Cattle Products Trade and associated Illegal Deforestation: Trade Risk Data Tool

Data Tool Overview

The Illegal Deforestation and Associated Trade (IDAT) Risk Data Tool – Cattle Products (Cattle Data Tool) allows users to access and manipulate data related to the global trade of cattle products, with a focus on potential links to illegal deforestation. Users can identify, quantify and visualize key information which raise flags on the potential risk of illegal cattle products entering a supply chain (See <u>Table 1</u> for a full list of HS Codes included).

The Cattle Data Tool (CDT) is comprised of tabs which allow users to focus on different areas of interest:

- Tabs 1 and 2 (*Country Analysis, Product Analysis*) provide bar-charts depicting traded value or net weight by country and cattle product respectively.
- Tabs 3-5 (*Cattle-Associated Deforestation*) provide charts which display the scale of the trade and the estimated deforestation linked to cattle production in the source country.

Users can apply various filters as per their area of interest (further detail on filters described below).

Chart Legends

The chart legends show the names and colors of each selected series of data. In the charts, the series data (and thus the chart legends) are listed by order of trade value (US\$) or netweight (kg) over the time frame of this analysis (2016-2020). The order of the series data depicted in the chart (and thus the associated legends) will automatically change with each new chart created by the user.

Filters

A number of filters allow the user to focus on specific trade relationships and remove unwanted data from the resulting visualization. Users can apply multiple filters simultaneously within a given tab. Applying any filters in a given tab does not affect the data in other tabs.

How to filter: types of filters

The CDT uses two different kinds of filters:

1. *Multi-item Dropdown Filters.* Most filters within the data tool follow this format. In the default setting, users will see a small box with the text "(All)" and a small arrow.

Ti	rade Flow	
((All)	•

Clicking on the arrow opens a list of fields, allowing users to customize desired series data by checking on or off. Only the checked data will appear on the resulting visualization. Several (or all) fields within a filter can be checked on simultaneously.

Trade Flow		
(All)		•
(A11)		
✓ Export		
√ Import		
√ Re-Export		
✓ Re-Import		

For longer dropdown filters, users can also search for a specific field by typing within the empty box at the top or bottom of the list of fields. For example, if the user only wants to see data for a single country, the user can type in the name of the country rather than scrolling down the long list of countries.

Reporting Country	
(All) 🔻	
	← Insert text here
(A11)	
✓ Afghanistan	
🗸 Albania	
✓ Algeria	
✓ Andorra	
🗸 Angola	
✓ Antigua and Barbuda	
✓ Argentina	
✓ Armenia	
✓ Aruba	

2. *Slider Filters.* Users can adjust the minimum and maximum values of this field on a sliding scale; the resulting visualization will exclude all values that are below the specified minimum or above the specified maximum value.

Reporter Governance Score	
3.59	99.61

Clicking on the button on the top right (with a small red "x") will reset the filter to its default setting.

Trade Flow	\7¥ ▼	7
Import	•	J
		_

What to filter: types of data available

The CDT data fields that users can use to narrow their search are include:

 Reporting Country: Country or countries that reported trade data under relevant Harmonized System (HS) Codes (see <u>Table 1 Cattle Product Category: classification</u>) to UN Comtrade.¹

¹ In certain instances, Forest Trends estimated Reporting Country data by using globally-reported import and export data. For details, see Methodology at Forest Trends, 2021.

This filter allows users to specify one or several countries of interest. Selecting all values allows users to examine global imports or exports of forest products.

Note that two trade partners may report differently in any given year: an importing country may report more or less imports than the exporting partner country reports as having exported.

- *Trade Flow*: Imports, exports, re-imports and re-exports² as reported by the Reporting Country or Countries.
- *Trade Year*: Calendar year (January December) of reported trade data.
- *Trading Partner Country*: Country or countries with which the selected Reporting Country is trading.

Note that a Trading Partner Country may report differently from the Reporting Country. For example, an importing country may report more or less imports than the exporting partner country reports as having exported.

• *Commodity HS Code*: 2-, 4- or 6-digit Harmonized System (HS) Codes for commonly traded cattle products as developed by the World Customs Organization.

The CDT includes trade data for 23 HS codes related to cattle products deemed relevant to estimating risk of associated illegal deforestation (see <u>Table 1 Cattle Product Category:</u> <u>classification</u>).

- *FT Cattle Product*: Common trade name of major cattle products, simplified by Forest Trends.
- FT Cattle Product Subcategory: Cattle products grouped by Forest Trends based on common, specific tyles of cattle products, such as live cattle and fats, leather, meat, and offal derived from cattle.
- FT Cattle Product Category: Cattle products classified by Forest Trends in three large categories beef, cow leather, and live cattle.

² Re-imports are goods imported in the same state as previously exported. Re-exports are exports of foreign goods in the same state as previously imported.

Table 1 Cattle Product Category: classification

Commodity HS Code	FT Cattle Product	FT Cattle Product Subcategory	FT Cattle Product Category 2
201	Fresh beef meat	Meat	Beef
202	Frozen beef meat	Meat	Beef
1502	Fat of cattle, sheep or goats	Fats	Beef
20610	Offal	Offal	Beef
20621	Cattle tongues	Offal	Beef
20622	Frozen cattle livers	Offal	Beef
20629	Other offal	Offal	Beef
21020	Salted/Dried/Smoked meat	Meat	Beef
50400	Animal offal	Offal	Beef
160100	Beef and veal sausages	Meat	Beef
160250	Prepared beef	Prepared meat	Beef
4101	Raw hides	Leather	Leather
4104	Tanned hides	Leather	Leather
4107	Leather	Leather	Leather
4203	Clothing of leather	Products using leather	Leather
4205	Other leather	Products using leather	Leather
6403	Shoes with leather	Products using leather	Leather
420211	Cases of leather	Products using leather	Leather
420221	Handbags of leather	Products using leather	Leather
420231	Handbags of leather	Products using leather	Leather
420291	Other cases of leather	Products using leather	Leather
940120	Seating of leather	Products using leather	Leather
102	Live cattle	Live cattle	Live Cattle

• *Cattle Product to be included in import regulation:* Inclusion or expected to be included in the US Forest Act or the EU Deforestation Regulation, which may regulate the imports of cattle products and require due diligence and other assurance that these products were not produced in illegally deforested areas.

This is a simple year / no filter.

- *Regulation proposing to include cattle products within the scope:* This filter makes a distinction between cattle products to be included in the US Forest Act, in the EU Deforestation Regulation, in both, and neither.
- *Reporting Country Governance Score/ Partner Country Governance Score*: Forest Trends Governance Scores provide average relative governance and corruption risk scores for 211 countries globally.³ Higher scores indicate greater governance and corruption challenges.

These risk scores only indicate the likely level of illegal deforestation and forest governance challenges in a country and ultimately speaks to the risk of corruption and poor governance undermining overall rule of law in the source country.

³ For a full list of 2021 Forest Trends Governance Scores for each country and details on their calculations, see Methodology at Forest Trends, 2021.

- *Reporter Governance Category/ Partner Governance Category*: this refers to a risk category based on a given Country's Risk Score. The categories are as follows:
 - Risk Score of 0 24.99: Lower Risk
 - Risk Score of 25 49.99: Medium Risk
 - Risk Score of 50 100: Higher Risk
 - No Risk Score: Unknown Risk
- Reporter Conflict Status/ Partner Conflict Status: Based on the Harmonized List of Fragile Situations⁴ released annually by the World Bank. These World Bank designations are:
 - High Institutional and Social Fragility (non-small states)
 - High Institutional and Social Fragility (small states)
 - High-Intensity Conflict
 - High-Intensity Conflict (International)
 - Medium-Intensity Conflict
 - No conflict status

Tabs

Country Analysis (Value) Country Analysis (Netweight) Product Analysis (Value) Product Analysis (Netweight)

This tab is best used to explore:

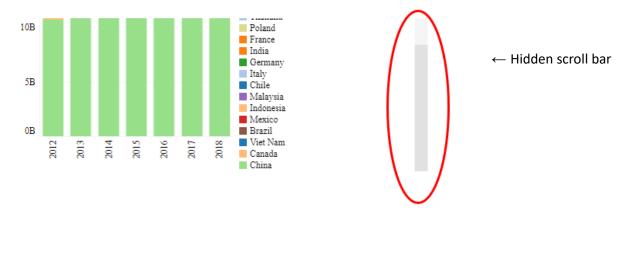
- Global trade (imports or exports) as reported by Reporting Country or set of Reporting Countries;
- Trade between one or several Reporting Countries and one or several Partner Countries

To examine reported global imports or exports from one or several Reporting Countries, users should select the specific Reporting Country(ies) of interest, select either "Import" or "Export" in the Trade Flow filter, and keep all countries active (i.e. checked on) in the Trading Partner Country filter.

To explore trade relationships between specific Reporting Countries and Partner Countries, users should select the specific Reporting Country(ies) and Trading Partner Country(ies) of interest and select either "Import" or "Export" in the Trade Flow filter.

Due to the typically large number of trade partner countries, the CDT legend often cannot display all results on the screen at the same time. In addition, the most important trade partners are listed at the bottom of the legend. Users will need to scroll down to see the top results using the scrollbar hidden to the right of the results:

⁴ World Bank. 2022. "FY22 List of Fragile and Conflict-affected Situations." World Bank. Available at: <u>https://www.worldbank.org/en/topic/fragilityconflictviolence/brief/harmonized-list-of-fragile-situations</u>



Product Analysis Tab



This tab is best used to explore:

- The global import profile or export profile of a specific Reporting Country or Countries;
- The trade relationship between one or several Reporting Country or Countries and one or several Trading Partner Countries. Users may wish to restrict their visualizations to specific cattle products (chosen in the commodity or FT cattle products filters).

To explore the global forest product import or export profile of one or several Reporting Countries, users should select the specific Reporting Country or Reporting Countries of interest, select either "Import" or "Export" in the Trade Flow filter, and keep all countries active (i.e. checked on) in the Trading Partner Country filter.

To explore the trade between specific Reporting Countries and Partner Countries, users should select the specific Reporting Country or Countries and Trading Partner Country or Countries of interest and select either "Import" or "Export" in the Trade Flow filter.

Cattle(-associated) Deforestation Tabs



These tabs are best used to explore:

 The relationship between the scale of global trade (by value or netweight) and the average hectares of tropical deforestation associated with cattle products for the 2010-2017 period⁵. The average cannot be disaggregated; it covers both beef and leather products.

⁵ The average tropical deforestation associated with cattle (beef and leather) in hectares is estimated for the 2010-2017 period by source country. Data comes from Pendrill, Florence, Persson, U Martin, Kastner, Thomas and Richard Wood. 2022. "Deforestation risk embodied in production and consumption of agricultural and forestry commodities 2005-2017." Chalmers University of Technology, Senkenberg Society for Nature Research, SEI, and Ceres Inc. Accessed December March 24, 2022. https://doi.org/10.5281/zenodo.5886600.

• Partner Countries with the highest tropical deforestation associated with cattle production.

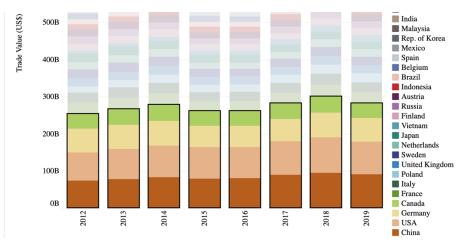
Most filters (cattle product category, commodity regulations, trade year) are an average estimate for each country, and thus will have no impact on the axis reflecting the average hectares of tropical deforestation associated with cattle products (beef & leather) for the 2010-2017 period. These filters will however affect the trade value (\$) and netweight (Kg) values. Not all countries have available data on the average hectares of tropical deforestation associated with cattle products (2010-2017).

Data Manipulation Within a Visualization

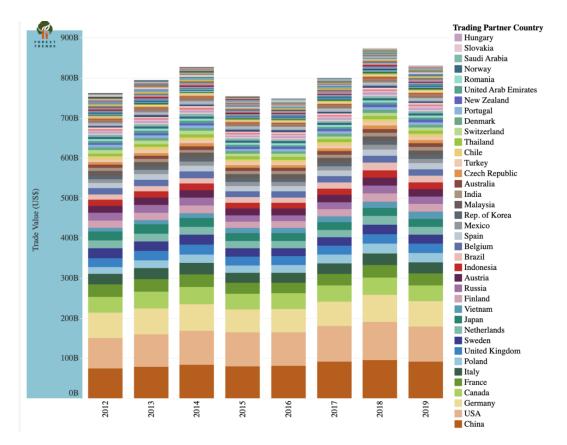
Selecting Data within a Visualization

By holding down the CTRL button while clicking on a column or data point (i.e. the colorized values in a chart), or by drag-clicking across multiple data points, users can select specific data points within a given visualization. This allows users to access additional functions within the ILAT Risk data tool.

Selected data becomes bolder and clearer, and unselected data fades into the background. The example below shows a user selecting "USA", "China", "Germany" and "Canada" in the *Country Analysis* tab by drag clicking across these columns:



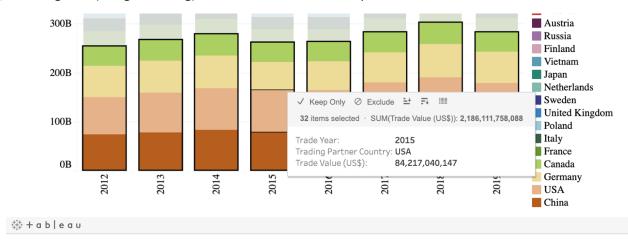
Users can also select all of the data within a chart by clicking on the Y-Axis, as below:



This has the same effect as drag-clicking one's mouse to select all of the data in a visualization.

Summary Information for Selected Data Points

The charts can also provide an aggregated count of the number of selected data points and the total sum of their value. To do this, users select multiple data points simultaneously by CTRL-clicking or dragclicking, hovering over (or right-clicking) one of these selected data points.

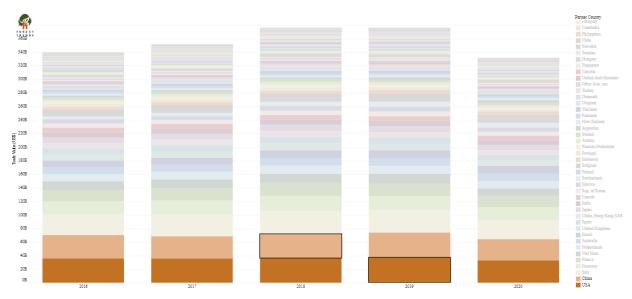


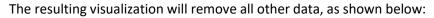
Removing Data from a Visualization

Users can remove unwanted data by selecting one or several data points and hover over a selected data point (as just described above), and then select "Keep Only" or "Exclude".

1) Keep Only

This allows the user to only view the selected data point or data points, excluding all other data from the visualization. For example, in the *Country Analysis* tab, clicking on within a given year and selecting "Keep Only" will produce a visualization that only shows the value of trade with China and the USA in the selected years.







While this function effectively serves as a filter, it does not affect the actual filters listed on the right side of the visualization. For example, selecting "Keep Only" for USA and China in the example above would not affect the Partner Country filter in the *Country Analysis* tab. As such, in order to return to a previous visualization, users will have to use the Undo or Reset buttons described below. Users will not be able to use filters to return to a previous or default visualization.

2) Exclude

The "Exclude" option is next to the "Keep Only" option. It excludes the selected data point or points from the visualization.

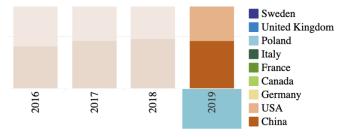


As with the Keep Only function, <u>the Exclude function affects the visualization displayed on</u> <u>screen, but does not affect the filters listed to the right of the visualization</u>. As such, in order to return to a previous visualization, users will have to use the Undo or Reset buttons described below. <u>Users will not be able to use filters to return to a previous or default visualization</u>.

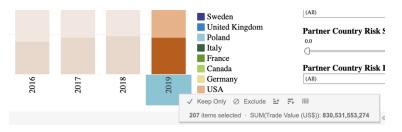
Sorting Results by a Specific Year

The data in the *Country Analysis and Product Analysis* is automatically sorted by increasing trade value or trade volume across the desired timespan. Users can adapt visualizations to sort years in increasing or decreasing order. This changes the order in which the results are displayed.

To do this, users click on the desired year or years at the bottom of a visualization. Selected data will be highlighted in blue, as below:

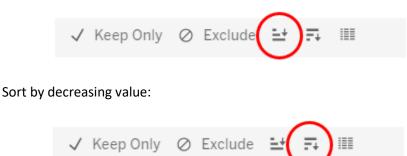


As with previous instances of selecting data within a visualization, hovering over the selected data will produce a pop-up summary menu that allows users to manipulate the data further:



From this menu, users can sort the data for that year or those years in order of increasing or decreasing trade value.

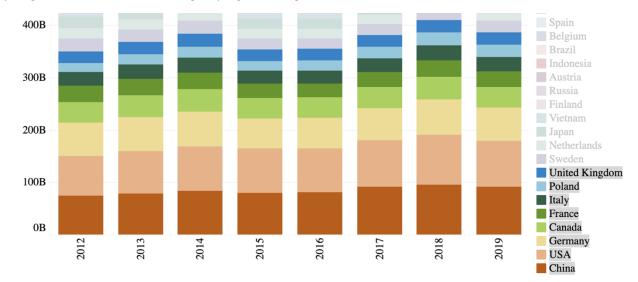
Sort by increasing value:



Grouping Results Together

When working in a tab with a large number of countries which cannot be printed on a single page (e.g. the *Country Analysis* tab), users may wish to group results into larger categories that can fit into a single downloadable page, or to avoid having to scroll down to see the top results. This function is also helpful for grouping certain categories together – including member states of the European Union or other trading blocs, or certain forest products.

To achieve this, users select the results they wish to group together by CTRL + clicking or holding down the SHIFT key while clicking across the colorized legends. In the example below, the user has selected the USA, China, Germany, Canada, France, Italy, Poland and the United Kingdom in the "Trading Partner Country" legend with the intention of grouping them together:



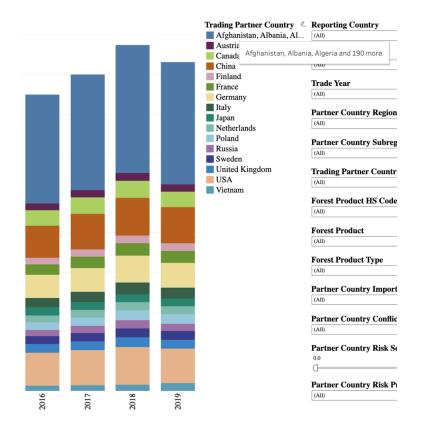
This is similar to the process used to "Exclude" or "Keep Only" certain results, as described above. However, when selecting these results in the list of colorized legends, users will see an additional "paper clip" symbol that allows users to group selected results together, as shown below:



When grouped, results appear as such:



This is particularly useful when grouping results in the *Country Analysis* tab to only show top 10, top 15, top 20 results and so forth. An example of a visualization condensed in this way is below:



<u>Warning note</u>: a consequence of grouping results together is that the visualization subsequently sorts results by alphabetic order, rather than by increasing trade value or volume (as seen above). Users will have to sort the visualization by a specific year or years (as described in page 15 of this User Guide) in order to create a visualization with results ordered by trade value or volume. Furthermore, unlike results

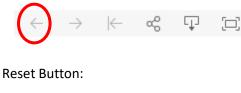
grouped directly in Tableau software, users are unable to rename the grouped results (i.e. there is no option of renaming "Afghanistan, Albania, Algeria and 224 more" to something like "Other Markets").

Returning to a Previous or Default Visualization

Users can use the Undo or Reset buttons found on the bottom-right of each chart in order to return to the previous or default visualization, respectively. Conversely, users can also use the Redo Button to move back and forth between the current and previous visualizations.

These buttons only affect the current tab. If a user applies filters to several tabs (e.g. *Country Analysis* and *Product Analysis*) and hits the Reset Button while in one tab, it will not reset the other tabs.

Undo Button:





Redo Button:



Downloading Data Visualizations

Visualization can be downloaded in .PNG or .PDF image formats, as well as in a preformatted Powerpoint file or a Tableau workbook. Users click the download button on the bottom-right of each chart:



Clicking the download button will pull up the following menu:

Download	\times
Select your file format.	
Image	
Data	
Crosstab	(
PDF	
PowerPoint	
Tableau Workbook	
Get the App	

Selecting the "Image" file format will result in a .PNG file.

Selecting the "PDF" file format will result in a .PDF file. When choosing to download as a PDF, users should set "Scaling" to "At most 1 page wide" for best results.

Users are only encouraged to download the data in the "Tableau Workbook" file format if they have the requisite Tableau software.