Project  
  
  
**1. Conservation Impact – Show real conservation impact from the Living Planet Index (LPI)**

* **Main Dataset**: **Living Planet Index (LPI)**
* **What it provides**: Tracks population trends of vertebrate species (mammals, birds, reptiles, amphibians, and fish) over time.
* **What to focus on**:
  + **Species trends**: Visualize how populations have changed over time (growth or decline).
  + **Threats**: Map out pressures affecting species, like habitat loss or poaching.
  + **Region**: Break down the data by region to compare conservation progress in different areas.
* **How to deal with it**: Clean the data, ensuring there are no missing or inconsistent values. Aggregate the species data to get trends by region or habitat type and showcase the species with significant population changes.

**2. Audience Trends & Engagement – Visualize public interest and engagement with conservation causes**

* **Supplemental Dataset**: **Google Trends**
* **What it provides**: Shows search interest over time in topics like "donate to WWF" and "climate action" by country.
* **What to focus on**:
  + **Interest over time**: Visualize how interest in conservation or WWF-related keywords has changed.
  + **Geographic interest**: Compare search interest across different countries or regions.
* **How to deal with it**: Filter the data by relevant keywords and visualize it over time. You can also create heat maps for geographic regions to show where engagement is highest.

**3. Marketing & Fundraising Behavior – Analyze audience behavior in terms of donations and campaign effectiveness**

* **Supplemental Dataset**: **Charity Navigator Sector Reports** or **GlobalGiving Campaign Data**
* **What it provides**: Insights into nonprofit giving trends (age, channel, cause, etc.) and real fundraising campaign data (donors, funding, location).
* **What to focus on**:
  + **Donation trends**: Visualize giving behavior, segmented by age, channel, or cause.
  + **Campaign performance**: Show how different fundraising campaigns have fared (e.g., donation volume, campaign location, donor types).
* **How to deal with it**: Analyze data for patterns like which age groups or regions donate the most. You can compare campaign performance to identify what drives donations and engagement.

**Approach for Each Dataset:**

1. **Data Cleaning & Shaping**:
   * Ensure all datasets are in a clean, usable format for Tableau.
   * For the LPI dataset, you'll need to ensure the species data is consistent (common names, population values) and that there are no missing years or regions.
   * Google Trends data might need some transformation to be able to plot trends over time and across regions.
   * Charity Navigator or GlobalGiving data may need aggregating or filtering by specific donor demographics or fundraising metrics.
2. **Data Analysis & Visualization**:
   * **LPI Data**: Create trend lines or bar charts to represent population changes by species and region.
   * **Google Trends Data**: Use time series analysis to visualize search interest trends.
   * **Charity Navigator / GlobalGiving Data**: Build charts or pie graphs to break down donation behavior by demographic or campaign performance.
3. **Dashboard Design**:
   * Use Tableau’s interactivity to allow viewers to filter by species, region, or time period.
   * Create meaningful, easy-to-understand visuals like heat maps, time series plots, and segmented bar charts.

By structuring your dashboard to reflect these three pillars—**conservation impact, audience engagement, and fundraising behavior**—you'll be able to tell a compelling, data-driven story about how conservation efforts are evolving and how they resonate with the public.

**✅ Your Project Goal**

**Create a Tableau dashboard using WWF’s biodiversity dataset to showcase your skills as a:**

1. **Data-driven decision-maker**
2. **Insightful market researcher**
3. **Passionate conservationist**

**🧭 PROJECT PLAN OVERVIEW**

| **Phase** | **Tasks** | **Tools** | **Est. Time** |
| --- | --- | --- | --- |
| 1. Data Understanding | Review & explore the dataset | Excel / Python / Tableau | 0.5 day |
| 2. Data Cleaning & Shaping | Tidy and prep for Tableau | Excel or Python | 1–1.5 days |
| 3. Insight Planning | Define what insights to visualize (3 pillars) | Notion/Google Doc | 0.5 day |
| 4. Dashboard Design | Build visualizations & layout | Tableau | 2–3 days |
| 5. Storytelling Layer | Add narrative, interactivity | Tableau | 1 day |
| 6. Wrap Up | Export, portfolio write-up | Word, LinkedIn | 0.5 day |

The challenge is that **WWF does not publicly release detailed internal donor/campaign datasets** (understandably, due to privacy and proprietary info). But—you can absolutely pull together **real, open-source data** that covers:

1. **Conservation Impact** → From **Living Planet Index** or WWF Risk Filter
2. **Audience Trends & Engagement** → From platforms like **GlobalGiving**, **Our World in Data**, or **Google Trends**
3. **Marketing & Fundraising Behavior (Generic)** → From **Charity Navigator reports**, **Giving USA**, or even scraping public campaign performance (e.g., social media engagement)

**✅ Main Dataset: Living Planet Index (LPI)**

* Real conservation impact data
* Species trends you can tie to campaign needs (“X campaign = rise in population”)

**✅ Supplemental Real Data Sources:**

| **Source** | **What You Get** | **Use in Dashboard** |
| --- | --- | --- |
| [Google Trends](https://trends.google.com/) | Search interest in “donate to WWF”, “climate action” by country | Visualize supporter interest over time |
| [Charity Navigator Sector Reports](https://www.charitynavigator.org/) | Nonprofit giving trends (by age, channel, cause) | Show audience behavior insights |
| GlobalGiving Campaign Data | Real fundraising campaign data (donors, funding, location) | Show campaign impact & segmentation |
| UN or OECD Aid Data | Official aid and funding flows | Compare impact per dollar or region |

**🔍 Step 1: Understanding the Living Planet Index (LPI) Dataset**

**📌 What is the Living Planet Index (LPI)?**

The **LPI** is a global indicator of the state of biodiversity. It tracks the population trends of thousands of vertebrate species (mammals, birds, reptiles, amphibians, and fish) from around the world over time.

🌍 Developed by the **Zoological Society of London** in partnership with **WWF**, it's the main scientific data source behind WWF’s *Living Planet Report*.

| **Column Name** | **What It Means** |
| --- | --- |
| **ID** | Unique identifier for each species population |
| **Species** | Scientific name of the species |
| **Common Name** | Easy-to-understand name (e.g., African Elephant) |
| **Location** | Region or country where the population is tracked |
| **System** | Habitat type – terrestrial, freshwater, marine |
| **Year** | The year the population was measured |
| **Population** | The indexed value of the population in that year (not raw count) |
| **Unit** | Measurement type (usually index value) |
| **Region** | Geographic region (e.g., Europe, Asia-Pacific) |
| **Threats** | Pressures affecting the species (e.g., habitat loss, poaching) |

**🌿 1. Conservation Impact Analyst**

**From LPI Data**  
→ Show *population trends* for different species over time by region/system/threat  
🟢 Charts you could use:

* Line chart of species trends by year
* Map showing countries with most species decline
* Bar chart: top threats across regions  
    
  dataset:

**3 Dashboard Goals:**

| * **#** | * **Goal** | * **What You Should Show** |
| --- | --- | --- |
| * 1 | * 🧠 Data-driven Decision Maker | * Clear biodiversity trends, habitat impact, regional focus |
| * 2 | * 🔍 Insightful Market Researcher | * Which regions or species need the most attention |
| * 3 | * 💚 Passionate Conservationist | * Show hope — species recovery, potential campaign tie-ins |

**🔍 2. Market Researcher (Audience Engagement)**

**From Google Trends or GlobalGiving**  
→ Show how much interest/support WWF topics get globally  
🟢 Ideas:

* Google Trends: “WWF donation”, “climate action” interest by country over time
* GlobalGiving: Number of donors/funding by region/cause

**💰 3. Fundraising/Donor Behavior Specialist**

**From Charity Navigator or Giving USA**  
→ Show *how, who, and why* people donate to environmental causes  
🟢 Ideas:

* Age/demographic-based giving behavior
* Preferred donation channels (online, events, etc.)
* Cause-based donation comparison (wildlife vs education etc.)

**1️⃣ Line Chart: Species Population Over Time**

* **Drag**: Year to Columns
* **Drag**: Population Value to Rows
* **Filter**: By a specific country or species
* 👉 Use this to **show trends** (decline/recovery)

**2️⃣ Map: Regional Biodiversity Distribution**

* **Drag**: Country to the canvas (Tableau will geo-code it!)
* **Drag**: Population Value to Color
* 👉 Shows where biodiversity is higher/lower

**3️⃣ Bar Chart: Avg Population by Habitat System**

* System (Terrestrial, Freshwater, Marine) to Columns
* AVG(Population Value) to Rows
* 👉 Highlights which ecosystems are doing worst/best

**4️⃣ Species Impact Table**

* Table with Common Name, Country, System, and average population
* Add filters for year range or region
* 👉 Helps spotlight key species for conservation stories

**Bonus (Optional):**

Later, you can **blend in Google Trends / GlobalGiving** datasets to show:

* How public attention shifts over time
* How campaign efforts might link to population recovery

**📌 Next Actions for You:**

1. ✅ Start with the **3 charts** above
2. 🎨 Think about layout — maybe a **story-style dashboard**:
   * Top: Big global trend (line chart)
   * Middle: Regional map + bar chart
   * Bottom: Table of species (with filters)
3. 🧠 Add interactivity:
   * Filters for Region, Country, or System
   * Highlight actions or callouts in tooltips

**🌍 What This Geographic Heatmap Reflects**

**🔬 1. Conservation Impact**

* **Where biodiversity is strongest vs weakest**
  + High **population index values** suggest relatively stable or thriving species.
  + Low or declining values indicate **at-risk ecosystems or species**, signaling urgency for conservation.

**📈 2. Data-Driven Decision Making**

* Helps WWF or partners **prioritize countries** or regions for campaigns, funding, or protection.
* Visualizing this allows quick **comparison by geography**, driving **where to act** based on actual species trend data.

**💡 3. Market Research & Campaign Strategy**

* Pairing this with donor or search trend data (from Google Trends/GlobalGiving) can show:
  + Regions with **high biodiversity need but low support**
  + Areas where public interest **doesn’t align** with conservation urgency — a gap to address with better storytelling or campaigns

**🧠 Example Insight:**

“Countries like [Country X] show consistently low species population indices over the last 10 years — yet search interest in WWF or climate action is also low. This could be a **strategic market for awareness campaigns.**”

**🎨 In the Dashboard:**

You can label this section something like:

**“Global Biodiversity at a Glance: Who Needs Help Most?”**

Would you like to **add filters** like:

* Year selector
* System (Terrestrial / Marine / Freshwater)
* Region toggle

**🐾 WWF-Inspired Tableau Dashboard Project**

**Dataset**: Living Planet Index (1950–2020)  
**Goal**: Visualize biodiversity trends, geographic distributions, ecosystem comparisons, and species-level insights to support conservation awareness and action.

**✅ Sheet 1**

**📌 Name:**

**Species Trends Over Time**

**🖼️ Heading (for Dashboard):**

**Are We Losing Biodiversity? Population Trends by Species**

**📖 Story/Narrative:**

This line chart visualizes how the **average population index** of selected species has changed over time. It allows users to filter by **species** and **country** to examine specific conservation stories, declines, or recoveries.

**❓ Key Questions Answered:**

* How has a particular species' population changed from 1950 to 2020?
* Are conservation efforts making a measurable difference?
* Which habitats (system) are showing better recovery?

**💡 Reflection / Insight Potential:**

* Long-term declines might indicate **ecosystem stress** or **threats**.
* Upward trends may highlight **successful conservation programs**.
* Users can explore patterns by **system** (terrestrial, marine, freshwater).

**✅ Sheet 2**

**📌 Name:**

**Biodiversity by Country**

**🖼️ Heading (for Dashboard):**

**Where is Biodiversity Under Threat? A Global View**

**📖 Story/Narrative:**

This map uses geocoded country data and **color intensity** to reflect average population index. Filters for **region, year, and habitat system** help users identify geographic hotspots of biodiversity loss or abundance.

**❓ Key Questions Answered:**

* Which countries have the most vulnerable wildlife?
* Are some regions recovering faster than others?
* What geographic patterns emerge in biodiversity loss?

**💡 Reflection / Insight Potential:**

* Darker areas may signal urgent conservation needs.
* Useful for **funding decisions** and **NGO strategies**.
* Shows **regional imbalance** in biodiversity pressures.

**✅ Sheet 3**

**📌 Name:**

**Population by Ecosystem**

**🖼️ Heading (for Dashboard):**

**Which Ecosystems Need More Protection?**

**📖 Story/Narrative:**

This bar chart compares **average population values** across major systems: **Terrestrial, Freshwater, and Marine**. Users can filter by **region and year** to see ecosystem performance over time.

**❓ Key Questions Answered:**

* Which ecosystem is facing the most pressure?
* How does biodiversity health vary by habitat system?
* Are some systems recovering better than others?

**💡 Reflection / Insight Potential:**

* Reveals **ecosystem-level stress** zones.
* Helps guide policy and ecosystem-specific interventions.
* Supports habitat-based funding or research decisions.

**✅ Sheet 4**

**📌 Name:**

**Species Impact Table**

**🖼️ Heading (for Dashboard):**

**Zoom In: Species-Level Insights Across Countries and Systems**

**📖 Story/Narrative:**

This table view shows the **average population value** for each species across **countries** and **systems**. It supports granular analysis for identifying vulnerable or thriving species.

**❓ Key Questions Answered:**

* Which species are thriving or declining in specific countries?
* Are some regions or systems consistently under pressure?
* Where should conservation resources be prioritized?

**💡 Reflection / Insight Potential:**

* Highlights species that need **urgent attention**.
* Surfaces **success stories** in conservation.
* Adds **context** to regional and system-level views.

**📊 Final Dashboard Structure: "State of Global Biodiversity"**

**🧩 Layout Recommendation:**

1. **Title at Top**:  
   *"The State of Global Biodiversity: Trends, Threats & Hope"*
2. **Left Panel** – *Line Chart*:  
   Species Trends Over Time  
   (with filters for Country & Common Name)
3. **Right Panel** – *Map*:  
   Biodiversity by Country  
   (color-coded by Population Index)
4. **Bottom Panel** – Two Charts Side-by-Side:
   * *Bar Chart*: Population by Ecosystem
   * *Table*: Species Impact Table

**🛠️ Add Dashboard Filters:**

* **Global Year Range** (1950–2020)
* **Region Selector**
* **System Selector**