Global Environmental Crime Tracker

User Guide

Last updated: 4th April 2022

Contents

Introduction

This user guide has been produced alongside the 'environmental crime tracker' on EIA's website for public use. Within this guide are sections on how to use the tool and a breakdown of what each visualisation is showing. Data standards, estimated formulas and caveats for the data have been included per species. Please ensure that you have read and understood these before using the data. If quoting data from the tool in published articles or journals, please cite EIA as the source.

Environmental Investigation Agency (2021), Global Environmental Crime Tracker. Available at: https://eia-international.org/gect

To provide feedback on the tool or to ask a question about the data please use the contact us form found here.

General methodology of data collected

Data has been collected by EIA staff from publicly available information, including government reports, enforcement agency press releases and non-governmental and academic papers, along with news media in several languages. The collection of the data used by the tool is reliant on EIA staff and NGOs, therefore it is not an exhaustive data set and likely represents only a fraction of actual activity.

Seizure data is subject to certain limitations, such as reporting rates, data accessibility and language barriers. The rate of reported seizures is subject to national law enforcement efforts and effectiveness, as well as law enforcement effort in publicising incidents and the national media interest in reporting on incidents. As is reported by UNODC in their 2020 World Wildlife Report, seizure data can be difficult to interpret in isolation and can lead to misleading conclusions because the data represents more than one indicator; the presence of a problem and the initiative of the relevant authorities in addressing it. On their own, seizures cannot be used to demonstrate the magnitude and trend of the trafficking and should always be analysed alongside other information sources to obtain a more comprehensive picture.

EIA uses this information to complement additional intelligence sources when analysing trafficking methodology. As the Tracker is developed, we hope to be able to include additional non-sensitive sources of information alongside the seizure data that is currently displayed. We would welcome collaboration from any researchers looking at trends and probability to discuss our data collection methodology in more detail so we can continue to improve the output of the Tracker.

EIA's search effort focuses on elephants, rhinos, pangolins, tiger, leopard, snow leopard, clouded leopard, totoaba, refrigerant gases and various species of timber. If additional species are seized alongside these primary species, then they have also been categorised and entered into the database.

As a small non-governmental organisation, our capacity to collate information on seizures and prosecutions globally is limited. Some data is less accessible via open-source research methods and EIA does not have the resources to reach out to all law enforcement agencies at district level. Where possible, we regularly exchange data sets with other organisations who collect similar data to fill any gaps in data collection, but we have limited resources to be able to research and identify all seizures and conviction outcomes. We welcome any input from others in helping to update our records. If you would like to contribute towards our database, then please get in touch here.

In the future we hope to expand the Tracker to include other types of environmental crime.

Interactive report general use

Navigation

Enter the Tracker by clicking on the dashboard 'Enter Global Environmental Crime Tracker or go straight to the specific page by clicking on the relevant image.
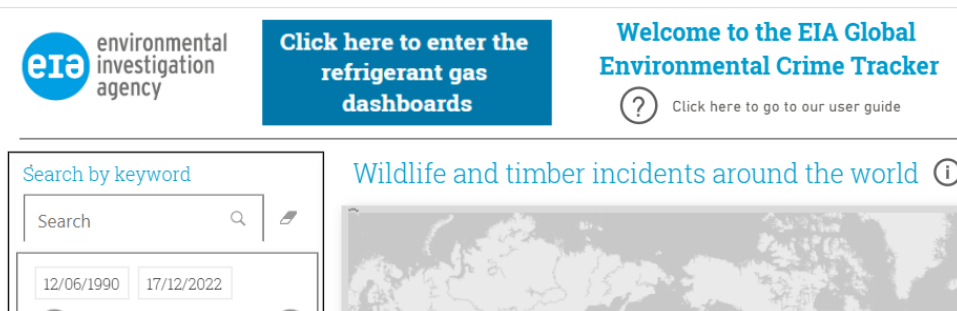

To return to the dashboard from any page, click on the EIA logo in the top left corner of the page.
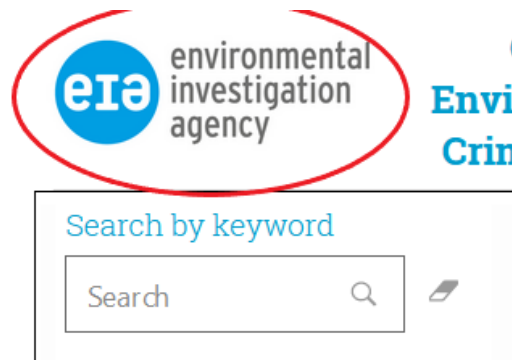
Use the arrows at the bottom of the page to move through the dashboard pages or click in the centre of the page numbers to show the navigation menu.
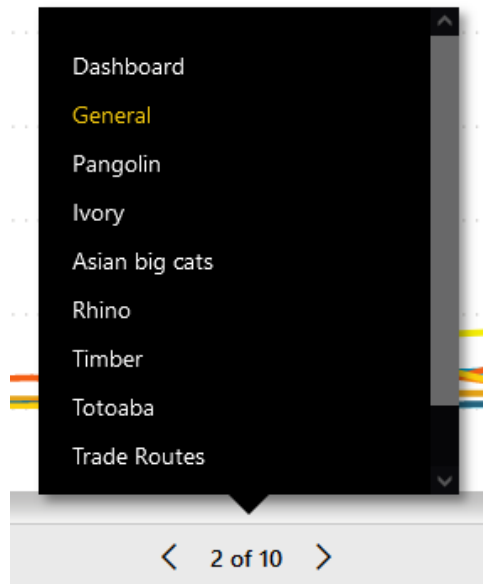
The general page refers to wildlife and timber incidents only. To access the refrigerant gas pages, click on the button at the top of the page, or click on the illegal refrigerant gas picture on the front dashboard.

To return to the main dashboards, click on the button at the top of the main refrigerant gas page, or the EIA logo on any page.

Functionality

Hover over parts of the dashboard to reveal the 'tooltip' box containing details of the data displayed in the visualisation:
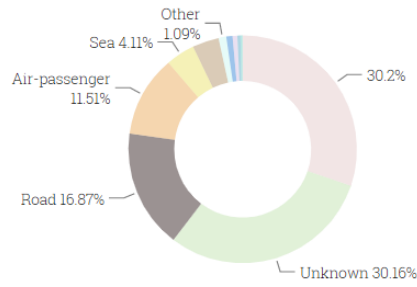
Use the filters at the top to select or deselect information for the dashboard to include.

TIP: To select multiple options, hold down CTRL on your keyboard while ticking the boxes:
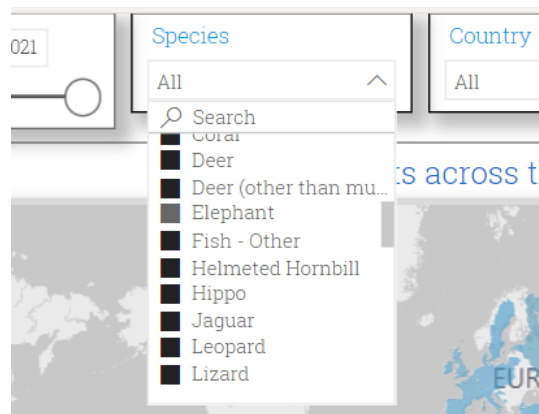
Click on any of the categories of a visualisation to select it as a filter and see it update the rest of the dashboard:

Transit type breakdown

Other 1.09%
Sea 4.11%
Air-passenger 11.51%
Road 16.87%
30.2%
Unknown 30.16%

utbound Country

China	31
ietnam	4
Laos	15
India	11
iailand	9
Nepal	6
anmar	20
alaysia	2
g Kong	2
Nigeria	4

0   100

Destination Country

China	44
Vietnam	20
India	34
United Arab E...	5
Hong Kong	1
Malaysia	3
Cambodia	4
Nepal	6
Thailand	3
Mexico	4

0   200
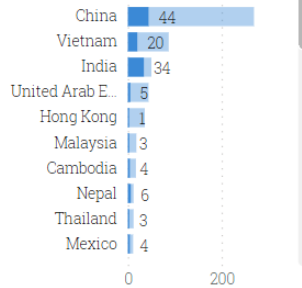
Hover over the visualisation with the mouse and select focus mode to expand the specific visualisation or map into full screen.

Right click on a visualisation and select show as table to display a summarised table at the bottom of the screen for the visualisation selected.

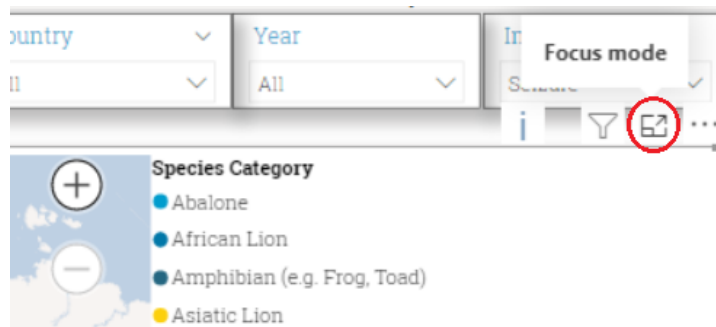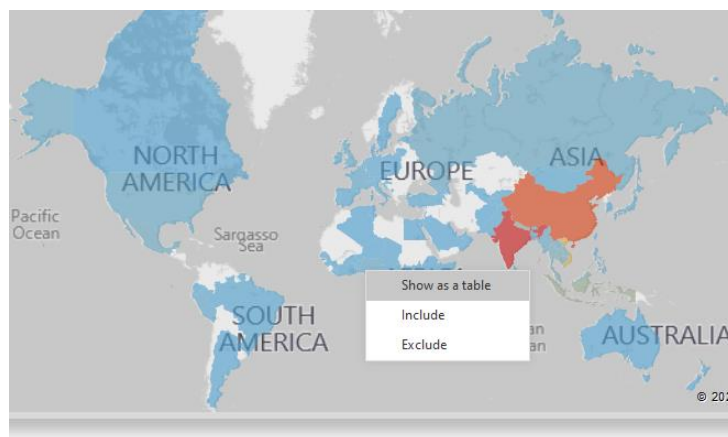To drill-down further into date visualisation charts by quarter or month, select a year on the page filter, hover over the chart with the mouse and select the arrows in the top right corner.
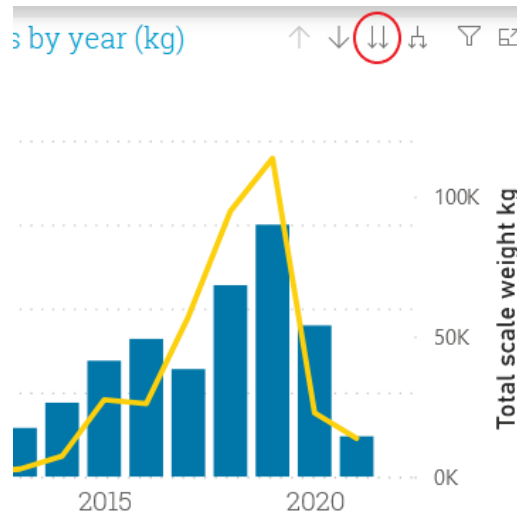
This will then allow you to break down the data by quarter or month.
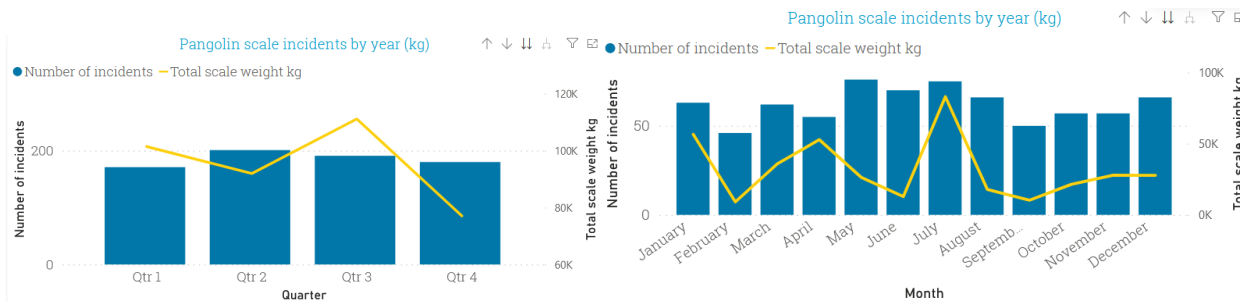
There is also an option to turn on drill-down and select a year to filter the rest of the page without using the year filter at the top. To do this, select the single drill-down arrow so it is highlighted in black.
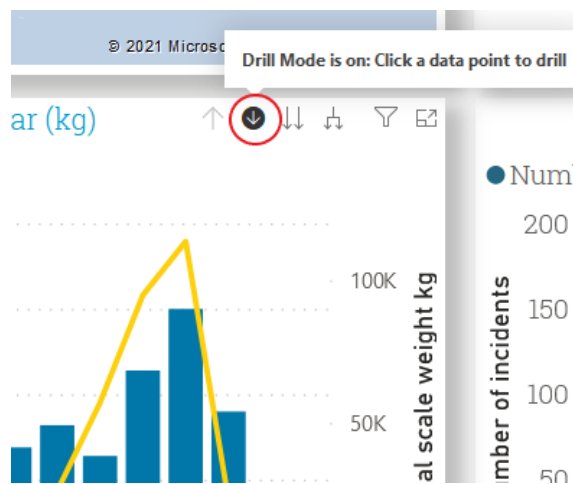
Click on the bar on the graph for any year to filter the dashboard to show only information for that year.

Viewing incident details/mapping incidents

When viewing the dashboard visualisations, there is an option to either map the incident/selection of incidents, view the full incident details or see the trade route for the incident.

Hover over the data selection you would like to get further details on and you will see 'Right-click to drill through'.
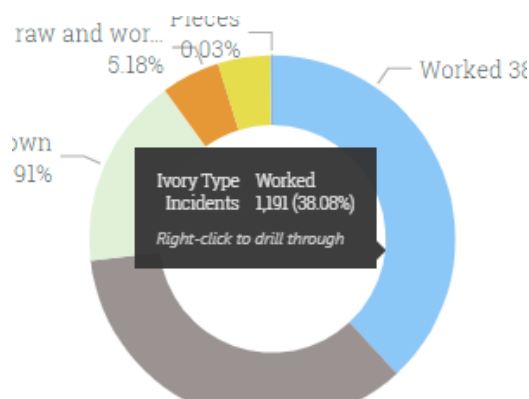
Right-click on the selection and select the relevant option.
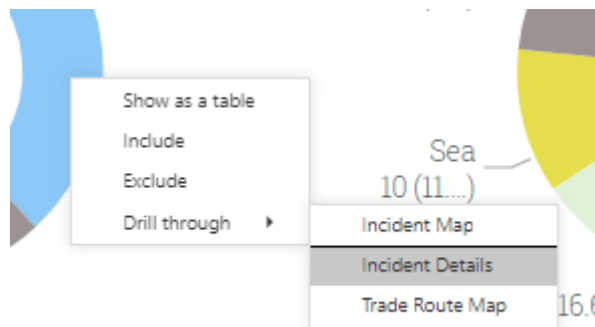
Use the back button on these pages to go back to the original dashboard:
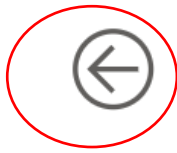
Incident Details

ID	Date	Incident Name	Incident D
13874	26 March 2021	Hangzhou, 0.26474 kg, 26 March 2021	On 26 March passenger by THe items we
13831	24 March 2021	Maoming, 0.0074 kg, 24 March 2021	On 24 March parcel declar
13833	23 March 2021	Kunming, 0.0499 kg, 23 March 2021	On 23 March

This option can also be used to:

- Map individual incidents using latitude and longitude.
- See a map of locations involved in the trade route of incidents.

Details of dashboards

General EIA incident page:
This dashboard relates to wildlife and timber seizures only.

- o Incidents around the world – This visualises the number of incidents into a heat map per country. The tooltip shows number of incidents and the percentage of incidents in the data set selected.
- o Number of incidents by year – A line chart per EIA priority species showing the number of incidents recorded by year.
- o Search all – This allows any keyword to be searched across the dataset. See incident details by right-clicking on 'Number of incidents' in blue and selecting 'Drill through'.
- o Number of incidents – This is the total number of incidents in the dataset selected.
- o Number of seizures – This is the total number of seizures in the dataset selected (as opposed to other incident types).
- o % Arrests made – This is the percentage of incidents where EIA has recorded that an arrest has been made.
- o % Convicted – This is the percentage of incidents where EIA has recorded a successful conviction.

Transport
This dashboard relates to wildlife and timber seizures only.

o Concealment method word cloud – This analyses free-text descriptions of concealment methods. Words used more frequently appear bigger in the visualisation. Click on a word to filter the rest of the dashboard. When filtered, right-click on the number of incidents in blue at the top and drill-through to see incident details.

o Transit type breakdown – A chart to show the percentage of transit type methods used for the incident selection.

o Seizure country – The number of seizures per country of seizure.

o Origin country – The number of seizures per country listed as the origin country of the seized item.

o Transit country – The number of seizures per country listed as transit locations for that seizure.

o Outbound country – The number of seizures per country listed as the outbound location of the seized item.

o Destination country – The number of seizures per country listed as the destination location of the seized item.

Pangolin

o Map – This visualises the total pangolin scale weight by country in a map. The larger circles represent larger amounts.

o Total scale weight by top country – This visualises the total scale weight by top country in a bar chart.

o Pangolin scale incidents by year – This visualises the number of pangolin incidents by year. The yellow line represents the total scale weight seized per year.

o Pangolin whole weight by year – This visualises the number of pangolin incidents per year. The blue line represents the total weight of whole pangolins seized (live, carcass, whole unknown state).

o Large-scale seizure filter – Selecting yes filters the dashboard to include only incidents where the total weight of seized scales is over 100kg. When the square is black the option is selected.

Where scales have been seized but no quantity stated, 0.1kg has been used as a standard weight.

Ivory

o Map – This visualises the total ivory weight by country in a map. The larger circles represent larger amounts.

o Number of ivory incidents this year – This figure represents the number of ivory incidents that have occurred since the beginning of the year (starting with the month of January).

o Estimated number of elephants killed this year – This figure estimates the number of elephants killed since the beginning of the year based on the weight of the ivory seized so far this year (starting with the month of January).

o Number of incidents and total weight by year – This visualises the number of ivory incidents per year. The yellow line represents the total weight of ivory seized per year.

- o Count of transit method – A chart to show the percentage of transit type methods used for ivory incidents
- o Incidents by ivory type – A chart to show the percentage of types of ivory seized.

Large-scale seizures are defined in this dataset as seizures of ivory that totals 500kg or more in a single incident.

We recognise that the weight of an elephant tusk varies widely depending on the species, geographic range, age and gender of the animal. It may not be appropriate therefore to use a fixed number to estimate the weight of tusks seized. In the next update of the platform, based on reliable scientific publications and feedback from experts, we will be using the range of 6.6kg to 10kg per elephant as the estimated weight of tusks seized.

Until then, the numbers displayed will be our previous estimation of 6.7kg of ivory per elephant, i.e. 3.35kg per tusk.

Total weight is calculated as the sum of the reported and estimated weight.

Asian big cats

These interactive dashboards are based on datasets compiled and derived from publicly reported seizures of tigers, leopards, snow leopards and clouded leopards (live or carcasses) and their parts and derivatives (including skins, bones, teeth, claws and products). Incidents from 2000 – present are included on this dashboard.

Formulas used to calculate the minimum number of animals seized per item:

- Minimum total whole animals: Sum of items categorised as skin, carcass, live, stuffed and whole unknown state.
- Bone: KG of bones seized/12
- Claw: Number of claws seized/18
- Teeth: Number of teeth (assuming canines) seized/4

To avoid double counting, in instances where bones / teeth / claws / other body parts are seized separately from skins, when quoting minimum number of tigers in trade, EIA is referring to minimum whole animals as described above.

If an unknown quantity is seized, for bones, teeth, claws 0.1 will be entered into the reported weight field. For skins, live, carcass, skulls, stuffed, skeleton, whole unknown state, 1 will be entered into the quantity field. 'Unknown quantity' will be specified in the notes section.

- o Min number of whole animals seized – This is calculated on the sum of big cats seized that are live, carcass, stuffed, whole unknown state and skins.
- o Estimated number of cats seized per part – These figures represent the estimated number of whole cats that have been killed per body part seized.
- o Map – This shows all individual Asian big cat incidents recorded by EIA.
- o Asian big cats seized by country – Chart to show per country the percentage of Asian big cats seized. This is calculated on the sum of big cats seized that are live, carcass, stuffed and whole unknown state.

- o Asian big cats incident trends – This shows the number of incidents recorded by EIA per year per big cat species.
- o Proportion of tigers seized suspected to be from captive sources – This shows the percentage of tiger seizures that are believed to come from either wild sources or captive tiger facility sources.

  The criteria used to determine if a tiger is suspected to come from a captive source is below:
  - Tiger is seized from a facility (zoo, farm, circus, etc) or private premises
  - Tiger is seized outside a facility, but intelligence indicates it was supplied from a facility
  - Tiger is seized outside a facility, but intelligence links it with suspect individuals connected to a facility and/or known/strongly suspected to trade captive tigers
  - DNA testing results show the tiger sub-species is not endemic to location, e.g. Siberian tigers seized in Thailand
  - Number and form (live/dead/white coloration) of tigers recovered is vastly disproportionate to wild population availability in country, e.g. 8 live tigers seized in Laos, which has small wild tiger population.
  - In the absence of viable wild tiger populations, specific location of seizure is a known hub for trade and/or transport of captive tigers (e.g. Cau Treo on Laos-Vietnam border)
  - When circumstances fulfil one or more of the above criteria, additional criteria suggesting link to captive facilities include:
  - High quantity and diversity of species of live/carcasses intercepted together, e.g., five tigers, four leopards, three clouded leopards together;
  - Presence of frozen carcasses, indicating that the tiger has passed through or been sourced from facility and has been frozen for onward transport.

- o Enter captive tiger facility trade map – Click on this link to see a map of facilities believed to be involved in the captive tiger trade.

India country totals – The Wildlife Protection Society of India has the most robust wildlife crime database, established in 1994. When EIA is quoting a figure for the minimum number of whole tigers or leopards that have been seized across their range, the headline statistics from WPSI will be referred to for the data from India.

Rhino

Data has been collected from publicly available information but is not an exhaustive list and is likely to only represent a fraction of actual activity since 2006.

- o Map – This visualises the total rhino horn weight by country in a map. The larger circles represent larger amounts.
- o Transit type breakdown – A chart to show the percentage of transit type methods used for the incident selection.

- o Rhino incidents by year – This chart shows the number of rhino horn incidents by year. The yellow line represents the total rhino horn weight seized per year.
- o Table of seizure weights – This table details the sum of rhino horn seized per country, alongside the total number of incidents recorded per country.

Total Combined Rhino Horn Weight – the sum of the reported weight for rhino horn and rhino horn products and the estimated weights for whole horns when weight is not reported (using quantity of horn).

2.78 kg is used for the estimated weight of an African rhino horn and 0.96 kg for the estimated weight of an Asian rhino horn ([source here](#)).

When estimates cannot be made (e.g. when worked rhino horn products are seized but no weight is reported) 0.1 kg is recorded as the weight and unknown quantity entered into the species notes field.

Timber

The amount of timber seized can be calculated by using both weight (kg) and volume (m3). At the top of the dashboard there is an option to view the dashboard by volume or weight. Please note, some incidents are entered as weight only, or volume only. While there are also a large number where the amount seized is not known.

The data on timber seizures currently is focused on Southeast Asia, this reflects the geographical focus of EIA's forest campaign. However, it also includes notable seizures in other parts of the world that are particularly relevant to EIA's work.

- o Number of incidents by year – This shows the number of timber incidents recorded in EIA's database each year. The yellow line represents the total weight of timber seized in these incidents by year. The bright blue line represents the total volume of timber seized in these incidents by year.
- o HS Code – This represents the type of wood seized per HS code.
- o Table of seizure quantities – This table details a sum of the timber species quantity seized and number of incidents by country. The quantity of timber is shown in quantity (when no weight provided), weight (kg), volume (m3) and hectare (ha), where forest has been cleared illegally. Please note: The seizure is only recorded in one quantity format and not converted into each.
- o Timber weight and volume m3 by country – This chart shows the countries that have seized the highest quanitity of timber. Change the chart from weight (kg) and volume (m3) by clicking the filter at the top of the page.

Totoaba

- o Total totoaba weight seized (kg) – This is the minimum total reported weight of totoaba seized in all incidents recorded by EIA. When weight has not been reported then this hasn't been estimated and therefore isn't included in the total. This includes all totoaba seizures.

- o Map – Locations of all totoaba incidents recorded by EIA globally. It is broken down by type of item which can be used to filter the rest of the dashboard.
- o Top transit method types – The method used to transport the totoaba before being seized.
- o Totoaba incidents by year – The number of totoaba incidents recorded by EIA each year. The yellow line shows the total weight (kg) of totoaba seized per year.
- o Destination country – This chart shows the top countries listed as believed destination locations for each seizure of totoaba.

Refrigerant Gas

- o Total volume seized (kg) – This is the total volume of gas seized. This includes estimated weights for those incidents where a volume is not reported but the number of cylinders is reported. Estimated weights are calculated by multiplying the number of cylinders with the following cylinder weights for gas types (when the gas type is unknown, 11.3kg is used for the calculation):

R-404A	10.9
R-407A	11.3
R-407C	11.3
R-410A	11.3
R-507	11.3
R-134a	13.6
R-23	8
R-32	10
R-1234yf	10
R-22	13.6

- o The above weights are also used to provide an estimate of cylinder numbers when weight of seizure and type of gas is provided.
- o Estimated Total CO2e of gas (tonnes) - This is the carbon dioxide equivalent emissions of the gases seized based on refrigerant types and kg amount of seizures. This number refers to the emissions potential of the use of these gases if leaked through lifetime and released at End of Life. The CO_2 equivalent figure is calculated with the equation tCO_2e = (vol in kg/1000) x GWP. GWPs used were from IPCC AR6. Where volume is unknown an estimated volume is used (see above.) Where the refrigerant is unknown a proxy GWP is used – the proxy GWP is the average GWP of the three most used HFCs (R-410A, R-404A, R-134a) for a GWP of 2838,
- o Map – This shows all incidents of seizures of refrigerant gases.
- o Gas categories – This is a pie chart of the breakdown of gas categories held within the database by the total volume seized. This is shown by total volume (kg) and percentage. Estimates have been included when no reported weight known.
- o Types of gas seized – This chart shows a breakdown of gas types held within the database by the total volume seized. This is shown by total volume (kg) and

percentage. Estimates have been included when no reported weight known. When a seizure includes multiple refrigerants but the breakdown is unavailable, an equal amount of each refrigerant is assumed to have been seized.

o Volume of gas seized by country – This chart shows the total volume of gas seized by each country. Estimates have been included when no reported weight known.

o Volume of gas by country exported – This chart shows the total volume of gas that has been reported to have been exported, by country. Estimates have been included when no reported weight known. The data used is based on the information reported by individual incidents.

o N.B. Unless otherwise stated, incident country refers to the country the gas was seized in. Route country refers to a country along the trade chain (Exporter, Destination etc).

Incident Map

This maps all the incidents using the latitude and longitude of the location field. Please note: The map will only display a maximum of 3500 incidents at a time and it is recommended that at least one filter is applied before using the map. The filters are found on the top and left-hand side of the page.

If multiple species or types of gas are seized at the same location then the data point will be divided into the different colours.

Use the focus mode option to expand the map to full-screen.
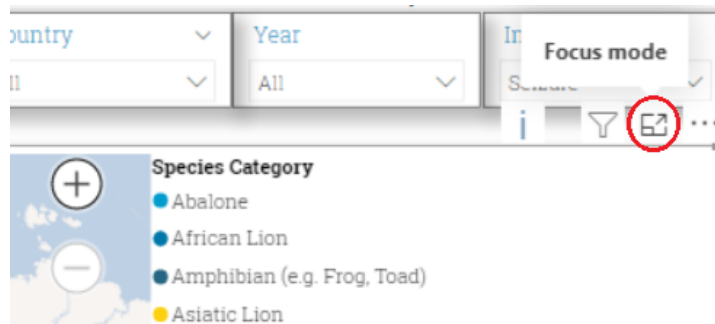
Trade Route Map

This maps the trade route linked to the incident. The route type is categorised as:

- Origin – Where the species/item is known to have originated from.
- Outbound – The location the species/item was being sent to.
- Transit – The location of any countries that the item passed through in transit.
- Destination – The location of the believed final destination that the item was being trafficked to.
- Other seizure location – Additional incident locations if an incident occurred at more than one location.
- For refrigerant gases a further categrisation is used: Exporter – The location the item was being sent from.

- For refrigerant gases, transit method is also dispayed on this dashboard.

Incident Details

This page shows details of the individual incidents selected on 'drill through'. The database presents the data per item seized, therefore if multiple items are seized in one incident the data is displayed on multiple lines. The ID number in the first column can be used to link the rows together.

Glossary of field names

- **ID** – The unique ID number given to the seizure incident in the database.

- **Date** – The date that the incident was believed to have taken place. If no date is specified in the source, the date of report is used.

- **Estimated start date** – When no date is specified in the source, an estimated start date is entered which is 2 weeks prior to the source report date.

- **Estimated end date** – When no date is specified in the source, the source report date is entered.

- **Incident name** – This describes the incident location, details of what was seized and date.

- **Incident Description** – This is typically the text taken from the original source document. Some descriptions may have been summarised.

- **Incident type** – There are five incident types included in the database:

  Seizure: When a single seizure has taken place on a single day.
  Seizure summary: When the source provides a summary of seizures but no individual incidents. i.e. a country has reported total number of wildlife seized over a number of months. (NB: It is possible that some individual incidents have also been recorded and there is duplication of quantities when including both seizures and seizure summary incidents.)
  Poaching: These illegal killing incidents are recorded when it is believed that the animal was killed for trade. We would exclude poaching incidents from these datasets where there was information to indicate that it was a conflict killing or as a consequence of indiscriminate poaching methods targeting bushmeat, and where the information indicates there was not an intention to trade body parts.
  Other: Miscellaneous incidents. For example, when equipment has been seized but no species, or when there has been a significant prosecution reported in the media but no exact details of the offence they were originally arrested for.
  Theft: These represent thefts from wildlife stockpiles.

- **Village or Province** – Location of the incident when it has occurred in a smaller location that a town or city.

- **Airport-Port** – The name of the airport or port where the incident took place.

- **Country** – The location of the incident. If more than one seizure location is reported then this is entered under Trade Route Country as 'Additional seizure location'. In evaluating enforcement and prosecutions Hong Kong, Macau and Taiwan are registered separately using ISO country names, as these regions have different enforcement units and legal frameworks from the rest of China.

- **Species category** – The primary category of species seized.

- **Species item** – Type of item seized.

- **Type of ivory or horn** – An additional category for ivory and rhino horn. Categories are: Raw, Worked, Mixed – raw and worked, Pieces, Unknown

- **Species qty** – The number of items seized. This may be provided instead of a reported weight.

- **Total weight** – The combined estimated weight of the items seized based on either the reported weight or the estimated weight of the item (where applicable).

- **Species description** – This is a free-text field which provides further detail of the species seized.

- **Timber species** – Where timber has been seized, this field details the species.

- **Hectare Ha** – In some instances the quantity of timber seized is provided in hectares which will be detailed here.

- **Volume m3** – In some instances the quantity of timber seized is provided in m3 which will be detailed here.

- **Gas Category** – The general category of the gas seized. If unknown it will be stated here.

- **Type of Gas** – The exact type of gas seized. If unknown it will be stated here.

- **Cylinder type** – This refers to either 'disposable', 'refillable' or 'unknown'.

- **Number of cylinders** – The reported number of cylinders seized. This does not include empty cylinders.

- **Reported volume** – This is the volume reported directly from the source in kg.

- **Estimated volume** – This is an estimated volume of the seized gas if not directly stated in the source. See above 'Refrigerant Gas' section for further detail.

- **Gas combined volume** – This is a sum of the reported and estimated gas volume in kg.

- **Additional description** – This provides a more detailed description of the seized gas cylinders.

- **Notes** – This field includes any additional notes on the seized item. If the quantity of items seized is unknown it will be detailed here.

- **Transit method** – When items have been seized in transit, the method of transportation is listed here.

- **Concealment method** – This is a free-text field describing whether the items were concealed when found. Use the word cloud on the Transport dashboard to analyse this information.

- **Route type** – This details whether an additional location is linked to the incident and the type: Origin, Outbound, Transit, Destination, Exporter. Other seizure location.

- **Route country** – This field contains the name of the country that the route type relates to.

- **Arrests made** – If arrests have been reported linked to the incident then 'Yes' will be entered here, 'No' will be entered if no arrests have been made, or 'Unknown' if it is unclear whether any arrests have been made.

- **Total number of arrests** – This is the total number of reported arrests linked to the incident.

- **Total number of convictions** – This is the total number of reported convictions linked to the incident. N.B. As is detailed in the introduction, EIA recognises that we do not have the resources to find and record all conviction outcomes reported publicly. Where possible, we exchange data with other organisations to peer-review our data collection and identify missed conviction outcomes.

- **Harvard reference** – This contains the source of the information for the incident, written in Harvard style.

- **Agency contributor** – If another agency or partner organisation has provided us with the incident details and wishes to be acknowledged for specific incidents, it will be recorded in this field. Agency contributors are otherwise acknowledged as per the list on the Tracker homepage.