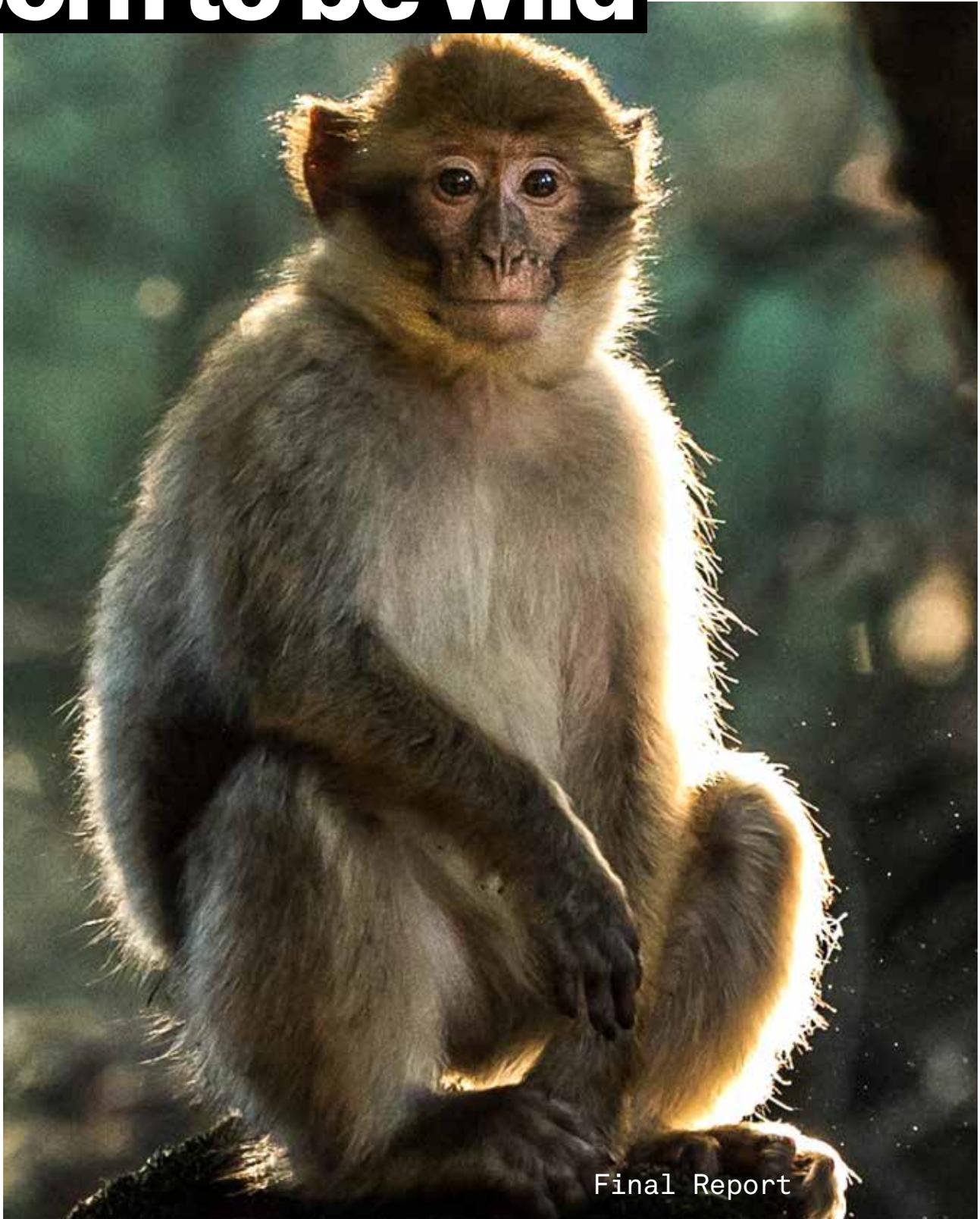


born to be wild



Final Report



Photo: George Turner/IFAW

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about IFAW

The International Fund for Animal Welfare (IFAW) is a global non-profit helping animals and people thrive together. We are experts and everyday people, working across seas, oceans, and in more than 40 countries around the world. We rescue, rehabilitate, and release animals, and we restore and protect their natural habitats. The problems we're up against are urgent and complicated. To solve them, we match fresh thinking with bold action. We partner with local communities, governments, non-governmental organizations, and businesses. Together, we pioneer new and innovative ways to help all species flourish. See how at ifaw.org.



Photo: George Turner/IFAW



Photo: George Turner/IFAW

introduction

The Barbary macaque (*Macaca sylvanus*), a species endemic to Morocco, is listed as 'Endangered' on the [IUCN Red List of Threatened Species](#) and on 'Appendix I' of [CITES](#) (Convention on International Trade in Endangered Species of Wild Fauna and Flora), and the species is the most trafficked live mammal to [Europe](#) in the last decade. [Ifrane National Park \(INP\)](#) in the [Middle Atlas Mountains of Morocco](#) is the stronghold of the Barbary macaque (BM), with approximately half of the surviving BMs living there. INP had been identified as a main source of poaching where juveniles are often targeted to be sold as pets, mainly for European consumers.

For IFAW, "[Born to be Wild](#)" was a three year project focused on the sustainable protection of the Barbary macaque mainly from trafficking from [North Africa to Europe](#). Born to be Wild is funded by a major Dutch funder, the [Dutch Postcode Lottery](#), initiated by [AAP Animal Advocacy and Protection](#) and executed together with IFAW in the [Kingdom of Morocco](#). The project is a continuation and broadening of AAP's work, who had cooperated for years with the [Moroccan Primate Conservation Foundation \(MPC\)](#) in Morocco by funding a community scouting project in part of INP where scouts from the local community operated in the forest throughout most of the year and especially during the peak poaching seasons, which had a significant impact as poaching numbers in the monitored groups have gone down since.

With millions of people crossing the borders between Morocco and Europe during the peak tourist season, detecting illegal wildlife is a huge challenge for customs officials. There is a lack of accurate data, especially numbers of poached infants, but also on the number of macaques kept as pets and used in entertainment in Morocco or abroad. Realizing the magnitude of this project, AAP and IFAW divided roles in the project, IFAW was to focus on Morocco, while AAP would handle the project in Europe ([The Netherlands, Spain and Italy](#)).

- ▲ First light hitting the mountains of Ifrane National Park, stronghold of the Barbary macaque.
- ◀ Baby Barbary macaque chewing on a yoghurt pot. Tourists feed the macaques almost anything, resulting in dietary problems.



Photo: George Turner/IFAW

community scouts patrol the Ifrane National Park to disrupt wildlife trafficking



Photo: George Turner/IFAW

The scouts primarily act as **deterrents of illegal activity**. If illegal activity is detected or suspected, their role is to alert the authorities, provide evidence and identification through video recording where possible, and assist the local authorities as needed. The scouts do not engage directly with suspects, but rather act as eyes and ears in the forest for the authorities. They patrol the national park to prevent poaching, logging, burning, and other illegal activities; monitor macaques in groups habituated to tourism, which are most vulnerable to poaching; conduct educational outreach and manage tourist-macaque interactions at tourist sites; and record and map events of interest throughout the park (illegal logging, macaque group locations and sleeping sites, animal road deaths, etc.). In addition, the Scouts visit villages within and surrounding Ifrane National Park to speak with people about the macaques to raise awareness of their conservation status and the presence of the Scouts' to protect them, and discuss any problems that villagers have with macaques. The time and day of

patrols are randomized in order to be unpredictable to potential poachers. Patrols are adjusted through adaptive management as needed, increasing patrol frequency or shifting to new problem areas based on suspected poaching attempts, suspicious activity, cases of illegal logging, or tourist numbers.

The scouts are all equipped with uniforms, whistles, GPS for tracking patrols and recording locations of interest, GPS cameras for taking photographs and videos, tablets for recording information, cell phones for staying in contact with team members, flashlights, binoculars, and basic first aid kits. The two project cars are stocked with personal protective equipment, hand sanitizer, additional first aid kits, and safety equipment.

The Community Scout team currently monitors 15 groups of habituated macaques, which are most vulnerable to poaching because they are less afraid of humans. These groups are often being fed by tourists, are easy to find, and are located close to roads

where potential poachers could easily escape with a captured macaque. During the lifespan of the project the number of closely monitored groups gradually increased as more groups have become exposed and habituated to tourism and as several groups have split up. The scouts identify groups based on several easily recognizable individuals, together with knowledge of their home ranges. Each spring, the number of babies born in each group is recorded. Groups are monitored throughout the year to record any deaths, injuries, illnesses, and immigrations/emigrations. Final annual counts are done in January after the end of the poaching season to record changes from the previous year and whether any infant is missing.

▲ Head scout, Mohamed, on a community engagement assignment in a Berber community. Zahra (pictured), along with her husband and children, are farmers in direct contact with the Barbary macaques. Scouts carry out these visits on a weekly basis to ensure safety and prosperity for both people and macaques.

◀ The scouts of the Born to Be Wild project, plotting movements for the later afternoon and night shifts.



Photo: George Turner / IFAW

anti-poaching impacts

November 2019

In November 2019, an infant was poached from one of the habituated groups. The individuals who took it were identified, tracked and arrested. The monkey was brought to the police, and she was returned to her group the following day, having been away for less than 24 hours. The poacher was fined 30000 dh (€ 3000). This case involved excellent communication and coordination between vendors in the national park who observed the event, Ifrane National Park authorities, Regional and National Forestry departments, police, and the IFAW Community Scout team.

August 2018

The scouts intercepted several additional suspected poaching attempts. In one case (in August 2018), the scouts received information from a community member that several men were planning to poach macaques that evening and he provided information on the car they would be driving. The full team of scouts worked together and their presence deterred the poachers and prevented them from capturing a macaque. There were an additional four suspected poaching attempts during the project that were intercepted by the Scouts, though it is not known for sure whether these were indeed potential poachers.

Habitat loss

Habitat loss and fragmentation is the greatest long-term threat to the survival of Barbary macaques, as they rely on forests for protection, shelter, and food. Protecting Barbary macaque habitat protects the habitat of many other species that also rely on these forests. An important role of the Community Scouts is therefore monitoring and preventing illegal habitat destruction through illegal logging, burning, and grazing, and protecting the forest from fires.

There appears to have been a decrease in the recorded cases of large-scale illegal logging where Born to be Wild operates over the course of the project, both in frequency and scale. The Scouts recorded illegal loggers on several occasions and provided information to the local authorities, resulting in fining of the culprits by the courts. Moreover, a large-scale illegal logging event was considered to be in range of >10 cuts., and the scouts reported over a total of 170 cedar / oak cuts in October 2018, June 2018, November 2018, and February 2019. Understanding trends in illegal logging allowed the Scouts to adapt their patrols to prevent illegal logging.

Additional impacts

Moreover, many additional valuable impacts resulted from the daily activities of the scouts, for example: extinguishing fires on many occasions, several of which required the fire department to be called to action; rescue of a juvenile monkey with a wire wrapped around its foot; assisting tourists that were sick, injured, or assaulted; directing traffic and assisting police following car accidents to prevent further accidents; and many other similar events. Furthermore, there was increased awareness, cooperation, and engagement from the various authorities, e.g. increased awareness of wildlife crime and conservation with the police following cooperation on the case of the poached macaque that was returned; increased engagement and information-sharing between the Scouts and the national park and local authorities on suspicious activities in the park for them to inspect and collaboratively address. There was also increased conservation awareness in the local community as a result of the scouts' work, especially in Ain Leuh and Azrou.

Scientific Results and Research on Project Impacts

The data gathered by the Community Scouts produced valuable scientific information on the Barbary macaque population in Ifrane National Park, the effects of tourism on the macaques, tourist interaction with the macaques, the impact of the Scouts' tourist outreach efforts, and an unusual case of a juvenile adopted by a neighbouring group. These findings have been and will be published in peer-reviewed scientific journals to demonstrate the effectiveness of the project, provide science-based recommendations for further efforts for Barbary macaque conservation, and provide findings which can be valuable for conservation of other species.

1

successfully returned poached macaque to her group, arrest and fining of the poacher in 2019

6

infants poached from the monitored groups in 2018

1

infant Barbary Macques that disappeared in 2019 from an unknown cause (road mortality is a possibility) throughout the duration of Born to be Wild

increased awareness and cooperation

between the Born to be Wild Community Scouts, local communities, and local authorities has results in protection of Barbary macaque habitat, including a reduction in large-scale illegal logging identified by the Community Scouts and catching and fining of several illegal loggers

◀ Inquisitive Barbary macaque, from the "tourist" group.



Changes in the Barbary macaque population in Ifrane National Park following implementation of the anti-poaching Community Scout program

Scientific research has shown extremely positive impacts on the Barbary macaque population in Ifrane National Park, both in terms of population demographics and population size, since initiation of the project.

Research in Ifrane National Park in 2008 identified severe disruption in the population demographics of Barbary macaques in Ifrane National Park: groups near tourist sites were estimated to be missing half the immature macaques, resulting in group sizes being half the size of those farther from tourist sites, suggesting high poaching pressure and predicting local population collapse. Anti-poaching efforts were first initiated in Ifrane National Park in 2014 and five years later (i.e. the age of macaque maturity), this study was repeated to assess the impact on the macaque population demographics and the effectiveness of the anti-poaching program and other conservation efforts. This research showed very positive impacts on

population demographics and average group sizes since the initiation of the anti-poaching efforts, indicating the effectiveness of the program in protecting the largest remaining population of Barbary macaques. Additional indicators of population increase are that the numbers and groups of macaques in the regions of Jbel Ben Ij and Ain Leuh appear to have more than doubled since the previous census in 2008. Long-term monitoring of Barbary macaque groups most vulnerable to poaching also found considerable positive impacts for the macaque population in Ifrane National Park, consistent with the results above from demographic monitoring across the entire park: There was an annual average growth rate of 9.5% per year in the monitored groups over the course of Born to be Wild (2017-2020), equating to a 32% increase over three years (a net increase of 86 macaques). This number even underestimates the true impact, as several groups fissioned into two groups, some of which moved to new areas that are not studied. This long-term monitoring of all births and deaths in the macaque groups most exposed to tourism has identified the reasons of mortality for infants and other macaques and the impacts of tourism on this endangered species, which

can help inform management decisions and strategies to minimize negative impacts of tourism on animals while allowing tourism to bring benefits to the National Park and the local community. As with the results on population demographics across all of Ifrane National Park discussed above, this will be published in a peer-reviewed scientific journal to validate and verify the increase in the monitored macaque population over the course of the Born to be Wild Programme.

long-term monitoring of several groups of Barbary macaques provides detailed information on population changes and fitness in Ifrane National Park

▲ Three Barbary macaques socializing and huddling together.



fostering of a wild, injured, juvenile by a neighboring group

One approach to reintroducing rescued and rehabilitated Barbary macaques, that were confiscated from illegal trade, to the wild is through release into wild groups. However, very little documentation currently exists on the acceptance of Barbary macaques into wild foster groups. Regular and intensive monitoring of Barbary macaques in Ifrane National Park allowed us to observe and document an unusual case where a wild, nearly 3-year-old Barbary macaque male who was

separated from his group after serious injury from a car collision was adopted by a neighbouring group. He remained with the foster group for 4 months until returning to his natal group. This observation could provide valuable information for developing rehabilitation and release strategies for confiscated macaques. An article documenting this was published in the scientific journal Primates and is [free to view and download - link.springer.com/article/10.1007/s10329-019-00729-w](https://link.springer.com/article/10.1007/s10329-019-00729-w)

▼ Learn more
 Article: Fostering of a wild, injured, juvenile by a neighbouring group: implications for rehabilitation and release of Barbary macaques confiscated from illegal trade
link.springer.com/article/10.1007/s10329-019-00729-w



where do the confiscated animals go? what is their fate post- confiscation?



Photo: George Turner/IFAW

ensuring proper animal handling of confiscated wildlife

Humane Handling and Care of Confiscated Wildlife training

In April 2018, our aim was to provide government agents with best practices and techniques on the handling and care of live animals most commonly seized in the country, with a view of minimising die-offs and improving animal welfare while safeguarding the safety of the

personnel involved. Therefore, we held the “Humane Handling and Care of Confiscated Wildlife” in Rabat, Morocco. The training modules were combined into a 3-day workshop, with participants attending from all over the country. This was an excellent opportunity for participants from various agencies/entities to exchange information on their overall experience, challenges and to find

ways forward, at the national level. More specifically, the training has been designed to engage participants with practical exercises and presentations on topics including, Species Identification; Recognizing and Mitigating Risk; Animal Handling; Animal Escape and Extraction; Sick & Injured Animals; Short Term Care; and Transportation of Wildlife.

Rescue and Confiscation Operations training

A second training on “Rescue and Confiscation Operations” of Barbary macaques was held on 28 June 2019 at the Al Akhawayn Conference Centre in Ifrane, Morocco. This workshop was organised and funded by the International Fund of Animal Welfare (IFAW) in collaboration with the Water and Forests Department. The workshop was attended by 19 regional officers of the Water and Forests Department.

The principal objective of the workshop was to offer participants the opportunity to gain practical knowledge and skills necessary for safe and optimal management (handling) of confiscated Barbary macaques, and thus, facilitate the effective implementation of the Convention on International Trade of Species wild fauna and flora (CITES) in the Kingdom of Morocco. This was achieved by:

- ▶ Strengthening the capacity of wildlife officers to deal with live confiscated Barbary macaques from the illegal wildlife trade
- ▶ The promotion of Standard Operational Procedures for the Rescue and Confiscation of Barbary macaques

To achieve this, a full one-day workshop was organised with a combination of presentations and practical assignments. The contents of the presentations and practical assignments reflected the Standards Operational Procedures, which have been produced by IFAW, to support the rescue and confiscation of Barbary macaques.

The best practices relating to confiscations and rescue operations have been established through the 2019 Training on Rescue and Confiscation Operations of Barbary macaques (Ifrane, Morocco). All training participants received a digital copy in French of the training modules, developed by IFAW.

The materials indicated in the table below have been obtained to support Morocco’s Water and Forests Department with rescue and confiscation operations of Barbary macaques. All materials have been handed over to the Water and Forests Department during the practical training workshop, which was held on 28th June 2019 in Ifrane. The use of this equipment has been explained in detail during the training and instructions have been communicated to the participants.

Purpose	Item
PPE	<ul style="list-style-type: none"> ▶ Surgical masks ▶ Handling gloves (thick and thin) ▶ Face masks ▶ Overalls
Hygiene	<ul style="list-style-type: none"> ▶ Disinfectant hand gel ▶ Disinfectant surface spray
Capture/Trapping	<ul style="list-style-type: none"> ▶ Capture net ▶ Trap cage
Handling	<ul style="list-style-type: none"> ▶ Leads; can be used to handle macaques during rescue/ confiscation ops. ▶ Collars; can be used to handle macaques during rescue/ confiscation ops. ▶ ‘Loop-leash’; can be used to handle macaques during rescue/ confiscation ops.
Transport	<ul style="list-style-type: none"> ▶ Transport carrier; Reinforced XL dog carriers, mainly for infant & juvenile macaques. ▶ Transport cage; Heavy duty double door metal cage suitable for juvenile and adult macaques. ▶ Water bottles ▶ Padlocks; to lock carriers/ transport cages. ▶ Cable ties; to tie up door transport carriers.

35+

number of participants that received the Humane Handling and Care of Confiscated Wildlife training, coming from different governmental agencies including Customs, the Water and Forests Department, the Food Safety Authority (ONSSA) and the Rabat Zoo. Participants performed well on the post-training cognitive assessment, on average answering 65% of questions correctly.

19

Regional Water and Forest Officers trained on Standard Operating Procedures for Rescue and Confiscations Operations of Barbary Macaques. Personal Protective Equipment and Animal Handling Equipment distributed to Water and Forest Officers

digital data management system

established concerning confiscated/ seized Barbary macaques. The Water and Forests Department circulated the Data Collection Form for Barbary macaque confiscations to the regional Forestry officers for comments



Photo: George Turner / IFAW

assessing and improving the welfare of confiscated animals

With the agreement of the Water and Forests Department, and the National Zoological Garden of Rabat (JZN), a team from IFAW and AAP gathered and visited the National Zoological Garden of Rabat as part of the Born to be Wild project in the Kingdom of Morocco. The visit took place on October 16, 2018 and aimed to assess the management needs of the Barbary macaques confiscated by the authorities. This assessment consisted of a visit to the premises used by the JZN to house Barbary macaques, as well as interviews with the veterinarian and handlers. Existing protocols and product information were also made available shortly after the visit, at the request of the team. The report produced "Advice on the rescue of

Barbary macaques at the Jardin Zoologique National de Rabat" was shared with the JZN through the Water and Forests Department in February 2019.

The main focus of this was to improve facilities of the quarantine area of JZN, which are made available as a temporary holding facility for rescued Barbary macaques. Improvements were implemented based on the advisory report 'Advice on the rescue of Barbary macaques at the Jardin Zoologique National de Rabat' compiled by AAP and IFAW. In line with this report, advice was also provided on general care and integrations/ resocialisations.

supported existing facilities

that care for confiscated Barbary macaques with advice, guidelines and material in regards to the feeding, physical health, behavioral state, and integration capacity of the confiscated Barbary macaques

▲ This image was taken seconds before a huge Barbary macaque alarm rang out through the forest, as a large pack of feral dogs approach. Although there's clear no evidence of the park's feral dogs attacking macaques, it cannot be ruled out.



Photo: George Turner / IFAW

monitoring of illegal trade

To preserve Barbary macaques and other wild animals from illegal trafficking in Morocco, we need to identify the knowledge gaps that are present to be able to fill them with awareness that can lead to crucial decisions towards the protecting of many of the species that are endemic to the Kingdom of Morocco.

With the assistance of Masters students and in close cooperation with the Water and Forests Department, a pilot plan was developed to start the quantification process (scale and scope) of illegal wildlife trade in Morocco and its possible impact on individual species, especially on Barbary macaques. The students supported the project by assessing a number of factors that will help define wildlife trafficking taking

place. Among these factors are the number of individual terrestrial vertebrates of which species may be killed/taken illegally each year in chosen black spots throughout Morocco; which species may be the most impacted; and what types of illegal activities may be most significant.

To best prepare the Masters students to take on this mission, a series of trainings on terrestrial vertebrates' identification were initiated and conducted by Dr. Imad Cheraoui – the professor we worked with in Morocco. The trainings took place in different cities including Rabat, Salé and Casablanca, and were initially conducted at the pet shops and animal markets. At the end of the training phase, the students were

capable of identifying reptiles, birds and animals species present in the markets and were able to distinguish between native animals and exotic ones. Nevertheless, to guarantee the students understanding of the conventions of which are ratified by the Moroccan government, the students were given a course on the Multi-Environments Agreements (MEA) such as CITES, CMS, AEWA and CBD.

▲ These Barbary macaques are semi-wild, living deeper in Ifrane National Park. Contact with people is infrequent - hikers, bikers, runners - and as such, they are far more skittish. They display natural behaviours, unlike the 'tourist groups'.



A standardized questionnaire was developed by the students in order to collect information on different wild animals exhibited in entertainment places and wildlife markets. The questionnaire was tested and adjusted during several visits to the markets and entertainment places such as the famous Jamae el fana in Marrakech during April 2018. The questionnaire was an important tool to record the information collected in situ and it has been tested initially in different cities (Agadir, Casablanca, Kénitra, Marrakech, Oujda, Rabat, Salé, Tangier, Tetouan and Meknes).

Survey and field work started in August 2018 and was carried out at monthly basis by visiting regularly six markets (Meknes, Casablanca, Kénitra, Marrakech, Rabat and Salé) and two wildlife entertainment places (Jamae Lafna Square in Marrakech and Lahdim Square in Meknès) following the developed methodology and an agreed work plan.

Other markets were irregularly visited like Tétouan, Tangier, Fes, Oujda, Agadir, Essaouira, Chefchaoun and Nador. And during the summer Saidiya, EL Jadida, Martil and Ouzoud Falls were visited.

First results on Percentage of Terrestrial vertebrates (Reptiles 17%, Birds 67% and Mammals 16%) exhibited for sale in the markets by cities during the reporting period (March 18-April 2020).

Until now, observations of Barbary macaques were restricted to entertainment squares (Djamae Lfna in Marrakech, Sahat Lahdim in Meknes, Martil near Tétouan, Sadiya near Berkane, Sid Rehal near EL Jadida). Another entertainment place called Ain Asrdoun with a famous waterfall also attracts tourists and Barbary macaques are exhibited. The place was visited in August but macaques were not captured but wild monkeys, who become used to beg food from tourists as in “Cedre Gourou” area near Arzou, have adapted their behavior accordingly. 16 enforcement units detect legislations violation (Monitoring of wild animals and its exploitation units). These units work throughout the country and help in confiscation of wild animals from smugglers.

The Moroccan conservation authorities were informed of all the illegal taking and exhibition of wild animals particularly those of Barbary macaques and raptors in different areas visited so far and at each time of the visit.

Born to be Wild has been working with 19 collaborators and volunteers of which many underwent several trainings by the IC in Animal Market monitoring and animal identification throughout the country since the project quick off. This collaboration has allowed confiscation of Mammals, Raptors, songbirds and reptiles. Moreover, because of the united effort

towards the protection of wildlife and monitoring the illegal trade, a number of confiscations were carried out.

Taxa	Numbers confiscated by Forest department
Raptors	53 individuals (all species included)
Songbirds	1055 (all species included)
Reptiles (mainly Greek tortoise - Testudo graeca)	450
Mammals (Barbary ground Squirrels and Algerian Hedgehogs)	120

For instance, on January 17 falcons (Lanner Falcon and Peregrine/Barbary Falcons) were confiscated by the Animal protection units of Forest Conservation authority. The raptors passed a health check and quarantine before release. 13 out of 17 were released back to the wild on February 2020. However, those that belong to non-native subspecies or those that were unable to fly were kept at “Dream village zoo”. The Moroccan association of Falconry and conservation of Raptor (AMFCR) has assisted this operation. All the birds got macro-shiprd.

The monitoring of illegal trade research has revealed the trafficking of Ortolan bunting (Emberiza hortulana), which an abundant passage migrant in Morocco. The birds are caught with nets set during their autumn migratory flight to African sub-Saharan wintering ground through Morocco. According to the common practice, Ortolan are



kept in covered cages or boxes. The birds react to the dark by gorging themselves on grain, usually millet seed, until they double their bulk. Therefore, they are sold to French tourists. The Ortolan bunting is served in French cuisine, typically cooked and eaten whole. Traditionally diners cover their heads with their napkin, or a towel while eating the delicacy. There were NO Barbary macaques or other globally endangered animal recorded among the wild animals sold illegally in the markets. The entertainment squares remain the only place, so far, where the Macaques are being exhibited.

During the reporting period, up to 14 and 8 Macaques are being exhibited regularly in two regular entertainment square Jamae Lafna (Marrakech) and Lahdim (Meknès), respectively.

Two to three macaques are being used by seasonal exhibitors in summer touristic area such as Sadiya beach (Berkane), Sidi Rehal Beach (EL Jadida), Martil – Restinga (Tétouan) and Tangier city beach. Other places frequented by tourists such as Asserdoun springs and Ouzoud waterfall are also frequently used by Barbary macaques’ exhibitors.

Regarding the other wildlife, the most illegally trafficked animals concern:

- ▶ **Song birds**
 - Goldenfinches (Cardualis cardualis) – 57% of songbirds

- Siskin (Cardualis spinus) – 15%
- African chaffinch Fringilla coelops africana – 8%
- Linnet linaria linaria 6%
- Eurasian Serin Serinus serinus 5, 4%
- Greenfinches Chloris chloris 4,6%
- Great Tit Pariparus major 2%
- Others 2%

▶ **Raptors**

(Seven species were found sold more or less regularly).

According to our survey, the falcons (peregrine and lanners) are the most trafficked birds as the poachers are trying to satisfy demands of raptors from the Arabian peninsula.

▶ **Gamebirds**

Barbary Partridge, Woodpigeon, Turtle doves and common quail are the most common species in the animal markets throughout the country

▶ **Other birds**

Mainly caught accidentally but even though poachers are not releasing them back to wild and they prefer selling them to animal and pet markets. Except for the Eurasian hoopoe who are used for sorcery.

▶ **Mammals**

The most trafficked animals are

- Barbary Ground Squirrel (Atlantoxerus getulus) 68%
- Algerian hedgehog (Atelerix algirus) 11%

▶ **Reptiles**

- Green Tortoise Testudo graeca – 61%
- Mediterranean Chameleon Chamaeleo chamaeleon 12%
- Moroccan Uromastix Uromastix nigriventris 9%

13 out of 17

falcons were released back to the wild on February 2020

53 raptors, 1055 songbirds, 450 reptiles (mainly Greek tortoises) and 120 mammals (Barbary ground Squirrels and Algerian Hedgehogs) were confiscated because of monitoring the illegal trade

▲ The team at the Department of Water and Forests in the Kingdom of Morocco, checking the falcon prior to its release back in the wild.

◀ The team at the Department of Water and Forests in the Kingdom of Morocco, releasing falcons back in the wild after they were confiscated from poachers with the help of information provided by the Born to be Wild team.



monitoring of illegal trade online

With the advanced technology and rise of new social media, it is important to monitor platforms to be able to identify the species that are most common in trade online, and to recognize how these online platforms are being used to commit wildlife crimes. The same team - who handled the monitoring of illegal trade offline, in the markets and entertainment hubs - monitored different social media platforms for any wildlife to share with the concerned authorities for their action.

There is currently only one website marketing pet animals [confidential to avoid endorsement]. From time to time some wild animals are sold online and these are exotics or native species such as Barbary macaques, Raptors, and song birds - among many. Moreover, our team checked Facebook and liaised with several volunteers to report posts and online markets.

As soon as our Born to be Wild - Monitoring of illegal trade team was informed about the cases of young Barbary macaques that were illegally kept by some exhibitors, we have sent a team that actively searched for the infant macaques in different places such as Salé, Essaouira, Martil, Oujda, Hercules Cave and Nador. However, the illegal traders managed to escape the area upon our teams' arrival. Our preliminary investigations indicated different situations but all of them have proven that poaching is still taking place. Nonetheless we have noticed that the poaching activities concerning Barbary macaques has significantly declined and the Water and Forests department with the support of internal animal rescue units, are more engaged in disrupting the illegal trade, especially in Barbary macaques as it resembles a national treasure. The poaching or trading practices of Barbary macaques is punishable by the national law in

Morocco, and can result in imprisonment and / or a fine equivalent to 10,000 euros.

“all united against the trafficking of wild animals in Morocco”

The project team are collaborating with an active Facebook page sharing information about the wildlife trafficking in Morocco

▲ An online ad featuring a wild animal for sale.

fostering a new generation that values and protects wildlife in Morocco

Barbary macaques have greater value alive in the wild than in captivity. The macaques generate income for Morocco through tourism and they benefit the ecosystem by spreading the seeds in the forest. This is the main message shared during visits to schools. Students were educated about the stillbirths experienced by mother macaques because of obesity due to being fed unnatural food in large quantities by the tourists. Stories were shared about juvenile macaques lost to poachers because of the habituation of these wild animals as park visitors neglect safe distance keeping rules. Lastly, students were educated how these animals live in groups and suffer greatly when they lose one another to a poacher or car strike.

Additional dangers emerge from poor management and handling of these animals due to the lack of understanding of their behavior, wellbeing, and importance to the ecosystem as a whole. Therefore, with a team of volunteers made up of young adults - to get them involved in the conservation field - fifth and sixth graders at schools around Ifrane National Park were visited to help students better understand the importance of protecting Barbary macaques - to engage with youth in schools, we have produced an educational video that will continue to be screened in schools to help educate children on Barbary macaque conservation and what they can do to help preserve these species.

30 schools

were reached around Ifrane National Park to help fifth and sixth graders better understand the importance of Barbary macaque conservation in 2020

▲ To gain the trust of the semi-wild Barbary macaques, patience is required. Movement must be slow, eye contact to a minimum, and no direct approaches. By keeping still for 30-45 minutes, they'll eventually accept you as no danger.



Photo: George Turner / IFAW

safe macaque watching

The Born to be Wild awareness and education activities are focused on informing the public, the local population, tourists and schools about Barbary macaque behavior and conservation, and the fact that they are an endangered species. In early 2018, the surveys our team collected from the tourists, which helped to further refine the messaging towards and education of this target audience, showed that less than 50% of tourists knew that the Barbary macaque is an endangered species.

With thousands of tourists visiting Ifrane National Park annually, we have worked with the Water and Forests department on developing and distributing a map of Morocco's national parks with information on their flora and fauna, highlighting Ifrane National Park and the Barbary macaque, and the risks associated with human-wildlife interaction. Our Born to be Wild scouts' team informed people about the Barbary macaque, their natural habitat, and how tourists can help keep them safe by following basic guidelines; driving slowly on the roads through the park,

no feeding, no littering, and no touching / petting macaques. To reinstate some of these guidelines, we placed road signs on roads in and around the park, and installed special trashcans in tourist areas to help prevent the animals from eating tourist left overs.

▲ Until around 3 months, baby Barbary macaques are entirely black. To age them look for remaining patches, such as the cheek areas in this image.



Photo: George Turner / IFAW

reducing feeding and close contact with macaques

Feeding wildlife is associated with several risks for both animals and tourists. Education is a common strategy used in an attempt to reduce wildlife feeding, but research on the effectiveness of education in changing tourist behavior is lacking. Surveys conducted with tourists visiting Ifrane National Park provided valuable information on the prevalence of feeding and close contact with macaques, the factors influencing tourists' behaviours and opinions on interactions with macaques, and what may be the most effective education strategies to

encourage change. Furthermore, this research provided evidence of the effectiveness of education efforts by the Community Scouts in increasing awareness and changing behaviors of tourists. The results from this scientific research were incorporated into the design of a new educational sign installed in Ifrane National Park. Further monitoring allows the effectiveness of these intervention strategies to be evaluated and optimized to reduce feeding and close contact of animals by tourists.

tourists' motivations for feeding wild primates

The motivations for feeding wild Barbary macaques were explored through more than 8000 surveys with tourists from 55 countries visiting Ifrane National Park. Feeding was common but most was opportunistic. Tourists fed macaques for a variety of different reasons. Statistical modelling of these data provided valuable information on the factors influencing tourists' motivations and behaviours to develop targeted feeding interventional strategies. Visitor satisfaction was also analysed, showing that macaque viewing is just as enjoyable for tourists as macaque feeding.

finding

Feeding was common but most was opportunistic; most tourists came to the park to see the macaques, while only a small proportion came to feed the macaques. Exploring tourists' motivations for feeding macaques can help develop targeted intervention strategies and reduce feeding of wildlife.

◀ Typical Barbary macaque behaviour: playtime!



Photo: George Turner / IFAW

disrupting wildlife crime through capacity building of concerned government officials and judiciary

We build the capacity of government law enforcement agencies and other government officials by increasing their knowledge on wildlife crime and the proper handling and care of live animals in efforts to combat wildlife trafficking. To fill the communication gap between the Customs, police and Forestry authorities at a national level, our DISRUPT trainings encourage the cooperation between government departments to maximize the effect of our and their efforts.

In developing and organizing a DISRUPT training, we first do a needs assessment of the participants and the situation in the country – the most common species trafficked and the smuggling techniques used in the region. That way we can tailor the training curriculum and exercises to the level of knowledge and expertise of the participants. When we organized the DISRUPT trainings in Morocco, we invited the Moroccan authorities as trainers as they are best fit to address in the national language, the local situation and the legislation. In Morocco, we targeted the Northern area near Spain, as the ports (sea and air) are known as common trafficking and smuggling routes. We organized two targeted DISRUPT trainings at trafficking hot spots Tangier and Nador in 2018. We received and continue to receive news from the concerned authorities on seizure and confiscation cases, which were carried out by the officers who attended our trainings – an indicator reflecting the importance and success of these trainings.

Moreover, we held a judiciary training to raise the awareness of the public prosecutors regarding the international and national laws concerning animal welfare and wildlife trafficking. Law enforcement is crucial to address the illegal wildlife trade and to enable prosecutors to take action we needed to sensitize them with information on existing laws, with the aim to encourage them to take action during seizure operations.

The public prosecutors were gathered together to discuss the existing laws and the animals that are most common in illegal trade in the region. We emphasized on the National Law 29.05 to highlight the national consequences in getting involved in wildlife trafficking.

There were many confiscation cases following our DISRUPT trainings in which the poacher was taken to court and forced to pay a fine for their attempt in trading in animals illegally. Our judiciary-training workshop improved communication between forestry and judicial department.

16

seizure/ confiscation cases – sixteen confiscations, twelve of them were confiscations of Barbary macaques following our DISRUPT trainings. The majority of the confiscations took place in our main targeted region and all the confiscated species were covered in our trainings

following our Judiciary trainings, more poachers were taken to court and forced to pay a fine for their attempt to illegally trade in animals

◀ The park benches visible in this Barbary macaque's eyes speak volumes: they're here to fed. Tourists will often discard the remnants of their picnics, feeding a plethora of foods - not naturally in the macaque diet - to them.



Photo: George Turner/IFAW

addressing human-wildlife conflict

Community livelihoods are closely linked with the Barbary macaques and their habitat. Born to be Wild aims to achieve peaceful coexistence between Barbary macaques and local people. Community engagement work in and around Ifrane National Park is focused on supporting communities to identify and take action on issues of importance to them and that link with Barbary macaque conservation, such as reduction of human-wildlife conflict. Our team focused on establishing a shared vision with communities as to what can be achieved for people and animals by working together, and taking an inclusive approach that promotes local leadership and institution building for sustainability.

This project aimed to determine efficacy of Barbary macaque conflict mitigation strategies with farmers in Ain Leuh in order to contribute to the following objectives:

1. Document the extent of the crop raiding issue in Ain Leuh and its impact on both humans and animals; understand the factors that influence conflict
2. Assess the viability of conflict mitigation strategies with farmers in Ain Leuh that can be sustainably replicated elsewhere in the region
3. Provide practical recommendations to reduce macaque crop raiding risk for communities in the region

In order to achieve a better understanding of the scope and impact of the problem the team undertook a series of activities to map Barbary macaque crop raiding activities and farms in Ain Leuh, understand what factors influence conflict, identify the risks and impact of crop raiding on humans and animals and identify conflict mitigation strategies the community can test.

Communities living near Ifrane National Park, specifically in the region of Ain Leuh, have reported greatly increased crop raiding activities by Barbary macaques and subsequent human-wildlife conflict. Affected crops include cherries, apples, walnuts and almonds, with conflict reported in summer (fruit crops) and winter (nut crops). Crop raiding activities are extremely detrimental to the families affected, as macaques not only eat the crops and thus reduce current yield but also damage and kill trees, thereby reducing future yield. This conflict threatens the welfare and conservation of this endangered species, as people may be tempted to retaliate against crop raiding and are less likely to support conservation initiatives if the species is considered a pest. In addition to current risks this problem poses for human livelihood and Barbary macaque conservation, future reintroduction efforts will be threatened if a successful model for engaging with local communities to develop a landscape of coexistence is not developed. In October 2018 more than 50 individuals from Ain Leuh wrote a joint letter to the governor to about the need to find a solution. Born to be Wild Surveillants Locaux met with farmers in Ain Leuh regularly since then to discuss the issue and ideas of how we could work together as a team to find solutions.

The ultimate goal of the project was to identify conflict mitigation methods to determine which could be most effective and which the community of Ain Leuh would be favourable to adopting. However, as a first step, it was necessary to first quantify and understand conflict and identify farms where these methods could be tested. Research was undertaken to understand what factors influence human-macaque crop-raiding conflict and how this impacts the local community by conducting surveys with farmers and recording

information about the farms. Factors we investigated included farm size, age, spatial location and distance to forest, crop, season and current deterrence methods. We obtained information on how often monkeys visited the farm, how much damage is done, and their attitudes towards macaques. This helped to a) understand what influences conflict so that informed mitigation strategies could be recommended, b) identify potential farms for testing mitigation solutions, and c) serve as baselines for assessing the effectiveness of mitigation strategies in future.

Between March and November 2019 farms were mapped (N=33) by the community scouts and a representative from Ifrane National Park, along with local farmers, who also responded to a questionnaire. Results from the data collected confirmed that most farms are primarily cherry crops (see Table 1). Monkeys visited each farm daily in spring and summer, weekly in autumn and monthly in winter (see Table 2). While cherry farms are visited by monkeys mostly in spring and summer, walnut farms are visited in spring, summer and autumn (Figure 1). Most people had a negative or very negative attitude toward monkeys (Figure 2) and perceived conflict to be severe or very severe (Figure 3). However, an ordinal regression model found that perceived severity of conflict was not related to how frequently monkeys visit farms. For 42% of farmers surveyed, farming is their sole livelihood (see Figure 7), making this initiative supporting them to work together on finding a viable long term solution and monitor the results to ensure it's working, all the more critical.

◀ The "tourist" groups are fully habituated Barbary macaque, with a human presence around them all day, nearly all year. As a result, studies have found that these macaques display more stress/anxiety induced behaviours.

Crops

Table 1

Crop	% of farms
Cherries	0.86
Walnuts	0.18
Almonds	0.11
Peaches	0.11
Other	0.18
Crops per farm (average#)	1.61

Visits by monkeys to farms

Table 2

Season	Average score	Rough interpretation
Summer	3.82	Monkeys visit farms almost daily
Autumn	3.18	Monkeys visit farms more than weekly
Winter	2.64	Monkeys visit farms less than weekly
Spring	3.82	Monkeys visit farms almost daily
Average	3.37	Monkeys visit farms roughly weekly on average across farms and seasons

Scored as 1=Never/Rarely; 2=Monthly/Almost Monthly; 3=Weekly/Almost Weekly; 4=Daily/Almost Daily

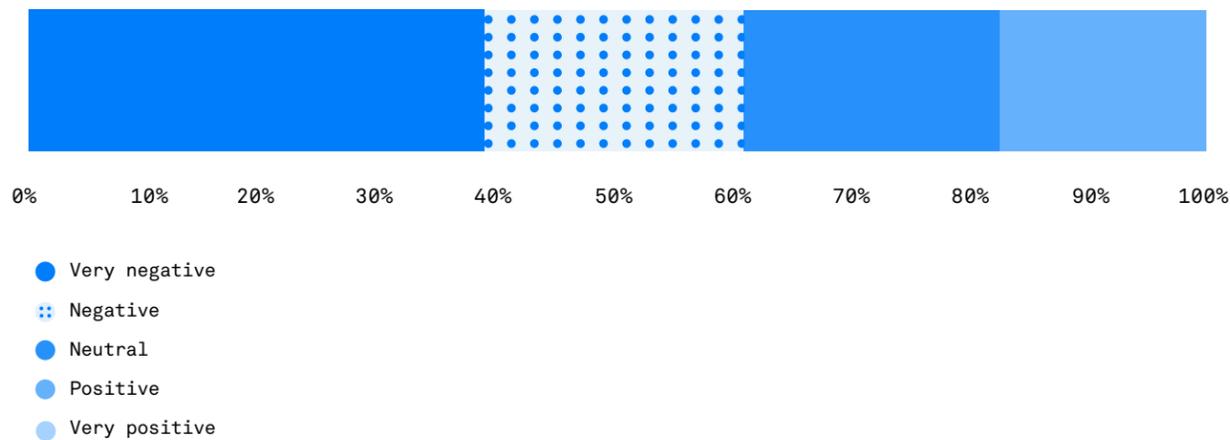
Livelihood and farm ownership status

Table 3

% of famers	Livelihood and farm ownership status
0.25	Sole livelihood and own farm
0.17	Sole livelihood don't own farm
0.17	Not sole livelihood don't own farm
0.42	Not sole livelihood own farm

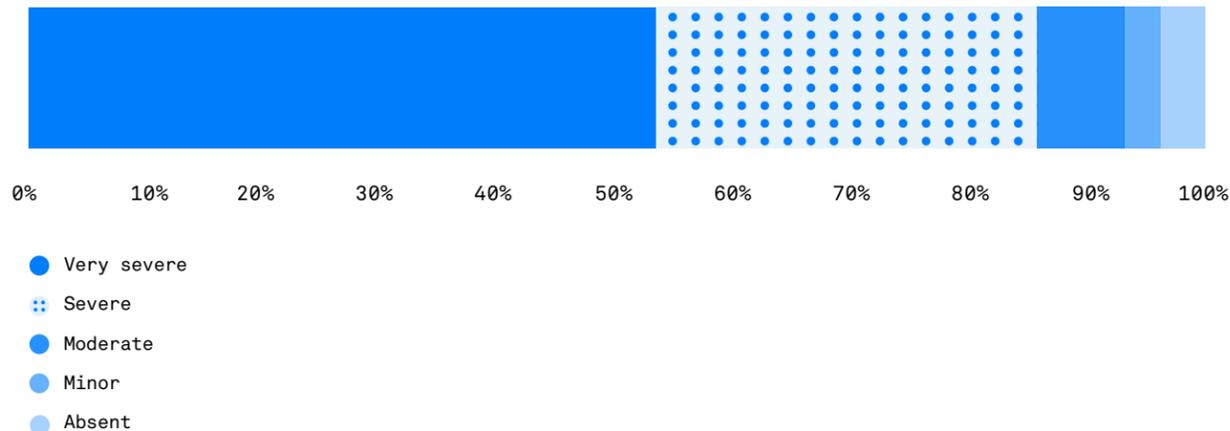
Farmer attitude towards monkeys

Figure 3



Perceived severity of conflict

Figure 2



Maps of farms and severity of conflict at each were created (see Figure 4) to help each farmer identify which type of solution could be most appropriate for the unique conditions on their farm. The maps of conflict suggested that farms in Ajabou along the south-east edge bordering Ifrane National Park were experiencing greater conflict than those along the north-west edge (see Figure 4a), which raised the suggestion that macaques may be entering farms from Ifrane National Park and then travelling through the farms to reach others, resulting in the observed pattern of conflict. If so, focusing protection on this edge of the farms may protect adjacent farms. However, the home ranges and routes of the macaques were not known. Therefore, home range data on the macaque groups conducted as part of the work of the community scouts were analyzed to determine home ranges and travel routes of macaques (see Figure 5). This showed that macaques entered the farms from both sides.

The first community meeting with approximately 20 farmers in Ain Leuh

was held in April 2019. This was the first time members of the community had come together to discuss and work through a shared problem statement. It was during this meeting that community members agreed they would like to form an association to work together in a more formal way. The association was officially registered in August 2019 and since members have been meeting on a regular basis, both individually and in small groups, to continue sharing information and ideas. The second community meeting was held in February 2020 with approximately 50 participants. Attendees included association members, other community members and government officials. During this meeting the community decided the solution they would like to utilize to deter crop raiding during this upcoming cherry season.

The community consultation process revealed that the only moderately successful methods to mitigate BM crop raiding thus far have been human guards hired at individual farms, present daily from 5am to

sunset. Working individually and without any training in animal behaviour and effective techniques, guards are not currently working as effectively as they could be. They often spend many hours a day idle due to a lack of crop raiding activities on their assigned farm and often chasing monkeys on to neighboring farms when they do visit, rather than back into the forest. Although a relatively ineffective system, it is not a significant financial burden for larger/more resourced farms. It is a significant barrier for farms with fewer resources however; sometimes requiring all family members to participate when hired guards are not affordable or simply bearing the worst impact of doing nothing. These findings, together with the data gathered on the severity of the issue, maps demonstrating connectivity of farms being raided most severely (see Figure 4) and behaviour of BM involved confirms that a shared approach, rather than an individual one is most likely to be effective in keeping macaques away from farms.



Photo: George Turner/IFAW

As a result of project activities, community members for the first time recognized the need to work together rather than individually to tackle this problem. Adamant about the need to find an immediate solution prior to the 2020 cherry season, IFAW agreed to propose a method for employing a shared community guard network likely to be more effective and cost-efficient for all farmers in the community. This approach is centered on utilizing fewer guards, training them professionally by the community scouts to work as a team and cost-sharing across all participating farms. Farm maps can assist the Cherry Tree Association and their community guards to coordinate their efforts to safely, effectively and consistently push crop raiding monkeys back into the forest. They can be further supported to explore other ways guards could be more

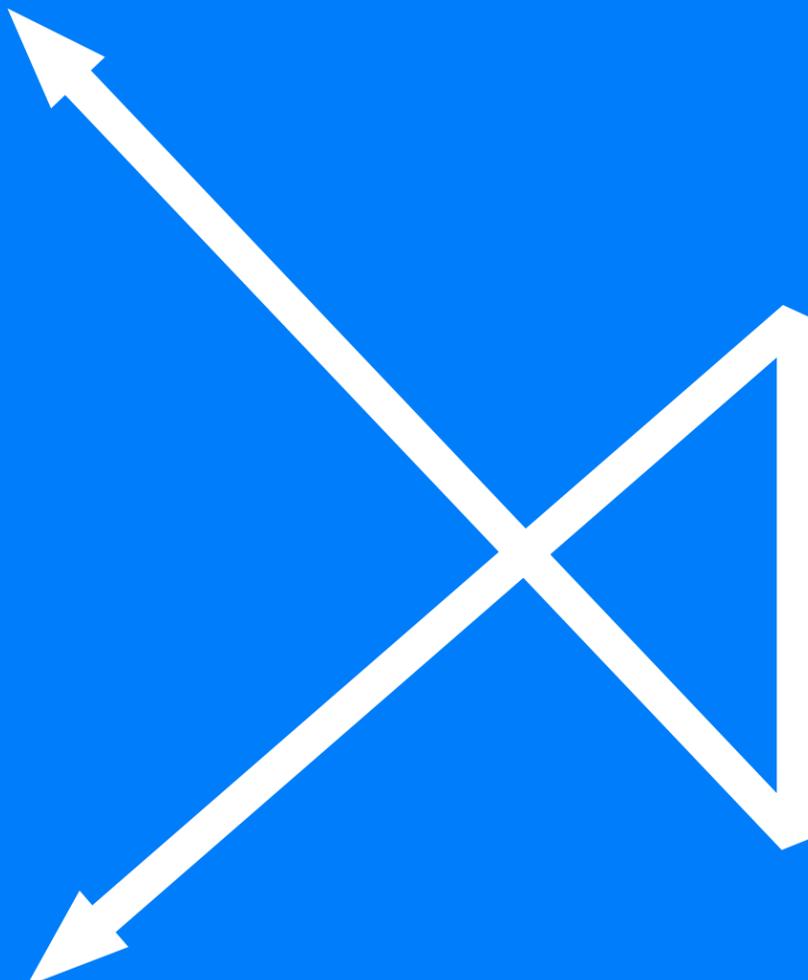
effective (e.g. coordinated team of guards wearing similar conspicuous clothing, scarecrows wearing the same clothing as the guards, etc.) and the association can be supported to collect their own data to enable them to assess how effective their community-guarding network is.

Unfortunately the Covid-19 crisis and associated lockdowns hit Morocco at the same time the community guard trial was due to be rolled out for the 2020 cherry season. Activities were unable to proceed as planned, however community members reported that monkeys rarely visited farms during the entire season and harvest was very poor this year. As some restrictions started easing in Morocco the team focused on purchasing equipment for community guards and making preparations for the next phase of the work once

the terms and conditions can be negotiated and finalized with the Ain Leuh Cherry Tree Association and it is safe to proceed.

Aside from ensuring leadership in addressing this issue comes from within the community, working through the newly formed association will help ensure that all members of the community, regardless of socio-economic status can benefit equally through sharing of resources. Furthermore, this approach is helping to ensure that the solution is better able to be sustained by community members themselves after IFAW involvement ends. It is a relatively low cost model that is easily scalable to many other communities in the region and has increased community capacity to work together to solve shared challenges.

animal & people



thriving together

International Fund
for Animal Welfare

Born To Be Wild - Final Report.

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