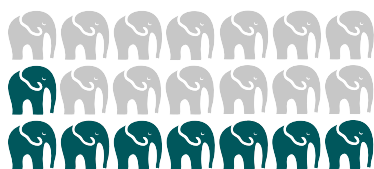# Wildlife Guardian
Saving wildlife at your fingertips

The illegal trade in wild animals and their parts is a major global threat to nature conservation. In the last decades, populations of many iconic species such as tiger, rhino and elephant have decreased dramatically or become locally extinct. Much of this decline is due to weak enforcement systems that enabled wildlife to be poached in their habitats, and then traded by criminal networks along supply chains to markets where it fuels illegal sales of coveted products such as exotic food, medicines and collectables. With a population of over 1.3 billion, China is considered as the fastest growing demand market for several species of wildlife due to the use of animal parts for disease treatment, diet supplement, food and ornaments.

The elephant population in Central Africa declined by 62% between 2002 and 2011 due to poaching fueled by the ivory trade.

Accurate identification of illegally traded wildlife is critically important in the detection and suppression of wildlife crimes. Yet many law enforcement officers and concerned citizens lack access to resources for identifying species and products. Public authorities including customs, police, military, agricultural and transportation personnel are at the front line of the wildlife crime trade chain battlefield. Since 2009, WCS has delivered capacity building trainings to over 1,000 law enforcement officers across China on wildlife species identification and conservation laws. Post-training assessments revealed an impressive two-fold increase in the trainees' skills. However, after six months only 41% of the scientific knowledge was retained, resulting in an overall increase of just 10%. To overcome the constraints on the trainings' outreach and to enhance the knowledge retention over time, starting from 2012 WCS has developed the "Wildlife Guardian" mobile application. This tool allows in situ identification and reporting of wildlife animal species and products, leveraging on emerging technologies and the broadening adoption of smartphones in China - 712 million estimated by 2015, of which over 69.3% connected to the internet.

Wildlife identification

The current version of the Wildlife Guardian software allows users to easily identify 475 commonly traded species of canids, felids, ungulates, birds, turtles and tortoises by selecting the correct match of up to five body parts or features. For example for birds these include body shape, beak, claws and feathers' colors. Matching species are listed with the prominent indication of their protection level and a brief description of their main characteristics. A more detailed fact-sheet featuring pictures and a comprehensive description is available by tapping on each species in the search results list. The platform also features a simplified search function where endangered species are grouped according to broader categories of similarity and protection status. This approach is especially targeted at supporting the decision making process of law enforcement officers during operations, when the primary concern is whether the trade is licit or not, rather than the exact taxonomic identification of the species at hand.

475

Species are currently featured in the Wildlife Guardian database.

Products identification

A large portion of the value of illegal wildlife trade across Asia is made by products derived from animal body parts. Given the abundance of legal imitations, law enforcement agents often face challenges in identifying between genuine and fake ivory, horns and animal skins. With version 2 of the Wildlife Guardian we are introducing visual tutorials with clear explanations of the most effective and straightforward identification techniques for 16 frequently traded wildlife products. This new feature is experimental and will be further optimized and expanded in the future.

Home screen of the Chinese edition of Wildlife Guardian version 2.

Remote expert support

To overcome the limitations in the species and products database, WCS has included an Expert Support feature, which allows registered users to submit inquiries (pictures, audio, and text) directly through the app. Leveraging on a global network of experts, WCS is able to address incoming requests around the clock.

Legal reference

The app also includes a comprehensive database of laws, regulations, official guidelines, and judicial decisions and interpretations relevant to wildlife protection in China. This collection is currently counting over 100 indexed full texts which can be accessed independently as well as through the species and products fact-sheets.

Contacts reference

A searchable address book sorted at the city and district level provides easy access to up-to-date contact details of Chinese local NGOs and local branches of law enforcement agencies such as the Customs, the Forestry Police, and the Industry and Commerce bureau. Volunteers and casual users can benefit from this quick reference to report wildlife crimes and approach the closest wildlife guardians.

Intelligence reporting

The massive scale of wildlife trade, combined with the limitations in resources and capacity of law enforcement agencies make contributions from the civil society essential for the survival of hundreds key species worldwide. WCS is researching into effective ways to facilitate the involvement of concerned citizens in this global effort for wildlife conservation. In the coming future, users will be able to use the Wildlife Guardian app for easily sharing their findings (as images, audio, text and GPS coordinates) to the law enforcement. This feature is currently under development and will be included in version 3 of the software later this year.

Identifying species with Wildlife Guardian is as easy as selecting the right match among 5 body features.

China Customs officers receiving training on the use of the Wildlife Guardian version 1 app in October 2013.

Preliminary findings

In March 2013 the first testing version of the Wildlife Guardian was released to Chinese law enforcement agencies and the general public. So far, over 1173 people have started using the software on a regular basis, providing valuable feedback for the advancement of the tool.

In fall 2013, we evaluated the app concept and features through targeted interviews with experts from the academia and a survey administered to 166 officers of the China Customs and Forestry Police across China. Over 60% of the respondents regarded Wildlife Guardian "very valuable" for supporting wildlife conservation, and 25% "valuable". More specifically, 70% of the police officers interviewed declared the app as "very useful" for supporting their work or activities, and the remaining percentage considered it "useful". Among the top reasons for this positive feedback is the software usability: 68% of the respondents considered the app "easy" to use, with 42% rating it "very easy" to use. When inquired about their future plans on using the app, "very frequently" or "frequently" was the feedback provided by 40% of the respondents, whereas 46% estimated to use it on an occasional basis.

Wildlife Guardian enables government agencies and empowers the civil society to become champions of wildlife conservation.

The second version of the Wildlife Guardian is scheduled for release in mid-2014 when the tool will be released on both Android and iOS markets, thus becoming available to 88% of the smartphone users in China and 95% of the law enforcement officers surveyed.