



## ZOOHACKATHON PROBLEM STATEMENT FORM

Organization: United for Wildlife

### Problem Statement:

Demand for ivory is driving the elephant poaching crisis, leading to soaring poaching rates of 33,000 elephants killed each year. Illegal trade is still rife, whilst the legal domestic market further confuses consumers and provides cover for the parallel, illegal international trade. Demand reduction efforts are essential to stop the poaching of elephants. We need to raise consumer awareness and reduce demand. A global ban on all imports, exports and commercial sales of ivory products is being proposed at the CITES conference in Johannesburg in September 2016. But very few from the general public really know what this means and why it is important. To support such a ban, countries would need tougher measures to tackle corruption, strengthen controls at border crossing points and put in place stringent penalties against criminal groups trafficking illegal wildlife products. To achieve this, widespread support and lobbying is needed. Gamification offers a way of engaging and educating an audience to motivate widespread support and reduce demand for illegal wildlife products. Gamification has already been used to education on global issues such as the international drug trade and threats to public health and could also be used to raise awareness of the illegal wildlife trade. (See references for some example games)

### Describe the scope of the solution sought:

Freely available educational gaming software presents a fun way to engage and educate a wide audience through exploration, competition and trading. To learn more about the importance of the international ivory trade to wild elephant survival, players can assume different roles of different 'actors' within the illegal wildlife trade and be immersed in a game world. They could interact with a network of park rangers, tourists, consumers, criminal kingpins, law enforcers and border controls for both marine and terrestrial environments. Storylines could be built around following leads to find illegal wildlife products or survey areas to solve key issues. The game should simulate real life impact of the trade on wildlife species. For example real life news feeds on seizures and prosecutions could feed into the game. Or when elephant products are encountered, data on the status and trends of elephant populations in that area can be harvested from the Elephant Census to inform on the rate of loss and urgency of the issue. The game should be mobile adaptable and reach a global audience to raise awareness and reduce demand for wildlife products. Specifically targeted towards 16-35 year olds in countries with a high demand for wildlife products.

### Some thought starters for you:

(1) Stop the Smugglers – player controls the world of conservation infrastructure around the world to fight poachers and traffickers • in parks (develop and deploy camera traps, helicopters, train more rangers ) • Build informant networks • Grow port and airport customs resources (sniffer dogs, scanner technology upgrades) • Develop enforcement in demand states • Recruit governments (closing ivory markets) and imaginary celebs to raise awareness of the issue of poaching and reduce the price of ivory. It's a race against time to find the perfect formula to save elephant populations around the world.

Or think classic global strategy games – manage your resources, deploy wisely and see the results, e.g.:

(2) Queen of the Elephants - Take the role of a young elephant and unite the herds to lead them to safety, facing challenges along the way from poachers, human activity (road building, train lines, uncovered wells, etc.) – do you have what it takes to unite the herds and become the Queen of the Elephants? Unlock bonuses as you make progress and share them with your friends in the community – building your own real life human herd as you go!

(3) We are the rangers – Minecraft-style game that let's players assume the role of a park ranger to hunt out poachers and protect wildlife.



Supporting Data/Information:

- Elephant Census - <http://www.greatelephantcensus.com/> • Living Planet Index - <http://www.livingplanetindex.org/search> • Elephant Database - <http://www.elephantdatabase.org/> (African Elephant Ranges 2012) • IUCN Red List - [http://www.iucnredlist.org/details/12392/0 #](http://www.iucnredlist.org/details/12392/0#) • Elephant Trade Information System (ETIS) <http://www.etis-testing.org/> and related data [https://cites.org/eng//elephant poaching and ivory smuggling figures for 2013 released](https://cites.org/eng//elephant_poaching_and_ivory_smuggling_figures_for_2013_released)



## ZOOHACKATHON PROBLEM STATEMENT FORM

Organization: The National Whistleblower Center

### Problem Statement:

INTERPOL and the UN Environment Programme (UNEP) estimate that the total losses worldwide due to illegal trafficking, poaching of plants, fish, and wildlife, and prohibited logging are between US\$48-153 billion, annually. In 2008, the Congressional Research Service warned Congress that the United States “may be a significant destination for illegal wildlife,” and the “magnitude of the illegal trade may be increasing.” One of the main reasons for the escalation in illegal wildlife trafficking is simple: It is a highly profitable business with a “low risk of capture.” The National Whistleblower Center (NWC)’s Global Wildlife Whistleblower Program enables whistleblowers to report wildlife crime and apply for monetary awards under U.S. law.

### Describe the scope of the solution sought:

The National Whistleblower Center (NWC) is the leading whistleblower advocacy organization, with a 30-year history of protecting the rights of individuals to report wrongdoing. The NWC recently won the Wildlife Crime Tech Challenge Grand Prize—an initiative of USAID, in partnership with the National Geographic Society, Smithsonian Institution, and TRAFFIC. The NWC was also the winner of the Wildlife Crime Tech Challenge People's Choice competition. The NWC’s prize-winning solution is a secure online platform where whistleblowers can safely report wildlife crime and apply for monetary rewards. However, outside of this secure website, we also need to create an app where whistleblowers to safely and anonymously report wildlife crimes around the world. The creation of an app would enable information to be quickly transmitted to attorneys who would represent the wildlife whistleblowers and share their critical information with the appropriate authorities. Confidentiality and anonymity are of utmost importance to the whistleblowers’ wellbeing, and the success of this reporting program. The application should also be user-friendly and able to operate in multiple languages. Notes: 1. The NWC did not receive any funding for such an app through the Wildlife Crime Tech Challenge. This remains an ongoing piece of the Global Wildlife Whistleblower Project for which NWC is trying to secure funding or pro bono technical assistance.

### Supporting Data/Information:

Learn more about the NWC’s Global Wildlife Whistleblowers Program:

<http://www.whistleblowersblog.org/2016/09/articles/environmental-whistleblowers/wildlife-crime-whistleblowers/national-whistleblower-center-selected-as-wildlife-crime-tech-challenge-grand-prize-winner/>

Learn more about wildlife whistleblowers: [http://www.whistleblowers.org/storage/docs/elr-2016\\_july.pdf](http://www.whistleblowers.org/storage/docs/elr-2016_july.pdf)

NWC’s Crime Tech Challenge Winners Profile:

<http://www.whistleblowers.org/storage/documents/wildlife/wcrcwinner.pdf>

Links to NWC’s presentations at the 2016 IUCN Congress: <http://www.whistleblowers.org/wildlife/iucn>

### Other information sources:

1. UNEP, The Environmental Crime Crisis: Threats to Sustainable Development From Illegal Exploitation and Trade in Wildlife and Forest Resources 19 (Christian Nellemann et al. eds., 2014), available at <http://www.unep.org/unea/docs/RRAcimecrisis.pdf>
2. Cong. Research Serv., International Illegal Trade in Wildlife: Threats and U.S. Policy 3 (2008).
3. Cong. Research Serv. supra note 11, at 7.
4. The Lacey Act, Endangered Species Act, as well as over 40 other U.S. environmental laws allow whistleblowers from all over the world to qualify for rewards for reporting wildlife crime.



## ZOOHACKATHON PROBLEM STATEMENT FORM

Organization: Zoological Society of London

### Problem Statement:

Conservation is not a quick win. To ensure the success of conservation projects, and their impact and long-term viability, projects need to be researched, assessed and amended. This takes time, resources and financial support. Projects are often funded through individual donations, or time-specific grants, and while these generous donations are invaluable, sustainable funding options need exploring to ensure projects can continue long-term, and are not halted or efforts reduced before results can be seen. How can we develop a far reaching funding initiative that will help channel monies into an Illegal Wildlife Trade fund to sponsor projects that reduce demand for illegal wildlife products?

### Describe the scope of the solution sought:

A thought starter: Images of wildlife are commonly used in brands, toys, films and media, yet many of these animals are threatened by the illegal wildlife trade and may become extinct. Commercial companies are making profit from the use of wildlife imagery yet none of this profit goes back into ensuring the future of that species. One possible solution could be to create a 'Wildlife Agent' technology that acts on behalf of the wildlife used to claim a small % of the profit? Then use this profit to fund demand reduction projects that work to ensure their survival in the wild? Could we create a tool similar to the Penniless initiative for the Entertainer Toy shop, where they ask customer during the chip and pin transaction to add £1 for Great Ormond Street Hospital. This could be done for every sale of a product that uses wildlife. So when you walk to the till or go to the online checkout to buy your product containing animal derived ingredients, or ingredients that are known to have a significant impact on wildlife, e.g. palm oil, a message flashes up on the chip and pin machine to flag this and to encourage the consumer to donate a small percentage of the cost to conservation initiatives.

A similar model could also be used for animal endorsed products, e.g. a Lacoste T-shirt or Kellogg's breakfast cereals. This could be extended to a wide variety of consumer products, from films to toys to branded products, giving the animals that generate these profits a chance to see the benefits of these funds. This could be a simple plug-in for commonly-used online commerce sites, or for particular stores who agree to come on board. For online or mobile shopping, information on species could be filtered and surfaced from ZSL's Living Planet Index database, and visualised in a bite-sized way, or repositioned within other digital media to give an indication on population increase or decrease of the species endorsed by this product, and the urgency (or not) for this particular species. This would serve to educate on why this or that species should matter to them, and provides a touch point for people to the dramatic stats of species/overall biodiversity loss, and connects them to their role in that process. Retailers, from toy shops to cinemas, could opt-in to having the wildlife agent installed on their Point of Sale.

### Supporting Data/Information:

Penniless Initiative - <http://www.thetoystore.com/medias/The-Entertainer-500K-general-release-FINAL.pdf?context=bWFzdGVyfHJvb3R8Mjg3MTcxZGFwcGxpY2F0aW9uL3BkZnNoZWlvaDZlZg4NzE2MjMzNjA1NDluYGRmfc0>

Living Planet Index - <http://www.livingplanetindex.org/home/index>



## ZOOHACKATHON PROBLEM STATEMENT FORM

Organization: Taronga Conservation Society

### Problem Statement:

Wildlife Witness is the first global community action tool in the fight against illegal wildlife trade. The Wildlife Witness smartphone app allows tourists and locals to easily report wildlife trade by taking a photo, pinning the exact location of an incident and sending these important details to TRAFFIC, the wildlife trade monitoring network. Reports are analysed by a Wildlife Crime Data Analyst and credible incidents referred to enforcement agencies for action. Wildlife Witness reports help prioritise response action, build data and improve understanding of illegal wildlife trade and highlight hotspots for increased enforcement resources. The Wildlife Witness app is free and available for iPhone and Android. Search the App Store or Google Play and download Wildlife Witness. To raise awareness of the app and encourage travelers to take action and download, we have created 'Lend your eyes to the wild' - a campaign toolkit to increase public awareness of the issue of illegal wildlife trade and to convert this awareness into action to stop these crime. Our dream is to build a global community of people who are empowered to be the eyes and ears in our fight against wildlife crime. The Wildlife Witness app has been developed to create that community, giving people a tool to report what they see. The more people that download the app and make quality reports, the more we can increase the enforcement action to stop the trade. The problem is that awareness of the issue and what you can do about it is low in the U.S., Europe and Australia. Zoos have the ability to raise awareness through the on-site experience, but we are seeking solutions to promote the campaign online to both raise awareness and drive downloads.

### Describe the scope of the solution sought:

The current 'Lend your eyes to the wild' campaign toolkit has been designed to raise awareness of the plight of species impacted by trade to inspire action. Our campaign heroes are the iconic wildlife at risk, photographed in portrait style to stir emotion and sympathy in the viewer for the plight of the species. To take the emotion to a greater depth we added a little twist to the image, a subtle change. Can you see it? The animal's eye has been swapped to a human eye. Not only does this small and simple change help communicate what the app does (allows you to report the illegal wildlife trade that you see), it also humanises the animal, drawing the audience's connection through people - what they know and understand. This makes the communication very hard to ignore, drawing the viewer in to find out what they need to do to help. What can people do? Download the Wildlife Witness app and report illegal wildlife trade. We would love this campaign to be built on to create a user interface to allow individuals to replace the animal's eye with their own, to be then shared on social media. 'Lend your eyes to the wild' celebrates the beauty and vulnerability of our wildlife with hope that things can change, that we can secure a shared future for wildlife and people.

### Supporting Data/Information:

[www.wildlifewitness.net](http://www.wildlifewitness.net)



## ZOOHACKATHON PROBLEM STATEMENT FORM

Organization: Wildlife Conservation Society/SMART Partnership

### Problem Statement:

Within Protected Areas, SMART is the most widely adopted single solution for managing Law Enforcement, Ecological Monitoring and Intelligence. While SMART does extremely well at capturing data collected by Protected Area staff and conservationists, the SMART Partnership has not been able to find a simple to deploy, easy to use solution to support local communities to report critical information such as poaching incidents, intelligence on poachers, wildlife trafficking, and details of human-wildlife conflict. Capturing intelligence from local communities will not only improve protected area management, but also feed into the broader information systems that governments are building around the globe to analyze and disrupt the full illegal wildlife trade supply chain. A number of solutions exist that allow the general public to report such incidents however these have limitations that make them unsuitable to a wide variety of conservation contexts. Firstly most people living near protected areas still only have feature phones - so a web only or smart phone only app is not viable. Secondly, a viable solution needs to be something that can be promoted as a "local" solution - i.e. one that uses local languages, including terminology that relate to local issues and local branding. Thirdly, information needs to be quickly routed to the relevant protected area and potentially allow protected area managers to reward individuals or communities who support their protection efforts - submitting to a global database that doesn't have automated links to protected area systems does not work.

### Describe the scope of the solution sought:

SMART has a simple API that can allow such data to be submitted. An ideal solution has to support both smart and feature phones. It should also support options for anonymous data submission and tracking of data submission, so that Protected Areas can assess the validity of submissions and potentially offer a rewards program or identify unreliable informants. It should also link into the SMART data model so that reports are related to how problems are classified locally. The solution should deliver freely available software for both smart and feature phones, with customizable data forms that can send data and images to a specific SMART Connect instance's API.

Requirements of the solution include: 1. Software should work on both smartphones and feature phones 2. It should feature a screen to enter details of the incident (minimum data required - time date, location, incident details) this screen should be customisable for different data models to match the SMART instance being served. 3. The UI should also be customisable for different languages, the ability to use images instead of text for the illiterate, and the ability to include a local project logo. 4. There should be an option to attach photos to the incident submissions. 5. The app should be able to store incident submission if outside of network coverage, including multiple incident submissions if necessary, and to send these incidents once back in network coverage. 6. Submissions should have the option of being anonymous, or being tracked, with the option chosen at source. This tracking should allow PA managers to track the validity of the reports and potentially offer and track a reward scheme. 7. Data submission should be able to automatically connect with the correct SMART Server/Instance. This could be through geographic locality, or SMART instance ID, etc.

### Supporting Data/Information:

[http://www.smartconservationsoftware.org/brochures/donor\\_english.pdf](http://www.smartconservationsoftware.org/brochures/donor_english.pdf)

Documentation and samples of the following are available from SMART partners: i) The SMART Independent Incidents API, ii) The SMART Data model, iii) How the app can identify different SMART Connect instances



## ZOOHACKATHON PROBLEM STATEMENT FORM

Organization: WildCare Institute, Saint Louis Zoo

### Problem Statement:

Palm oil, an agricultural crop used in about 50% of all consumer goods, is grown primarily in Indonesia and Malaysia, the only places in the world where orangutans live. Over 30 million tons of palm oil is produced in these countries annually, and demand is increasing. More than 90% of orangutan habitat has been destroyed and over 50,000 orangutans killed in the last two decades due to this. Scientists estimate at this rate of decline that orangutans could be extinct in the wild within 15-20 years. The increase of roads into orangutan habitat for palm oil plantations also allows easy access for poachers, who previously had to trek through difficult forests to illegally hunt orangutans and other species. This accessibility puts many more orangutans at risk of being hunted for the pet trade, for medicinal purposes, bush meat, or sale of body parts. The lack of food and other resources from deforestation related to unsustainable palm oil farming also drives some orangutans out of their native forests, putting them in conflict with humans and at the mercy of poachers. In spite of the severity of the palm oil crisis and its tragic consequences for orangutans and other animals, awareness is severely lacking. A 2014 survey commissioned by the Association of Zoos and Aquariums showed that 67% of those surveyed had never heard of certified sustainable palm oil, over 60% were very or somewhat unfamiliar with palm oil as an ingredient in products they buy, and only 5% rated sustainable palm oil as a top environmental priority. Non-sustainable palm oil farming will continue to open the forests of Malaysia and Indonesia to poachers and wildlife traffickers, in addition to destroying critical habitat directly. The orangutans need a solution, if they are going to survive.

### Describe the scope of the solution sought:

Orangutans, rhinos, elephants, hornbills, tigers and more are dying or at risk from the exponential increase in palm oil plantations. When not done sustainably, wildlife is threatened by opening up the area to wildlife traffickers via roads, displacing animals to more populated areas putting them at risk, loss of habitat, and more. For many years, southeast Asia has been the primary area impacted. Palm oil agriculture is spreading to the tropics of Africa and South America, putting countless more species at risk.

Some of the biggest challenges in sustainable palm oil is identification of conflict palm oil areas and helping smallholder farmers become certified sustainable through complex certification processes. Imagine if there was a portal with a map that identified conflict palm oil areas and gave networks of farmers the ability to crowd source / citizen report conflict identification so efforts could be put in place to mitigate deforestation. Similarly, imagine if there was a "certification game" that would help guide farmers through the certification process and rewarded them for successful levels of certification; even created a competition to become certified. Creative minds and innovative technology can make this happen.

### Supporting Data/Information:

- RSPO, Palm Oil debate resources: <http://www.rspo.org/about/palm-oil-debate>
- Saint Louis Zoo, Palm Oil and Orangutans: <https://www.stlzoo.org/conservation/doityourselfconservation/palm-oil-and-orangutans/>
- RSPO, #GoodBadPalm Oil campaign: <http://www.rspo.org/about/goodbadpalmoil>
- Endangered species threatened by unsustainable palm oil production: <http://www.worldwildlife.org/stories/endangered-species-threatened-by-unsustainable-palm-oil-production>
- Cheyenne Mountain Zoo – Palm oil crisis:



<http://www.cmzoo.org/index.php/conservation-matters/palm-oil-crisis/> • Threats to orangutans – orangutans face possible extinction: <http://www.orangutan.com/threats-to-orangutans/> • AZA Palm Oil Task Force (contains palm oil awareness survey): [http://www.orangutanssp.org/uploads/2/4/9/9/24992309/nette\\_pletcher-aza\\_palm\\_oil\\_task\\_force.pdf](http://www.orangutanssp.org/uploads/2/4/9/9/24992309/nette_pletcher-aza_palm_oil_task_force.pdf) • Apes Seizure Database Reveals True Extent of Illegal Trade: <http://www.un-grasp.org/apes-seizure-database-reveals-true-extent-of-illegal-trade/> • Say no to palm oil – what’s the issue?: [http://www.saynotopalmoil.com/Whats\\_the\\_issue.php](http://www.saynotopalmoil.com/Whats_the_issue.php) • Threats to Borneo forests: [http://wwf.panda.org/what\\_we\\_do/where\\_we\\_work/borneo\\_forests/borneo\\_deforestation/](http://wwf.panda.org/what_we_do/where_we_work/borneo_forests/borneo_deforestation/) • How is the palm oil industry destroying wildlife and their habitats?: <http://www.worldatlas.com/articles/how-is-the-palm-oil-industry-destroying-wildlife-and-their-habitats.html> • WWF – Borneo and Sumatra: <http://www.worldwildlife.org/places/borneo-and-sumatra> • Sustainable palm oil transparency tool kit: <http://www.sustainablepalmoil.org/environment-biodiversity/> • Wildlife Research and Conservation – Palm oil awareness: <http://wildliferesearch.org/conservation/palm-oil-awareness/> • World Environment Day calls for conscious consumption: <http://foodtank.com/news/2016/06/world-environment-day-2016-calls-for-conscious-consumption> • <http://www.sustainablepalmoil.org/map/> • <http://www.rspo.org/smallholders/linking-learning> • <http://www.rspo.org/smallholders/rspo-smallholders-definition> • <http://www.rspo.org/smallholders/rspo-certification>





## ZOOHACKATHON PROBLEM STATEMENT FORM

Organization: U.S. Fish and Wildlife Service

### Problem Statement:

The illegal trade in wildlife and wildlife products is a rapidly intensifying problem that requires serious international attention. Unfortunately, international travelers often unknowingly purchase wildlife items made from endangered or protected species and attempt to import them back into their home country. Many travelers do not realize that products and souvenirs made from these species are protected by international or national law and may be seized upon re-entry. In order to help curb this problem, I propose the creation of a mobile app that allows users to input destination and view wildlife and wildlife products to avoid while traveling in the selected destination.

### Describe the scope of the solution sought:

This solution will specifically target international travelers in an attempt to decrease the amount of wildlife and wildlife products illegally purchased and brought across borders. This solution will be measurable by tracking how many users engage with the app and cross-analyze this data with seizure and other wildlife crime data.

### Supporting Data/Information:

- Article & Embedded Videos: <http://www.scp.org/news/2016/09/07/64442/campaign-to-end-wildlife-trafficking-launched-at-l/>
- Databases: <http://wildlifetracker.org/>
- TRAFFIC survey of UK ivory markets: <http://static1.1.sqspcdn.com/static/f/157301/27217988/1472570776477/UK-ivory-markets.pdf?token=fbTSMa08fsK8GiE7cYxjlvOTvsI%3D>