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# SHAN SHUI

## Conservation Center

2014 Annual Report



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## Who We Are

Shan Shui Conservation Center (hereinafter referred to as “Shan Shui”) is a Chinese non-governmental organization dedicated to conservation practices rooted in Chinese society and culture. Since establishing our team in Beijing in February 2007, we have strived sticking to our root in science and culture when directing multiple facets of fieldwork in the remaining parts of western China – where change can happen. We create value by safeguarding nature. We benefit local villages through various means, including experimenting with new mechanisms to balance ecological, economical, and community interests. To seek social and public support, we promote local publicity, production, and participation in a way that links conservation with Chinese mainstream society. We also undertake effective conservation initiatives to show that we are worthy of greater inputs and long-term support from these social and public channels.

Our young, professional, and aspiring team consists of 36 full-time workers and 25 long-term consultants, fellow researchers, and volunteers.

Our strategies incorporate field practices, fellowship programs, and value chains. In the context of this report, “field practice” refers to consistent efforts to carry out research and practical work, to train nature guardians, and to pilot nature safeguarding mechanisms. “Fellowship programs”, on the one hand, help to convert field experiences into know-hows and the mechanisms for extension and, on the other hand, to promote the applicability of theories and findings in the course of action. Along these “value chains” are a variety of “eco-equity” products (e.g. : Bee-PANDA Honey, Nature School Tours, etc.) that are intended as a means to raise public awareness of ecological values and through their sales, to open up eco-value feedback channels which involve the public.

In 2014, we focused on Sanjiangyuan, southwestern mountainous areas (SMAs), and the Lancang River basin. These are beautiful and fragile areas where snow leopards and giant pandas take shelter.

- Established a Community Resource Center (CRC) in Sanjiangyuan, set up village rules on the use of natural resources, took group action to conserve the ecosystem in which snow leopards are classified as a flagship species. In 2014, we reached further out to the New Eco-Migration Urban Area of Huteng Town in Zadoi County as well as to the township of Zhaqing, conserving an area of approximately **15,000** km<sup>2</sup>.

- Carried out monitoring in **8** areas of Sanjiangyuan, where **150** infrared cameras were set up covering **2,500** km<sup>2</sup> of key snow leopard habitats and where local communities were assigned to monitor **18** species, including snow leopards and brown bears; carried out **7** monitoring training sessions for **42** herders and **10** forestry administration workers; had **2** papers published in professional journals; submitted **2** snow leopard study reports to the Qinghai Forestry Administration.

- Signed the 2014-2020 Cooperation Framework Agreement with the Sichuan Forestry Administration to explore four areas of attention: **the alleviation of and adaptation to climate change, biodiversity conservation, the conservation of forest and water resources around communities, and nature education.**

- Signed a three-year cooperation agreement with Gansu Baishuijiang National Nature Reserve and Peking University Center for Nature and Society to further promote **training, scientific research, awareness building and education, and collectively-owned non-commercial forest management.**

- Started to build a land-trust conservation station, **Baixiongping Conservation Station** in **Tangjiahe**, and signed a five-year cooperation memo with Sichuan Tangjiahe National Nature Reserve to develop a "patrol-research-education" integrated mechanism for this station (namely patrol-monitoring, scientific research, and nature education).

- Nurtured **1** conservation society and **1** farmers specialized co-op; completed baseline surveys in **6** communities as well as conservation plans; set up **6** community-based funds and formulated their management procedures; supported **54** patrollers to carry out community-based monitoring for **1,087** times/person, covering **9,535** km of land.

- Arranged to have *Community-based Conservation: An Overview through Case Studies* published: **13** cases of community-based conservation were put together to show the ideas and practices Shan Shui and other NGOs have explored on topics about community protected areas, village governance, group action, and rural natural resource management.

- Supported the planting of **87** ha. of multiple-value forest, completed **2** CCER projects and **1** VCS project design, covering **19** towns and townships, **55** villages and benefiting about **14,600** households (**62,600** villagers); published *Forest Carbon Practices and Low-Carbon Development in China*; held **2** forest carbon sink training sessions and **5** IPCC seminars, attended by over **500** people from **70** companies/organizations.

- Launched the **3<sup>rd</sup>** RAP in Sanjiangyuan (the source area of the Lancang River) and the Lancang River Source Surveys to provide the needed baseline data.

- Filed **123** applications for the Lancang River Conservation Fund and passed **16** projects (each was **50,000-200,000** yuan and **30** smaller projects (each was no more than **50,000** yuan), totaling **2,786,000** yuan of grants.

- Carried out **7** nature experience activities directly engaging **98** persons; built **3** Nature School bases; carried out **4** types of campaigns in the nature education industry directly impacting about **200** nature-education NGOs / privately owned enterprises / nature reserves / forest farms, reaching out directly to **750** people; co-issued the **Sichuan Forest Nature Educational Action Manifesto.**

- Selected **5** young conservation practitioners into our fellowship program, which is designed especially to provide unique opportunities for young people with passion and can-do spirit to explore environmental fronts.

- Co-issued an independent observation report on China's ecological conservation: **China Nature Watch 2014.**

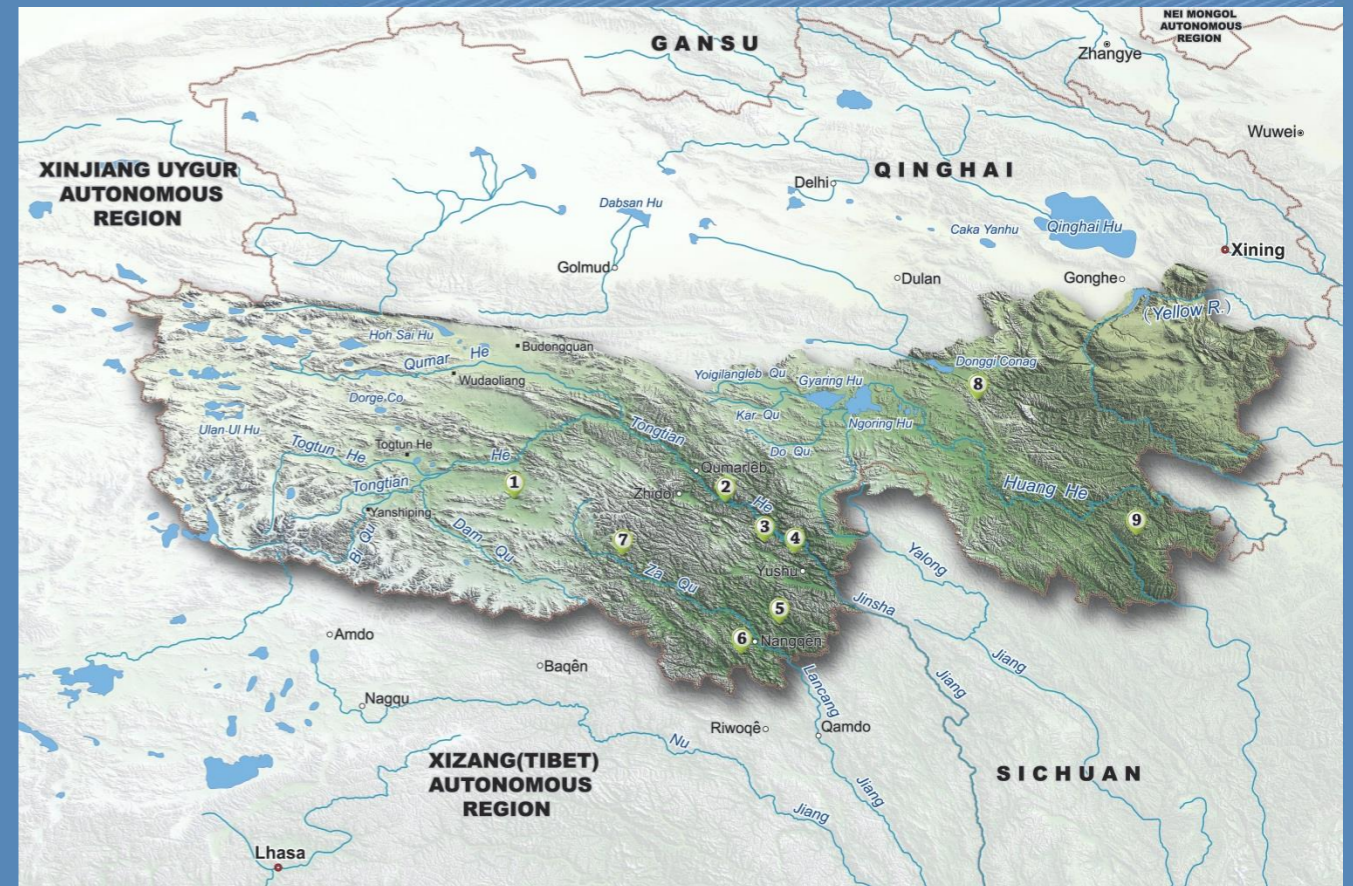
Shan Shui is a platform for all nature lovers to come together and fulfill their aspirations. We hope to join your efforts to preserve Mother Nature's beauty for as long as possible.

# Sanjiangyuan: The Nature Guardians Program



● Work Areas of Sanjiangyuan

SN	Site	Tasks	Region
1	Soja Township	snow leopard research and community-based conservation	Sanjiangyuan
2	Xiarisi	Nature School	Sanjiangyuan
3	Haxiu Township	snow leopard research and community-based conservation	Sanjiangyuan
4	Dianda Village	snow leopard research	Sanjiangyuan
5	Yegye Nyima	snow leopard research	Sanjiangyuan
6	Qandoi Village	snow leopard research	Sanjiangyuan
7	Zhaqing Township	snow leopard research, community-based conservation, Nature School	Sanjiangyuan
8	Amne Machin	snow leopard research	Sanjiangyuan
9	Nyanpo Yutse	snow leopard research and community-based conservation	Sanjiangyuan





● Yaqu, Sanjiangyuan

Sanjiangyuan is located in the interior of the Qinghai-Tibetan Plateau, mostly across the Tibetan Autonomous Prefectures of Yushu and Guoluo. It is the origin of the Yangtze River, the Yellow River, and the Upper Mekong (Lancang) River, hence named Sanjiangyuan, meaning "the source of three rivers" in Chinese. It is also known as "China's Water Tower" supplying water to over a billion people downstream. It is an example of unique biodiversity with endangered species such as wild yaks (*Bos grunniens mutus*), Tibetan wild asses (*Equus kiang*), and Tibetan antelopes (*Pantholops hodgsonii*). It is also the world's largest habitat for snow leopards (*Panthera uncia*), the most mysterious member of the cat family.

As climate change and human impacts intensify, Sanjiangyuan, one of the world's most important and fragile eco-regions, has been showing signs of deterioration in recent years, including deglaciation, soil loss, and water pollution. Such deterioration will not only affect the health of Sanjiangyuan's ecosystems, but it also poses great threats to the water supply in river basin areas where millions of people live. This situation prompted Shan Shui to take action at two focal points: One is how to conduct more interdisciplinary research (when there is a lack of basic studies and baseline data) so as to guide conservation practices on topics such as grassland degradation, mining, infrastructural construction, human-wildlife conflict, domestic garbage, and water-borne pollution. The other focal point is the effort to encourage group action under a community governance structure which preserves traditional culture so well that it is possible for the farmers/herders to "lead the way" when addressing external threats and regulating internal procedures for conventional resource management.

## Community-based conservation in Sanjiangyuan

Since 2011, Shan Shui has been working to direct social and government resources towards a community-based conservation model in Sanjiangyuan, where the majority of participants are local farmers and herders. We have set up Community Resource Centers (CRC) as a means to focus on village-level conservation under the leadership of the Villager Committee. We have also helped the villages regulate their use of natural resources and to take group action to conserve the ecosystem in which snow leopards are classified as a flagship species. With four CRCs and one township-level service center set in place over 1,353km<sup>2</sup> of land in Haxiu Township of Yushu City, we reached out further to the New Eco-Migration Urban Area of Huteng Town in Zadoi County as well as to the township of Zhaqing in 2014, conserving an area of approximately 15,000 km<sup>2</sup> with the following highlights:

- Over **300** people engaged in anti-hunting efforts and **300** wire traps cleared within a radius of **1,500** km<sup>2</sup>.

- Financially supported **17** households to build cement walls and wire fences against offensive bears (the incidence of bear attacks was lowered to **4** households; the losses were reduced to about **7,000** yuan).
- Built **10** garbage sorting chambers with **700** km<sup>2</sup> of pastures/streams cleared of garbage, lowering the garbage-caused livestock death toll from **4-5** head/household to **0-1** head/household.
- Used the community "ecological fund" to address financial difficulties **1/3** of the local herders had in their lives; the proceeds of the village fund were used to finance public affairs, such as community senior care and garbage treatment.
- Set up regulations in four villages with **3,000** harvesting licenses and **5,000** leaflets issued as a way to regulate cordyceps harvesting and reduce its impact on grassland, forest, and wildlife.
- In the Nyanpo Yutse area, local communities and societies helped us find local small populations of otters and their key habitats.
- Carried out research on topics about traditional culture and conservation: (1) The role of holy mountain culture in Tibetan settlements, as exemplified by sacred mountains in Yushu; and (2) the impacts of Sanjiangyuan's eco-compensation and other incentive mechanisms on the social norm system.

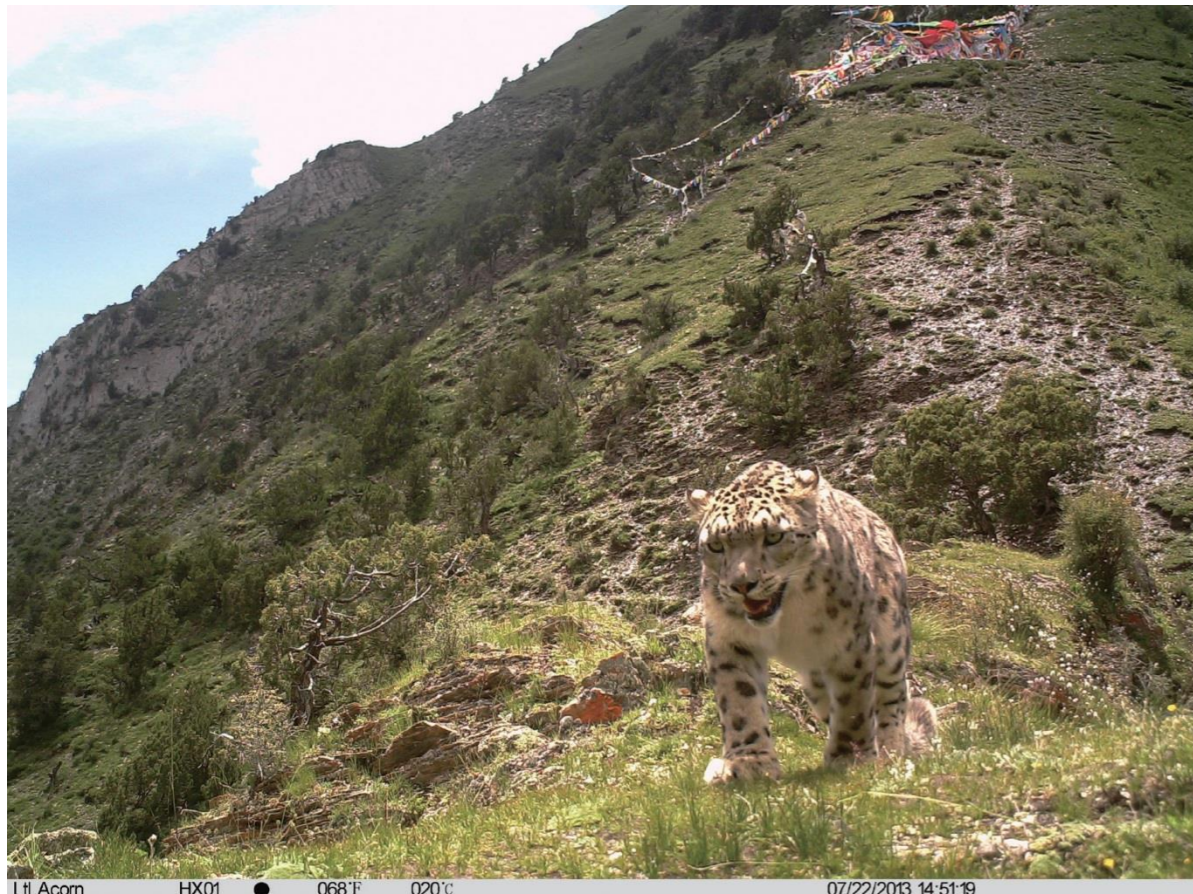


● All the team members of the Gangri CRC

## Snow Leopard Research and Conservation

The snow leopard is a large feline species inhabiting the Qinghai-Tibetan Plateau, particularly Sanjiangyuan, one of the few suitable areas in China. Retaliatory killing, illegal hunting, animal husbandry, and infrastructural construction constitute major threats to this magnificent, mysterious animal and its habitats. We work closely with the government, communities, monasteries, and research institutes to reduce these threats in Sanjiangyuan and the plateau area in western Sichuan based on our findings.

- Helped communities monitor **18** species (snow leopards, brown bears, etc.) with **150** infrared cameras covering **2,500** km<sup>2</sup> in **8** zones of Sanjiangyuan.
- Provided **7** training classes for **42** herder monitors and **10** forestry administration workers.
- Provided **30,000** yuan as compensation under the human-wildlife conflict plan which covered **4,000** head of yaks from **36** households.
- Submitted **2** snow leopard study reports to the Qinghai Forestry Administration



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## One Year with Mother Snow Leopard



The following story tells of a female snow leopard we found raising her cubs around Yunta Village of Sanjiangyuan, where infrared cameras were set up to follow the traces of individual snow leopards within a radius of 400 km<sup>2</sup> for one year.

### 1. The mother snow leopard

In July 2013, we started to set up a 5x5 km grid (the smallest home range for the animal) of 30 infrared cameras within a radius of approximately 300 km<sup>2</sup> around Yunta, a village along the Tonghtian

River in Sanjiangyuan. We also trained 20 herders to do the work, including data collection and maintenance.

One of the cameras caught 42 images of a mother snow leopard and her two cubs, leading us closer to the mysterious life of this species. The first image taken on July 12<sup>th</sup>, 2013, revealed a majestic, big cat which was unmistakably the heroine in our story.

Female snow leopards are usually covered in clear spots

They have a smaller head and jaw-size than males. Snow leopards like to move along mountain ridges or rocks underneath cliffs. They prefer to mark prominent places, such as mountain passes, cliff bases, and river intersections.

Female snow leopards are usually covered in clear spots. They have a head and jaw-size than males.



## 2. The family

This is the first image of the snow leopard family taken on August 2<sup>nd</sup>, 2013. Generally, a snow leopard gives birth to 2-5 cubs in one gestation period. This photo was taken when the two cubs were one year old and looking like energetic young boys.



Generally, a snow leopard gives birth to 2-5 cubs sometime between April and June.

## 3. Activity rhythms

Generally, snow leopards choose to be active in the morning and evening. Their specific activity rhythms are usually affected by climate, food, and the environment. The mother snow leopard observed in this story was more active at night than in the morning/evening. A cold, snowy night couldn't even stop her from going out to enjoy a world of darkness.



## 4. The children

Most of the images featured the mother moving about alone after one last snapshot of all three of them going out together in March, 2014. Since then, only four snapshots of the cubs have been taken.

When the young snow leopards reach two years of age, the mother will force them to leave home because she needs to get ready for another gestation period (January to March). According to observations, the cubs might return home for temporary shel-

-ter when they can't find a new home range and are bullied by other males.



When the young snow leopards are 2 years old, the mother will force them to leave home between January and March to get ready for another gestation cycle.

### 5. Flagship species:

As a local flagship species, the snow leopard shares the ecosystem with other rare animals in Sanjiangyuan. The mother snow leopard's neighbors over the last year include Pallas's cats, leopard cats, beech martens, red foxes, bharal, Himalayan vultures, and ravens. In many areas, wolves and brown bears frequently visit and mark the same spots that snow leopards mark. Obviously, many other species with considerably weaker ecological niches choose to stay away from them.



- ← beech marten
- bharal
- ↙ leopard cat
- ↓ red fox



Here are some of the mother snow leopard's neighbors over the last year: Pallas's cats, leopard cats, beech martens, red foxes, bharal, Himalayan vultures, ravens.

## Sanjiangyuan New Hope Forum



### 6. The conservation practices of the indigenous peoples

The remote, deprived 393,000 km<sup>2</sup> region of Sanjiangyuan lacks basic data to carry out research and conservation. A new path to overcome this obstacle was found when we authorized and trained local herders to do all the monitoring and conservation work we planned from Yunta Village.

This is the only photo of an **otter** spotted in Sanjiangyuan over recent years, taken by a Yunta villager on his patrol duty.



In December 2014, the 4<sup>th</sup> Sanjiangyuan New Hope Forum (New Hope in Sanjiangyuan: The 'Conservation First' Concept and Practice) was held in Beijing on various topics, including the effectiveness of eco-compensation, the current species and grassland conservation practices in Sanjiangyuan, and case studies of the Lancang River basin area in Zadoi County of Yushu Prefecture. These discussions provided profound insights into innovating systems and mechanisms for the conservation and development of the region - ideas that will help reinforce the "the Water Tower of China."

The attendees included officials from the Qinghai government, the Qinghai Department of Agriculture and Animal Husbandry, the provincial Forestry Administration, the provincial Department of Water Resources, Qinghai Academy of Governance, the Chinese Academy of Governance, and governments at all levels in Yushu Prefecture. The forum was also attended by intellectuals engaged in eco-compensation designs at the Ministry of Agriculture and other interests of study, such as grassland and ecology.

The first Sanjiangyuan

New Hope Forum was held in Peking University in April 2011 that engaged government officials, intellectuals, and laymen to share ideas about orientation, paradigm design, and other critical issues concerning the conservation of Sanjiangyuan. The meeting became an annual event. The following two years, in Xining and Beijing respectively, opened up discussions about conservation and development efforts in the region and sped up the environmental legislation process.

# Southwestern Mountainous Areas:

## A New Harmony with Nature



● Work Areas in the SMAs

SN	Project Site	Project(s)	Location
1	Guanba Village	CCA, Nature school, FCS	Mianyang, Sichuan
2	Jixingou Village	CCA	Gansu
3	Liziba Village	CCA	Gansu
4	Yanggashan Village	CCA	Gansu
5	Changchun Nature Reserve	CCA	Shaanxi
6	Lixian County	FCS	Aba, Sichuan
7	Maoxian County	FCS	Aba, Sichuan
8	Zimei Village	Nature school	Ganze, Sichuan
9	Qingchuan County	FCS	Guangyuan, Sichuan
10	Ganluo County	FCS	Liangshan, Sichuan
11	Jinyang County	FCS	Liangshan, Sichuan
12	Leibo County	FCS	Liangshan, Sichuan
13	Meigu County	FCS	Liangshan, Sichuan
14	Mianning County	FCS	Liangshan, Sichuan
15	Yuexi County	FCS	Liangshan, Sichuan
16	Zhaojue County	FCS	Liangshan, Sichuan
17	Beichuan County	FCS	Mianyang, Sichuan
18	Pingwu County	FCS	Mianyang, Sichuan
19	Wanglang National Nature Reserve	Nature school	Mianyang, Sichuan
20	Tangjiahe National Nature Reserve, Baixiongping Conservation Station	Land-trust conservation station	Qingchuan, Sichuan
21	Mt. Ailao National Nature Reserve	FW	Yunnan
22	Wuliangshan National Nature Reserve	FW	Yunnan
23	Mt. Gaoligong National Nature Reserve	FW	Yunnan
24	Mt. Huanglian Nature Reserve	FW	Yunnan
25	Nangun River National Nature Reserve	FW	Yunnan
26	Tianchi Nature Reserve	FW	Yunnan
27	Wenshan National Nature Reserve	FW	Yunnan
28	Xide County	FCS	Liangshan, Qingchuan
29	Datong County	FCS	Qinghai

CCA – Community Conserved Area  
FCS – Forest Carbon Sink  
FW – Forest for Water





The southwestern mountainous areas (SMAs) on the eastern edge of the Qinghai-Tibetan Plateau host the world's most diversified temperate forest ecosystems, the majority of which are located in western Sichuan, northwestern Yunnan, eastern Tibet, the southeastern corners of Qinghai, and the southern end of Gansu. Of the over 12,000 higher plants discovered in these areas, 29% are endemic - nowhere else in the world boasts such abundance. Wild animal species abound as well, with over 300 mammal and 686 bird species recorded. There are also a large number of endemic species and rare/endangered animals, including giant pandas, golden snub-nosed monkeys, takin, forest musk deer, and 27 pheasant species. Seventeen of China's 55 ethnic minorities live in these areas, maintaining a rich knowledge base with their diverse languages and lifestyles interacting with nature. A few of the largest rivers in Asia flow through this area, including the Yarlung Tsangpo, the Irrawaddy River, the Upper Mekong, the Salween, and the Yangtze. Together they provide a lifeline for more than 500 million people on a land of three million square kilometers downstream.

However, these mountainous areas are increasingly threatened in terms of ecology. The habitats of giant pandas and other species are being damaged, fragmented, and deteriorated as a result of illegal hunting, grazing, herbs harvesting, and other human-imposed impacts. There is a lack of comprehensive studies on ecosystem service functions and values. Mainstream society has yet to recognize the value of nature. Few cases can be found in which a market mechanism is provided reflecting ecological values to align livelihoods with conservation practices in order to make the latter more sustainable. The scope and depth of community-based conservation is very limited, particularly in terms of communicating and interacting with the outside world and its policies. These are major threats to local conservation.

## Community-based conservation in the SMAs

Our Community Conserved Area (CCA) Project is designed to help locals conserve their homeland, change their livelihoods and lifestyles, and promote an economic-ecologic balance. The CCA Project in the SMAs bases its strategies on China's eco-compensation policy to support conservation and the community-based sustainable resource management. With community-based funds in place, it is possible to encourage group action, grow the community's economy, strengthen the community's self-governance, and build the CCA, all at the same time. Shan Shui, a conservation practitioner, strives to build a support/exchange platform for local Guardians, propose policy recommendations, and influence the use and input of government and private funds. Outcomes are presented as follows:

- Nurtured **one** conservation society and **one** farmers cooperative; took baseline surveys in **six** communities as well as conservation plans; set up **six** community-based

funds and their management procedures.

- Supported **54** patrollers to carry out community-based monitoring for **1,087** times/person, covering **9,535** km of land.

- Took **150** valid infrared snapshots of various species, incl. giant pandas, black bears, golden snub-nosed monkeys, Asian golden cats, and other national protected animals.

- Trained **600** persons (**30** in monitoring, **500** in forest stewardship, and **70** in livelihoods); conserved **116** km<sup>2</sup> of forest.

- Prepared the Management Manual for Collectively-owned Non-commercial Forest in Baishuijiang National Nature Reserve and sent it to **71** communities in the reserve as well as the Gansu Forest Administration.

- Signed a three-year cooperation agreement with Gansu Baishuijiang National Nature Reserve and Peking University

Center for Nature and Society to further promote **training, scientific research, awareness building and education, and forest management.**

- *Community-based Conservation: An Overview through Case Studies*, published by Peking University Press, contains **13** cases to reveal ideas and practices Shan Shui and other NGOs have explored on topics about community protected areas, village governance, group action, and rural natural resource management.

- The case of forest management and giant panda conservation in Lixian County was included in Sichuan Blue Book: Sichuan Eco-construction Report 2015.

- Launched the Upper Yangtze Forest Conservation Project, benefiting **5,000** people in five communities within **one** nature reserve across **three** counties in Sichuan and Gansu, a guarantee for safe water supply to **one million** people in Chengdu.



Project feasibility study in Xionger Village, Lixian



*Community-based Conservation: An Overview through Case Studies*

# Two Bears Showed Up!



●The Asian black bear

On July 27, 2014, patrollers from Guanba Village were excited to discover the images of “Bear 1 (Asian black bear)” and “Bear 2 (giant panda)” stored in infrared camera memory cards, something they had looked forward to for three years. They rushed to the hill top, where the signal was better, to spread the good news by calling the village CCP Chief.

The data showed that the two bears were captured by different cameras. Bear 1 appeared at 7:38 am running past the camera; perhaps it was beating a fast retreat after stealing a villager’s honey.

Bear 2 emerged at 20:27 pm walking slowly with its two big eyes watching very carefully where it was heading.

Why did it have to take three years for us to shoot these pictures? It by no means suggests that the bears appeared only after three years of conservation, but rather it is because the villagers had to learn how to use infrared cameras. It took



●Releasing man-bred cold-water fish

some time to place these cameras. Once they even tied a camera to a tree next to where they found giant panda feces. Two months passed without spotting any trace of the panda. Many more trials and errors later, the two bears finally showed up.

On the previous day, the patrollers set out on their routine patrol bound for the remotest Zhigou. They covered more than 30 kilometers of mountain paths in two days to reach the outermost cameras. Their mission was twofold: to replace the camera batteries and memory cards, and to patrol the Guanba Valley for any illegal mining or poaching. Two traps were removed on their previous patrol but none were found this time around.

These villagers have accomplished a great deal over the past five years. Last year, they assisted the police in rounding up criminals who used power nets to capture rare fish. They also counseled folks digging for herbal medic-



●Talking sense into herb pickers

-ine in the valley.

Animal appearances in infrared cameras have been increasing. All this is due to their consistent effort in consolidating resources, restructuring the team, and improving the system.

Originally, the patrol was affiliated to the village’s apiculture co-op to protect the villagers’ environment-friendly lifestyle. Starting from 2012, the co-op has been turning a profit and contributing to a village conservation and development fund. The drive for sustainability and conservation is no longer restricted to the co-op but has become a common action of all the villagers. Since late 2013, the patrol has been formally under the administration of the village committee. Mister Qiao Liang, the new village Party chief, has led the patrollers in making more progress. In 2014, the state initiated the second phase of a natural forest conservation project. The village now has funds to manage its collectively-owned non-commercial forests, which means that the patrollers have their subsidies secured for at least ten years. With the team, the funds, the system, and the work plan in place, the village is now setting up a nature



●The giant panda

forest ecosystem, including giant panda and other fauna and flora, but also the water source for more than 600 local residents. In addition to monitoring and anti-poaching activities, efforts are being made to protect cold water fish. On top of measures to resist and capture criminals poisoning or electrocuting fish, based on a study of wild fish carried out in July of this year, native fish species are now bred and released to the wild. In the future, more action will be taken in areas such as garbage management.

As the CCP Chief Qiao Liang once said at a meeting, “Our vision shows a picture of giant pandas and taken roaming in the Guanba Valley,

fish swimming in the river, and the villagers living a prosperous life. We are sure of its achievement in the very near future.”

## Bee-PANDA Honey: Conservation in a Jar



Three protected areas are exemplars of nature's beauty: the Wanglang of Sichuan, the Baishuijiang of Gansu, and the Changqing of Shaanxi. Here, trees grow lush and thick; giant pandas roam amidst bamboo. Under the shelter of the woods are Asiatic honey bees buzzing among several hundred kinds of wild flowers from spring to autumn. Unlike Italian bees you often see around a hive by the roadside, Asiatic honey bees cannot easily adapt to local vegetation, water, and habitation with which they are particular. This explains why they gradually disappeared in many places. Only in a well-preserved natural environment, such as a giant panda habitat, can they survive and produce good quality honey. This is what we offer - Bee-PANDA Honey, a product that upholds "eco-equity."

All profits from our sales go back to Shan Shui and the conservation efforts of local communities. This project currently benefits 1,194 Guardians and more living things coexistent with giant pandas: 4,175 plant species, 248 bird species, and 92 mammal species. In 2014, our output grew by 66% and sales by 69% year-on-year. We also launched a series of public events (free samples/reservations, birds watching, etc.). For the first time we gave customers a choice: They could either refuse to quit urban comfort or get involved in honey production. Those who chose the latter witnessed the whole process of harvesting honey in the fall.



Their participation added quality assurance transparency. Days of sharing work and almost everything else in the field with beekeepers and Guardians made them feel and understand more about the giant panda habitat and how it connects to local human lives, how much value our honey holds, and what it takes to make good honey.

## Forest and Climate Change

Our Forest and Climate Change Program aims to restore forest vegetation on deteriorated land in China's biodiversity hotspots. Other tasks include forest carbon stock evaluation and prioritized FCS project zoning / development / implementation. We also work to slow climate change and to promote multi-beneficial projects focused on community development.

Carbon sink forests, forestry business, and carbon trade are our means to expand multi-value forest, build conservation corridors, and restore habitats. We hold seminars and training with our forestry and business partners to raise public awareness. Here is some of what we have done:

- **87** ha. carbon sink forest planted;
- **Two** CCER designs (**6,867** ha.) and **one** VSC design (**1,667** ha.);
- The program covers **55** villages in **19** towns and benefits **62,600** villagers (**14,600** households);
- **Two** forest sink training classes, **five** IPCC seminars, **one** bike-riding activity on the No Car Day involving **500+** people from **70+** companies/organizations;
- *Forest Carbon Practices and Low-Carbon Development in China* published.



● A carbon sink baseline survey along the Huangshui River in Datong, Qinghai



● Community baseline survey in Liangshan



● Tree Nursery



● Building fences in Yele



● *Forest Carbon Practices and Low-Carbon Development in China*

## Return to Yele

The week before Planting Day 2015, we came to Yele Nature Reserve in Mianning County, Liangshan Prefecture, to see the carbon sink forest we had worked in for several years.

Starting from August 2010, with corporate sponsorship, we have collaborated with Sichuan Province Wildlife Conservation Station and Liangshan Prefecture Forestry Department in carrying out a carbon sink forest project in the Shenguo Zhuang, Yele, and Baicaopo nature reserves in Daliangshan, Sichuan, to recover vegetation, to protect rare species and their habitats, and to improve community production and their living environment.

Seedlings were planted here four years ago and have since been our utmost concern. In times of spring drought, variations in elevation make it

very difficult to arrive at the optimal time for tree planting. The land is frequented by cattle and sheep. The past four years have witnessed extensive destruction of seedlings due to spring drought, cattle and sheep trampling and nibbling, and even artificial sabotage.

Vexing as it is, we simply will not let the problem go unsolved. The seedlings are in a river valley at an elevation of more than 3,000 meters. When spring approaches, the land here is still frozen. When the spring comes to the area, the seedlings already start branching and leafing and are not suitable for replanting. We solve this problem by growing seedlings on the margin of the plot. Based on our first-year observations, we came to know the best season for foresting. Seedlings are temporarily placed around the plot well in

advance before they come out of hibernation to improve their survival rate. In the event of drought in the spring, water is drawn from the adjacent reservoir. In view of the local Yi ethnical tradition of animal husbandry, we use steel wire to fence up the seedlings while leaving passageways for cattle and sheep. We encourage local participation by consulting villagers on site selection, cultivation method, seedling type, and profit distribution. Communities, however, also have their complexities, which affect some of our operations, stalling our management system on a few occasions. Thanks to repeated coordination efforts made by the reserves' administrations, management personnel are now back in charge.

The frustrations we encountered in Yele have given us experience in community participation in foresting and management, which will benefit us in our future projects in ethnic minority areas. We are now back in Yele as another new year begins. To our delight, new seedlings are growing well. We fully understand that the success of this carbon sink forest depends on our joint efforts in collaboration with local villagers, the nature reserve, forestry departments, and local governments.



● Rebuilt fences for cattle to pass



● Cattle grazing around the plot

## Our Land-Trust Conservation Station



This conservation station in Tangjiahe National Nature Reserve is designed to operate under a land-trust framework. Initially, Shan Shui and Tangjiahe mapped out the site based on surveys and consultations. Then, the International Cooperation Department and the Wildlife and Nature Reserves Management of Sichuan Forestry Administration arranged for us to sign a five-year memo and a management agreement as well, under which we were to develop a "patrol-research-education" integrated paradigm for the station (namely monitoring by

patrol, scientific study, and nature education). The land-trust practice provides the means to bring young conservation practitioners, volunteers, and NGOs into the nature reserve mechanism for sustainable conservation.

Our cooperation entails the following efforts: 1) to carry out monitoring and to build a community-based co-management mechanism across regions; 2) to study more about adaptation to climate change and biodiversity conservation; and 3) to run the Nature School, Forest/Nature Experience, Forest Resort activities; and 4) to explore the

station's co-management model. For management we appointed the director and research fellows; our partner selected the deputy and workers. Other achievements include a 57 km<sup>2</sup> conservation area, eight fixed monitoring transects, patrols, science volunteer activities, co-planning for scientific monitoring and village resource management, and the construction of panda houses.



## Forest for Water (FW)



The use and management of water resources presents one of the most important and complex challenges we need to address in the 21<sup>st</sup> century. The forest ecosystem is widely known to be a key freshwater provider for all living things on Earth, but nevertheless we are still faced with demanding problems such as the loss and deterioration of forests, climate change, and water-borne pollution.

In the spring of 2010, one of the worst droughts in history struck much of southwestern China. We, Shan Shui Conservation Center ("Shan Shui"), a non-governmental organization committed to conservation in western China, found that many local nature reserves, though affected by the drought, managed to provide water needed to relieve the drought in the surrounding communities as part of our disaster-relief efforts in that region. This discovery led us to the special program, Forest for Water (FW), which is a series of initiatives

designed to pipe water to seven selected communities through water-source forests in five nature reserves in Yunnan. We worked with the local government and other stakeholders to carry out the program.

In the following few years, the drought persisted throughout Yunnan. Built from what we had accomplished in the first stage, FW Phase II was implemented to provide new water supplies in three villages of three nature reserves: Qiaotou of Gaoligong Mountain Nature Reserve, Bazidi of Yunlong Heavenly Lake Nature Reserve, and Ah Song of Huanglian Mountain Nature Reserve. Water supply maintenance was incorporated into the program as a way to sustain our drought relief efforts. To this end we carried out a number of activities concerning waste treatment, forest restoration, and forest co-management.



- Water channeling and purifying

We built **30** cisterns (each is **4m<sup>3</sup>**) and pipelines in the Bazidi Group, supplying water to **126** people in **30** households.

We provided water supplies to **93** households in the villager groups of Asong, Wunong, and Matong, as well as **800** teachers and students at the Qiaotou Village Primary School.

We built **34** garbage collection depots in Qiaotou Village of Yunnan and the villages of Gangri and Walong in Yushu Prefecture, Qinghai, as a way to reduce water-borne pollution.

- Water-source forest restoration

The Bazidi Group planted **2,000** willow trees along their creeks to strengthen the banks and retain the soil.

- Water-source forest conservation



Tianchi Nature Reserve and the community signed the Community-based Water Source Conservation Agreement to co-manage almost **seven** hectares of forest around the community.

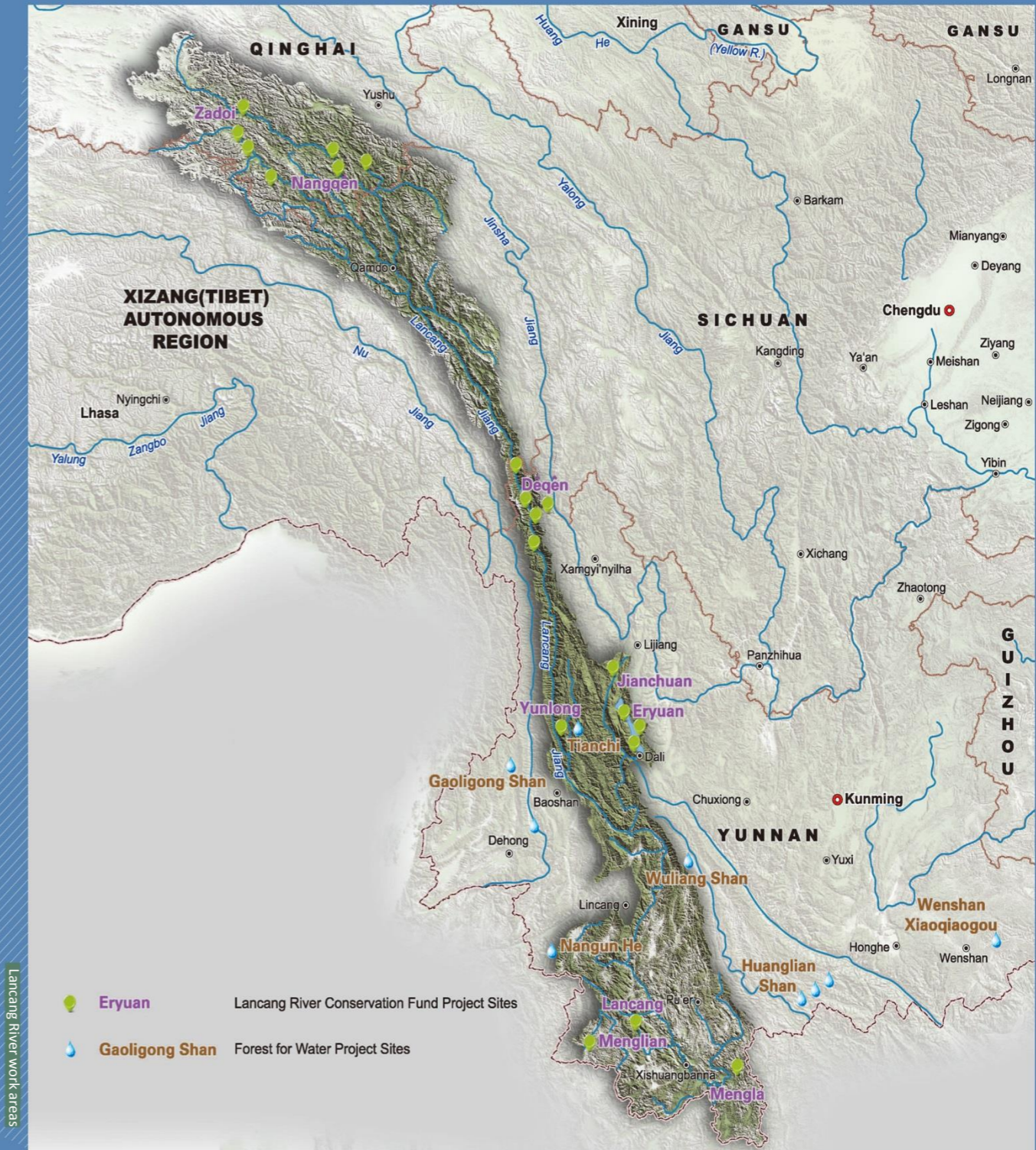
- Alternative livelihood development

We selected **five** households in Bazidi into our alternative livelihood development project to plant *Paris polyphylla*. The practice became lucrative in the first year. These households promised to promote and teach this skill.

# The Lancang River:

## The Lancang Institute

-  Eryuan: Lancang River Conservation Fund Project Sites
-  Mt. Gaoligong: Forest for Water Project Sites





The Mekong is the seventh longest river in Asia and the tenth in the world flowing through six countries from the north to the south: China, Cambodia, Laos, Myanmar, Thailand, and Vietnam. Its upper reaches in the Chinese territory are commonly known as the Lancang. This winding body of water is home to endangered animals and plants such as snow leopards, black snub-nosed monkeys, gibbons, Chinese yew, and *Parashorea chinensis*. Diverse habitats make the Lancang one of the world's most biologically diversified rivers. Rich biodiversity in this area connects a total population of over 700 million to a variety of ecosystem services, including fresh water, food, nutrition, livelihoods, adjustment of water flows and climate – natural endowments which have been disappearing at an alarming speed over the past few decades due to an unfortunate combination of the excessive exploitation of natural resources and climate change.



## The Lancang River Conservation Fund

In June 2014, Shan Shui launched the Lancang River Conservation Fund (LRCF), a grant-making program with a mission to spread the values of ecological service, to promote sustainable conservation and development, and to address environmental threats by financing the ecological and cultural diversity conservation practices of communities, educational or research institutes, non-governmental organizations/groups, and private companies.

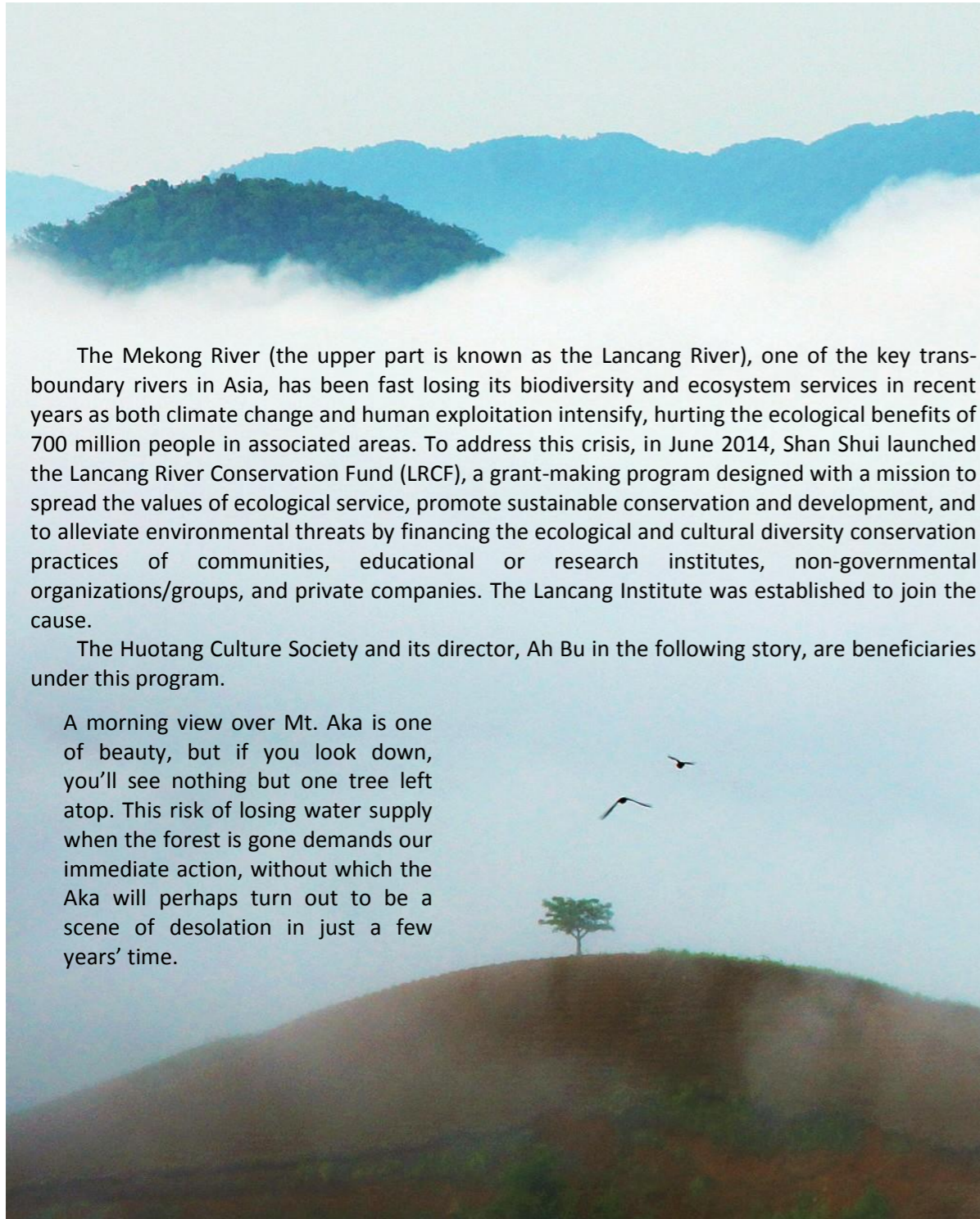
Out of 123 valid grant applications submitted throughout 2014, we accepted 16 projects (each was 50,000-200,000 yuan) and 30 smaller projects (each was no more than 50,000 yuan), totaling 2,786,000 yuan of grants for an extensive coverage which included snow leopards, primates (most notably Yunnan snub-nosed monkeys), alpine and endangered herbal plants, priority species (e.g.: *Orchidaceae*) and habitats (e.g.: the Biluo Snow-capped Mountain, the Yunlong of Deqin, the Lancang of Dali, the southern borderlands between Yunnan and Laos, and some gaps in the Sanjiangyuan National Nature Reserve). Seven beneficiaries are local newly founded non-profit organizations. Apart from financial support, we also provided training and communication networking that helped NGOs build up their institutional and conservation capacity.

## The 2014 LRCF Grant List

Project Title	Grantee (new organizations are marked in green)
Demonstration and Training in rescuing and reintroduction of Yunnan Nyssa synopsis	Key Laboratory of Rare and Endangered Forest Plants of State Forestry Administration, Yunnan Academy of Forestry
Eco-farm reforestation in Laoying Mountain in Dali	Laoying Mountain Eco-farm
Public participation of the sulfuric acid plant in Dali	Yuantou Aihaozhe Environmental Institute
Wetland conservation infrastructure construction in Dalangba Community	Shuchang Community in Yunlong County, Yunnan
Local Ecological Knowledge assessment on the wildlife resource exploitation in Northwestern Yunnan of Lancang basin	International Center for Research in Agroforestry (ICRAF)
Soil conservation and school water supply in Yunxian County	Mandao Primary School in Aihua Town, Yunxian County
Research in the decision making process and public participation of Huangdeng and Dahuaqiao Hydropower stations	Yi Tai Rui Wo(Beijing) Environmental Consulting Co.
Research and Conservation of frugivorous birds in Xishuangbanna Nature Reserve	Xishuangbanna Tropical Botanic Garden
Visitation-based public participatory conservation in Dali	Dali Good Life
Deqing Hongpo Village Endangered Medicine Plant Resource Conservation and Animal Reintroduction Project	Gerao (individual)
Survey and Conservation of Big cats in Eastern Xishuangbanna Boundary Area	Kunming Institute of Botany, CAS
Recovery of traditional waterhead forest and ecological culture of Aka People	Huotang Culture Society of Pu'er City
Western black crested gibbon Conservation in Wuliang Mountain in Jingdong County	Jingdong Western black crested gibbon conservation in Wuliang Mountain
Sustainable wetland management of Dong lake in Eryuan County	Yunnan Biodiversity Conservation Foundation
Asian Elephant human conflict community warning system	Xishuangbanna Tropical Botanic Garden
Endangered Wildlife Survey and Conservation in Meri Snow Mountain Yubeng and Mingyong Villages	Sinong Seniors Association in Yunling Township, Deqin County
Yunnan Snub-nosed Monkey Community Conserved Area Demonstration Project in Bamei Village	Baima Snow Mountain Community co-management association
Survey into the species population and habitat evaluation of Monitor lizard in Xishuangbanna	Xishuangbanna Tropical Forestry Science Academy
Zhanila Yunnan Snub-nosed Monkey Population survey in Weixi County, Yunnan	Shangrila Weixi Snub-nosed Monkey Conservation Association
Survey of Snow Leopard population in Baima Snow Mountain	Yeri Village Yongdui village group
Lahu People Endangered Medicine Plant Resource Survey and Conservation	Yang Jiuyun (individual)
Survey of firefly species and status in the Lancang River basin of Yunnan	Dong Zhiwei (individual)
Traditional Ecological Knowledge of Waterhead Forest in minorities of Lancang Watershed	Xishuangbanna Tropical Botanic Garden

Project Title	Grantee (new organizations are marked in green)
Walnut Plantations impact to Biodiversity in Dali Prefecture	Dali College
North Erhai Watershed Artificial Wetland Functions Evaluation	Institute of Eastern-Himalaya Biodiversity Research
Eryuan County Xihu Village NPS Pollution Survey and Early Intervention	Yunnan Pesticide Eco-Alternatives Center
Paphiopedilum spicerianum conservation research and education project	Xishuangbanna Tropical Botanic Garden
Yunnan snub-nosed monkey and other wildlife patrolling and conservation project	Bamei Village Taju Wildlife Conservation Association
Porphyrio porphyrio status survey and conservation in Xihu Lake in Eryuan County	Yunnan Wild Birds Association
"Through their eyes" Images School- Environmental enlightenment education project	Yunnan Through their Eyes Rural Cultural Conservation and Research Center
Biluo Snow Mountain Image Biodiversity Survey and Conservation Capacity Building Project	Images Biodiversity Expedition Ins. (IBE)
"Kawagarbo Dialogue" Forum	Shangrila Laizhe Media Co.
Conservation incentive mechanism demonstration by Women's Cooperative in Maozhuang Township, Nanqen County	Qinghai Desertification Control and Deserticulture Association
Survey into the Hydropower and Mining Development Impacts in upper Lancang River	Heng Duan Shan Society
Investigation in the ecological impacts of stray dogs on Tibetan Plateau	Gangri Neichog Research and Conservation Center
Snow Leopard Survey in Gayang Township	Gayang Township Wildlife Patrolling Group
Capacity building of civil environmental organizations in Nanqen	Nanqen Association of Youth employment and education
One drop of water, one piece of grass - Sumang Monastery Environmental Education brochure Project	Sumang Home Environmental Protection Association
Waste management and Environmental Education in Sulu Township Central Middle School	Sulu Township Central Middle School
Conservation of Jiqu branch of Lancang River in Zadoi County	Duoxiao Village, Sulu Township
Experimental Nature Education in Sahuteng Township Centre School	Sahuteng Township Centre School
Rare medicinal resource distribution survey at the source of the Lancang River	Ah Chunfeng (individual)
Environmental Protection and Wildlife conservation in the area of Guoqie Monastery	Environment Protection Group of Guoqie Monastery in Nanqen
Demonstration of Waste disposal and recycle in the source of Lancang River in Zadoi County	Jinaitan Community Service Station in Zadoi County
Contrast study of Transfer Payment Policy for Ecological Conservation in Grazing land in Tibetan areas of 4 provinces	Policy Study Group of Cadre sent to Qinghai
Chakme Sustainable Rural Livelihood of traditional handicrafts	Chakme Environment Society

# Saving Mt. Aka



The Mekong River (the upper part is known as the Lancang River), one of the key trans-boundary rivers in Asia, has been fast losing its biodiversity and ecosystem services in recent years as both climate change and human exploitation intensify, hurting the ecological benefits of 700 million people in associated areas. To address this crisis, in June 2014, Shan Shui launched the Lancang River Conservation Fund (LRCF), a grant-making program designed with a mission to spread the values of ecological service, promote sustainable conservation and development, and to alleviate environmental threats by financing the ecological and cultural diversity conservation practices of communities, educational or research institutes, non-governmental organizations/groups, and private companies. The Lancang Institute was established to join the cause.

The Huotang Culture Society and its director, Ah Bu in the following story, are beneficiaries under this program.

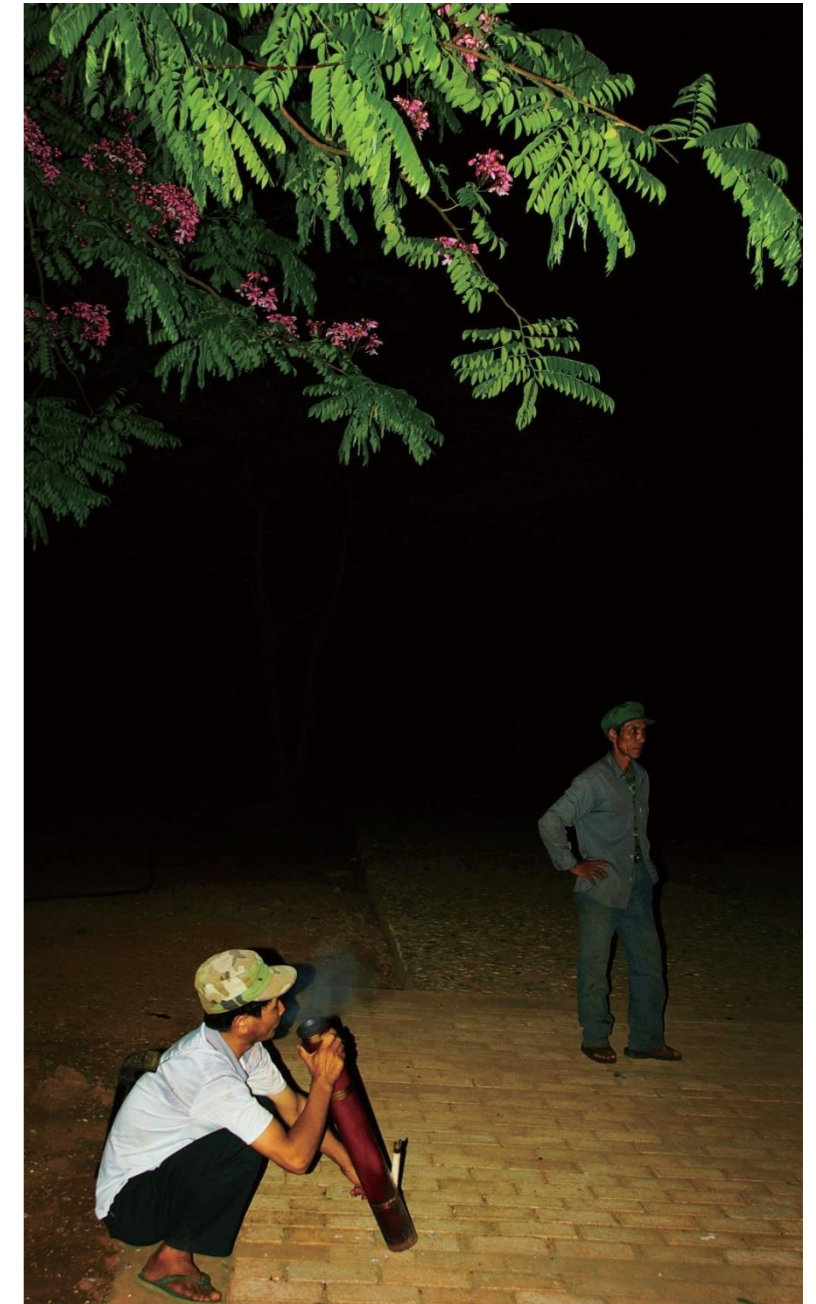
A morning view over Mt. Aka is one of beauty, but if you look down, you'll see nothing but one tree left atop. This risk of losing water supply when the forest is gone demands our immediate action, without which the Aka will perhaps turn out to be a scene of desolation in just a few years' time.

## Villages/Tribes

In Mangjiu New Village of Menglian County, Pu'er City, Yunnan, lives an Akha-Hani tribe. At a higher elevation there spreads a thick old-growth forest with good capacity to retain water. Down below is the village's farming field where domestic wastewater is conducted to irrigate a variety of crops, including corn and rice. From this terrestrial layout came a well-known saying: Trees keep the water that man needs in his field.

This Akha tribe is well structured and, as usual, contains three indispensable roles: Chief (equivalent to "head of state"), *pa jee* (an expert in ironworks), and what is known as *Tsokha*, which functions like a parliament for leadership and administration. The *Djew maa* is the spiritual leader in charge of religious activities within the tribe.

Such establishment has functioned well in deserted forestland for generations of tribal unity and governance.



Without forest, the Akha wouldn't be able to grow their food or enjoy their get-together as they do now after a day's work in the fields.

## Damage done

Minority people in the mountainous border areas of southwestern China usually practice animism. Traditionally, their worship of nature helps preserve what we call “holy land” which includes forests and water sources. A “sacred forest” can prevent corrosion, retain water, and raise soil fertility, whereas a well-protected “sacred water source” is used as a water supply in religious ceremonies.

A few years ago, a paper company started to plant fast-growing eucalyptus trees in leased fields where the Akha grew their crops. Losing their livelihood, the tribe had to cut trees at a higher elevation and planted more sugar cane, further aggravating the loss of primary forest. Consequently, the village no longer has enough water from the disappearing forest above. Their forest-village-fields structure collapsed.



The Akha have an animist culture. The question to think about is how to pass it down future generations.

## Lessons learned

Nine years ago, Ah Bu came to the Akha hill tribe in search for “lost homeland.” For years she lived and worked with the villagers. She helped them find water, made a point to preserve the cultural values of their old houses, and advocated against the local tradition of killing twin babies. She developed more insight and foresight after she founded the Huotang Culture Society (HCS) in 2014.

The HCS advocates/maintains eco-farming and conservation, upholds tradition, and spreads a sense of reverence as well as civilized conduct. What does it take to redefine “holy land”? How can the younger

generation regain a reverence for nature? What can be done to encourage conservation by restoring and inheriting the “holy land” culture? How can we draw an animist perspective to activate eco-smart saving modes and to practice conservation? These questions await the HCS to explore with young tribe members.

Ah Bu’s society delivers holy land surveys by the participatory approach, conservation areas/programs, and tree planting in the clearings. They will also build a conservation network of 19 villages at Mt. Aka and establish the Eco-Cultural Festival.



Extensive eucalyptus plantations in the place of the Akha’s farms have left a red scar of the exposed land.

What happened to Mt. Aka is only one of many cases in the southwestern mountainous areas where live the Wa, Lahu, and other peoples apart from the Akha. Before their eyes, their forests are also disappearing, traditional cultures are falling apart, younger generations are struggling in a world of competition, and their ways of living peacefully with nature being disregarded....

Faced with these crises, what are we going to do? The answer lies with Ah Bu and her team. They are certainly the hope for Mt. Aka. The young HCS is uniting more people to reveal the wisdom of hill tribes in these mountains in order to recreate a sense of reverence for nature and to help the local community tackle the global challenges of environmental deterioration.

## The Lancang River Source Tracing and Surveys



● A *Lung ta*-flying moment for the Cultural Survey Team

In July 2014, Shan Shui joined the Zadoi County government, Sanjiangyuan National Nature Reserve, Peking University Center for Nature and Society (PUCNS), IBE, SEE, and experts from the National Geomatics Center of China (NGCC) and the Chinese Academy of Sciences (CAS), in conducting a series of surveys at the source of the Lancang River in Zadoi County. These surveys allowed us to describe the conservation values and ecological status of the Lancang River source in China.

Such description is based on the findings drawn from the surveys to give an objective view.

Once we know more about this source, as made possible by the surveys, we will be able to forge a balance between all-round conservation efforts and human needs in the Lancang River basin.



● The Geological Survey Team is setting a monument at the source of the Lancang.

## The RAP in Sanjiangyuan (the Lancang River source area)

Shan Shui took three Sanjiangyuan RAP field surveys within 38 days with PUCNS, IBE, and Sanjiangyuan National Nature Reserve where 40 plus workers were engaged at some point during the surveys.

The townships of Namse and Zaqing in Zadoi County as well as Baizha Forest Farm and Juella Township in Nanqen County were targeted, covering four sub-zones of Jiangxi, Palzha, Namse, and Godsong Muzha.

Specimens were collected of 191 insect species (112 genera, 44 families). The ant survey found 12 ant species (7,037 head): two are new, three are newly recorded in China, and six are newly distributed in Qinghai. Though unsophisticated, the local ant community is significant in terms of origin, dispersal, and natural selection.

The fish survey caught six endemic and plateau adapted species: *Schizopygopsis anteroventris*, *Triplophysa microps*, *Schizothorax lissolabiabus*, *Schizothorax langtsangensis*, *Ptychobarbus kaznakovi*, and *Triplophysa stenura*, mostly *Schizothoracinae* and *Nemacheilinae*.



Sixty-nine specimens containing eight small-sized species were collected from 14 small animal quadrats.

Images Biodiversity Expedition shot more than 2,300 valid photos and nearly 100 hours of video. Seven short ads were produced as well.

The RAP Report and the IBE Report were prepared.

For the past three years the Sanjiangyuan RAP has covered ten thousand kilometers of land and led the way for substantial achievements. Dozens of new

baseline data were collected first-hand to answer the questions of what, where, and how many in terms of biodiversity in the Sanjiangyuan Conservation Experimental Zone. These results provided a solid basis on which key biodiversity zones and conservation guidelines will be further identified for the region.



# Nature Watch: A Biodiversity Information Platform

The China Nature Watch Report serves as an independent annual evaluation of conservation status in China. Based on the data Peking University and Shan Shui have disclosed over the years, this report first tries to interpret China's ecological history from the past decade and then presents the findings to the public and decision makers in the form of charts. The resulting discovery of new threatened species has led to a deeper understanding of their distribution, population, and key habitats yet outside the scope of conservation areas (major targets include poorly highlighted/recorded bird species with national first-level conservation status and IUCN CR/EN status as well as wild feline species of ecological significance). Such knowledge is instrumental in improving biodiversity conservation practices.

The Nature Watch Program also includes the Nature School, an outlet for the public to experience and learn about nature. Nature lovers and "citizen scientists" help deliver training, field surveys, nature experience and publicity campaigns. These activities can raise the public understanding and awareness of endangered species, increase public participation in their conservation, and provide more information about their distribution.



A young conservation practitioner on his routine patrol with a nature reserve worker.

# China Nature Watch 2014

China Nature Watch 2014 is a Chinese conservation status report co-published by Shan Shui, the China Birdwatching Association, and the Peking University Center for Nature and Society. Based on the data Peking University and Shan Shui have disclosed over the years, this report first tries to interpret China's ecological history from the past decade and then presents the findings to the public and decision makers in the form of charts. Its topics include the interpretation of 2000-2013 forest remote sensing data, the distribution patterns and conservation and research status of the most watched endangered species, and conservation practices inside nature reserves.

The report also found that the national conservation list only achieved a partial coverage of endangered species and needs updating in terms of distribution and population. Private studies can be a reliable force for basic data collection and conservation monitoring. In the densely populated northern areas, small population reserves based on local participation may be an effective means for conservation. It is imperative to ensure information disclosure as well as the long-term research and monitoring of both ecosystems and species.

## CHINA NATURE WATCH 2014

Released by  
Shan Shui Conservation Center  
China Birdwatching Association  
Peking University Center for Nature and Society

### FOREST CHANGE

The forest data (tree cover  $\geq 20\%$ ) used in this report is from Global Forest Watch between 2000 and 2013 ([www.gloforestwatch.org](http://www.gloforestwatch.org), Hansen/UMD/-Google/USGS/NASA), which is the only dataset accessible for public having spatial-temporal information.



Global Forest Watch is based on remote sensing.  
National Forest Inventory is published by State Forest Administration of the People's Republic of China, combining the statistical data from remote sensing image interpretation and plot measurement.  
FAO Global Forest Resources Assessment is published by Food and Agriculture Organization of the United Nations, the data source of which is from national report.

Due to the differences in definitions of the forest and statistical methods, the numeric value of these three datasets are not comparable. However, their differences in trend deserve attention and should be verified.

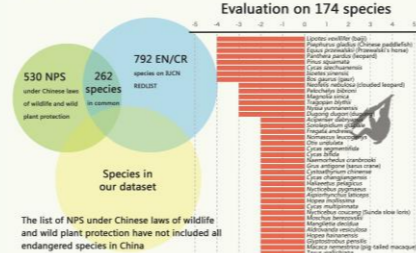


Net forest area change in each province (km²)  
Global Forest Watch (2000-2013) decreased by 61,622 km²  
National Forest Inventory (1999-2013) increased by 327,808 km²

### STATUS OF SPECIES

This report searched 9338 peer-reviewed research papers on 746 species. The list of species includes all the National Protected Species (NPS) under Chinese Law on Wildlife Protection and Regulation on Wild Plant Protection and several Endangered (EN) and Critically Endangered (CR) species on IUCN Red List.

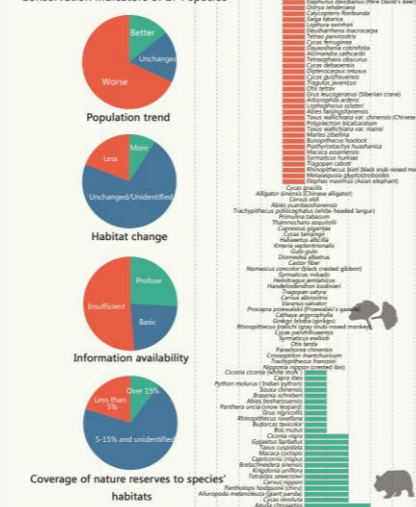
There are 174 species with necessary information could be assessed, including all the Class I NPS and a proportion of EN and CR birds. We simulated potential species distribution for 45 species and located distribution points of another 55 species that do not have enough distribution information.



The list of NPS under Chinese laws of wildlife and wild plant protection have not included all endangered species in China.

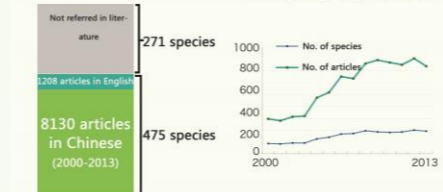


### Conservation indicators of 174 species

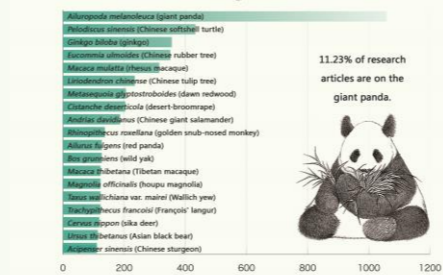


### INFORMATION COLLECTED FROM RESEARCH ARTICLES

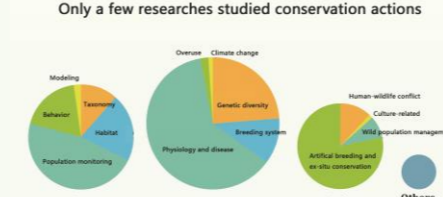
271 of 746 species are not covered by any research paper; 102 of which have not been researched since their first report in China. Research papers and number of species covered increased from 2000 to 2014, from 328 papers covered 96 species in 2000 to 822 papers covered 212 species in 2014.



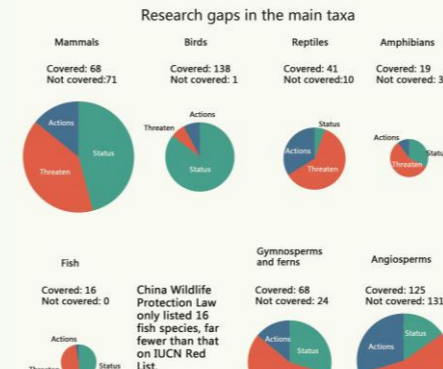
Most researches were on flagship species and those with high economic values



### Only a few researches studied conservation actions



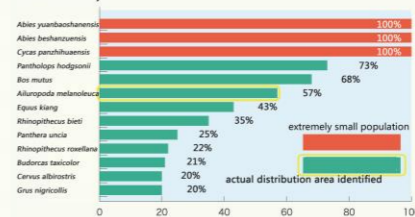
### Research gaps in the main taxa



### STATUS OF NATURE RESERVES



By the end of 2013, national nature reserves in China have covered 14.8% of the national territorial area. However, the coverage of nature reserve to forest area is lower than this.



### Most researches lie in star nature reserves



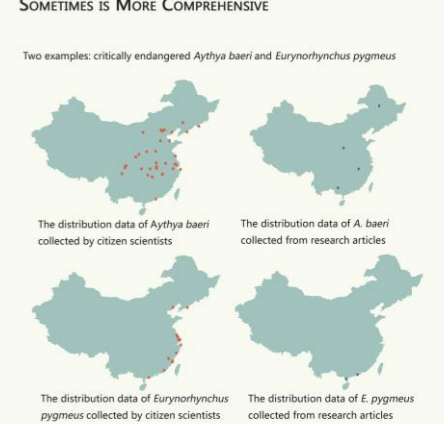
### Nature reserves play a significant role in 1/3 of all the research work



### Most of the biodiversity hotspots in eastern China are not in nature reserves.



### THE SPECIES DISTRIBUTION DATA FROM PUBLIC SOMETIMES IS MORE COMPREHENSIVE



### OUR SUGGESTIONS



### DATA SOURCES

Forest data  
Global Forest Watch Public Data (Hansen et al., 2013)  
China Cover 2000 (Wu Bingfang, 2014)  
National Forest Inventory (Statistical Yearbook)  
Nature reserves  
The Ministry of Environmental Protection

Species data:  
Published research papers in 2000-2013  
Specimen data  
The past findings by PUCNS  
Bird watch data from China Birdwatching Association since 2000  
Simulated distribution

# The Nature School

The “Nature School” project over the past three years has been committed to nature education as a means for the public to get close to nature, take part in conservation, and to find hope for a greener tomorrow.

- Delivered **7** Nature Experience activities for **98** persons.
- Built **3** Nature School bases;
- Carried out **4** types of campaigns in the nature education industry directly impacting **200** nature-education-specialized NGOs, privately owned enterprises, nature reserves, and forest farms, reaching out directly to **750** people.



● A Nature School base as part of the nature education plan at the Wanglang Nature Reserve



● The Nature School Network: The First China National Nature Education Forum



A record of science volunteer activity at Tangjiahe Nature School:

“Today we followed the nature reserve’s workers along a patrol trail that was clearly not designed for human access. We used the GPS trackers, filled out the monitoring forms, and collected animals’ poo. It is the most exciting and meaningful experience I’ve ever had!” A science volunteer joyfully shared his experience.

From October 31<sup>st</sup> to November 2<sup>nd</sup>, 11 science volunteers did their share of patrol and monitoring duties at the Baixiongping Conservation Station; Shan Shui helped build it up inside Tangjiahe National Nature Reserve. At an elevation of 1,900 meters, mornings and evenings are bitterly cold there.

The volunteers were divided into two teams supported by specialists including Tangjiahe and Shan Shui workers. They were expected to learn how to

find and identify animals along two different routes. They observed their traces along the way, filled out the patrol sheets, wrote notes, and collected worthy pieces of excrement and hairs. The team members also spent time searching for animal trails, drinking spots, and other likely areas to install infrared cameras, which would be used to record wildlife day and night for future research and conservation at Baixiongping.

It was not an easy trip. Everyone had to jump between boulders higher than a man, crawl through dense patches of bamboos, run across what appeared to be a log over a stream – sometimes they even had to step into icy cold water to get across. Fortunately, no one got hurt under professional guidance by the workers.

Exhaustion and wet trousers hadn’t dampened the least bit of team spirit by the end of the day.

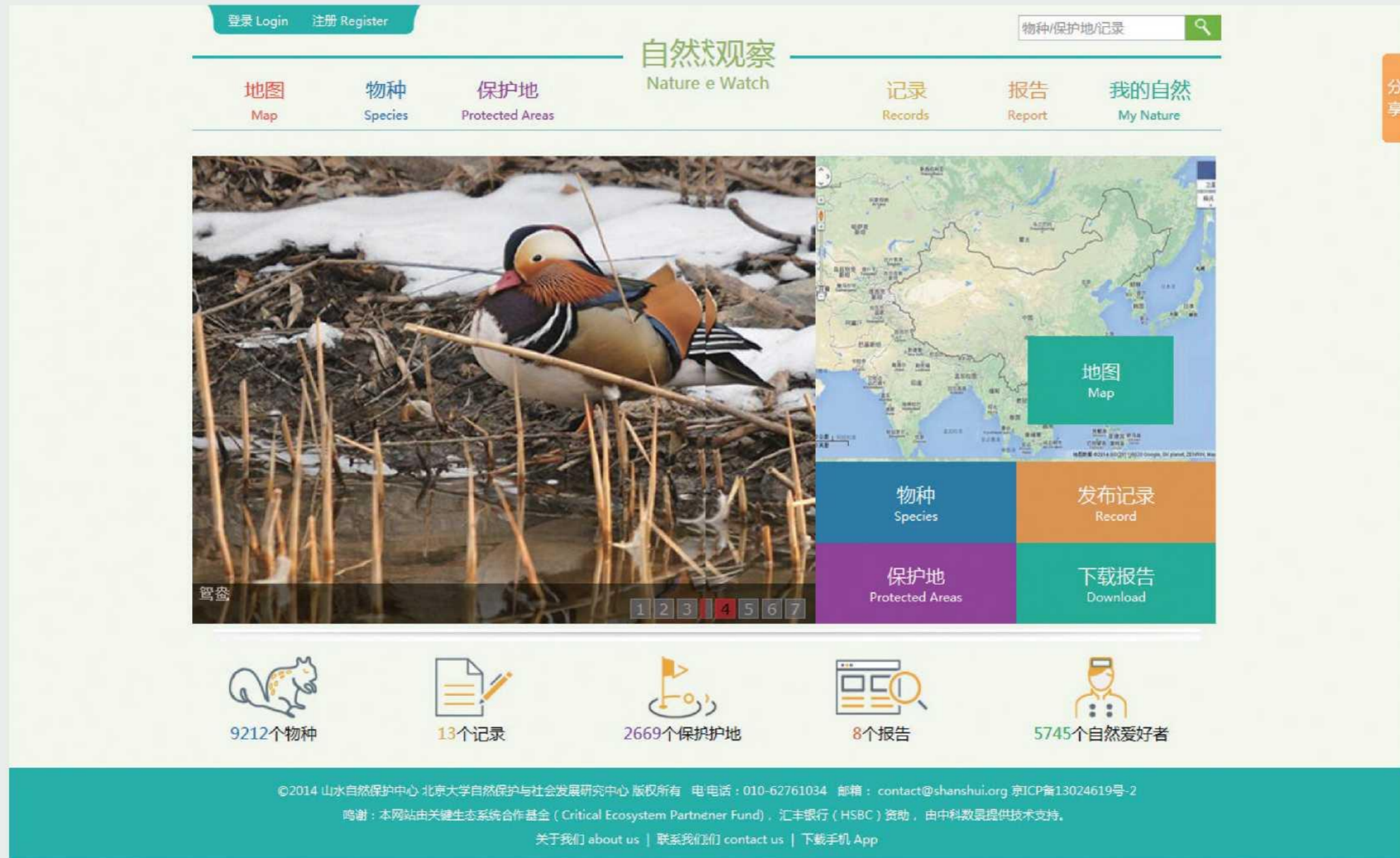


Back at the campsite that night, Team A shared the images they took of a female takin, some patrol records they made, and the specimens of some giant panda’s scent trails and hairs. Team B was even more successful. In their specimen bag one could find fresh feces from takin, goral, serow, and leopard cat. They found a willow warbler’s nest that resembled a delicate artifact hidden in the bushes. And one photo of the Temminck’s tragopan feathers strewn all over the place pointed to an unseen murder deep in the forest.

# Nature Watch Website

Hinature.cn is designed to be interactive and informative for both computer and mobile phone users. Its developers, the Peking University Center for Nature and Society and Shan Shui, built databases into Nature Watch's website to show the distribution of most national protected animals and plants that inhabit China's mainland and some endemic species as well (including all birds, some beasts, and amphibians, and reptiles). Currently running on a trial basis and supported by the Critical

Ecosystem Fund, the website will be further optimized and publicized next year. The use of the ArcGIS Server framework in its data storage management system guarantees easy extension to cover more spaces and species as required for conservation and management planning in China and neighboring countries.

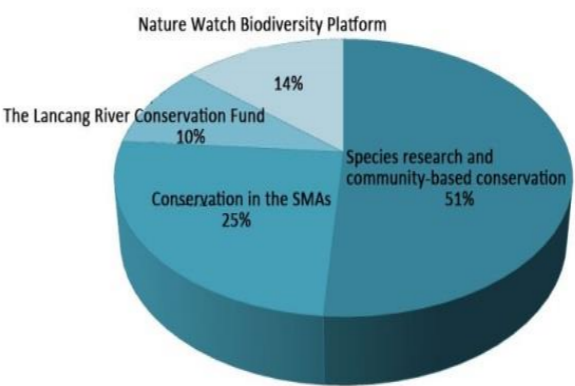


# More About Us

## Board Members

Name	Profile
Ms. Marjorie Yang Chair emer.	Chair of the Esquel Group; Member of the National Committee of the Chinese People's Political Consultative Conference; Non-official Member of the Executive Council of Hong Kong SAR; Vice President of China Association of Enterprises with Foreign Investment; advisory board member at several universities, incl. Tsinghua, Harvard, and MIT; Chair of the Board of the Hong Kong Polytechnic University; Independent Non-executive Director of Novartis, Swire Pacific Limited, and HSBC Bank Shanghai and Hong Kong; consultant of the Natural Resources Defense Council (NRDC).
Prof. Lu Zhi Chair	Founder, Director, and Chief Scientist of Shan Shui Conservation Center; Professor of Peking University (doctoral advisor), leader of Conservation Biology; Giant Panda Expert Team Chair in IUCN SSC Bear Specialist Group; Director of Conservation Biology Society; standing committee member of China Association for Science and Technology; Global Agenda Councils member of World Economic Forum.
Prof. Xu Jintao director	Professor of Peking University National School of Development, Director of China Center for Energy and Development; Executive Director and Deputy Secretary-General of China Forestry Economics Society (CFES); Deputy Director and member of the CFES Economics Committee. His interests of study include pollution control policies for industrial companies, changes in the use of rural land and GHG reduction, Chinese climate policies and international climate negotiations, forest economics, economics of water resources, urban traffic control policies, and the surveying and research of rural household behavior.
Ms. Sun Shan director	One of Shan Shui's founders. She also founded the Green Life Society, the first environmental group in her alma mater Peking University. She received her Master's degree in Environmental Studies and Public Policy from George Mason University in 1999. A few years later, in 2002, she and Lu Zhi launched the CI China Program. Currently, she manages 6.5 million US dollars of the Critical Ecosystem Partner Fund in the mountainous areas of southwestern China.
Ms. Weng Ling director	Former director of Shanghai Gallery of Art at No.3 Shanghai Bund; director of China Center; senior gallery manager and art planner.
Jennifer Lu director	Shareholder and founder of Shan Shui Partners Co.; one of our old supporters who over the years has repeatedly helped us plan and carry out fundraising dinners and activities.
Mr. Cong Zhigang director	Partner of Dingtian Zhuoyue Investment Center; management consultant of Ai You Foundation; member of Ai You Venture Philanthropy Committee; EMBA graduate from China Europe International Business School (CEIBS). Mr. Cong started his career in 1992 and accumulated a wealth of experience in business marketing, project management, and human resource management, in either directorship or senior management positions. He moved to the investment sector specializing in target company valuation and investment management. He has long been active in providing consultation and guidance for the public service sector, apart from his responsibilities as a lecture for various training requirements, including the Required Course for Secretaries-General.
Ms. Chen Haiying supervisor	Chief Representative of the Esquel Group Beijing Office. Ms. Chen graduated from Shanghai University of International Business and Economics in 1992. Then she worked in the Human Resource Development of the then Ministry of Foreign Trade and Economic Cooperation and the Chinese Consulate General in Canada.

## Expenditures



## Financial Overview:

Revenue & Expenditure (RMB)			
	Revenue	Expenditure	Balances
2013	10,649,900	11,024,600	374,700
2014	14,917,700	14,923,800	6,100

Change in Net Asset Value (RMB)			
	Beg. of yr.	End of yr.	Change
2013	10,987,300	10,779,200	208,100
2014	10,779,200	11,685,800	906,700

We are a young and professional team:

Thirty-six of us work full-time and 25 are long-term consultants, young conservation practitioners, and volunteers



● Our entire team at the 2104 Tangjiahe Annual Meeting

# We acknowledge the concerted efforts from the following partners

( In alphabetic order )

Ambassade de France en Chine

Beijing Haidian District government

Beijing Shan Shui Partners Cultural Development Co., Ltd

BMW China / CCF-BMW Warm-Heart Fund

Bridgestone (China) Investment Co., Ltd

Caixin Media Co., Ltd

Chengdu Aisi Marketization Consulting Co., Ltd

Chengdu Institute of Biology, CAS

Chengdu Urban Rivers Research Institute

China Agricultural University

China Green Foundation

China Youth Development Foundation

Chinese Academy of Social Sciences (CASS)

Coca Cola Shanghai

Conservation International (CI)

County-level Forestry Administrations in Sichuan, incl. Lixian, Maoxian, Qingchuan, Pingwu, Beichuan, Leibo, Yuexi, Ganluo, Meigu, and Zhaojue

Critical Ecosystem Partner Fund

Dr. George Schaller

Esquel Yang Yuanlong Education Foundation

FAW-VW/Audi

Ford China

Forest Public Security Bureau in Tianjun County, Qinghai

Gansu Baishuijiang National Nature Reserve Administration

Gansu Provincial Forestry Administration

Global Environment Facility Small Grants Project

Haiwen Law Firm

HSBC China

Huayi Brothers Foundation

Images Biodiversity Expedition (IBE)

Institute of Apicultural Research, Chinese Academy of Agricultural Sciences

L’Oreal China

Lanzhou University Center for Community and Biodiversity

Legal Affairs Office, Qinghai government

Liangshan Prefecture Green Earth Agricultural and Forestry Development Co., Ltd

Liz Claiborne-Art Ortenberg Foundation

MacArthur Foundation

Marong Tongge Eco-tourism Cooperative in Aba County, Sichuan

Meters/bonwe Shanghai

Mr. Shi Yuzhu and Giant Investment Group

Mr. Wu Huimin and Ms. Lu Yinghua

Mr. Xu Jintao

Ms. Wang Jing and Toread Outdoor Products Co., Ltd

Ms. Weng Ling

Ms. Yang Minde

Narada Foundation

National Geographic Air and Water Conservation Fund

National Plateau Wetlands Research Center

National Research Centre for the Studies of the Ethnic Groups of China’s South-Western Borderlands, Yunnan University

Novartis

One Foundation

Panthera Corporation

Peking University

Peking University Center for Nature and Society (PUCNS)

Qinghai CPC School

Qinghai CPC School

Qinghai Department of Environmental Protection

Qinghai Forestry Inventory and Planning Institute

Qinghai Normal University

Qinghai Sanjiangyuan Conservation Society

Qinghai Sanjiangyuan National Nature Reserve Administration

Qinghai, Datong County Forestry Administration

Research Center for Baima Mountain Culture, Yunnan Academy of Social Sciences

Sanjiangyuan Office, Qinghai Development and Reform Commission

SEE

Shaanxi Changqing National Nature Reserve Administration

Sichuan Academy of Social Sciences

Sichuan Apiculture Management Station

Sichuan Baicaopo Provincial Nature Reserve Administration

Sichuan Baishuihe National Nature Reserve Administration

Sichuan Dadu River Forestation Bureau

Sichuan Forestry Inventory and Planning Institute

Sichuan Forestry Research Institute

Sichuan Gagong Mountain National Nature Reserve Administration

Sichuan Gexigou National Nature Reserve Administration

Sichuan Giant Panda Conservation Fund

Sichuan Ma’an Mountain Provincial Nature Reserve Administration

Sichuan Mamize Provincial Nature Reserve Administration

Sichuan Provincial Forestry Administration

Sichuan Shenguo Zhuang Provincial Nature Reserve Administration

Sichuan Tangjiahe National Nature Reserve Administration

Sichuan University

Sichuan Wanglang National Nature Reserve Administration

Sichuan Wolong National Nature Reserve Administration

Sichuan Yele Provincial Nature Reserve Administration

Snow Leopard Trust

State Forestry Administration

Symantec Beijing

Taobao Software (China) Co., Ltd

The Embassy of Canada to China / Canada Fund

The Environmental Protection and Forestry Bureau of Henan County, Qinghai

The Forestry Administration of Liangshan Prefecture, Sichuan

The government and CPC Committee of Haxiu Township, Yushu City, Qinghai

The government and CPC Committee of Soja Township, Zhidui County, Qinghai

The government and CPC Committee of Yushu Prefecture, Qinghai

The government of Nanqen County, Qinghai

The government of Yushu Prefecture, Qinghai

The government of Zadoi County, Qinghai

The government of Zhaqing Township, Zadoi County, Qinghai

The Ministry of Environmental Protection

The Nature Conservancy (TNC)

The Wetlands Administration of Eryuan County, Dali Prefecture, Yunnan

Tianjin TV

Travel Channel Media Co., Ltd

UNDP

UNESCO

US National Science Foundation (NSF) / Michigan State University

Wenxian Green Motianling Conservation Society

Ya’an Rural Photography Association

Ya’an World Heritage Management Office

Yachang Culture Group

Yunnan Gaoligong Mountain Nature Reserve Administration

Yunnan Huanglian Mountain Nature Reserve Administration

Yunnan Kawagarbo Cultural Society

Yunnan Provincial Forestry Administration

Yunnan Wetlands Office

Yunnan Yunlong Tianchi Nature Reserve Administration