

# Elements of the DPM programs:

## Free-roaming dog population estimation tools

### (The Talea APP)

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23. 04. 2024,

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Doha, Qatar



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for Animal  
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# RAWC - it all started in 2008

- Western Balkan Veterinary Network ([wbvn.net](http://wbvn.net))
  - unique platform for the advancement of animal welfare in the Western Balkan region
- At the large meeting in Teramo, Italy, representatives of Western Balkan Veterinary Network concluded that there is a need to upgrade the existing Network:
- A lot of relatively small countries with similar cultural and historical heritage.
- Lack in experts per country itself
- Specific topics for the region (i.e. stray dog problem)

Regional Animal Welfare Centre – [www.RAWC.eu](http://www.RAWC.eu)



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NEWS  
Call for papers  
By admin March 2, 2024 Sticky post



# RAWC prioritize activities in the following areas

- Training of business operators and stakeholders (slaughter, pigs, broilers and transport) – coordination and dissemination of information and resources;
- Experimental animals – implementation and training;
- Companion animals population management and stray dog control – develop a regional approach and share best practice;
- Raising farmer awareness and engaging with small scale farmers to establish an effective and targeted regional approach and to explore new business models;



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# Companion animals population management - DPM

- Shelter Quality
  - Active participation of four regional experts on Shelter Quality project activities.
- Be his hero!
  - Launched in 8 Countries of the region (Albania, Bosnia&Herzegovina, Croatia, Kosovo, Bulgaria, Serbia, Macedonia and Montenegro). RAWC collaborated with OIE on translation, printing and distribution of the materials, and a little bit more.
- Training of trainers on ICAM dog population management indicators
  - 17 trainers trained



# Free-roaming dog population estimation tools

# Free-roaming dog population estimation tools

**Free-roaming dog** is any dog that is not confined to a yard or house.

**Population** defines a group of organisms of one species that interbreed and live in the same place at the same time (Krebs, 1972).

**Dog Population Management (DPM)** refers to the holistic approach that aims to improve the welfare of dogs, reduce problems they may present and create harmonious co-existence with people and their environment (WAOAH, TAHC, Chapter 7.7, 2023).

# Free-roaming dog population estimation tools

Why is needed? – to implement the WOAHA standard

*The understanding of the structure of free-roaming dog populations is of extreme importance for the planning and monitoring of populational control strategies and animal welfare (Belo et al., 2015).*

How it can be done?

Adequate estimates of the size and of the characteristics of the population of free-roaming dogs are essential in planning and monitoring the effectiveness of strategies adopted for the control and for the welfare of the population, for the management of risks associated with their presence and to quantify the prevalence of zoonosis and other diseases present in these animals.

# Free-roaming dog population estimation tools

Development of DPM programmes should include an initial assessment and ongoing adaptation based on continued monitoring and evaluation using objective methods.

This evidence-based approach improves programme effectiveness and informs responses to changes in the wider context that influence dog population dynamics.

Recognizing the different needs of communities and the multi-sectorial roles in DPM, it should be conducted with the involvement of advisory groups and relevant authorities – no one size fits all solutions!



# DPM programme assessment and planning

The initial DPM programme development stages of assessment and planning should provide the evidence required for planning and include:

- 1) Review of the current regulatory framework and evaluation of the efficiency and effectiveness of DPM control measures used historically and currently.
- 2) Identification of the priority issues related to dogs from the perspective of all relevant stakeholders. The resolution of these issues will form the objectives of DPM programmes. Establishing baselines and monitoring methods for indicators reflecting each objective allows for later evaluation of efficiency and effectiveness. Identifying which dogs are associated with the priority issues may include owned dogs.

# DPM programme assessment and planning

3) Exploration of dog population dynamics in the whole dog population (not limited to the current free-roaming dog population) to identify the sources of free-roaming dogs:

- owned dogs that roam freely;
- dogs that have been lost or abandoned, including puppies resulting from uncontrolled breeding of owned dogs;
- unowned dogs that roam freely and reproduce.

4) Identification of people's knowledge, attitudes and practices regarding dog care and responsibility for owned dogs and unowned dogs. Citizens' attitudes towards potential control measures should also be explored. This information can be used to ensure the acceptability of the DPM programme to local communities and its effectiveness at changing human behaviours.

# DPM programme assessment and planning

5) Estimation of dog population size and demography. Dog population size estimates can help with planning DPM programmes. Accuracy of estimates is typically improved with more time-consuming methods and greater local engagement.

Available methods for population size estimates include the following:

- a) **Owned dogs:** dog registration databases, household questionnaires (to estimate proportion of dog-owning households and mean number of dogs per dog-owning household), post-vaccination campaign coverage and animal ownership surveys as part of human census.
- b) **Free-roaming owned dogs:** household questionnaires including questions or visible inspection of whether owned dogs are confined or allowed to roam unsupervised.

c) All free-roaming dogs, including both owned roaming and unowned:

- Direct observation of free-roaming dogs during surveys along routes designed to be representative of the area of interest and unbiased with regard to free-roaming dog density can provide the mean number of free-roaming dogs per km of street surveyed.
- Mark-resight is a method that aims to estimate population size, considering that not all animals are visible to direct observation on a survey. This is achieved by first marking dogs with temporary marks such as paint, or photographs for individual recognition.

# Free-roaming dog population estimation tools

What are these objective, evidence based tools?

Scientifically proven methods that can be adapted to the needs of different regions.

ICAM methodology principles:

- Humane and ethical,
- Adapted to local dog population dynamics,
- Sustained and adaptive,
- Evidence-based design, monitoring and evaluation,
- Focus on root causes, and
- Central role of human behaviour.

# Free-roaming dog population estimation tools

## Humane and ethical

DPM should be humane and ethical, minimising harm and maximising benefits for the dogs involved and the human communities. DPM cannot be considered humane if it includes indiscriminate killing of dogs, killing roaming dogs in the street or using killing as a sole measure of population management. It is unethical, unpopular, cruel when inhumane methods of killing are used and potentially dangerous for local communities. It is ultimately also ineffective as it focuses only on the current roaming dog population and does not address the sources of these dogs.

# Free-roaming dog population estimation tools

Adapted to local dog population dynamics

Dog population dynamics differ between and within countries. DPM design should always be appropriate to the local conditions, and never replicated after a “model” that worked elsewhere. Important lessons can be learnt from DPM interventions in other locations, but they must be interpreted through the lens of the local situation.

# Free-roaming dog population estimation tools

## Sustained and adaptive

DPM should be considered a *permanent community service*. While there will be times requiring greater activity or emphasis on certain activities, there will always be a need to manage dog populations. Ideally, management of dogs is integrated into mainstream society and the majority of management activities are carried out by dog owners. Dog population dynamics can be influenced by many factors in addition to the efforts of DPM interventions. DPM needs to adapt to work with changes in the wider context.



# Free-roaming dog population estimation tools

Evidence-based design, monitoring and evaluation

Following the 'no one size fits all' principle, and the abundance of assumptions about dogs, we emphasise the importance of using an evidence base when designing, monitoring and evaluating DPM interventions.

# Free-roaming dog population estimation tools

## Focus on root causes

DPM will have limited effect if it addresses only those dogs currently experiencing or linked to problems and not their sources. For example, by only catching and killing dogs that are currently unowned, rather than tackling the motivations for the original abandonment of those dogs.

# Free-roaming dog population estimation tools

## Central role of human behavior

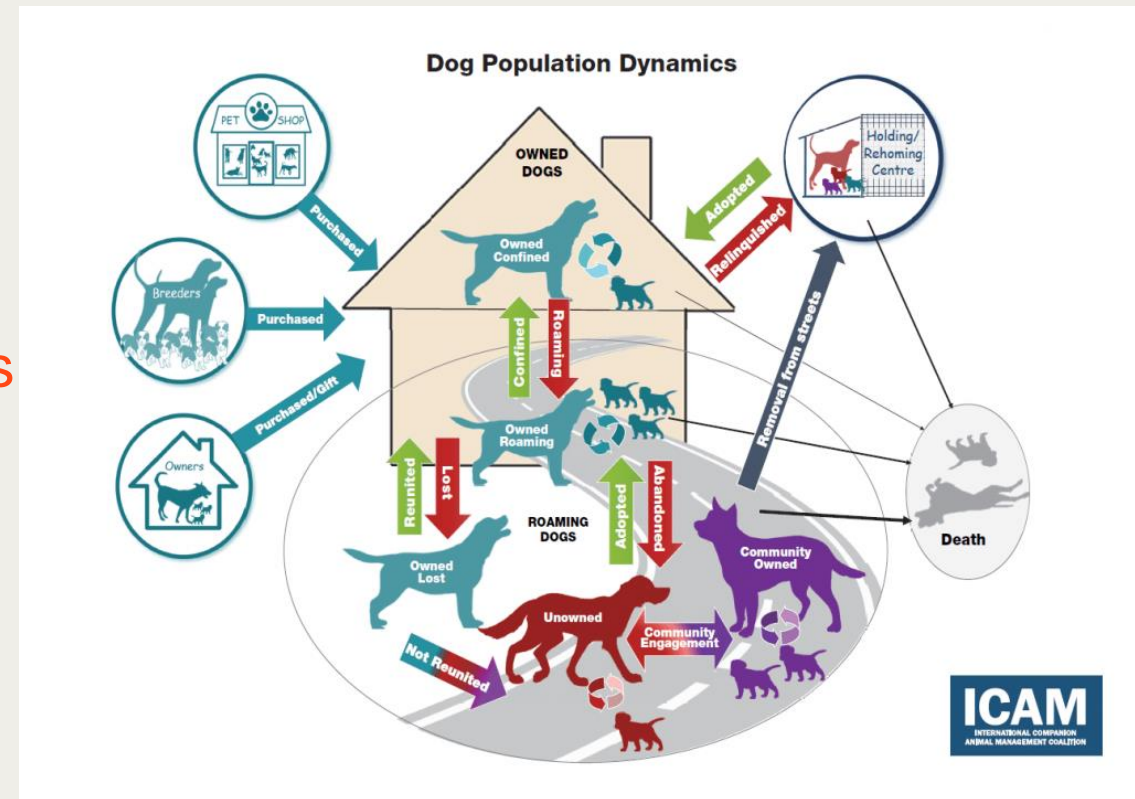
People have always managed their dog populations. DPM intervention is needed when this personal management leads to unhappy people, health risks and/or poor welfare for the dogs. Formal DPM interventions can provide access to alternative humane behaviours and create barriers to those behaviours that are inhumane or a risk to the community. Before taking action, you need to understand what people are already doing (or not doing) and identify what they would need to do differently in order for the DPM system to be more effective and humane. Taking time to engage with people to understand their reality, and work with them to ensure they can practice the right DPM behaviours.

# Free-roaming dog population estimation tools

Dog population dynamics is defined as the different sub-populations of dogs that interact to form the whole dog population.

It takes into account the 'processes' of births, deaths and reproduction to account for how dogs enter and leave the population.

It also takes into account how individual dogs move from one sub-population to another over their lifetime.



# Free-roaming dog population estimation tools

Tools?

Mobile phones

## Street surveys

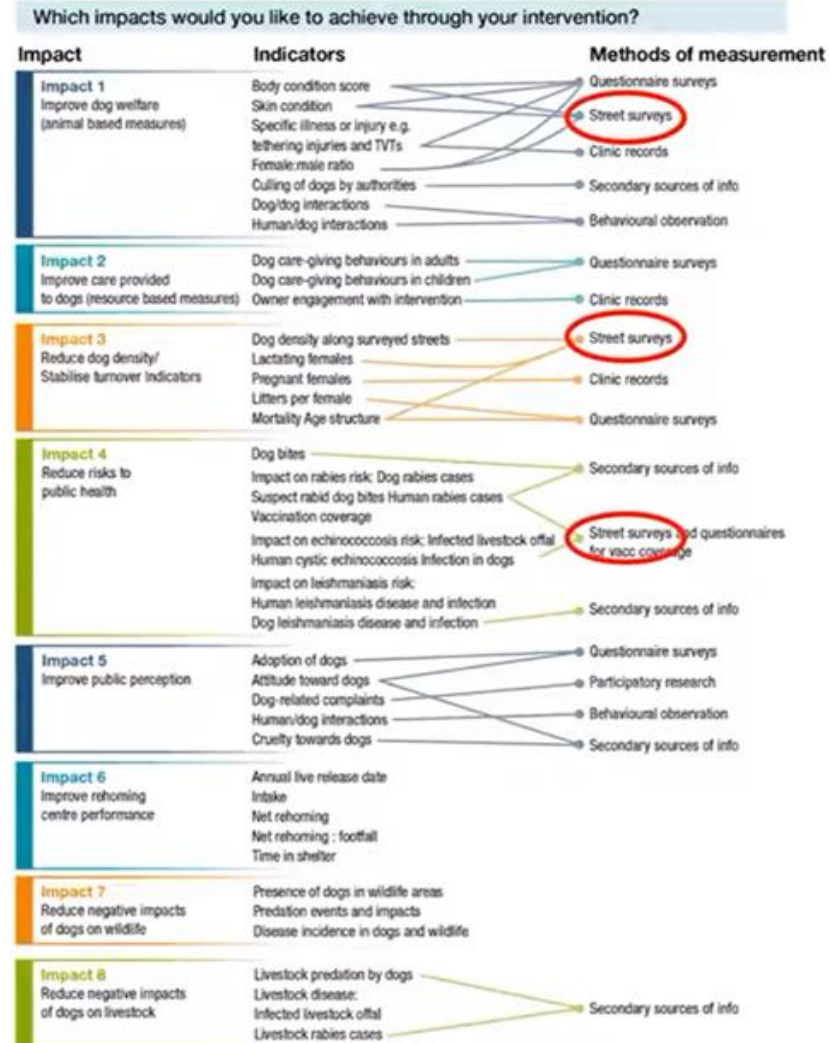


Figure 1

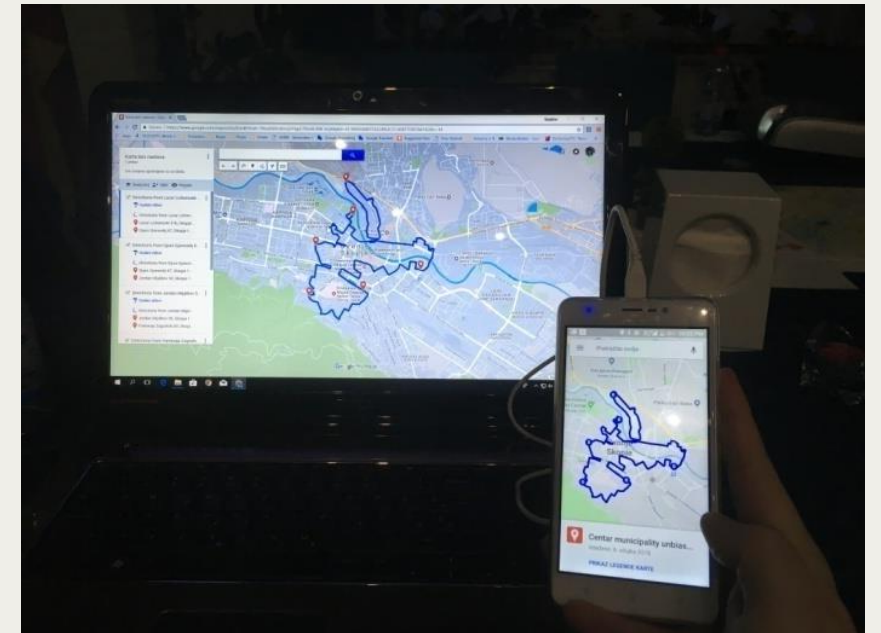
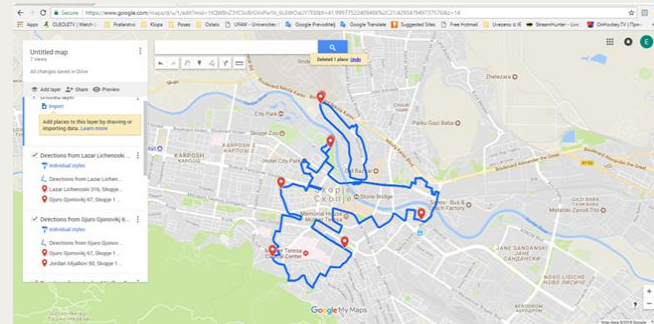


# Free-roaming dog population estimation tools

What are the tools for street surveys?

Until recently it was time consuming and laborious.

## 1. Preparation





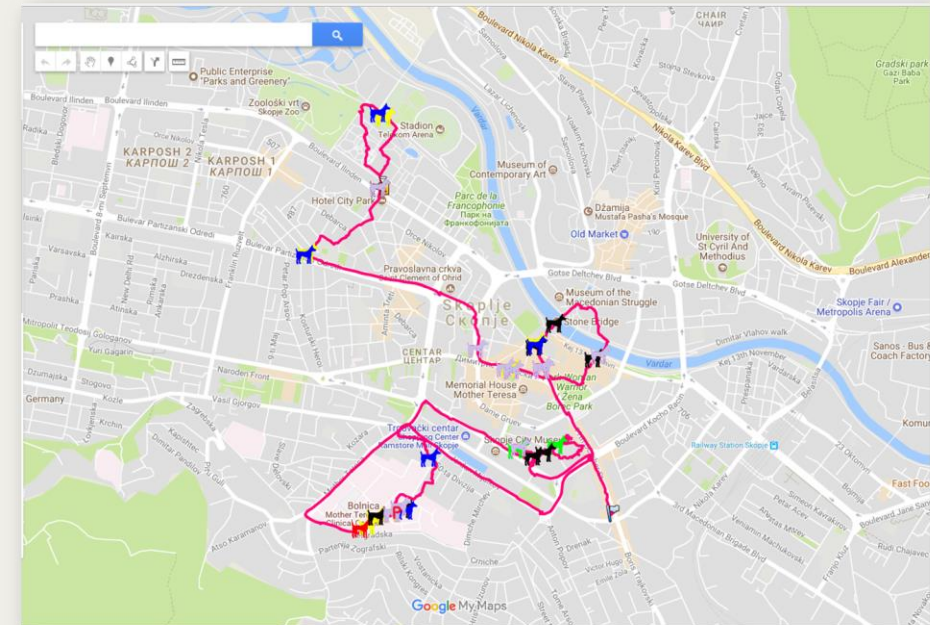
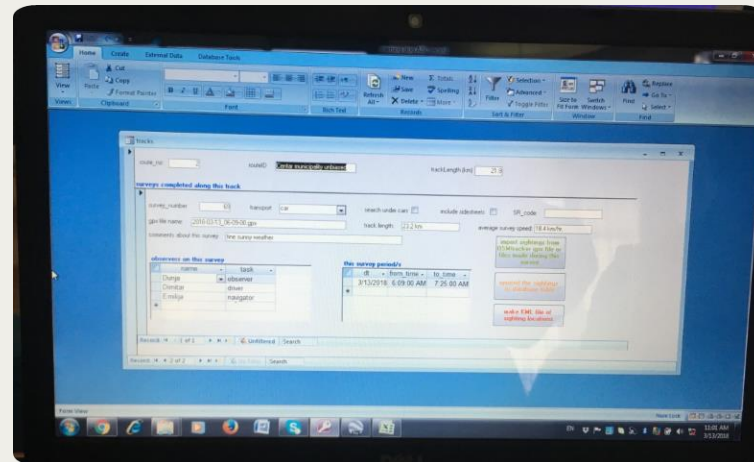
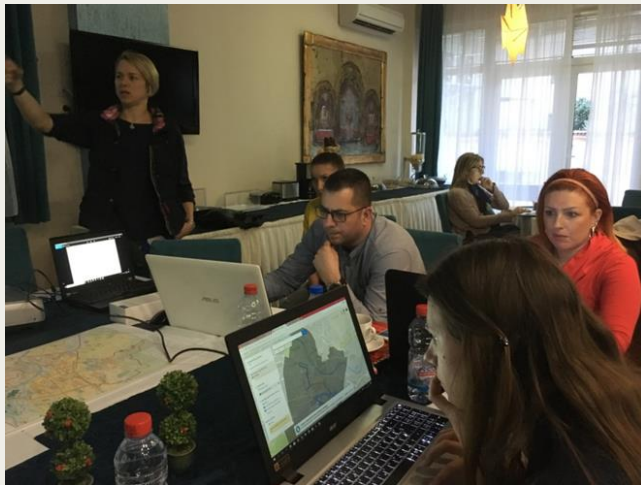
# Free-roaming dog population estimation tools

## 2. Actual field work.



# Free-roaming dog population estimation tools

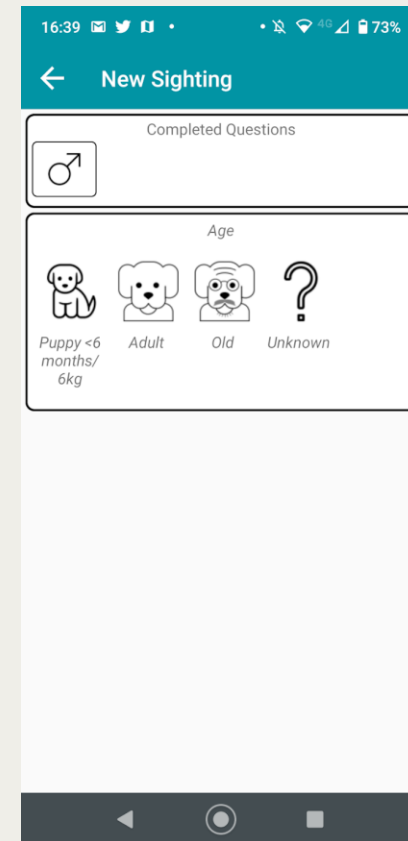
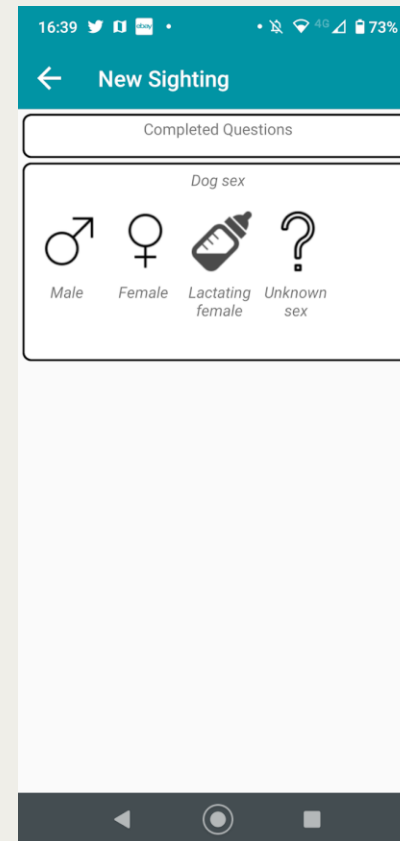
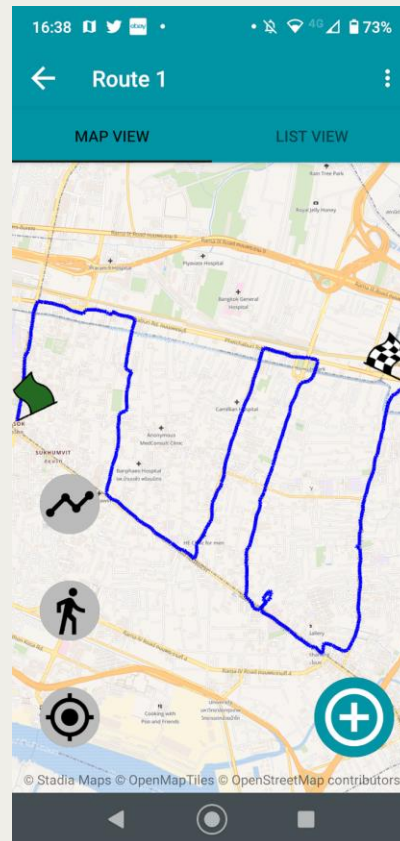
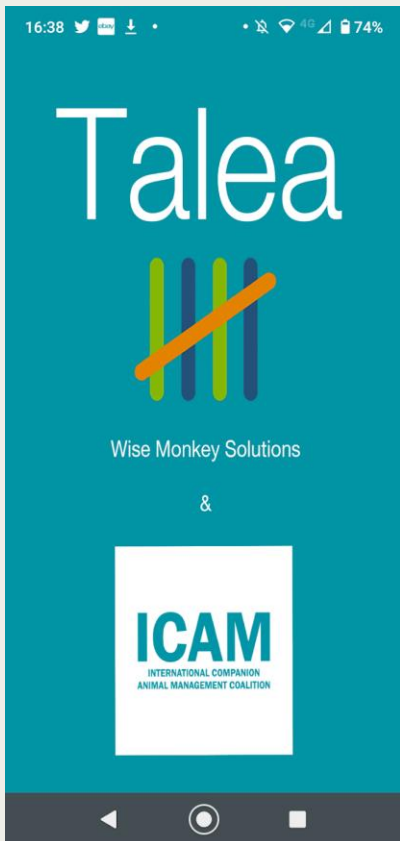
## 3. Data management and results





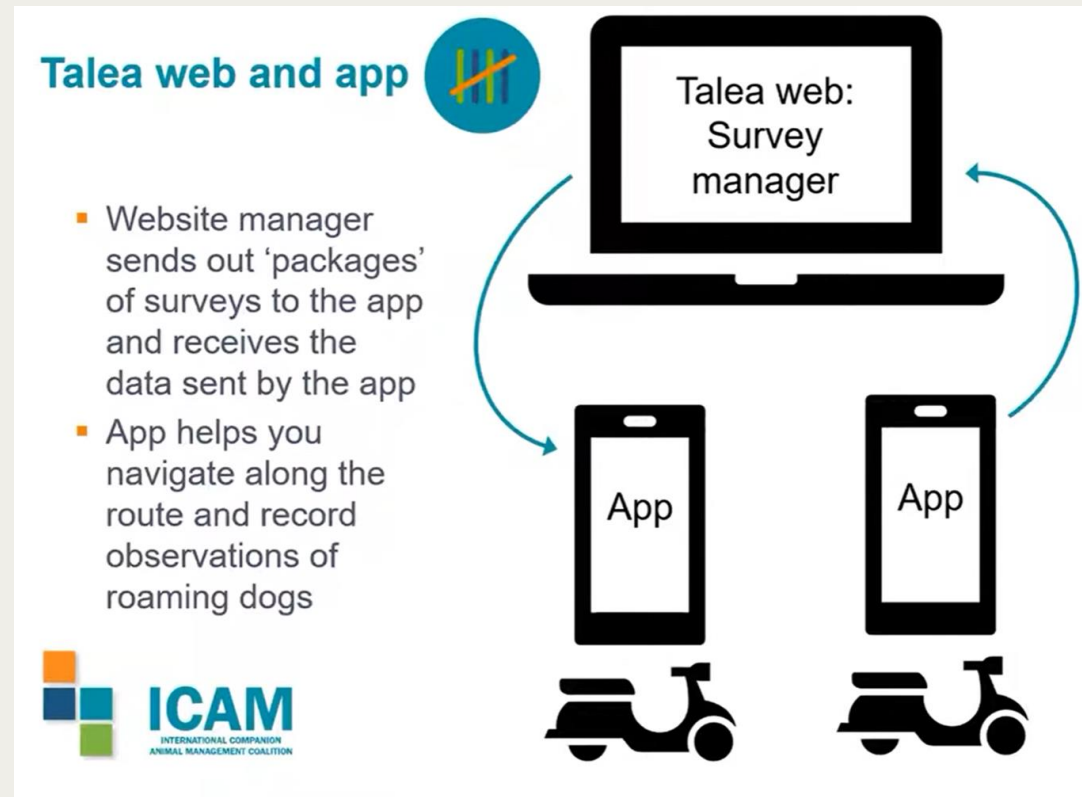
# Free-roaming dog population estimation tools

Since recently we have the Talea app (for Android phones only!)



# Free-roaming dog population estimation tools

Talea consists from two parts – Talea web (on your computer) and Street survey app (mobile phone).



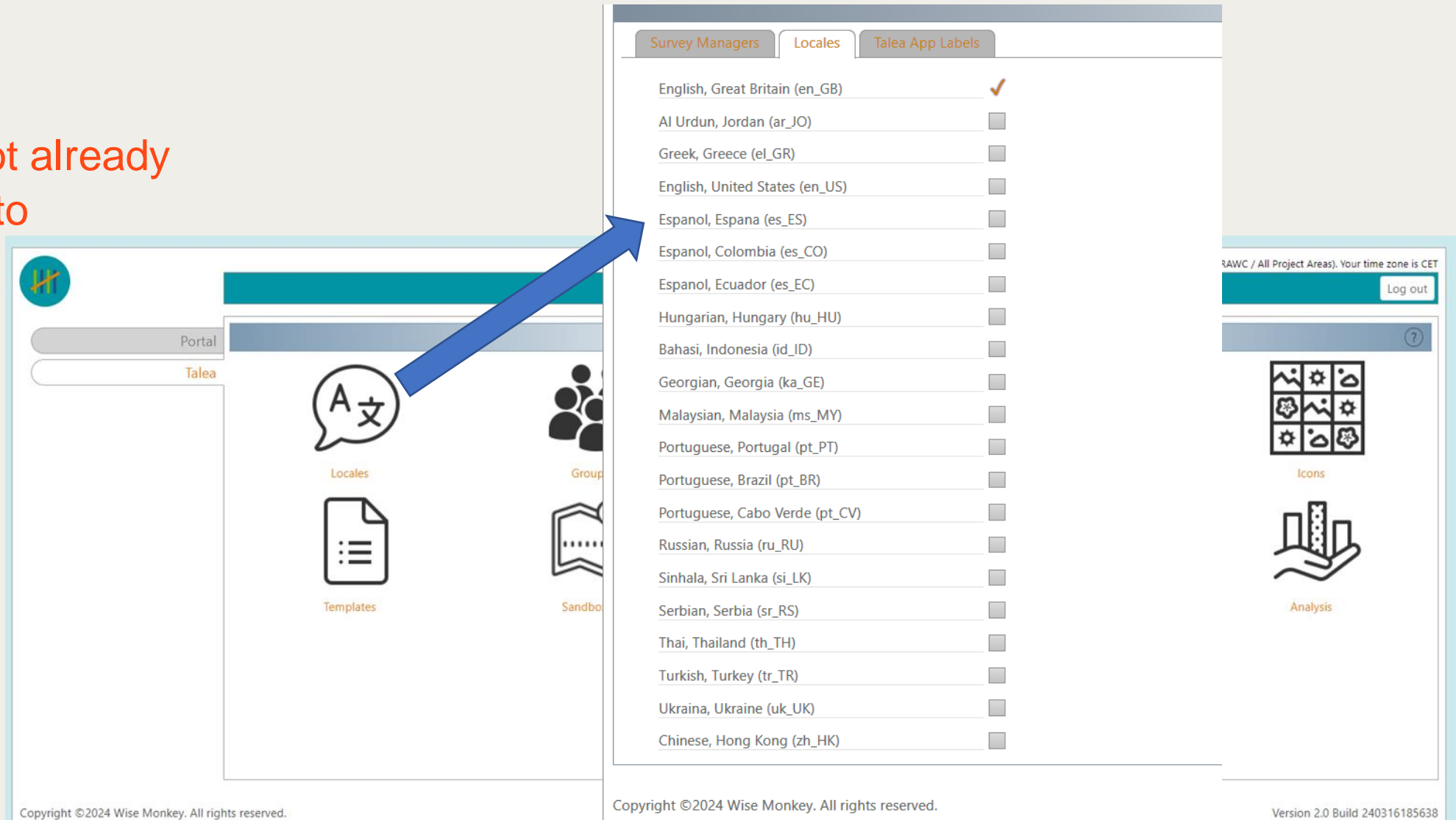
# Free-roaming dog population estimation tools

Talea web for the manager or team leader.

The screenshot displays the Talea web interface. At the top right, a teal header bar contains the text "Welcome, Tomislav Mikus (Project Administrator for ICAM RAWC / All Project Areas). Your time zone is CET" and a "Log out" button. Below this, a navigation bar shows "Portal" and "Talea" with a help icon. The main content area features a grid of ten icons representing different tools: "Locales" (speech bubble with 'A' and '文'), "Groups" (group of people), "Devices" (stack of mobile phones), "Device Invitations" (envelope with a plus sign), "Icons" (grid of various icons), "Templates" (document with list), "Sandboxes" (open book), "Studies" (clipboard with graduation cap), "Packages" (gift box), and "Analysis" (hand holding a bar chart). The footer contains copyright information: "Copyright © 2024 Wise Monkey. All rights reserved.", "Wise Monkey Foundation Privacy Policy", and "Version 2.0 Build 240316185638".

# Free-roaming dog population estimation tools

Language – a lot already available, easy to translate



The screenshot displays the Talea application interface. The main menu on the left includes icons for 'Portal', 'Talea', 'Locales', 'Templates', 'Group', and 'Sandbo'. The 'Locales' icon is highlighted with a blue arrow pointing to the 'Locales' tab in the settings panel. The settings panel shows a list of languages with checkboxes, and 'English, Great Britain (en\_GB)' is selected with a checkmark.

Language	Selected
English, Great Britain (en_GB)	✓
Al Urdun, Jordan (ar_JO)	<input type="checkbox"/>
Greek, Greece (el_GR)	<input type="checkbox"/>
English, United States (en_US)	<input type="checkbox"/>
Espanol, Espana (es_ES)	<input type="checkbox"/>
Espanol, Colombia (es_CO)	<input type="checkbox"/>
Espanol, Ecuador (es_EC)	<input type="checkbox"/>
Hungarian, Hungary (hu_HU)	<input type="checkbox"/>
Bahasi, Indonesia (id_ID)	<input type="checkbox"/>
Georgian, Georgia (ka_GE)	<input type="checkbox"/>
Malaysian, Malaysia (ms_MY)	<input type="checkbox"/>
Portuguese, Portugal (pt_PT)	<input type="checkbox"/>
Portuguese, Brazil (pt_BR)	<input type="checkbox"/>
Portuguese, Cabo Verde (pt_CV)	<input type="checkbox"/>
Russian, Russia (ru_RU)	<input type="checkbox"/>
Sinhala, Sri Lanka (si_LK)	<input type="checkbox"/>
Serbian, Serbia (sr_RS)	<input type="checkbox"/>
Thai, Thailand (th_TH)	<input type="checkbox"/>
Turkish, Turkey (tr_TR)	<input type="checkbox"/>
Ukraina, Ukraine (uk_UK)	<input type="checkbox"/>
Chinese, Hong Kong (zh_HK)	<input type="checkbox"/>

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# Free-roaming dog population estimation tools

Can choose a template to work by

The screenshot displays the Talea Survey Template Designer interface. At the top, a teal header contains the user's name and role: "Welcome, Tomislav Mikus (Project Administrator for ICAM RAWC / All Project Areas). Your time zone is CET" and a "Log out" button. Below the header is a navigation bar with "Portal" and "Talea" tabs. The main dashboard features a grid of icons for various tools: Locomes, Groups, Devices, Device Invitations, Icons, Templates, Sandboxes, Studies, Packages, and Analysis. An inset window titled "Talea Survey Template Designer" shows a survey configuration for "en\_GB Dog survey with sterilisation welfare and ownership". It lists questions such as "1: Dog Type", "2: Body condition score", "3: Skin condition", and "4: Sign of ownership". The "1: Dog Type" question is expanded to show its configuration, including a name field, question name, and a list of choices: "en\_GB Male", "en\_GB Female", and "en\_GB Sterilised male".

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Free

Creating

Tools

The screenshot displays the Talea software interface, which is used for creating and managing survey sandboxes. The interface is divided into several sections:

- Navigation Panel (Top Left):** Contains links for 'Portal', 'Administration', and 'Talea'. Below these are icons for 'Locales' (A文), 'Groups' (people icon), 'Templates' (document icon), and 'Sandboxes' (map icon).
- Configuration Panel (Top Right):** Titled 'Sandboxes', it includes a 'Create New Survey Sandbox' form. Fields include:
  - Sandbox Name:** 'en\_SB East to west route' (with a sub-field 'en\_SB')
  - Distance outside of route or area that is still valid (m):** 15
  - GPS capture frequency (s):** 4
  - Minimum distance between track points (m):** 6
  - Maximum sampling distance between track points (m):** 10
- Map Tools (Bottom):** Two map views are shown. The left map, titled 'Route example', shows a blue route on a street map of Bangkok. The right map, titled 'Polygon example', shows a grey polygon area on the same map. Both maps have a search bar and a 'Base map' option.
- User Interface Elements:** A 'Log out' button is visible on the right side. A teal callout box highlights the 'Sandboxes' icon in the navigation panel and the 'Polygon example' map.



# Free-roaming dog population estimation tools

The screenshot displays the Talea web application interface. The main dashboard features a grid of icons for various functions: Locales, Groups, Devices, Device Invitations, Icons, Templates, Studies, Packages, and Analysis. A blue callout box highlights the 'Groups' icon, which is expanded into a detailed view of the 'Groups' management page.

The 'Groups' page shows a table with the following data:

Name	Auto-Assign
Oxford	false
Cardiff	false
Cambridge	true
London	true
Seattle	true

At the bottom of the 'Groups' page, there are buttons for 'Refresh' and 'Create new Group'. The footer of the application indicates 'Copyright ©2022 Wise Monkey. All rights reserved.'

# Free-roaming dog population estimation tools

The image displays a screenshot of the Talea web application interface. The top navigation bar includes a logo, a welcome message for Ely Hby (Project Administrator for ICAH Talea Demonstration Project / All Project Areas), and options to 'Switch role' and 'Log out'. The main content area is titled 'Talea' and features a grid of icons for various functions: Locales, Groups, Devices, Device Invitations, Icons, Templates, Sandboxes, Studies, and Analytics. A blue callout box highlights the 'Device Invitations' icon. Below this, a detailed view of the 'Device Invitations' form is shown, titled 'Create New Device Invitation'. The form includes fields for 'User Name' (Ely Hby), 'Mobile Telephone' (+43712140), and 'Locale' (en\_UK). A section titled 'Indicators to Collect' contains a list of checkboxes: 'Castle id' (checked), 'Lustre' (checked), 'Qibond' (unchecked), 'Cardiff' (unchecked), and 'Seattle' (checked). A red asterisk indicates that 'Indicators is required field'. The form concludes with 'Cancel' and 'Save' buttons.



# Free-roaming dog population estimation tools

The image shows a composite screenshot of a mobile application registration process. The background is a web browser window displaying a 'Talea' portal with a navigation menu for 'Portal' and 'Administration'. Overlaid on this are three mobile app screens:

- WiseMonkey App:** Shows the app's logo and a search bar.
- Google Play Store:** Displays the 'Talea' app by 'Wise Monkey Solutions'. The 'Install' button is highlighted. Below the app name, there is a red-bordered box containing the text: "Download and install Talea using <https://play.google.com/store/apps/details?id=com.wms.icam.talea> and then register using <https://www.wise-monkey.org/wisemonkeyportal/taleareg/L9K6P4RKE>".
- Register Screen:** Shows a registration form with the following fields:
  - 'Your name' field containing 'Elly Hiby'.
  - 'Invitation or account token' field containing '43CSFCFVT', which is highlighted with a red-bordered box.
  - A 'REGISTER DEVICE' button.

A virtual keyboard is visible at the bottom of the registration screen.

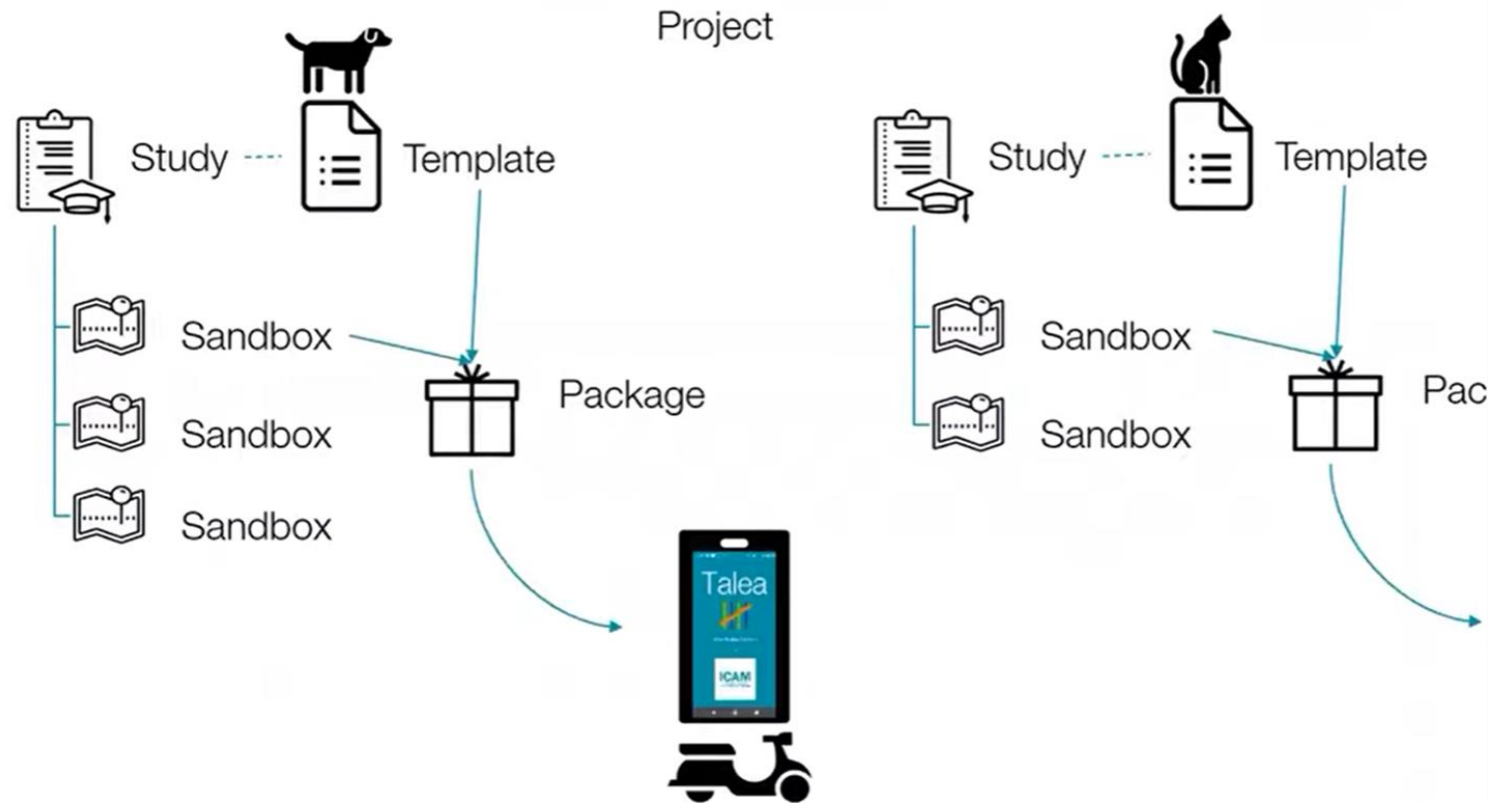
# Free-roaming dog population estimation tools

Choose study  
Can have more than one, add them to the „Package” and send to mobile app.

The image displays a screenshot of the Talea web application interface. The top navigation bar includes a logo, a welcome message for Ely Hiby (Project Administrator for ICAM Talea Demonstration Project), and options to 'Switch role' and 'Log out'. The main content area is titled 'Talea' and features a grid of icons for various functions: Locales, Groups, Devices, Device Invitations, Icons, Templates, Sandboxes, Studies (highlighted with a blue callout), Packages, and Analysis. Below the grid, there is a section for 'App Instructions'. A blue callout box highlights the 'Studies' icon, which is linked to a 'Create New Study' form. This form contains fields for 'Study Name' (with a dropdown menu showing 'Cambridge roaming dog survey'), 'Study ID' (with a dropdown menu showing 'W\_S'), and 'Reference' (with a dropdown menu showing 'Dog survey with administration, welfare and monitoring'). There are also 'Cancel' and 'Create' buttons at the bottom of the form.

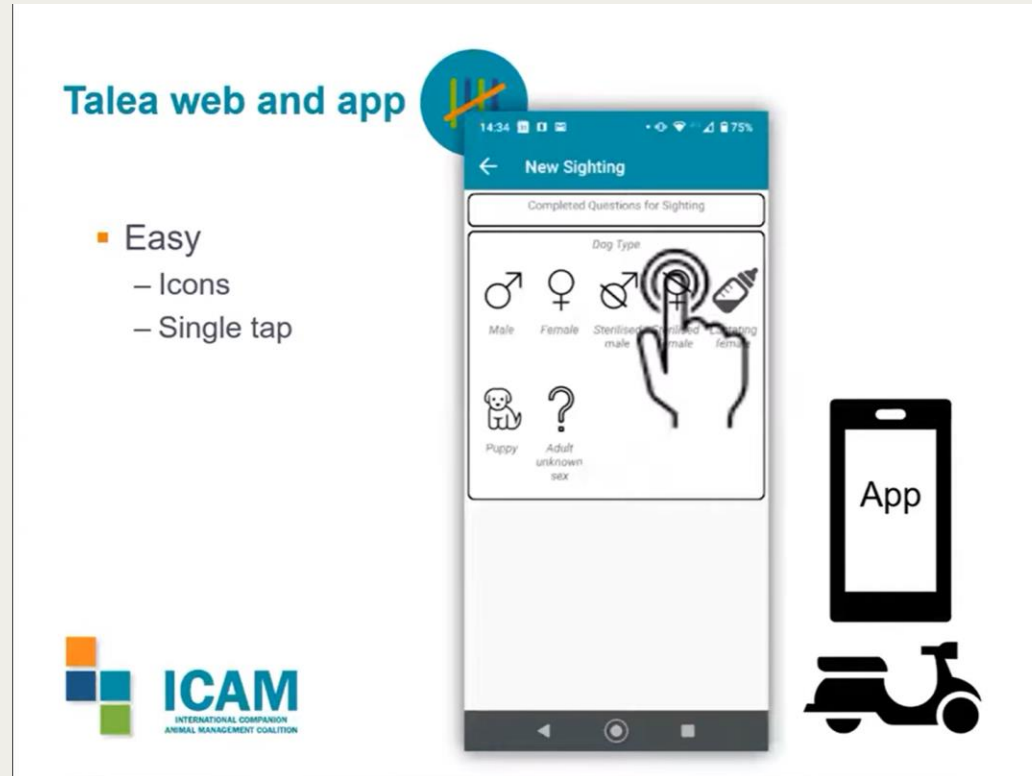
# Free-roaming dog population estimation tools

Choose study  
Can have more than one, add them to the „Package” and send to mobile app.



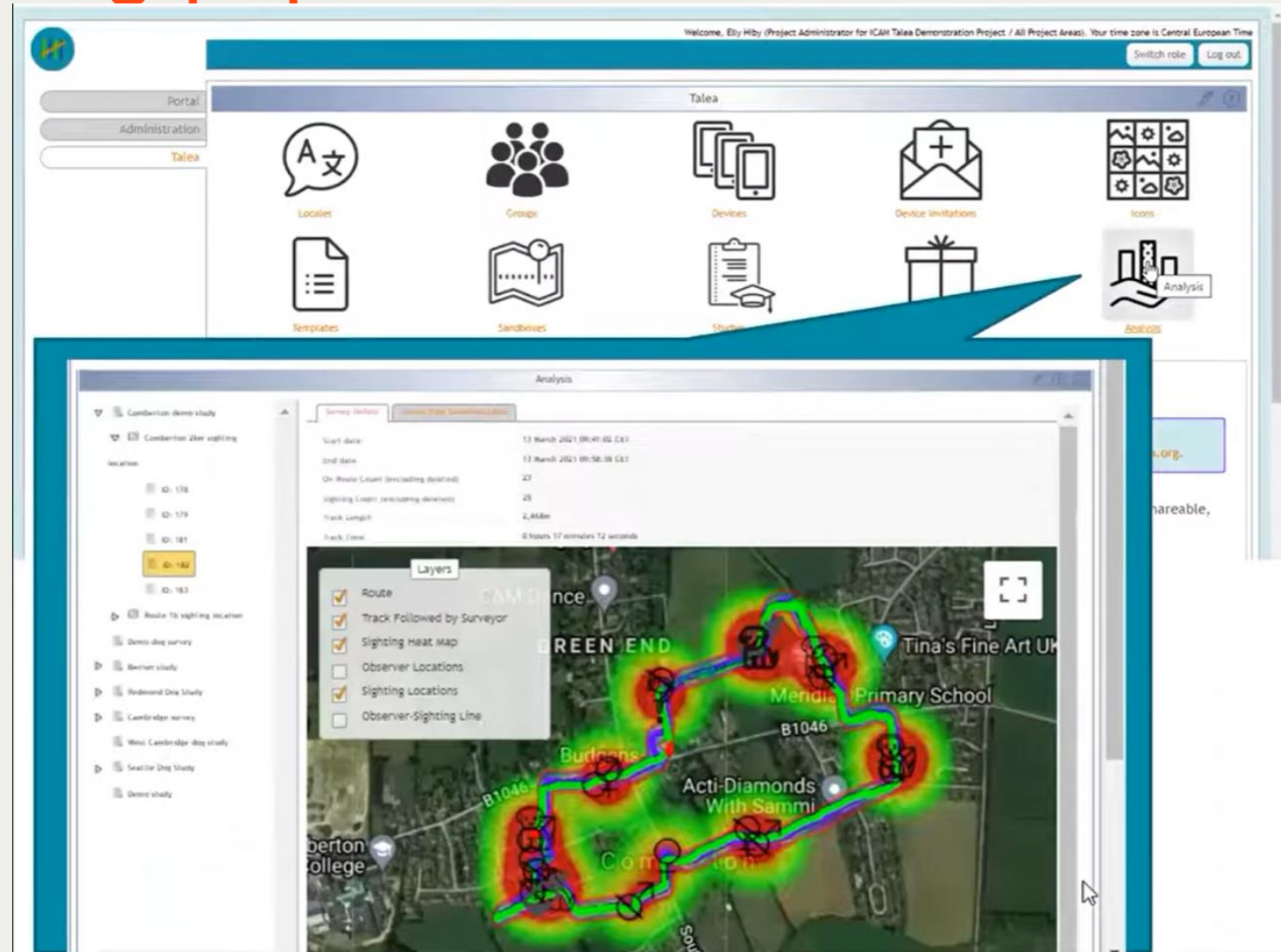
# Free-roaming dog population estimation tools

App is very simple  
and easy to use



# Free-roaming dog population estimation tools

Results can be seen as all dogs or only a certain population group – males, females, etc.



# Free-roaming dog population estimation tools

Data is obtained in the Archives and can be used in other formats

The image displays a screenshot of the Talea software interface, which is used for free-roaming dog population estimation. The interface is divided into several sections:

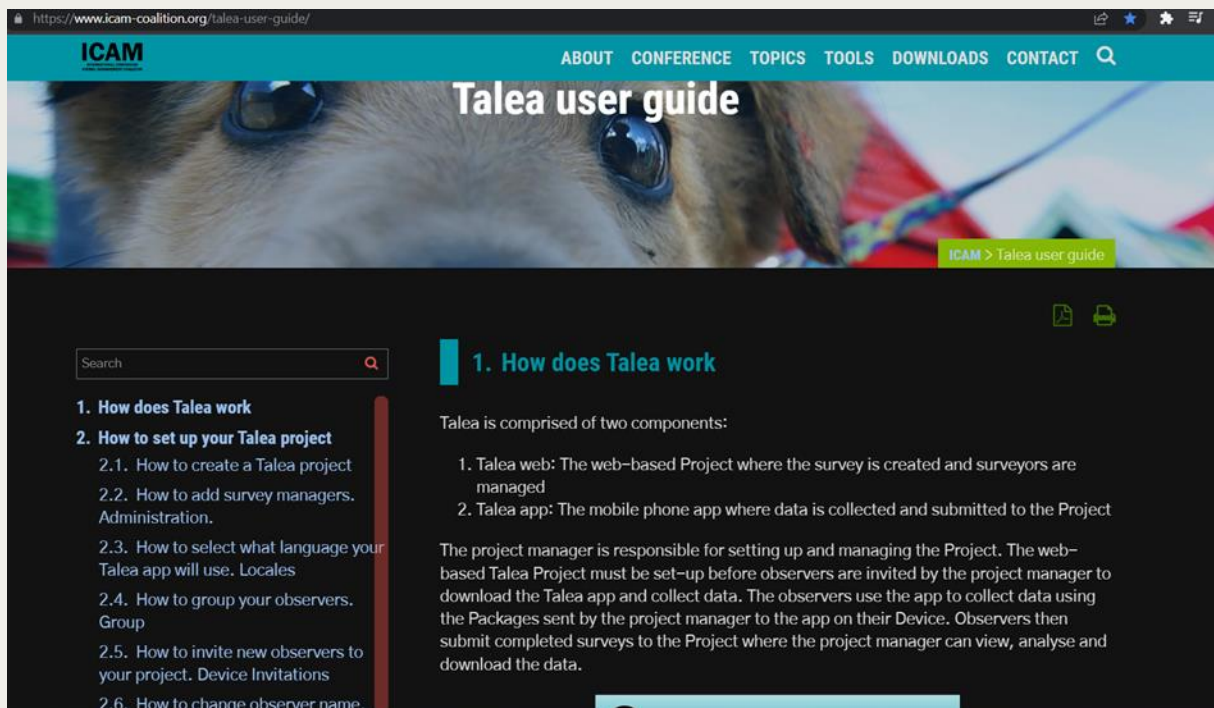
- Top Bar:** Displays the user's name (Ely Hby), role (Project Administrator), and time zone (Central European Time). It includes buttons for "Switch role" and "Log out".
- Navigation Menu:** Located on the left, it includes "portal", "Administration", and "Talea".
- Main Dashboard:** Features a grid of icons representing various data management functions: "Lockets", "Groups", "Devices", "Device invitations", "Icons", "Templates", "Sandboxes", "Locations", "Gifts", and "Analysis".
- Analysis Section:** A large blue arrow points to this section, which is shown in a detailed view. It displays a list of studies under the heading "Combination demo study". The list includes studies like "Combination 20m sighting" and "Combination 20m survey".
- Data Download Options:** A section titled "Study Data Download Links" provides instructions: "To download study data immediately, click one of the links. To copy the download URL to the clipboard, for use in another application, click the icon to the right of the link." Below this, there are four buttons with copy icons: "Excel export for study", "Zip file of CSV files export for study", "KML export for study", and "KMZ export for study".



# Free-roaming dog population estimation tools

<https://www.icam-coalition.org/talea-user-guide/>

<https://www.icam-coalition.org/webinar-talea/>



<https://www.icam-coalition.org/talea-user-guide/>

ICAM

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## Talea user guide

ICAM > Talea user guide

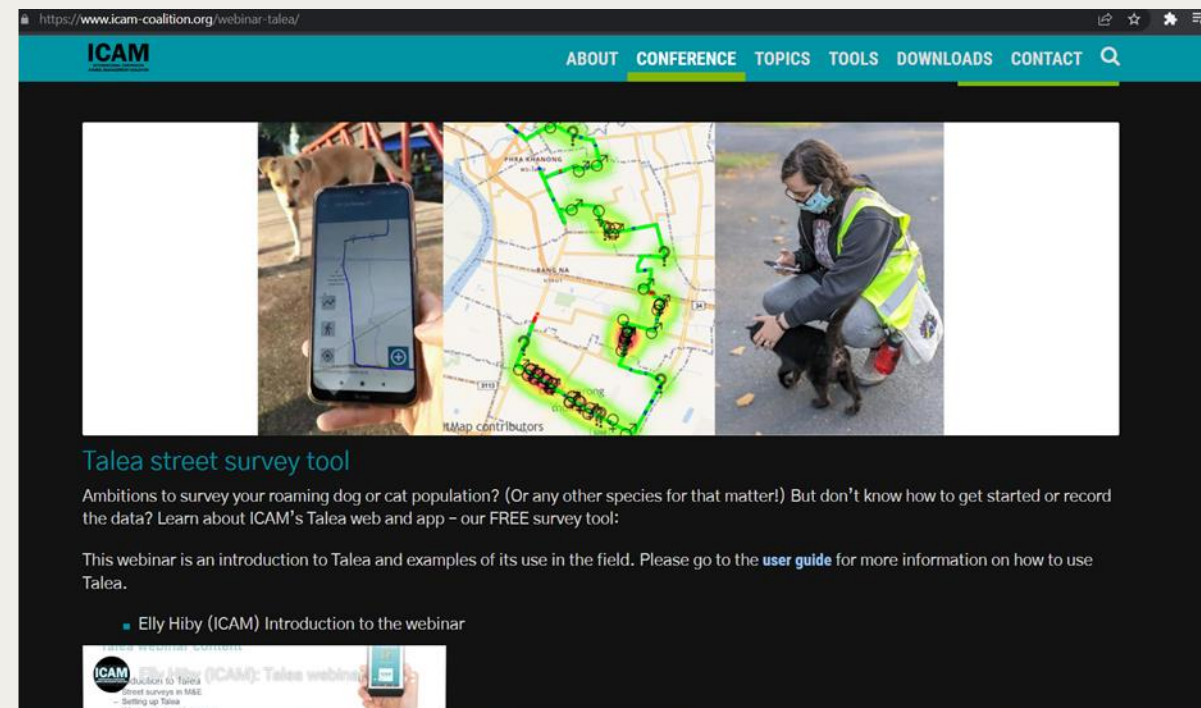
Search

### 1. How does Talea work

Talea is comprised of two components:

1. Talea web: The web-based Project where the survey is created and surveyors are managed
2. Talea app: The mobile phone app where data is collected and submitted to the Project

The project manager is responsible for setting up and managing the Project. The web-based Talea Project must be set-up before observers are invited by the project manager to download the Talea app and collect data. The observers use the app to collect data using the Packages sent by the project manager to the app on their Device. Observers then submit completed surveys to the Project where the project manager can view, analyse and download the data.



<https://www.icam-coalition.org/webinar-talea/>

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## Talea street survey tool

Ambitions to survey your roaming dog or cat population? (Or any other species for that matter!) But don't know how to get started or record the data? Learn about ICAM's Talea web and app – our FREE survey tool:

This webinar is an introduction to Talea and examples of its use in the field. Please go to the [user guide](#) for more information on how to use Talea.

- Elly Hiby (ICAM) Introduction to the webinar

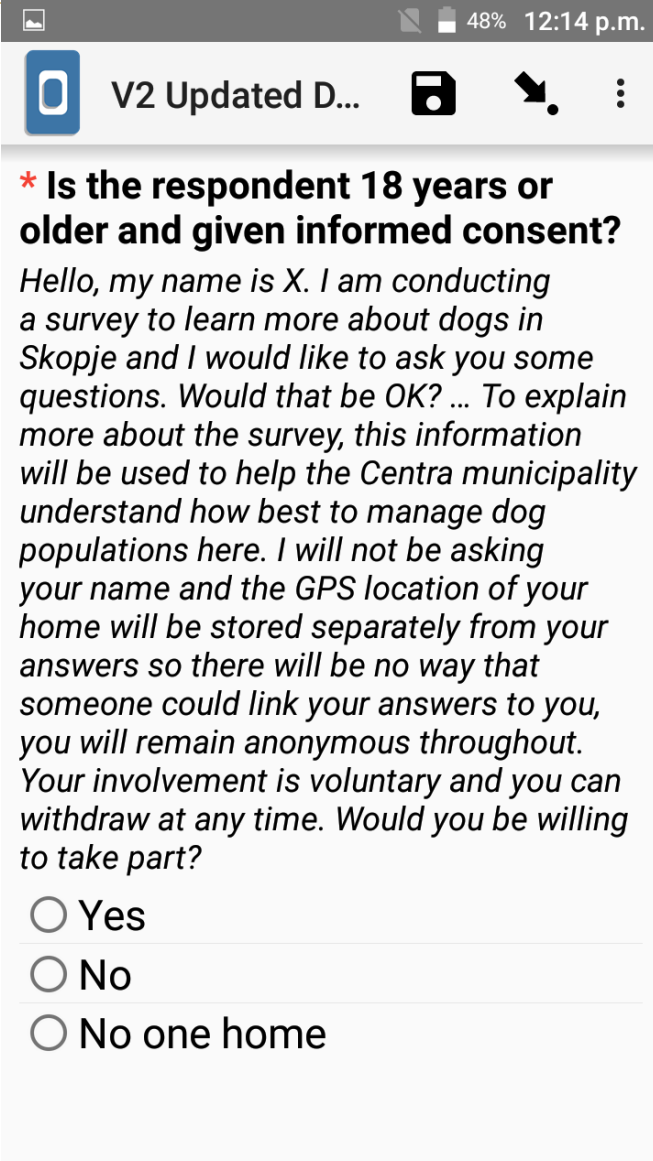
ICAM

Switch to Talea  
- Download surveys in M3E  
- Setting up Talea  
- What our users say

# Public opinion surveys

## Do not forget – ethics!

- The data we collect, the way in which we collect or use it may cause harm
- Harms may be direct or contingent
- Immediately evident or only apparent in the future
- Graded in severity – mild/moderate/severe



48% 12:14 p.m.

V2 Updated D...

**\* Is the respondent 18 years or older and given informed consent?**

*Hello, my name is X. I am conducting a survey to learn more about dogs in Skopje and I would like to ask you some questions. Would that be OK? ... To explain more about the survey, this information will be used to help the Centra municipality understand how best to manage dog populations here. I will not be asking your name and the GPS location of your home will be stored separately from your answers so there will be no way that someone could link your answers to you, you will remain anonymous throughout. Your involvement is voluntary and you can withdraw at any time. Would you be willing to take part?*

Yes

No

No one home



# Public opinion - general questions

59% 1:59 p.m.

V2 Updated D...

**In the last month, have you been annoyed or troubled by a dog or dogs in your neighbourhood?**

Yes

No

V2 Updated D...

**Over the last 12 months, do you think there has been a change in the number of roaming dogs in your community, and if so, in what direction?**

Decreased

Stayed the same

Increased

# General questions

59% 1:59 p.m.

V2 Updated D...

**Do you or anyone in your home currently offer regular care, such as food, to a street dog that doesn't have an identifiable owner? ('regular' care means at least once per week)?**

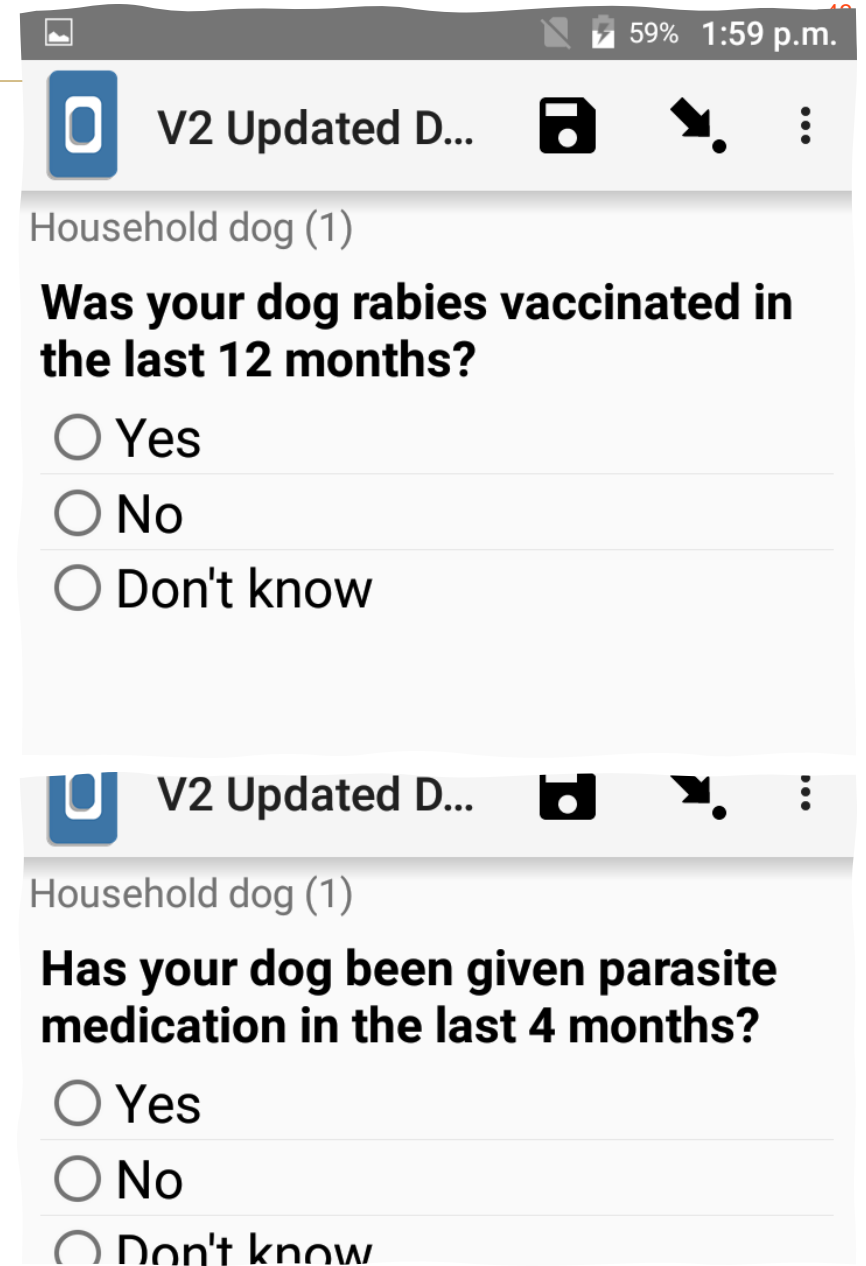
Yes

No

**Do you know anyone in your neighbourhood whose dog had puppies in the last 12 months? This can include puppies born within your own household.**

*Ensure the respondent can answer "yes" whilst still remaining anonymous, if it is their household who had the puppies*

# Dog identification and health



V2 Updated D... 59% 1:59 p.m.

Household dog (1)

**Was your dog rabies vaccinated in the last 12 months?**

Yes

No

Don't know

V2 Updated D...

Household dog (1)

**Has your dog been given parasite medication in the last 4 months?**

Yes

No

Don't know

# Thank you

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Founded in 1924

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de la santé  
animale  
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