

AHA CATCH

Overview

Introduction

AHA CATCH is a Mapping Database System intended to assist in the management, coordination, and administration of volunteer activities to combat the Yellow Legged Asian Hornet incursion into the UK. It is a webpage, not an App to be downloaded. All data is stored centrally on the cloud.

CATCH is designed to assist all community members involved in the combatting this invasive species. The functionality adapts to however a local team operates: it does not assume any hierarchical structure, or specific working processes. In its simplest form, it is a contact list in visual, mapping form. In its fullest form it already is, but could continue to develop, into a full task-driven management tool.

Key Participants

The system was specified and developed in 2023 by a small team from Asian Hornet Alert and Pendulum Development Ltd (registered company, number 09572240). Asian Hornet Alert (<https://www.asianhornetalert.org.uk>) is a Non-Profit Organisation (Charitable Status Pending) set up in in late 2023 as a community-based, volunteer driven body, to help fight and ultimately manage the Asian Hornet problem, as it evolves.

The impetus for CATCH's development was driven from the 2023 experience both in Kent and around North London, where coordination problems soon became apparent, and created enormous workloads for volunteers trying to coordinate monitoring.

The team were Tony WARREN, Lucie CHAUMETON and Jonathan SEMPLE. All are experienced beekeepers with professional backgrounds in IT. Mark Hall of Pendulum Developments Ltd was employed for programming and technical advice.

System Functionality

User centric approach

AHA CATCH is accessible on any device able to browse the internet. The screen layouts are primarily designed to suit mobile phones. The web address is <https://catch.asianhornetalert.org.uk/login> (other access point, QR code etc are listed in Appendix 1).

AHA CATCH does not have a “top down” hierarchy, but is a designed to be driven by the users: a “bottom up” principle. It means that users input their own data into the system (email, location and type of traps) so that coordinators time is freed to focus on oversight

and response to particular events such as sightings or a call for Spring Trapping. As a volunteers' involvement changes over time, from simply wanting to view AH Sightings or Nest, through to active coordination or other volunteers, roles can be added or revoked without the user needing multiple logins or versions of the app.

CATCH is also an open system, meaning there are no barriers to new users registering. However, security over access and functionality is strictly controlled by a system of roles granted to each user.

With help available at the point of use, most users are able to complete their registration independently and unaided. The system records minimal personal information: an email address and password. All other information is optional. The user then requests "Roles". These roles are granted by other users with relevant security level, after making appropriate checks. Registration is straightforward and secure.

User Roles

The user roles are therefore key to the security of the system, as well as giving it flexibility to adapt as a volunteer's involvement changes over time. The roles are summarised below.

The roles highlighted in grey in the table below are an example of the flexibility built into the system for possible future use. Whilst community members have not been tasked with checking or track and tracing yet, the system will be able to deal with such requests should they arise.

The roles are not hierarchical, giving people flexibility to get involved in those tasks that best suit them. A user admin does not have to do any "field" work as monitor, for instance, provided they are available to action the requests of other volunteers.

AHA CATCH
User Roles Matrix
Apr-25

Roles	Notes	View					Create			Edit				
		Map Locations			Other		Map Locations			Map Locations			Other	
		Sightings	Nests	Traps	* Brief User Details	User Contact Details	Sightings	Nests	Traps	Sightings	Nests	Traps	User Status	User Data
Watcher		All	All	No	No	No	No	No	No	No	No	No	No	
Monitor		All	All	Own	Own	Own	No	No	Yes	Own	Own	Own	Own	
Monitor +		All	All	All	All	Own	No	No	Yes	Own	Own	Own	Own	
Checker	1													
Tracker	2													
Destroyer	3													
Coordinator	6	All	All	All	All	All	Yes	Yes	Yes	Own	Own	Own	Own	
Controller	4	All	All	All	All	All	Yes	Yes	Yes	All	All	All	All	
User Admin	5	All	All	All	All	All	Yes	Yes	Yes	No	No	No	All	

Notes

- * User details can be seen but not - email/phone/status.
- 4 Can delete own and other Users Sightings/Nests/Traps. And Delete Users
- 5 Can delete Users
- 6 Can see user email addresses

Future Pipeline

- 1 Checker - community based ID to minimise false reports
- 2 Tracker - record volunteers for Tracking if/when needed
- 3 Nest Destroyers - record Auth pest control Cos if/when needed

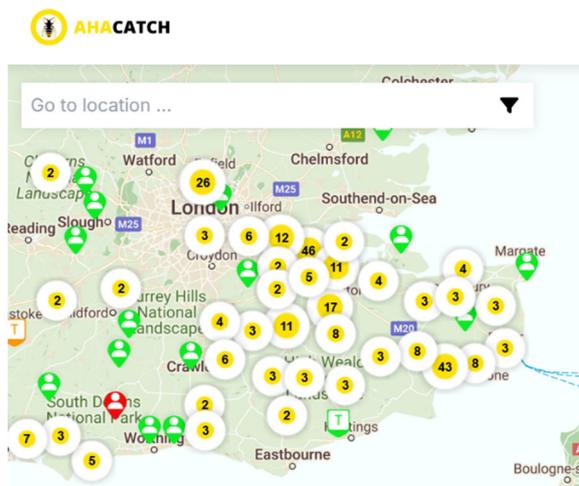
Table of all user roles and privileges

User Interface - The MAP

Users and Traps

The key interface is the interactive map of the UK, as pictured below.

Users with the Monitor role can log their location (approximate, if judged necessary e.g. to protect apiary privacy) and the location of any traps they have set. Users can then update their traps' status, subject to what has been or not been caught, or else indicate they are retiring a trap either permanently or, temporarily, whether over winter or during a trip away.



A default map view

Sightings

AHA CATCH is not intended, and cannot be used, as an alternative to Asian Hornet Watch for logging sightings.

Within CATCH, only those with the Controller Role, who are intended to be AHATs or equivalent, can log a sighting of Asian Hornets. The aim is to reflect NBU's records so as to help focus local volunteers efforts, e.g.:

- locate local volunteers who can be contacted using the AHA CATCH messaging system, so that the sighting can be investigated as appropriate
- locate what existing traps or monitoring stations around the sighting should be activated or de-activated, as required by NBU agents.

Any update, be it to confirm the sighting or not, will be passed back to the NBU.

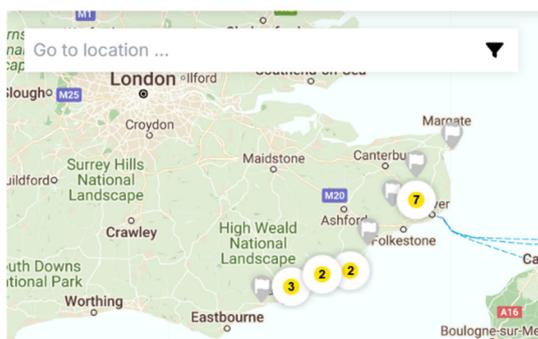
At present, NBU agents can already register into the system to view all this information directly, as it is logged. Alternatively, the NBU could engage with the CATCH developer to access the underlying data via API – user consent for this is already in place via our Terms and Conditions.



This screenshot shows confirmed (red) and unconfirmed (orange) sightings.

Nests

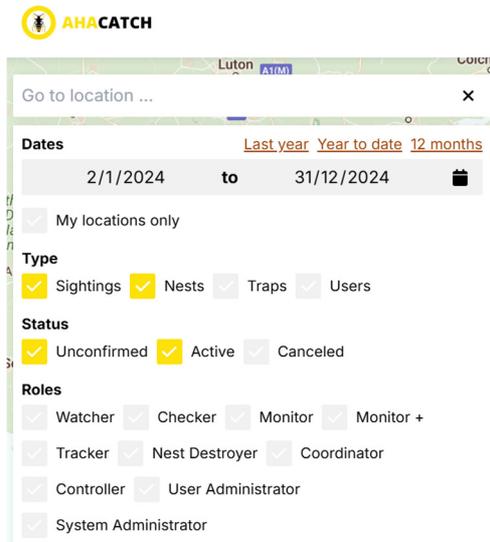
As with sightings, the CATCH system is not intended as the “Official” record of nests, however to help volunteers understand their local situation, confirmed and destroyed nests are recorded on the map. These are currently logged by a “User Administrator” based on the NBU Rolling update (<https://www.nationalbeeunit.com/about-us/beekeeping-news/asian-hornet-2024-rolling-update>).



A screenshot showing nests destroyed in 2024 as grey flags

Search Facility

Various search options are available on the map so a user can select data relevant to a particular task. These cover Date, Object type (user, nest, sighting, trap), Status and User Role.



A screenshot of the filtering tool

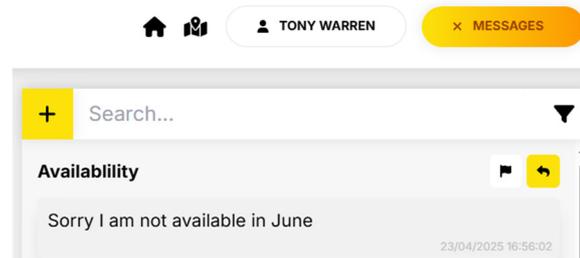
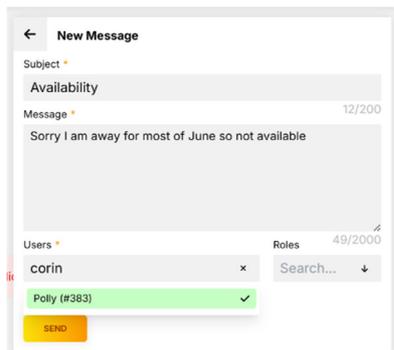
Use cases include:

- Visualising active traps only, to check coverage around an area
- Visualising active and inactive traps during a trapping exercise – then using the messaging system to suggest either reactivation or deactivation, as required
- Visualising nests destroyed after late September the previous year, to determine whether Spring Trapping is necessary or not

In-app Messaging

AHA CATCH includes an in-app messaging system. The messages are only sent within the CATCH app, not to the user's personal email account outside CATCH. This could be amended, pending user feedback, e.g. to send an alert to the user's email if too many in-app messages are left unread.

Message recipients can be selected by clicking on their map icon, searching by user name, by roles. Although a mailing list can also be copied and pasted of a bespoke list held offline, we would for GDPR reasons actively discourage users from holding personal details of other



users outside the app. In particular, CATCH does not allow users to download or create off-line copies of the personal details of users.

Screenshots of the messaging tool

Data Protection – GDPR

During the design and specification period we contacted the Information Commissioners Office (ICO) to confirm their requirements. After lengthy discussion and a full explanation of the intended system, we were advised that given the nature of the organisation (AHA) and the data carried, we were exempt from registration. Notwithstanding this, we have endeavoured to follow the GDPR principles, and recognise that this matter is fluid. We will be revisiting GDPR again at the end of the 2025 season.

The relevant points are;

- User data is anonymous: users register and verify an email address, and chose a user name. There is no record of their address, or any other personal details.
- Consent to share data with relevant organisations, as defined in the T&Cs is given by the user on registration
- Only the administrator and developer of the system have access to the underlying data
- The data is stored securely
- The User has the option to delete their account in two clicks (request and confirmation). This action deletes all user data automatically
- The system access is secured by reCAPTCHA (the familiar “I’m not a robot” check) to protect against attack by bots.

Governance

AHA CATCH is owned jointly and equally by Asian Hornet Alert and Mark Hall (Pendulum Development Ltd). The development and ongoing costs have to date been funded by donations to AHA from various sources and from the sales of selective traps to beekeepers and the general public. Thanks to pro-bono work by all members of the team, both the initial professional development work, and the ongoing support, have been carried out at significantly below market rates.

Funding

We are keen to offer this system to the volunteers or users free of charge, so AHA are actively pursuing further funding and donations. **Future Development**

We feel that the system as it stands is beneficial to the overall aims of managing the fight against the spread of the Asian Hornet. However, we have in place a development outline that enhances the system further. The specification and programming work being carried out on an annual basis, outside of the active Asian Hornet season.

We recognise the importance of major stakeholders, e.g. but not restricted to BBKA and the NBU, in the system. AHA would encourage their formal representation on the development team.

There is and will likely remain a schedule of minor enhancements and bug fixes. This is an ongoing process controlled off a work schedule shared to the same team as above.

APPENDIX

App access

The app can be accessed via

<https://catch.asianhornetaalert.org.uk/map>

Shortened to:

[Bit.ly/CATCHUK](https://bit.ly/CATCHUK)

Or by scanning the QR code:



Full list of map objects

This is also an example of help at the point of use

ICONS AND STATUS

SIGHTING	 Unconfirmed	 Confirmed	 Resolved
NEST	 Unconfirmed	 Confirmed	 Destroyed
TRAP	  Inactive	  Active	  Disabled
USER	 Unverified	 Verified	 Disabled

 For guidance and trap information click here: [Find out more.](#)



