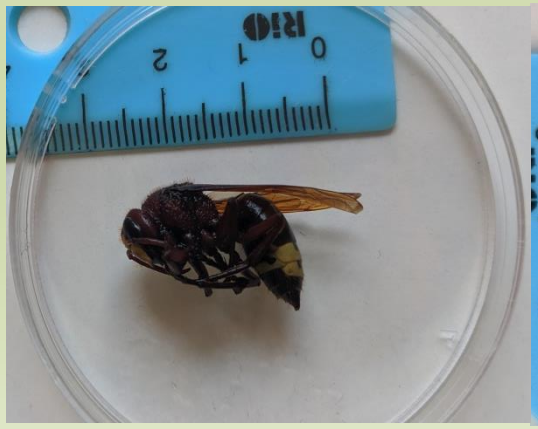

Schäfer et al., 2010

# Information about the involved veterinarians

- They have to inform the beekeepers about the programme and to train them accordingly
- They have to visit the sentinel apiaries
  - For the year 2018 one visit until 20.07.2018
  - For the year 2019 three visits (September-October 2018, February-March 2019 & May – June 2019)
- They have to inspect all the sentinel hives and the traps for the presence of SHB, additionally they have to control for *Tropilaelaps spp. & Vespa velutina*
- If there are "suspicious cases" they have to send the samples to the NRL for examination
- They have to monitor the beekeepers' compliance with the programme

# Results

- About **1,900 of inspections in sentinel hives** for SHB and other exotic arthropods were performed
- The NRL received "suspicious samples" but **no *A. tumida* or other exotic arthropods were found**.
  - Most of the suspicious specimens were **wax moth larvae**
  - Insects in traps were rarely found (E.g. *Forficulidae*), though in one case beetles (*Carpophilus spp.*)
  - Hornets and wasps were also received in the lab (*V. orientalis and V. germanica*)
- The cooperation between the involved stakeholders was successful and the awareness of the beekeeper community was satisfactory




# Difficulties

- Several losses of sentinel hives were observed in Northern Greece, which were associated with intense weather conditions and small colony size
  - All the dead colonies were replaced
- Some apiaries in South Greece had a serious problem in Autumn with hornets. It was recommended that beekeepers should:
  - move the colonies to other areas within the high risk zone
  - restrict the entrance of the hive
  - use traps
- Veterinarians should be encouraged to send samples to the laboratory in the case where it seems apparent that the larvae or adult insect is not *A. tumida*. It is a "threshold of embarrassment" to send a sample that is not positive.
  - It is recommended that every larvae or everything that looks like a beetle should be sent to the Laboratory

# Future perspectives - modifications

- **There is the prospect to continue the programme in the future (Possibly next year).**
- Some **modifications** to the programme may also be possible, for example:
  - Changing the size of the colony from 5± 1 to 5-10 frames makes it more resistant to weather conditions/overwintering and to enemies (hornets) as well
  - The changing of the size will be more time-consuming for the inspections

# Acknowledgements to


- **To all the participants of the programme**
- To **ANSES** and all the people who were involved in the writing of the Guidelines

**"Guidelines for the surveillance of the small hive beetle (*Aethina tumida*) infestation"**

  - It is a very helpful tool

- **Special thanks to Dr. Franco Mutinelli**


# Thank you for your attention ...