 **AIM-COST QUESTIONNAIRE**

**Thank you for completing this questionnaire. You will be asked to fill in an online version at a dedicated session of the 2019 Action Annual Meeting in Athens.** Please contact us at [questionnaire@aedescost.eu](mailto:questionnaire@aedescost.eu) for further information

AIM-COST (<http://www.aedescost.eu>) is tasked with finding what needs to be done to improve and harmonise existing guidelines for the surveillance and control of *Aedes* invasive mosquitoes. This questionnaire is a first step in that process, and will use the ‘Delphi’ methodology. This means the results will be sent to all respondents, who will then be given the opportunity to revise their answers.

**A. General Information about Respondent**

**This information will be treated as strictly confidential and used only to harmonise and disseminate Aedes invasive mosquito surveillance and control guidelines**

Name (optional) : Enter Name

Gender (optional): Enter Gender

Affiliation: Enter Affiliation

Qualification: Enter Qualification

Field(s) of expertise: Enter Primary Expertise

Years of experience: Enter Number of Years.

Occupation: Enter main occupation

Institution category: Enter category

Location of operations/fieldwork: Enter Country/Province/City

Date and place you completed questionnaire: Enter date and location:

**C. Do you give AIM COST representatives your consent to use the answers you provide in an analysis on how to harmonise and disseminate *Aedes* invasive mosquito surveillance and control guidelines?**

☐ Yes☐ No

**B. Do you want AIM Cost to contact you with feedback on the analysis of this survey?**

☐ Yes, AIM COST may contact you again about this questionnaire

☐ No, I do not want to be contacted again about this questionnaire

If Yes, please provide your email Enter Email address

Are you prepared to confirm or revise your answers as part of the analysis?

☐ Yes ☐ No

**Main Survey**

1. **Has the presence of *Aedes* invasive species already been reported in your country?**

☐ Yes ☐ No ☐ I am not aware

If YES which species?(*Check all that apply*)

|  |  |  |
| --- | --- | --- |
|  | Only sporadic records | Established populations |
| *Aedes aegypti* | ☐ | ☐ |
| *Aedes albopictus* | ☐ | ☐ |
| *Aedes japonicus* | ☐ | ☐ |
| *Aedes koreicus* | ☐ | ☐ |

**Questions about Monitoring and Surveillance**

1. **Are you aware of any national/regional/local MONITORING/SURVEILLANCE legal framework or other plans for *Aedes* invasive mosquitoes in your country?**

☐ Yes (if so, please reply to questions 3, 4 and 5)

☐ No (if so, go directly to question 7)

☐ I do not know (if so, go directly to question 7)

1. **To your knowledge, at which level are the *Aedes* invasive mosquito MONITORING/ SURVEILLANCE strategy defined in your country/region, and list the relevant competent authorities?**

In some countries, different bodies/levels organise different aspects of mosquito surveillance. If this is the case in your country, please list all of them at the appropriate level.

☐ Yes ☐ No ☐ I do not know

If YES, at which level and by who is it organised?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Please specify the authorities below and check all that apply* | **Monitoring of *Aedes* invasive mosquito abundance and nuisance** | **Surveillance of introduction and spread of *Aedes* invasive mosquitoes** | **Surveillance related to imported or local *Aedes*-borne human arbovirus infection cases** |  |
| National governmental level | |  |  |  |
| *Enter name 1* | ☐ | ☐ | ☐ |
| *Enter name 2* | ☐ | ☐ | ☐ |
| *Enter name 3* | ☐ | ☐ | ☐ |
| Regional level | |  |  |
| *Enter name 1* | ☐ | ☐ | ☐ |
| *Enter name 2* | ☐ | ☐ | ☐ |
| *Enter name 3* | ☐ | ☐ | ☐ |
| Local level (e.g. municipality) | | | | |
| *Enter name 1* | ☐ | ☐ | ☐ |
| *Enter name 2* | ☐ | ☐ | ☐ |
| *Enter name 3* | ☐ | ☐ | ☐ |
| *Enter name 4* | ☐ | ☐ | ☐ |

1. **To your knowledge, in which context and who is funding *Aedes* invasive mosquito MONITORING/ SURVEILLANCE in your country/region?**

In some countries, different bodies/levels organise different aspects of mosquito surveillance. If this is the case in your country, please list all of them at the appropriate level.

☐ Yes there is funding ☐ I do not know

If YES, at which level (**International I, National N, Regional, R Local, L)** and from which source (**Governmental G, Research R, Other O)** is it funded?

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Name of authority** | **Level** | **Source** | **Monitoring of *Aedes* invasive mosquito abundance and nuisance**  **Y or N** | **Surveillance of introduction and spread of *Aedes* invasive mosquitoes**  **Y or N** | **Surveillance related to imported or local *Aedes*-borne human arbovirus infection cases**  **Y or N** | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | | | | |

1. **To your knowledge, at which level and who is implementing *Aedes* invasive mosquito MONITORING/ SURVEILLANCE in your country/region?**

In some countries, different aspects of monitoring/surveillance are implemented by different institutions. If this is the case in your country, please list all of them at the appropriate level.

☐ Yes, surveillance is implemented ☐ I do not know

If YES, at which level and by who is it implemented? (e.g. Academics, A, District Health Department, D, Veterinarian Institution, V, A public pest control agency, PU, Private pest control company PR, Research Institution R, Citizen association CA, Private Citizen C)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of authority**  **Institution** | **Level (from above)** | **Monitoring of *Aedes* invasive mosquito abundance and nuisance**  **Y or N** | **Surveillance of introduction and spread of *Aedes* invasive mosquitoes**  **Y or N** | **Surveillance related to imported or local *Aedes*-borne human arbovirus infection cases**  **Y or N** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **To your knowledge, which is/are the objective(s) of *Aedes* invasive mosquito surveillance implemented in your country?**

(*Please score the objectives as 1-Priority 2-Secondary 3-Not a priority*)

\_\_\_ To detect the introduction of invasive species

\_\_\_ To monitor the spreading of invasive species

\_\_\_ To conduct risk assessment (improve knowledge on the biology of the species)

\_\_\_ To estimate abundance of vectors

\_\_\_ To serve as an early warning system to detect threats and guide actions

\_\_\_ To detect the presence of virus within the vectors

\_\_\_ To guide vector control (adulticiding) in time and space

\_\_\_ To guide source reduction campaign (larviciding)

\_\_\_ To monitor insecticide resistance

\_\_\_ To evaluate the efficacy of vector control

\_\_\_ Other: Click here to enter text

1. **If you are involved in *Aedes* invasive mosquito MONITORING/SURVEILLANCE please reply to the following questions:** (*If not, go to question 8*)

**7a.** **Within the surveillance programme you are involved in, which monitoring method and traps types are used and how many of them in total?**

☐ Larval sampling

☐ Ovitraps; Click here to enter number.

☐ BG Sentinel®; Click here to enter number.

☐ Other CO2-baited traps; Click here to enter number.

☐ Sticky traps; Click here to enter number.

☐ Human landing catches

☐ Other: Please specify type and number.

☐ I do not know

**7b. Within the surveillance programme you are involved in, how many traps are deployed per 25 square kilometres?**

☐ Less than 1 ☐ 1 to 3 ☐ 3 to 10 ☐ More than 10 ☐ I do not know

**7c.** **Within the surveillance programme you are involved in, are data and outcomes reported?**

☐ Yes ☐ No ☐ I do not know

If YES, to whom: Click here to enter text

how frequently: Click here to enter text

**7d.** **Within the surveillance programme you are involved in, how are the surveillance data presented?**

☐ Dedicated information system (IS) ☐ Tabular ☐ Maps ☐ Graphs ☐ Notes ☐ Other: Click here to enter text

☐ I do not know

1. **Are you aware of any citizen science project/activities complementing *Aedes* invasive mosquito MONITORING/SURVEILLANCE in your country/region?**

☐ Yes ☐ No ☐ I do not know

If YES, are the results integrated into the official surveillance programmes in your country/region?

☐ Yes ☐ No ☐ I do not know

If YES, what is in your opinion the added value compared to classical entomological monitoring?

☐ Reduction of cost ☐ Geographical coverage ☐ Early detection

☐ Better sensitivity for detection ☐ None ☐ Other: Click here to enter text.

1. **To your knowledge, is there any subsequent action taken in your country/region based on MONITORING/SURVEILLANCE results?**

☐ Yes ☐ No ☐ I do not know

If YES, in which of the following scenarios?

☐ Control of *Aedes* invasive mosquito density/ nuisance

☐ Control of introduction of *Aedes* invasive mosquitoes

☐ Control of imported or local *Aedes*-borne human arbovirus infection cases

**Questions about Control**

1. **Are there any national/regional/local programmes in your country/region for *Aedes* invasive mosquito CONTROL?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Check all that apply according to the suggested aim* | **To reduce *Aedes* invasive mosquito abundance and nuisance** | **To control *Aedes* invasive mosquitoes at points of introduction** | **To prevent or stop local transmission of *Aedes*-borne arboviruses (DENV, CHIKV, ZIKV)** | **Other aim** (*describe in comments*)**:** |
| Yes | ☐ | ☐ | ☐ | ☐ |
| No | ☐ | ☐ | ☐ | ☐ |
| I do not know | ☐ | ☐ | ☐ | ☐ |

**Other aim details:** Click here to enter text.

1. **Are there any mosquito CONTROL activities implemented in your country/region?**

☐ Yes ☐ No ☐ I do not know

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Check all that apply according to the suggested aim* | **To reduce *Aedes* invasive mosquito abundance and nuisance** | **To control *Aedes* invasive mosquitoes at points of introduction** | **To prevent or stop local transmission of *Aedes*-borne arboviruses (DENV, CHIKV, ZIKV)** | **Other aim** (*describe*)**:** |
| National | ☐ | ☐ | ☐ | ☐ |
| Regional | ☐ | ☐ | ☐ | ☐ |
| Local | ☐ | ☐ | ☐ | ☐ |
| Private citizen | ☐ | ☐ | ☐ | ☐ |
| No | ☐ | ☐ | ☐ | ☐ |

Other aim (describe aim and administrative level): Click here to enter text.

1. **If implemented, who is in charge of mosquito CONTROL in your country/region?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Check all that apply according to the suggested aim* | **To reduce *Aedes* invasive mosquito abundance and nuisance** | **To control *Aedes* invasive mosquitoes at points of introduction** | **To prevent or stop local transmission of *Aedes*-borne arboviruses (DENV, CHIKV, ZIKV)** | **Other objectives**  (*describe*)**:** |
| National authorities | ☐ | ☐ | ☐ | ☐ |
| Regional authorities | ☐ | ☐ | ☐ | ☐ |
| Local authorities | ☐ | ☐ | ☐ | ☐ |
| Health department/district | ☐ | ☐ | ☐ | ☐ |
| Private companies | ☐ | ☐ | ☐ | ☐ |
| Private citizen | ☐ | ☐ | ☐ | ☐ |
| Other: Click here to enter text. | ☐ | ☐ | ☐ | ☐ |
| No | ☐ | ☐ | ☐ | ☐ |
| I do not know | ☐ | ☐ | ☐ | ☐ |

**Additional information:**

Click here to enter text.

**13. If implemented, which are the common methods/activities for mosquito CONTROL in your country/region?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Check all that apply according to the suggested aim* | **To reduce *Aedes* invasive mosquito abundance and nuisance** | **To control *Aedes* invasive mosquitoes at points of introduction** | **To prevent or stop local transmission of *Aedes*-borne arboviruses (DENV, CHIKV, ZIKV)** | **Other objectives** (*describe*)**:** |
| Pyrethroid adulticides | ☐ | ☐ | ☐ | ☐ |
| Insect growth regulators larvicides (e.g. Dimilin®) | ☐ | ☐ | ☐ | ☐ |
| Non-chemical larvicides (e.g. Aquatain®) | ☐ | ☐ | ☐ | ☐ |
| Biological larvicide (e.g. B.t.i.) | ☐ | ☐ | ☐ | ☐ |
| Other biological method (e.g. fishes, copepods) | ☐ | ☐ | ☐ | ☐ |
| Source reduction | ☐ | ☐ | ☐ | ☐ |
| Door-to-door campaigns | ☐ | ☐ | ☐ | ☐ |
| Communication campaigns | ☐ | ☐ | ☐ | ☐ |
| None | ☐ | ☐ | ☐ | ☐ |
| I do not know | ☐ | ☐ | ☐ | ☐ |

**Additional information:** Click here to enter text.

1. **Which are, in your opinion, the 3 most common problems/constraints affecting the implementation of mosquito CONTROL methods/activities in your country?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Rank from 1 to 3 the 3 most common problems/ constraints according to the suggested aim* | **To reduce *Aedes* invasive mosquito abundance or nuisance** | **To control *Aedes* invasive mosquito at points of introduction** | **To prevent or stop local transmission of *Aedes*-borne arboviruses (DENV, CHIKV, ZIKV)** | **Other objectives** (*describe*)**:** |
| Awareness of the responsible authorities |  |  |  |  |
| Political willingness |  |  |  |  |
| Financial constraints |  |  |  |  |
| Collaborative constraints (between stakeholders) |  |  |  |  |
| Cost effectiveness |  |  |  |  |
| Not a health priority |  |  |  |  |
| Operational capacity constraints (knowledge, people, equipment) |  |  |  |  |
| National/EU regulation for biocides |  |  |  |  |
| Availability of biocides |  |  |  |  |
| Environmental regulations |  |  |  |  |
| Community awareness & acceptance |  |  |  |  |
| None | ☐ | ☐ | ☐ | ☐ |
| I do not know | ☐ | ☐ | ☐ | ☐ |

1. **Are you aware of any citizen science project/activities complementing CONTROL of *Aedes* invasive mosquito in your country/region?**

☐ Yes ☐ No ☐ I do not know

If YES, which of the following methods are in your opinion most used?

*Please score: 1-Frequently used; 2-Commonly used; 3-Occasionally used; 4-Rarely used; 5-Not used at all*

\_\_\_ Adulticide spraying

\_\_\_ Use of larvicide

\_\_\_ Source reduction

\_\_\_ Personal protection

\_\_\_ Trapping devices used in private settings

1. **In your opinion, should an external quality assessment of mosquito CONTROL interventions be systematically included in the mosquito control programme and linked to the contract obligation?**

☐ Strongly agree ☐ Agree ☐ Do not know ☐ Disagree ☐ Strongly disagree

Please comment why: Click here to enter text.

1. **Are you aware of any innovative approach to CONTROL *Aedes* invasive mosquitoes evaluated/tested in your country/region in the last 5 years?**

☐ Yes ☐ No ☐ I do not know

If YES, which method?

☐ *Wolbachia*-based population suppression

☐ *Wolbachia*-based population replacement

☐ Irradiated sterile male release

☐ Attractive toxic sugar baits

☐ Mass-trapping

☐ Biocide autodissemination

☐ Transgenic approaches (GMO)

☐ Other: Click here to enter text.

1. **To your knowledge, is there insecticide resistance in *Aedes* invasive mosquito populations from your country/region?**

☐ Yes ☐ No ☐ I do not know

If YES, where did you get this information from?

☐ Scientific literature

☐ Officially reported

☐ Unpublished data

☐ Personal communication

☐ Other: Click here to enter text..

**Questions about Guidelines**

1. **Are you aware of or using any of the existing guidelines for mosquito SURVEILLANCE/CONTROL?**

|  |  |  |
| --- | --- | --- |
| *Check one per column* | **Monitoring/surveillance** | **Control** |
| Yes | ☐ | ☐ |
| No | ☐ | ☐ |

If YES:

**19a. Please list guidelines you know :**

* 1. Click here to enter text.
  2. Click here to enter text.
  3. Click here to enter text.
  4. Click here to enter text.
  5. Click here to enter text.
  6. Click here to enter text.
  7. Click here to enter text.

**19b. If you are using any of the guidelines you listed above, please rank them according to the suggested criteria (***Report according to your guidelines list above and rank);* in the comment box, please specify the scale (national vs local), the targeted vector species and VBDs**:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Which one do you find more useful to your context?** (*rank all, starting from 1-best suited*) | **Which are the top 3 for Aedes invasive vectors?**  (*rank the 3 best from 1 to 3*) | **Which are the top 3 in terms of scale (national vs. local)?**  (*rank the 3 best from 1 to 3*) | **Which are the top 3 for strategy & methods**  (*rank the 3 best from 1 to 3*) |
| 1. |  |  |  |  |
| 2. |  |  |  |  |
| 3. |  |  |  |  |
| 4. |  |  |  |  |
| 5. |  |  |  |  |
| 6. |  |  |  |  |
| 7. |  |  |  |  |

COMMENTS: Click here to enter text.

**19c. What are the limitations that you face by trying to implement the guidelines that you are using if you are involved in surveillance and control**

|  |  |  |
| --- | --- | --- |
| *Check all that apply* | **Monitoring/surveillance** | **Control** |
| Not available | ☐ | ☐ |
| Not easily accessible | ☐ | ☐ |
| Not useful | ☐ | ☐ |
| Not necessary/low priority | ☐ | ☐ |
| Too complex | ☐ | ☐ |
| In wrong language | ☐ | ☐ |
| Legal barriers | ☐ | ☐ |
| Not adapted to the organisational context | ☐ | ☐ |
| Limited human resources | ☐ | ☐ |
| Unqualified human resources | ☐ | ☐ |
| Lack of funding | ☐ | ☐ |
| Low public awareness | ☐ | ☐ |
| Other: | Click here to enter text. | Click here to enter text. |
| None | ☐ | ☐ |

**20. Do you think there are gaps and needs for more guidance in available guidelines for *Aedes* invasive mosquito MONITORING/SURVEILLANCE and/or CONTROL?**

☐ Yes ☐ No ☐ I do not know

If YES specify which: Click here to enter text. .

**21. In your opinion, which are the best dissemination tools for guidelines for *Aedes* invasive mosquito MONITORING/SURVEILLANCE and/or CONTROL according to the following target groups** (*rank all, starting from 1-best suited*)**?**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Decision makers** | **Control companies** | **Technicians** | **General public** | **Researchers** |
| Printed brochure/leaflet |  |  |  |  |  |
| Digital document |  |  |  |  |  |
| Web tool |  |  |  |  |  |
| Mobile App |  |  |  |  |  |
| Awareness campaigns |  |  |  |  |  |
| Public presentation |  |  |  |  |  |
| Training seminars |  |  |  |  |  |
| I don’t know |  |  |  |  |  |
| Other: Click here to enter text... |  |  |  |  |  |

**22. Do you think there should be different versions of the guidelines for different users such as planners, technicians, citizens, researchers?**

☐ Strongly agree ☐ Agree ☐ Do not know ☐ Disagree ☐ Strongly disagree

If agree, specify which: Click here to enter text.

1. **Do you think there is any need for training in *Aedes* invasive mosquito surveillance or control?**

☐ Yes ☐ No ☐ I do not know

If YES, specify which topics: Click here to enter text. .

1. **Do you think it’s important to have citizens involved in *Aedes* invasive mosquito MONITORING/SURVEILLANCE or CONTROL?**

Monitoring and surveillance:

☐ Strongly agree ☐ Agree ☐ Do not know ☐ Disagree ☐ Strongly disagree

Control by source reduction:

☐ Strongly agree ☐ Agree ☐ Do not know ☐ Disagree ☐ Strongly disagree

Biocidal control targeting mosquito larvae:

☐ Strongly agree ☐ Agree ☐ Do not know ☐ Disagree ☐ Strongly disagree

Biological control (fish, copepods…):

☐ Strongly agree ☐ Agree ☐ Do not know ☐ Disagree ☐ Strongly disagree

Control by mass trapping:

☐ Strongly agree ☐ Agree ☐ Do not know ☐ Disagree ☐ Strongly disagree

1. **Are you aware of people/institutions/companies involved in mosquito MONITORING/ SURVEILLANCE or CONTROL in your country/region we could ask to complete this survey?**

☐ Yes ☐ No ☐ I do not know

If YES, please provide details of people/institutions/companies

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Contact person (optional)** | **Agency/Institution/Company** | **Contact details**  (*preferably email address*) |
| 1. |  |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |
| 5. |  |  |  |
| 6. |  |  |  |
| 7. |  |  |  |

1. **Would you agree to participate in a standardised surveillance system and protocol developed through AIM-COST at least as a part of your MONITORING/ SURVEILLANCE programme?**

☐ Yes ☐ No ☐ I do not know

Comments Click here to enter text. .

1. **Please add any additional information or comments you may have below.**

Click here to enter text.