



山水自然保护中心  
SHANSHUI Conservation Center

# 山水

**SHAN SHUI Conservation Center**

**2016 Annual Report**

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© The collared owlet / photo by Gao Xiangyu

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A misty, mountainous landscape with birds flying in the foreground. The scene is atmospheric, with soft light filtering through the clouds and mist. Several birds are captured in flight, their silhouettes contrasting against the lighter sky. The mountains in the background are rugged and partially obscured by the low-hanging clouds.

# Foreword

The year 2016 ended as a year of action for NGOs in China. The Charity Law and the Law on Administration of Activities of Overseas Nongovernmental Organizations in Mainland China have been enacted to provide what was long needed in philanthropic practices. The amendment to the Wildlife Protection Law governs wildlife habitat conservation and holds official negligence accountable.

Obviously, these changes are part of China's effort to pursue governance by the rule of law, a social ecology faced by environmental NGOs like Shan Shui in their pursuit of eco-equity.

On the other hand, sustainable development still remains a concern within the international community. In September 2016, four Shan Shui representatives attended the IUCN World Conservation Congress in Hawaii. Now standing on the global stage, we may feel somewhat relieved at times but nevertheless are humbled by the great tasks ahead, as always is the case since we came together as a team in 2007.


With goals set toward eco-equity, we are committed to establishing balances between man and nature, tradition and modernity, and bottom-up and top-down measures. It is our mission to "create ecological values and save Mother Nature." Our activities and programs all reflect major topics being discussed on a global scale, particularly those about conservation of species, forests, and water resources, climate change, and further participation in the community-based co-management mechanism; we have even managed to assume a leading position in various realms of conservation both in China and abroad.

As early as 30 years ago, our founding team set out to save what remained of the natural world in China, leaving the ivory tower and heading toward the Qinling and Hengduan Mountains, where the most beautiful temperate forests grow. These lands are internationally recognized hot spots of biodiversity. They also serve as home to giant pandas, an icon of all Chinese species, and as the only shelter for many endemic species in China.

In 2016, our earliest conservation project in the southwestern mountain areas helped bring forth the first community-based protected area in Sichuan that was provided with government endorsement, a clear management plan, and a governance mechanism. Endogenous mechanisms that emerged in the long years of practicing the community-based management and sustainable use of natural resources are a significant measure connecting high policy to grassroots operation. We have already begun working with our partners to scale it up for watershed conservation.

In 2009, we launched a Sanjiangyuan community-based conservation program under which the snow leopard was identified as the flagship species. Sanjiangyuan, the source of three major rivers, is one of the few borderlands left relatively undeveloped on earth. With government-funded infrastructure,



The background of the page is a traditional Chinese ink wash painting. It depicts a misty mountain landscape. In the upper left, a waterfall cascades down a rocky cliff. The middle ground is filled with dense, dark, silhouetted trees and rocks, partially obscured by thick, white mist or smoke that rises from the bottom. The lower part of the painting shows more misty ground and some distant, smaller peaks. The overall style is atmospheric and serene, typical of classical Chinese landscape art.

however, not all pasture management practices are seen positive in terms of local biodiversity and communities. We guide local farmers and herders through our patrolling, monitoring, and waste treatment projects in a way that respects local, traditional cultures. These all are the first step to natural resource management. Many experiences can be traced back to what we have done in the southwestern mountain areas, but nevertheless are able to produce different solutions to social and financial problems in new contexts.

In 2016, Sanjiangyuan was the first to be brought under China's new administrative system of national parks and was completed with a body of professional management. Our rich experience with Sanjiangyuan, particularly in locals-based conservation, is reflected in future management practices for this national park system. Eco-tourism, pasture management, and other topics on sustainable development are increasingly embodied in our strategies and activities. The experience with small watersheds in the southwestern mountain areas may be quickly extended to a larger and broader scale of practice in near future.

In early 2014, the Nature Watch program was launched as proposed by Shan Shui's founder Prof. Lu Zhi. This was an all-round effort to take stock of endangered species, ecosystems, and present states of protected areas in China. Afterwards, Nature Watch initiated the volunteer scientists' biodiversity monitoring project and involved database/app development.

In 2016, we mapped out the distribution of over a thousand species, including birds, reptiles, amphibians, and higher plants, and identified more and border-clearer conservation priority zones based on the distribution of threatened species across China. We were able to do this through various outlets, including a series of species surveys collaboratively carried out by several citizen groups and the "Nature Watch Festival." Hopefully, the Nature Watch results will be used as evidence to support NGOs in filing public interest litigation, a measure to restrain or even punish activities that are harmful to nature.

When faced with every conservation priority zone mapped out in Nature Watch, we have a sense of urgency: Many parcels of land scatter amidst dense human populations, providing shelter for species whose populations can only amount to three or even two digits around the world. This is a situation unheard-of back in the days when the giant panda and the Tibetan antelope started to take their roles as China's front-runners in conservation, a situation in which action or calls for action are now much needed to address the impacts of urbanization and to restore habitats. Community participation is essential to the maintenance of natural resources and habitats.

In 2016, Nature Watch was no longer a data-collecting program. It had impact on strategies in the same field or even on some decisions in the political arena. Nature Watch will go beyond nature itself in the future. No longer is there a barrier between ecology and economy in the worlds of nature and human civilization. A focus on "the community of shared life" should be the starting point for all conservation planning and action.

For many years, we have aimed to do "small things" at the grassroots level without any regret or resignation. But as our name, *Shan* (mountain) *Shui* (water) implies, there are simple and yet much bigger territories for us to explore, and they can open up to infinite possibilities when we do.

## ● Ten-Year Milestones

**2007**

Shan Shui was born;  
  
Set up the Community Conservation Fund for community-based biodiversity conservation in mountain areas of southwestern China.

**2009**

Conducted conservation-based studies on snow leopards as flagship species with PKU Center for Nature and Society.

**2011**

Practiced community-based conservation in giant panda habitats; marketed "Panda Honey," an eco-equity product.

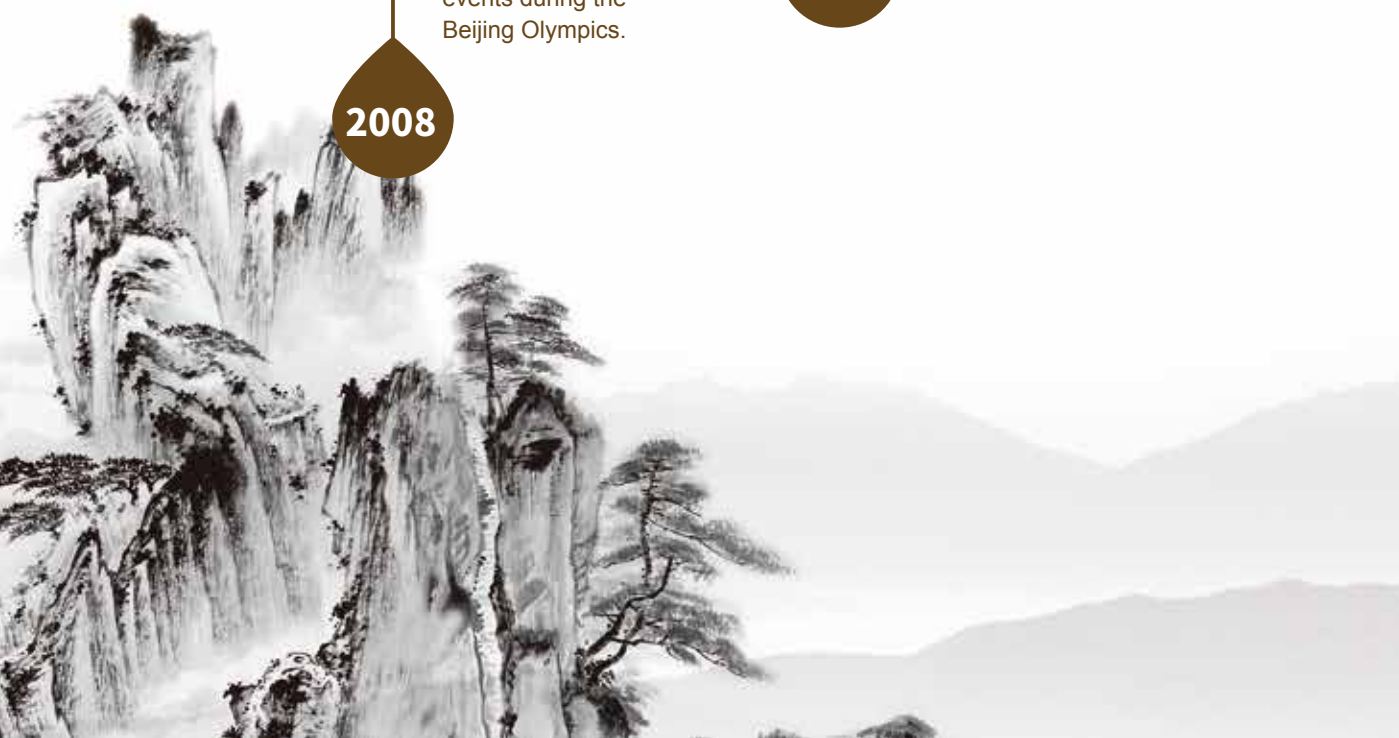
**2008**

Held "For Our Natural Splendor" public events during the Beijing Olympics.

**2010**

One of the first to offer earthquake relief in Yushu;

Prepared for conservation and studies in Sanjiangyuan.



**2012**

Launched Sanjiangyuan Nature Guardians Program with partners.

**2014**

Officially launched the Lancang River Conservation Fund to involve local groups, communities, and the public by means of grants and technical support.

**2016**

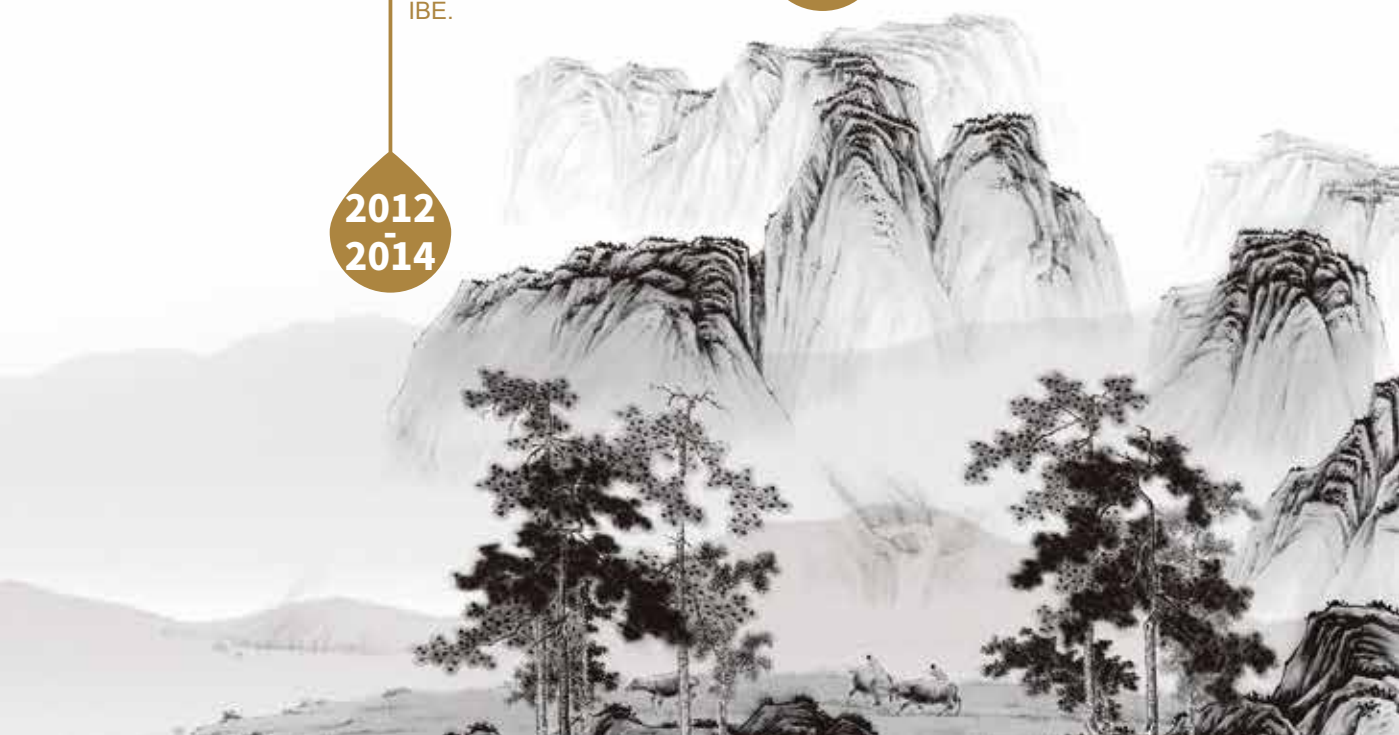
Started Beijing Wetland Restoration Project, piloted it in Haidian Cuihu Wetland Park and Little Donkey Farm.

**2012  
2014**

Conducted the RAP in Sanjiangyuan with PKU, Sanjiangyuan Reserve, SEE, and IBE.

**2015**

Released China Nature Watch 2014, developed website and mobile phone app for this program.



## ● Director's Message



Mr. Zheng Yisheng,  
Acting Chair

Shan Shui has been progressing over the past ten years. Her power in ecological research has grown to involve the overall examination and evaluation of ecosystems in China. Her rural community-based teams have long contributed in ecologically sensitive areas. For these “base areas,” more work is being done to make them stronger. As an environmental NGO focusing on spontaneous action, Shan Shui aims to do what is generally considered not so easy and slow to produce results. It would be very difficult to happily persist without high aspiration and strong will, I presume. But what I see in Shan Shui people are young souls full of sharp passion. Many years have passed and this impression still lingers in my mind. Or is there something, anything, I might have overlooked?

Anyways, I admire the young friends in Shan Shui, but I have a piece of advice to offer: The biggest regret is not having enough courage to be an outperformer today.



Ms. Sun Shan,  
director

Ten years is the stretch of time that Shan Shui took to become one of the long-standing environmental NGOs in China.

In that role, we are proud of all the footsteps we took in the past ten years, because the positions and voices we made with our partners have gradually turned far-flung concepts like “southwestern mountain areas,” “Sanjiangyuan,” “snow leopard,” and “community based conservation” into images and stories with which the Chinese nation and the rest of the world are familiar.

The ten years Shan Shui spent as an NGO are embodied by its relentless pursuit of professionalism and expertise. She has grown into a fine example of sound NGO development in China. As a member of the Chinese society, we increasingly feel humbled by environmental and conservation tasks ahead, pleased with wider social recognition, and hopeful to have new visions emerging from our long persistent work.

We owe a great debt to the founder of Shan Shui, the directors and supervisors, consultants, financiers, competent authorities, workers who have left or stayed, and an increasing number of partners, supporters, and sympathizers.

I hope you will continue to walk the miles with us in the next decade. For ten years really is just a beginning.



Mr. Cong Zhigang,  
director

A ten-year journey ended. Everyone in Shan Shui has walked out of “an infinite haze of cloud and sea” and into “a glimmer of light cast by a lone boat on the river.”

The landscape of “a thousand mountains without a bird” finally gave way to a view that shows “flocks of birds fly high out of sight.” I always believe that environmentalism means more than species’s survival, green mountains, and clean rivers. It also involves taking action across generations and terrains, unifying beautiful visions about time and space, and never stopping mid-way.

Time and space makes up the world we came to know and should keep as it is: All “residents” live and thrive in harmony. May the next decade be a boundless journey across vast expanses of “mountain” and “water.”





Prof. Xu Zhihong,  
senior consultant

祝贺《山水》十年

守护自然家园

留住绿水青山

Congratulate Shan Shui

On safeguarding Mother Nature

On preserving the green and the blue

In the past ten years of her life.

许智宏  
2017.3.22



Ms. Marjorie Yang,  
Chair Emeritus

From toddling around to learning to fly on its own, Shan Shui's growth is pleasantly noteworthy. It's a joy to see her outstanding efforts across China over the past decade—in the southwestern mountain areas, in Sanjiangyuan, in local communities.

Shan Shui has a big heart. She engages a group of aspiring, energetic, passionate, and creative young people who, I hope, will not give up or cringe at even more environmental challenges in China, and who will contribute more distinctively on the path laid down by the founder Prof. Lu Zhi. May Shan Shui grow stronger as an environmental force in the beautiful land which we call home.

杨敏德



Prof. Lu Zhi,  
founder

Ten years already!

Whenever I look back, the first thing that comes to my mind is our friends who have trekked, laughed, and cried with us. They are our colleagues, local folks, NGO partners, and people from all walks of life. I feel proud and blessed to be around with these kind and true souls.

Over the past decade Shan Shui has received many great contributions and has witnessed many achievements as well. Be it a decision to leave or to stay, every one of us holds Shan Shui dear in our hearts because it's a course of unforgettable personal experiences and a sequence of personal career and life choices that shaped Shan Shui into what it is today.

How can we determine the quality of an NGO? Not by its finances or popularity. The true value of an NGO is how it seeks change, how it breaks rules and innovates, to make the world a better place. Is this something Shan Shui has accomplished? Ten years may be too short a time span to answer this question, but it'd be wrong to stop seeking the answer, for it's really easy to lose our way when pressed hard for survival in the real world.

I'm pleased to see how young people grow up to be a new generation of leaders taking on responsibilities on their own. This transition, which started over two years ago, has been complete for the most part. A different, young Shan Shui holds more for us all to anticipate in years to come.

吕植

# » Shan Shui 2016

## ①--> Sanjiangyuan Nature Guardians Program

Based on our experience of the past decade, we made room for policy advocacy in agendas like the establishment of the Lancang headwater area inside Sanjiangyuan National Park, snow leopard research and conservation, wildlife conservation in Yushu, and the establishment of general demo areas for community development. Under the RAP program mostly conducted by 120 local herders trained in Sanjiangyuan, nearly 150 camera traps were set up and for the first time evidence was found that the habitat of the snow leopard population overlaps with that of the leopard population in the eastern part of the Qinghai-Tibet Plateau and that the latter can breed locally.

## ②--> Upper Yangtze Forest Conservation Project

The following is what we have done under this project in 2016: Sped up the detailing of collectively-owned non-commercial forest management and operational procedures in Baishuijiang Nature Reserve; filmed four PSAs entitled Forest and Water; drafted the Liziba Low-Carbon Village Plan, the Xiong'er Village Forest Sustainable Operation Plan, and the Guanba Community-based Protected Area Management Plan; and carried out training for 500 partners and community members.

## ③--> Lancang River Conservation Fund

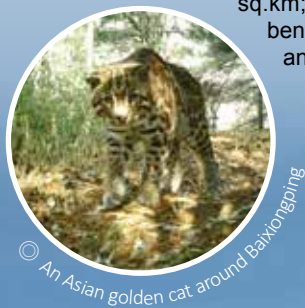
In Phase II of this Lancang River project for 2015-2016, we received 58 applications, 17 of which were accepted involving the conservation of the black crested gibbon, sleeper orchid, wetlands, and other species and ecosystems. In April 2016, images of the living zibet and the living lesser mouse-deer were captured for the first time at the project sites in Yunnan.

## ④--> Nature Watch

A series of public events and surveys on endangered species, including animals, birds, and plants, were conducted across China in collaboration with other organizations. The Nature Watch website (<http://china-naturewatch.org>) and its mobile phone app have been revised and put into service. The website gives access to the specifics of 45,698 species and information about 2,674 protected areas. It already has 225 registered visitors and 143 Nature Watch records.

## ⑤--> Shan Shui Baixiongping Land-Trust Conservation Station in Tangjiahe

Conservation-based research, environmental advocacy, and nature education were conducted in 2016 on the basis of previous patrol and monitoring work at the Baixiongping Conservation Station. Eighty-two camera traps were set up within a radius of 57 sq.km; 51 people volunteered, and over 50 people benefited from tech exchange and training inside and around the nature reserve.



## ⑥--> International Nature Watch Festival

The First International Nature Watch Festival was held in August 2016 in the headwater area of the Lancang River: Namsee Great Valley of Qinghai. Welcoming 14 teams to experience national parks, this event promoted public participation as a way to support the construction of the Sanjiangyuan National Park.

## ⑦--> Volunteer science at Longbao Wetlands for black-necked Crane Conservation

At the Longbao Wetlands of Qinghai, 23 volunteer scientists were recruited to help evaluate threats to the black-necked crane. More than 300 valid reproduction behavioral samples were collected by instantaneous scanning during the breeding season.



© The black-necked crane / photo Dong Lei

## ⑧--> Xinjiang-Tianshan Snow Leopard China Forum

On August 24-26, 2016, the First Workshop on Xinjiang-Tianshan Snow Leopard Conservation and Management Action and Second Snow Leopard China Forum, was held in the beautiful Tianshan Grand Canyon in Urumqi, Xinjiang, to issue the Snow Leopard Research and Monitoring Technical Guide and to promote non-governmental conservation of the species, among other agendas.

## ⑨--> Contributions on the 99 Public Service Day

During the 99 Public Service Day celebrations, 6 of the projects we initiated received great support from 13,388 netizens, who donated an online total of 188,191.84 RMB, in addition to donations of 47,509.61 RMB from Lianjia (an Ai You Foundation associated company), DiDi (the Chinese equivalent of Uber), and Focus Media. Tencent raised 46,199.32 RMB on its donating website as well.

## ⑩--> A springtime appreciation banquet

In April 2016, Shan Shui held a springtime appreciation banquet where we reviewed the studies and conservation work of 2015 and where community members shared conservation front-line stories. This marked the beginning of Shan Shui 2.0. At the meeting our founder Prof. Lu Zhi also addressed to the new generation of Shan Shui's management alerting them to what needs to be done.

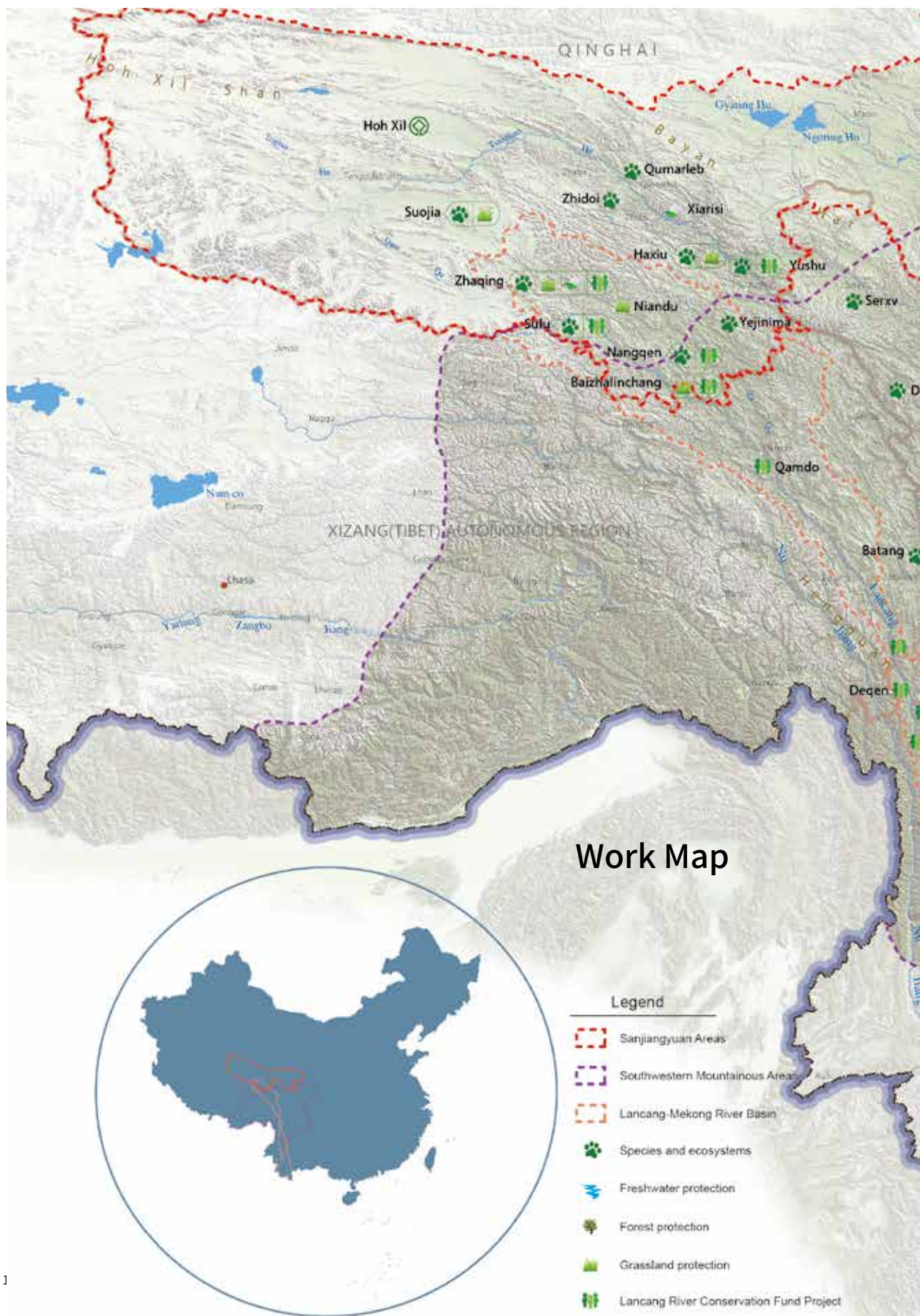
For nine years we have marched, chins up, through the long journey of conservation. We wouldn't have made it this far without your support and approval, and we hope to have your encouragement and company, as before, on the more challenging road ahead.



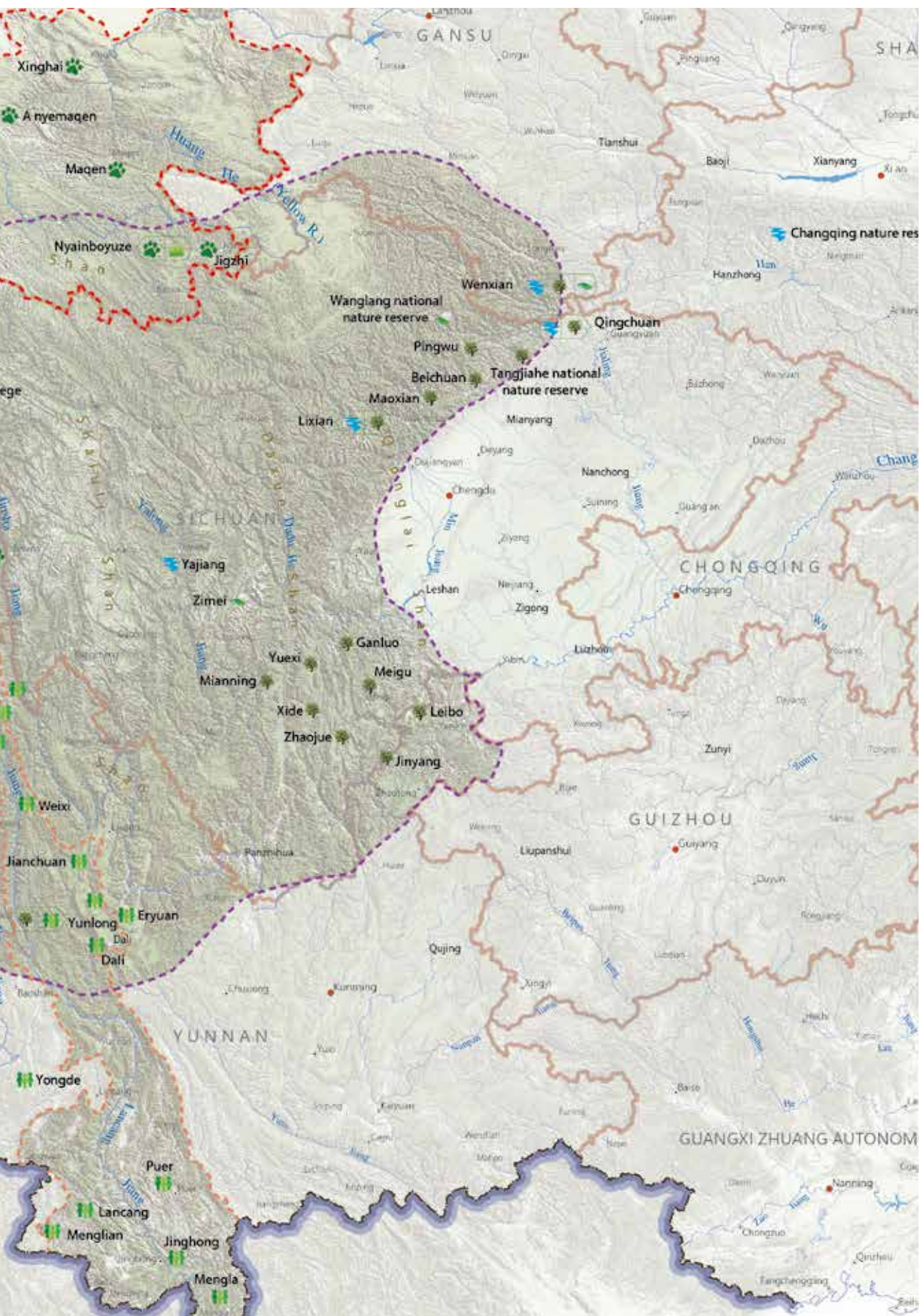
© Lu's address at the thank-you meeting 2016













# Fellowship | Conservation Research

Nature Watch

Natural Heritage Conservation

Conservation-based Research

Conservation Story: Why Should We Care for Stray Tibetan Dogs?





# Nature Watch

We launched the Nature Watch program in 2014 aiming to examine local biodiversity data and evaluate conservation outcomes. Collected from such examination and evaluation, these data can be used to build biodiversity databases and to guide policy-making and conservation investment. The program also helps promote public participation in observing and preserving nature.

Since Nature Watch species surveys started at the end of 2015, we have conducted specifically designed investigations on endangered species, including animals, birds, and plants, in collaboration with PKU Center for Nature and Society, CFCA, China Birdwatching Association, Wilderness Xinjiang, and Shanghai Chenshan Botanical Garden. We also provided various outlets for public participation, including plant lovers' class and the Nature Watch Festival, in an effort to further empower the network of volunteer scientists who love nature.

In 2016, a fully revised Nature Watch website (<http://chinanaturewatch.org>), along with its mobile phone app, came into service, allowing visitors to search the locations of species or protected areas and providing predictive distribution charts. It also contains user-friendly biodiversity databases covering most of the protected species in mainland China as well as some endemic species and protected areas. It is designed so that scientists, volunteer scientists, and nature lovers can record, manage, and share their field observations. Since then, the website has been developed to include 45,698 species, 141 Nature Watch records, 2,674 protected areas, 10 reports, and 215 registered users.

In 2017, the website will continue to provide new data from species surveys. The data layers, along with species and protected area databases, will be optimized to provide a basis on which more scientific predictions of investigated species, greater popularity, and more public participation can be achieved. What we will do next is to work with professional conservation groups and carry out more activities with volunteer scientists in a way that allows these databases to unite more nature lovers in China.

© A public participation activity designed to promote biodiversity conservation





## Natural Heritage Conservation

Hoh Xil is located in the interior of the Qinghai-Tibet Plateau and, around 4,700 meters AMSL, is one of the few areas in China and even around the world that show little trace of human habitation. Its ecosystems are unique as a result. Over one third of the higher plants found in this area are endemic to the plateau. All the herbivorous mammals that feed on these plants are endemic as well. Rarely disturbed by humans, Hoh Xil has been the “last shelter” for large endemic mammals, offering protection throughout the life of the Tibetan antelope, an endangered species endemic to the Qinghai-Tibet Plateau. Alpine steppe and alpine meadows around major lakes within the area are known Tibetan antelope breeding sites. Every summer, tens of thousands of Tibetan antelopes come here from Sanjiangyuan, Changtang, and the Altun Mountains to give birth. The entirety of a Tibetan antelope migration route runs across Hoh Xil from Sanjiangyuan. This pathway traverses the Qinghai-Tibet Highway and Railway and remains one of the toughest and, therefore, the most highly protected routes known for Tibetan antelope migration. Hoh Xil also shelters nearly half of the world’s wild yak population. This area is currently under rigorous protection but is still being threatened by climate change, foreign species invasion, and human interference, among other threats.

In 2014, the Qinghai government officially started the process of having Hoh Xil recognized as a World Heritage Site. Since then, we have worked with Peking University (PKU), the China Academy of Urban Planning & Design (CAUPD), and the Chinese Academy of Sciences (CAS) Northwest Institute of Plateau Biology in the application and planning procedures. Since 2015 we have conducted multiple resource surveys and field trips in Hoh Xil and have finished drafting the World Heritage application text, the corresponding management plan, and other required documents. The official submission to the UNESCO World Heritage Centre took place on January 30, 2016. The nominated property of Qinghai Hoh Xil, the only candidate the Chinese government submitted in 2016, will be voted in the 41th World Heritage Convention in 2017.



© Tibetan antelopes crossing the road





## Conservation-based Research

### 1. Study of snow leopard landscape genetics

Based on population genetics and molecular biology, this study examines the DNA derived from snow leopard feces to estimate the number of individuals, the effective population size, the gender ratio, the activity area, and the genetic structure of the population. The study also aims to decide if there is any habitat fragmentation and genetic isolation among the Sanjiangyuan population and other populations nearby.

The study has found that major food sources for snow leopards in this area are blue sheep (48%) and marmot (42%) and for the first time discovered snow leopards feeding on white-flipped deer (6%). Only a small percentage of

domestic animals (4%) was observed falling prey to snow leopards.

In 2017, we will move on to population studies by conducting more sampling tests to identify the sampled species and their feeding habits and to set apart snow leopard individuals. In the meantime, we will set up genetic archives for each snow leopard found at each project site.

### 2. Quantitative study of the relationship between snow leopards and blue sheep

Seven quadrats were identified ranging from the lowest to highest grazing pressure in Sanjiangyuan to examine the impact of environmental and livestock grazing factors on the blue sheep density distribution. The predication of key snow leopard habitats with prey impact was



also involved. A livestock density model was created to provide a basis on which the impact of the caterpillar fungus trade on livestock density was reported.

### **3. Study of traditional Tibetan culture and biodiversity conservation in Sanjiangyuan**

Traditional Tibetan culture has a profusion of ecological knowledge and environmentally friendly concepts. Under its influence, Tibetan people care about the environment and act to protect nature. This study aims to further discuss how these cultural influences can be applied to conservation practice. Holy mountains are areas supporting dense wildlife activity because of their geological features, such as higher elevation, more bare rock, greater terrain variety, and less human interference as a result of religious taboos.

In 2016, we conducted biodiversity monitoring using camera traps at five holy mountains and surrounding areas in Zadoi County and compared the data with 2015.

Based on what we learned about holy mountains from community leaders in 2015, we designed questionnaires for the general herding population, finding what they know and think about holy mountains, how much they participate in preserving these mountains, and how they see wildlife, among other factors. These investigations also considered how the respondents feel about climate change and what they do in response. The surveys in Zaqing and Namsee Townships of Zadoi County are completed.

More communities will be investigated in 2017. In addition to Zadoi, we are planning to investigate three or four sites in the counties of Yushu and Nangqen as well as in the prefecture of Golog. By doing this we will be able to gain a full understanding of the traditional culture across Sanjiangyuan and provide training for local skilled interviewers.

### **4. Study of stray dog ecology in Sanjiangyuan and its impact on**

### **snow leopards**

This study examines the negative impact of stray dogs on snow leopards in plateau areas of Qinghai and Tibet.

Eighty-samples of dog feces have been collected to identify their diets. Six stray dogs have been put on GPS collars to find their home ranges. Two of the collars have been retrieved for analysis. Fifty-three dogs have been physically measured and data collected of stray dog populations at three temples. Eleven camera traps have been placed to keep track of activity rhythms of wild animals and dogs. Interviews are complete of 21 households in the vicinity. Hopefully, this study will soon produce full data on stray dogs in Tibetan areas and pin down locations appropriate for sterilization tests.

### **5. Study of carnivorous animal ecology in forest ecosystems of southwestern China**

Supported by the Baixiongping Conservation Station, we closely examined carnivores in the forest ecosystem in southwestern China, mostly in Tangjiahe National Nature Reserve. Our investigations fed new data into the studies of Ursidae, Mustelidae, Felidae, and Viverridae ecologies and shed light on the ecologies of the Asian golden cat and other mid-sized carnivores little known for their high ecological value. We also studied how domestic activities, such as beekeeping and dog raising, affect the ecology in protected areas and what mitigating measures can be taken in response. The study involved an in- depth investigation of the fact that local large herbivores became overpopulated as a result of insufficient populations of top carnivores and discussed possible solutions.





## Why Should We Care for Stray Tibetan Dogs?

“Prince Ah Chu turned into a dog when he stole the seed of highland barley from the villainous Snake King. Then he carried the seed all the way back to his homeland. The plateau has since been blessed with bountiful harvests of barley. Tradition thus goes that after every harvest, fresh barley flour would be made into a bowl of tsampa to feed the dog as a gesture of gratitude and reward.”

—*The Origin of Highland Barley Seeds*

All of a sudden Yellow Master dashed over. Then came round after round of defending, striking back, and worrying. Finally, he lost his ground. The next second charged Black Knight. After a fit of worrying, another sharp pain, and the last ounce of energy, he was finally forced to retreat...

What you read just now is not a breath-taking scene in one of Gu Long's *kung fu* novels. It is a fight that may break out any minute between snow leopards and stray dogs in Tibetan areas.

Nicknamed “the roof of the world,” the Qinghai-Tibet Plateau boasts a great variety of endangered wildlife and protected habitats. But problems keep

arising as a result of human activity. Dogs left wandering in the wilderness have become one of such attention-drawing problems in recent years.

The cause of this problem, namely the increasing number of dogs abandoned on the Qinghai-Tibet Plateau, lies with the ups and downs

© A dog-leopard fight / photo by a local herder at the Tashi Lhapu Monastery





of the Tibetan mastiff trade.

For many local people, the Tibetan mastiff is a spiritual symbol. As early as 2,000 years ago, this dog breed began to be used by humans to protect their livestock and tents, and was thus regarded as a cherished friend and family member among nomads. But raising and taming Tibetan mastiffs was so costly that only monks, serf owners, and other higher classes of people could afford. For a long time the general public had been banned from the trade in Tibetan mastiffs, a luxury to own. Their number, therefore, remained low until the end of the serfdom.

### **The Dramatic Rise of the Tibetan Mastiff Trade**

At the turn of the 21st century, the newly founded Tibetan Mastiff Association let the outside world know good things about this pet. Another fact that the rare, magnificent, and vicious Tibetan mastiff is highly competitive in races and games added fuel to the rating of its popularity as a symbol of identity, apart from celebrity ads. A huge market thus emerged for this animal in China. In the past 30 years, the market value of one Tibetan mastiff rose dramatically, from a few hundred yuan to a hundred thousand yuan in 2005 and even to eight digits at the peak.

This drastic increase in monetary value drove the Tibetan mastiff breeding business up to the fast lane of growth. Tibetan mastiff kennels emerged all over China. The Plateau led the way as the rightful birthplace of the animal. A story went viral in the Tibetan Autonomous Prefecture of Yushu (Cai, 2015): A beggar would begin to enjoy the prime of his life when he raised Tibetan mastiffs for someone and was given one to keep as his own.

### **The Rapid Decline of the Tibetan Mastiff Trade**

A few years of intensified breeding led to a sharp increase in the number of Tibetan mastiffs—

too large a size for the market to consume. The “dog control” policy, dog attacks, and capital withdrawals all contributed to the decline of the business and dragged down its economic value. Since 2012, the trade has been struggling; the overpriced Tibetan mastiffs were reduced to something you would find in a hot pot. A dog can easily end up homeless if it has lost favor to humans or is born with defects or simply cannot be kept because it bites, falls ill, or has parasites.

### **Abandoned Tibetan Mastiffs**

Plummeting prices, overbreeding, and the local faith against killing have impelled an increasing number of Tibetan mastiff owners to abandon their dogs. The local Buddhist teachings encourage the people to kindly treat all living creatures. Monks in a temple often feed stray animals. Many stray dogs gather there for food.

Stray dogs are highly adaptable and reproductive. Their numbers keep rising and they have more frequent contact and conflict with wildlife nearby. Their impact on the local ecosystem cannot be ignored. The Qinghai-Tibet Plateau is one of the most biodiversified areas in China. Hordes of dogs abandoned to the natural environment affect wildlife and threaten the conservation of endangered species in the area.

### **The Adverse Effects of Stray Dogs: A Global View**

© A dog killed a marmot in Sanjiangyuan



With human interference, dogs have become the most populated carnivorous animal in some places, posing great disturbances to the local ecosystem. In their review of 69 studies on the impact of stray dogs from 1958 to 2011, Hughes and Macdonald concluded that 78 species were affected. These effects included predation, disease transmission, disturbance, and hybridization.

Direct attacks and prey-inflicted threats against wildlife are also alarming. As a result of predation by stray dogs, the percentages of living mountain gazelle babies and females have fallen dangerously low. This is perhaps why the number of mountain gazelles declined in the coastal plains of southern Israel. In New Zealand, a study found that one dog killed 500 kiwis in a week, and there was only a kiwi population of 900 in that area.

A small pack of carnivores have more success in hunting and fighting than loners do, and stray dogs prefer living in groups, hence posing great threats to wildlife. When competitiveness depends on the sheer number of individuals, densely populated stray dogs have the competitive edge over other wild animals. Their impact is particularly notable on the Ethiopian wolf.

### **New Findings via Camera Traps**

Local people tend to see the wolf as the greatest threat to livestock. However, the truth is that it's often difficult to decide if the real culprit is wild animals or dogs in areas where domestic animals are kept. Semi-structured interviews and actual comparative studies in Spiti, India, found that the main cause of livestock deaths in that area is wild dogs, not wolves as expected. People in northern Spain think 94% of all livestock fall prey to wolves, but the test results of feces samples show that sheep accounted for 3% of the wolves' fecal composition and 36% of the dogs'. These findings revealed that canine impact on livestock has been greatly underestimated. It's crucial to identify livestock predators in conservation practices. Any misidentification can lead to a rise of compensation costs.

### **Advantages for Stray Dogs**

Unlike other wild animals, stray dogs find it easy to get food from humans, a phenomenon known as human bonus effect. Humans' feeding raises the biotic carrying capacity of the dogs, which in turn allows them to have more success preying

© Researchers and stray dogs





on wild animals. While the population of their prey declines, they won't. This unrelenting pressure on wildlife may last until it drives an entire species to extinction.

As human habitation extends further and further across the land, these strong dogs can venture deeper into wild habitats. They may carry pathogens with them, spreading diseases wherever they go. Their density has even unbalanced disease control and may lead to an endemic outbreak. In 1994, an extensive outbreak of rabies and canine distemper occurred among African wild dogs, lions, hyenas, and jackals in Serengeti, Africa. Following studies reported that pathogens released out of stray dogs' bodies caused notable declines in the populations of many carnivorous species, including animals in the families of Canidae, Felidae, Hyaenidae, Phocidae, Mustelidae, Viverridae, and Procyonidae.

### Good Things about Stray Dogs

Stray dogs can clean off left-over food discarded around the village. An "isolation zone" thus created similar to what is known as the edge effect can discourage and prevent the coming of large carnivores more threatening to humans and livestock in the village. The incidence of human-wildlife conflict can then be reduced. In western India, stray dogs feed on cows' corpses discarded near the villages. Their consumption at likely food sources effectively prevents golden jackals, striped hyenas and other scavengers from getting too close.

Stray dogs may also play a positive role in disease control and monitoring among wild carnivorous animals, whose blood samples are extremely difficult to collect. Immunity control would be much easier on stray dogs, and their activities are not limited by geographical boundaries. This is why they can serve as a bypass between humans and the wild carnivorous world. By immunizing a certain number of dogs, we can both limit disease transmission and indirectly achieve some form of disease monitoring among wild animals.



© A bone-chewing dog

### Another Field Study on the Plateau

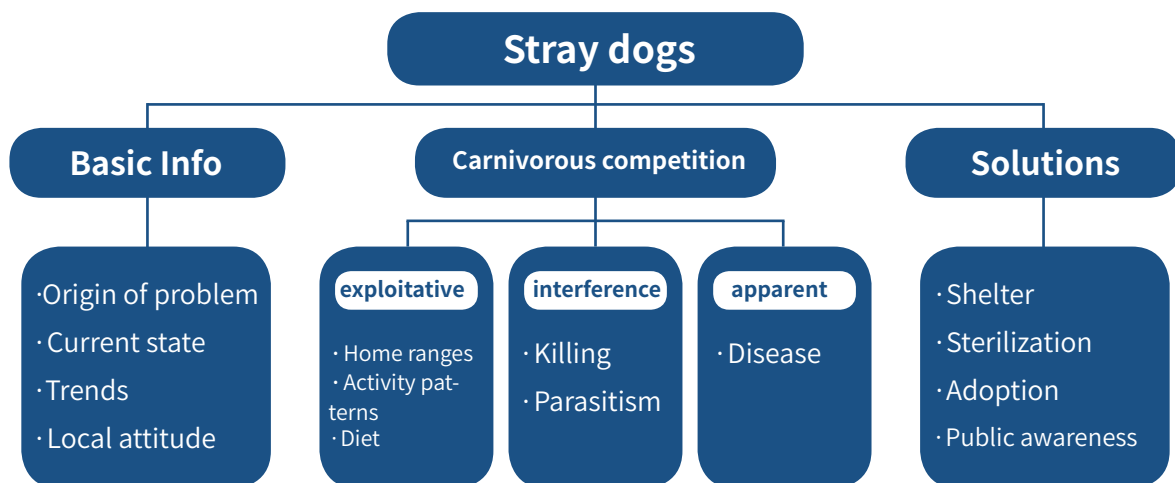
Through field investigations and interviews, we found that local herders have already made videos of dogs attacking snow leopards, brown bears, and wolves. The follow-up studies show that the sampled dog feces contain hairs of mid to small sized carnivorous animals, such as the Tibetan sand fox, and that the sampled snow leopard feces contain hairs of dogs as well as parasites such as *C. elegans*, trematodes, cestodes, and *Eimeria tenella*. These are all evidence that stray dogs have contact and conflict with local wildlife to a certain extent.

A small change of species may greatly impact such a fragile environment as the Qinghai-Tibet Plateau. Without an inclusive study, the new ecology of stray dogs may adversely affect the already endangered wildlife. Therefore, it is crucially important to promptly investigate the competition patterns and ecological niches, among other facts, between stray dogs and local wild animals.

### What Do We Study?

Even though stray dogs may threaten wild animals and humans, no study of stray dogs living in wilderness has ever been conducted in China. We seek to study four aspects of stray dogs and local wildlife: time, space, food, and disease. In time and space modules, we plan to examine the overlaps of activity rhythms and home ranges between dogs and local carnivorous animals by setting up camera





traps and putting GPS trackers on the dogs. In the last two modules, we are to examine diet compositions and diseases by sampling the feces of both stray dogs and carnivorous animals.

### How to Solve the Problems

At present, there are efforts to start or plan on building dog pounds in some areas of Tibet and Qinghai. But it's difficult for these facilities to operate in the long run because of improper plans and unsustainable financial sources. For example, the Lhasa Dog Rescue Center currently keep more than 6,000 dogs, and this number keeps rising far beyond the designed capacity. An annual input of over one million yuan cannot sustain this facility for long. The most effective management of stray dogs is one that involves a right combination of ecologi-

cal, social, cultural, and financial approaches.

The competitiveness of stray dogs depends on the sizes of their population and activity area: The greater the population, the larger area to occupy, and the greater impact on wildlife. So the most important thing is to curb their birth rate by sterilizing them in a scientific and specified manner without offending local customs. In the meantime, it is also necessary to limit the scope of their activity, especially of the males' because they can travel farther than females. Dogs roaming in key protected areas should be captured into the pound or other places appropriate to contain them outside the nature reserve.

What should come next are thorough and focused vaccination projects which can help reduce the chances of wild animals contracting diseases from dogs. The local government should make vaccines available for free and urge residents to vaccinate their dogs. The vaccinated dogs should wear a label of color for easy recognition. To prevent outbreaks, at least 70% of stray dogs need to be vaccinated every year. Local herders should be encouraged to report to the government when their dogs get sick so that prompt measures can be taken before a possible extensive outbreak.

Reducing garbage in human habitats can cut off food sources among dogs. But the premise of doing this is that there are larger and more competitive animals in the area. If stray dogs have risen to the top of the carnivorous animal ladder, the reduction of human food sources may aggravate canine



© How do they look with GPS collars on their heads?

threats to wildlife.

Locals should be advised to be responsible for their penned dogs, not to abandon them, and to cooperate with the government in the course of vaccination. For better control, focus should be placed on the few dog barons a village may have. Public awareness should be raised among households to keep an eye on their own dogs, use lassos or any other effective tools to restrain the dogs, and treat kitchen garbage with caution.

### Author's Message

Honestly speaking, all the threats I have talked about have everything to do with us humans, not dogs. The latter are just struggling for survival. They are victims as well. Had there been no money-grabbing business or dog owners who threw dogs away like trash when they were no longer lucrative, we would not have been here talking about these potential problems. So please think more about your past, present, and future choices. Please do so for the sake of Mother Nature as well as her children, including wild animals, dogs, and us. Every living creature has the right to live and live well. Don't hurt any innocent life only because of something we want for ourselves.

Article and photos from Liu Mingyu of PKU Center for Nature and Society,  
originally posted in Shan Shui's WeChat Subscription Account on May 16, 2016

QR Code to the original post:



© Dogs wearing GPS collars



### A Look into the Future

With the unceasing expansion of human activity, more dogs are left homeless in natural habitats which have been increasingly fragmented. We need to take a closer look at how stray dogs disturb wild carnivorous animals in terms of resource contention and disease control. Considering significant impact dogs may pose on the dynamics of wildlife populations, we will conduct much needed comprehensive studies across disciplines, including veterinary medicine, governmental policy, ecology, and wildlife conservation.

# Field Practice | Community-based Conservation

Grassland: Sanjiangyuan Conservation on Tibetan Plateau

Conservation Story: My Life with Snow Leopards

Watersheds: Conservation in the Southwestern Mountain Areas

Conservation Story: The Guanba Community-based Protected Area: What  
Our Village Might Look Like in 50 Years

Forest and Climate Change

Forest: The Yunlong Tianchi Forest Restoration

Fresh Water: Beijing Urban Wetland Restoration







## CBC Grassland: Sanjiangyuan Conservation on Tibetan Plateau

Our Sanjiangyuan team continued to push ahead with scientific research, community-based conservation, and policy advocacy in 2016. Based on their experience of nearly a decade, the team has made room for policy advocacy in agendas like the establishment of the Lancang headwater area inside Sanjiangyuan National Park, snow leopard research and conservation, wildlife conservation in Yushu, and the establishment of general demo areas for community development. The following are some of their achievements.

The 2016-2020 Strategic Cooperation Memorandum was signed with the Lancang Headwater Area Administration Committee of the Sanjiangyuan National Park; The Namsee Landscape Design in the Lancang Headwater Area was complete and more field practices were employed regarding the Human-wildlife Conflict Fund, bear-proof measures, waste-sorting, stray dog control, and nature experience.

One hundred and twenty locals were provided monitoring training. Nearly 150 camera traps were set up and 30,000 work-days achieved throughout the year. For the first time evidence was found of habitat overlaps between the snow leopard population and the leopard population in the eastern part of the Qinghai-Tibet Plateau and of local reproduction of the latter.

At the Longbao Wetlands 23 volunteer scientists were recruited to help evaluate threats to the black-necked crane. More than 300 valid reproduction behavioral samples were collected by means of instantaneous scanning during the breeding season. Direct action was taken for several agendas, including measures against the impact of State Grid on raptors and the impact of tourists on black-necked crane breeding.

The team also contributed to the Feasibility Report for the General Demo Areas for Community Development and Wildlife Conservation in Yushu, incorporating our experience with scientific research and community-based conservation of the past five years.



© A locals' meeting to discuss anti-bear fences



## My Life with Snow Leopards

I'm an old herder who ended up in the field of snow leopard conservation. My story began in 2011. I arrived in Yushu in May of that year. A full year had passed since the earthquake. Shrunk and shriveled, the town of Kyeku was awaiting a great deal of reconstruction to be done.

The first town to which I headed was Sojia of Zhidui County. Sojia was also the first snow leopard field study point Shan Shui set out to work at with Peking University. It usually takes an eight to ten hours' drive to get there from Kyeku.

Many years later, every piece of rock shown in *We are Born in China*, a popular film made in Sojia, would seem an occurrence of the past. In retrospect, I think all the excitement, anticipation, and nervousness I felt when Prof. Lu Zhi and Da Niu pointed at each of those rocks and told us that they were typical of the snow leopard habitat, were something stemmed from man's most primitive attraction to a certain type of magnificent cat and ecosystems in general.

As luck would have it, in the winter of 2011

after the field training in Sojia, I came to Yunta, a small village I call my home away from home by the Tongtian River. Sometimes I feel grateful to Yunta. Her warmth and serenity are what kept me going through the first and most difficult three years and I haven't left there since.

I remember the very first day when I arrived. It was snowing. Arising from Ngawu Tamwen's chimney were heavy drifts of smoke produced by burning yak dung. It was warm inside the stone house. At that time Nor was only five years old, looking at me timidly in his father's arms. Later he and his elder sister Chogyal made the greatest contributions to our work in Yunta.

At first we didn't quite believe Tamwen when he said there were snow leopards in Yunta. But we still handed him three cameras after some simple training. Only over a month later Tamwen called me and said, "Ganden, we've got the images of a snow leopard."

It was April 2012, I remember, when Dr. George Schaller and Prof. Lu Zhi both joined us. We

© A snow leopard caught by camera traps





© A snow leopard caught by camera traps

crammed in a tiny prefab viewing the infrared images of the snow leopard and seeing how this magnificent creature marked its frequent spots in various ways that it could manage.

Prof. Lu said to me, “The locals can do the monitoring in Yunta.”

I think this is how everything started. No one believed the locals could manage and maintain camera traps, but we set out to do it anyway.

The very first task was to monitor blue sheep. We were trying to create a monitoring system that went from pastureland to blue sheep to snow leopards. Naturally, we first opted for ungulates monitoring, a relatively simple task to begin with. Fourteen herders passed the village’s rigorous screening and thus became members of our first monitoring team.

Yunta Monitoring Team (from left, back row): Tsangdo, Sohnan Taye, Tsanba Rinchen, Burah, Tajang, Tranga. (from left, front row): Norbu Rinchen, Gyazha, Tamwen, Tsetop, Tsenor.

It was not a difficult thing to do. We pinned down

49 spots, at each of which our team members would measure the size of a blue sheep population, the male and female ratio, and the weather, among other variables, as far as their eyes could reach.

Undoubtedly such information would come in handy. It was also a starting point from which we officially proceeded with infrared monitoring in April 2013. Twenty-two young men set up a 5X5km grid of 36 camera traps within a radius of 400 km<sup>2</sup>. Every month since then, placements have to be made, batteries changed, memory cards checked, and animal traces recorded on a regular basis. Dr. Xiao Lingyun was responsible for designing the whole monitoring network in Yunta, and later she became an activist and tech consultant for this network.

In response to the increasingly aggravated problems with poaching, we also set up a patrol team and sent them to patrol along the Tongtian River on a regular basis. The team has cleared the area of more than 300 wire traps in the past three years apart from the snow leopard monitoring mission. As a result, the population of snow leopards in Yunta rose from 9 in





© Tsangdo, a local monitoring team member, is attaching a camera to the rock

2013 to 12 in 2015.

This is our first showcase of community-based monitoring, a measure we have proved valid and feasible through our work with friends in Yunta. We also succeeded in promoting specifically designed



© A monitoring and anti-poaching training class in Yunta

conservation activities.

Following Yunta, my colleague Dou Xiujia, Dr. Xiao, and I headed for Zadoi at the end of 2014. This county near the source of the Lancang River boasts the largest overlapping snow leopard habitat in China, according to Dr. Li Juan. And Mr. Zhou, the talented county mayor, offered the greatest support he could summon in his power. Zadoi was gradually known as “the home of snow leopards”, an identity of which every local folk feels proud.

The first monitoring spot there was in Zaqing

Town, where the Jifu Mountains in the west is the known source of the Zaqu River, an upper tributary of the Lancang River. In Diqing Village of that town, 22 monitoring team members set up 40 camera traps within a radius of 1,000 km<sup>2</sup>. The result was equally pleasant. Twenty-two and twenty-eight snow leopards have been spotted in the past two years respectively.

After Zaqing we came to Namsee, the highest town above sea level along the timberline of Sanjiangyuan. Another local monitoring team was established and for the first time proved that the snow leopard habitat overlaps the leopard habitat in the eastern part of the Qinghai-Tibet Plateau.

To address the increasing risk of retaliatory animal killings (snow leopards, leopards, and



© A placement of cameras in Namsee caught a leopard and then a snow leopard

wolves), we established the first human-wildlife conflict fund in the village, namely the Lancang Headwaters Human-Wildlife Conflict Fund, in collaboration with the Zadoi government, hoping that this measure could reduce local hostility toward wildlife and promote snow leopard conservation.

From what has been done in Zaqing and Namsee, Shan Shui Conservation Center went further and started to draft a Snow Leopard Conservation Plan in Zadoi County with the Zadoi government, seeking to advance snow leopard conservation practices at the county level based on such grassroots experience.

Now in Yushu we have four communities, 80 locals, and 120 cameras engaged in monitoring and conservation in the long run. Such effective local participation helps us gain access to the continuing sequences of analyzable data, through which we can identify snow leopard population changes and their





causes. What's more, the locals have been so supportive and cooperative that we only lost two cameras in two years. The cost of monitoring thus has been minimized.

The ten villages I visited in Yushu for any period of time, long or short, manifested themselves as the most treasured gems of personal experience I've achieved in the past few years.

Benefiting from the development of snow leopard conservation groups in various regions, Shan Shui Conservation Center and the Zadoi government launched the first Snow Leopard China Forum in 2015. This event in Yushu welcomed everyone to share recent experience in snow leopard research and conservation with our partners—Wilderness Xinjiang, CFCA, Green Rivers, and Mt. Everest Snow Leopard Conservation Center, to name a few. It also involved efforts to build an unofficial network called "Snow Leopard China". Initiated by Wilderness Xinjiang in 2016, a second Snow Leopard China Forum was held in Xinjiang. Our partners are playing an increasingly important role through more practice, exchange, and learning.

As a conservationist, I'm glad to see that the snow leopard issue is gaining attention and resources, both of which are needed for

conservation, no matter how chaotic or disturbing they may seem from time to time.

For everyone who cares about this beautiful big cat, on the other hand, the greatest challenge is how to break existing barriers and make real changes happen in a commune, a village, a town, a county, where threats can be identified, knowledge gained, and conservation practiced effectively with local people.

Millions of years ago, a subdivision of what is known as snow leopards emerged in the area of Ali, Tibet, predating *Homo sapiens*.

We have forever lost the South China tiger and the white-flag dolphin, and it's merely by luck that we still have snow leopards today. Their existence nevertheless poses a challenge we all need to face. What more can we do? This is the question we should think about the most. Today.

by Zhao Xiang from Shan Shui  
originally posted on Shan Shui's  
WeChat page October 31, 2016



QR Code to the original post:

## Watersheds: Conservation in the Southwestern Mountain Areas

In 2016, our Southwestern Mountain Areas (SMAs) team worked with governments, research institutions, and companies to support local communities in following—and getting benefits from—conservation practices focused on forest and water. We also explored sustainable development mechanisms in the context of conservation, promoted the optimization of the management system for collectively-owned non-commercial forests, and ensured the effective administration of the government eco-compensation funds. These efforts, we believe, can help preserve forestland in headwater areas along the upper Yangtze.

Indeed, the SMA project has delivered positive conservation outcomes to more than 300,000 hectares of forests in headwater areas. A 70 million yuan eco-compensation funding scheme was effectively administered each year. Five thousand locals have been directly benefited in five project targeted communities and 20 more communities (580,000 people) indirectly benefited. Higher water safety has been guaranteed for one million people in Chengdu, the capital city of Sichuan.

© Virgin forest deep in the Minshan Mountains in Wanglang / photo by Zou Tao



### Story

## The Guanba Community-based Protected Area: What Our Village Might Look Like in 50 Years

Pingwu County shelters the greatest number of giant pandas in its five protected areas, all of which only partially cover the panda habitat. Guanba Village is so situated that it serves as an important buffer zone, its community heavily dependent on forests that they collectively own. Unfortunately, it's also an uncharted area in the official conservation map. How to engage the local community in conservation practices thus became a significant issue to address.

In January 2016, the Guanba Valley Watershed Community-based Protected Area was established as a measure to explore new approaches

© What Guanba looks like now



in the management of giant panda habitats. Planning and biodiversity baseline surveys were carried out as well. Specific planning issues are being further discussed.

What would you see there in early November? There are goats, after a good meal, lying on the grass along the road. You'd discover coils of dead snake skins. Kiwi fruits fall from their trees. Walnut and chestnut trees are everywhere. Fresh, rural, and idyllic joy is in the air.

Meng Ji is a man born and raised in Guanba. He served in the army for a few years after graduation and then did all sorts of odd jobs outside the village, toiling six or seven years away in Beijing, Jiangsu, Lanzhou, Xi'an, Guangzhou, Xinjiang, Nepal... He returned to Guanba this July to work for the Guanba Watershed Conservation Center and now serves his office as Director-General.

Meng Ji and I are walking upstream along the



© Meng Ji is introducing the Guanba Center at the workshop

humming, clean river and talking about his decisions to leave for odd jobs and then to return for the idea of building the "Guanba Community-based Protected Area."

"Why did you decide to work outside your home village?"

"When I came back from the army, it was not something I expected to see in the village. The locals cared too little about the environment. Fish in the river were barely seen, and the mountains were almost barren. Poachers went rampant. Local natural resources were depleted. "It was around 2001. Guanba might have been home for Meng Ji, but there was little about it that could keep him there.

"Then why did you decide to come back?"

"When I came back again this June, I saw great changes here. These folks who are working here have ideas, visions, and methods that attract

me. We have nearly 100 ravines. A money-grabbing, environmentally unfriendly attitude led to the near depletion of fish. In 2013, we began to think ahead and put money and labor into those rivers to protect the fish, while other villages were still burning the mountains and poisoning fish so they could sell them for money.

"All other construction sites I worked at are not my home, and the wages I earned are not my contributions to my hometown. I don't make much money doing what I'm doing here, but I feel it's worth my while because it's something about my hometown's future, something that I feel hopeful."

We are travelling further along the ravine. Up ahead we approach a fence. "No cars are allowed here," Meng explained. "Now our infrastructure is still insufficient; tourists may damage the land or even hurt themselves if we allow them to go freely. Even though we are all for eco-tourism, that's not what we ought to do if we follow good management rules right now."

It's toward dusk. A golden sun is lingering over the mountain. "This used to be farmland," Meng said, pointing at a slope across the ravine. "But we have changed it back to forest. The trees will turn red in ten days or so."

At a workshop designed to discuss the management and planning issues of the protected area, time was fast forwarded to 2066:

"In 50 years from now, Guanba will be a rural getaway in which the locals take pride and tourists take delight. You will get to see wildlife everywhere and they live symbiotically with the villagers.

"Rivers will run by, clear as crystals, full of native cold-water fish and all other kinds of tiny little fish, shrimps, and crabs. At night, frogs and insects will stage a heavenly orchestra that puts the village to sleep.

"The mountains are exuberant and the backyards aromatic with flowers. The residents in the village are of all ages, all benefiting from environmentally friendly livelihoods. Honey, walnuts, tourist attractions, herbs and many other products here are widely known across China. Every household earns a decent living. Everyone finds it easy to give a smile at any moment. For life is good.

"This community-based protected area, with its easy access to transportation, beautiful scenery, and well-preserved folk customs, becomes so popular that hordes of people are planning to come for a visit, only to find that there is a limit to the number of tourists allowed per day. Among them are many visitors who come here to draw on our experience."





© A picture of Guanba in 50 years

Pingwu's Guanba Watershed Community-based Protected Area Management and Planning Workshop was held in Pingwu on November 1-3. Avid discussions were achieved as guided by Ling Lin, a Sichuan Forestry official. Village representatives, patrol team members, government officials, and third party patronizers attended the meeting.

The group agendas included area and border delineation, target identification, and sub-area stakeholder description. Future prospects as well as present issues were considered. Specific goals and solutions were sought by pinning down problems, strengths, and areas for improvement. Issues with the management framework were also highlighted.

Qiao Liang, the party secretary of Guanba, says, "I was totally captivated in the past few days. While in the workshop, I could not take one minute off of our instructor Mr. Ling without feeling regret. Many things that eluded me become clearer in my head now. From looking for answers to finding the right way, we know where we need to go next.

"Guanba will undoubtedly have a brighter

future with all the support she gets from the government, the provincial Forestry Department, and Shan Shui. Our ideas and methods are rarely employed in other Chinese villages. This makes me, a Guanba villager, feel immensely proud. Our village has attracted great attention from the government, scholars, and the society at large. We have no reason not to care. So we are definitely confident about what we are doing here."

Meng Ji says, "This workshop was held in ways that impressed me. When we built up an organizational framework yesterday, for example, each group had a different angle and discovered a lot of things need to be done. Another example is that when we were examining conservation targets, we became aware of so many things we feel proud having in Guanba. Without those discussions, we wouldn't have known that we still have Red Army sites and ancient trees to protect. The fish we have in our own village might have been seen as a source of our income, but their value doesn't stop there if they are placed in the context of the entire watershed. What's more, we were made to see Guanba's future thanks to Mr. Ling's instructions and all those techniques and ideas shared by Feng



© A patrol campsite

40. Now they don't have better equipment, so they usually sleep behind a concave formation of rocks to avoid the wind at night. They would collect some wood, make a fire, and rest on the spot. Sometimes it's too late to find wood. There

Jie and other experts."

A patrol team gradually came along with the development of a cooperative and the establishment of the conservation center. Now 15 villagers are on the team. Usually, the frequency is one patrol per month, but that is subject to seasonal changes and on-demand schedules. This time Meng Ji also tells us something about the patrol team.

"What do they bring along out on patrol?"

"Now the things our members bring with them are simple stuff: knives, daily necessities (bread, instant noodles, water, prickles, vegetables easy to carry such as potatoes and onions). And recording tools are a must, too. Last time they didn't have GPS machines and cameras. Some had to use their phones to take pictures."

"What do they record?"

"They record camera traps (altitude, longitude and latitude), wildlife changes along the line, animal traces, Chinese herb or rare plant distribution, etc, etc."

"What's their biggest obstacle?"

"We hope they can get technical support from the outside world. Training is needed to make our patrol team more professional. Topics should include baseline surveys, wildlife distribution, paperwork, and the proper use of GPS devices."

Guanba has three ravines: Zhaizi, Zhonggou, and Hongyanbei. They are the routine patrol lines. One patrol takes at least two or three days. The team is divided into three groups, four to six members in each group. Most members are over

are times when it rains, and the members have to brave themselves for falling rocks or a flood. The weather may change suddenly and violently in mountain areas. "We would like to provide our patrol team with basic equipment, like rubber footwear, light and warm clothes, sleeping bags and tents," Meng adds.

"How's their morale?"

"Really high, because everybody is doing something for their hometown. Decades of experience tell them that conservation is not just beneficial to them, but to their children and children's children as well. We all hate to think that after one generation or two, fish in the river could only be described in history books and giant pandas displayed in glass cubes."

Meng still remembers bathing in this river when he was a teenager. Sitting on a rock, he liked to watch schools of *Schizothorax prenanti* pass by. "It's just twenty years away. Due to poor environmental awareness and business attraction, fish and wildlife are greatly threatened. Almost all the fish were gone four or five years ago." Meng Ji is not alone. Many other folks in Guanba hope that the kind of future as envisioned at the workshop will come sooner.

by Feng Yanqiu from Shan Shui  
originally posted on Shan Shui's WeChat  
page November 17, 2016

QR Code to the original post:



# Forest and Climate Change

Over the years Shan Shui Conservation Center has been committed to getting involved in climate initiatives, developing and implementing projects that aim to preserve biodiversity, alleviate global climate change, and promote community-based forest carbon sink (FCS) practices. The FCS project, in particular, considers the local community's development. We engage the business and public sectors in forestation, help restore degraded forest vegetation, enhance forestry-based business operations for sustainability, and carry out certified carbon-reduction activities, including a project designed to evaluate carbon emission reduction.

- Restored 47.3 ha. vegetation under the Multiple-Value Forest Restoration Project for Giant Panda Inhabitation at 28° N.L.;
- Have the Multiple-Value Forest Restoration and Carbon Sink Project for Giant Panda Inhabitation approved by the national GHG certified reduction exchange approval and accreditation institution and filed with the NDRC;
- Completed the implementation plan for developing the pilot low-carbon community in Liziba, finished the low-carbon village baseline surveys in Liangjiaping and Liujiaping, and prepared the Low-Carbon Village Survey Guidelines;
- Completed a Chinese third edition of the Climate, Community and Biodiversity Alliance (CCBA) and prepared the Monitoring Guidelines for Forestation and Reforestation in Northwestern Sichuan;
- Involved in the forest conservation efforts in Upper Yangtze headwater areas, prepared the Village Forest Business Planning Guidelines, and piloted such planning in Xiong'er Village;
- Held a series of activities, namely the first China Sichuan Forest Nature Education Conference, on the theme "promote nature education for forests, work hand in hand to build a beautiful Sichuan" with a number of organizations, including the Sichuan Association for the Promotion of Ecological Civilization and the Sichuan Environmental Culture Promotion Association.

© Datong-Huangshui River carbon sink/baseline survey in Qinghai



## Forest: The Yunlong Tianchi Forest Restoration

© The snub-nosed monkey



In 2016 we launched a forest restoration project around the Yunlong Tianchi Lake for the purposes of demonstration and nature education. This project aims to restore multiple-value forests in the burned areas of the Yunlong Tianchi National Nature Reserve and the surrounding communities in Yunnan through community-based approaches. It also involves monitoring snub-nosed monkeys and biodiversity in their habitat, in addition to a nature education feature designed to promote its publicity.

## Fresh Water: Beijing Urban Wetland Restoration

We launched the Beijing Urban Wetland Ecosystem Restoration Project at the end of 2016. This project aims to pilot urban water body restoration in Haidian Cuihu Wetland Park and Little Donkey Farm in Beijing, providing a blueprint for other similar practices in Beijing and other cities.

© The eastern golden frog



photo by Chen Wei





# Value Chains | Guardians Alliance

Lancang River Conservation Fund

Conservation Story: We are Born in the Cross-border Rainforest

International Nature Watch Festival in Namsee Great Valley

When Nature Reserves Become National Parks: Will Humans Drive Wildlife Away?

Land-Trust Conservation: Baixiongping Station

The Guardians' Story | True and Romantic  
The Little Wood Cabin: 365 Days in the Mountains

Volunteer Scientists

“Submerged Forest”: An Army of Species Show Up in Summer Palace!

Snow Leopard China: A Nongovernmental Snow Leopard Research and Conservation Network





© An herd of white-lipped deer in Namsee Great Valley / photo by Pu Wajie



## Lancang River Conservation Fund

The Lancang River Conservation Fund is a small-grant program Shan Shui launched in 2014 for ecological conservation in the Lancang watershed areas. Specifically, this program aims to widely demonstrate the eco-value of the Lancang River, promote sustainable conservation and development, and to address local threats by offering financial support to local communities, education or research institutes, nongovernmental organizations/groups, and companies interested in preserving ecological and cultural diversities in said areas. Candidates include projects that clearly define threats, are properly designed, and are subject to sound implementation. The growth of *in-situ* conservation groups and teams will thus be encouraged and a conservation network formed within these areas.

As of 2017, a total of 63 projects from 31 NGOs/companies and 8 academic institutions have been offered grants totaling 3,920,000 yuan. Nineteen communities and five nature reserves have been directly involved. This funding program will continue to work with conservationists in ways that help enhance the impacts of supported project outcomes and transform experience into replicable and expandable know-hows.

On board are experts highly experienced and insightful in conservation and community work in the watershed areas. Their job is to screen and select conservation projects for the greatest potential. They make sure that resources, support, and companionship will be provided as needed within the network of our partners.

© A bird-eye view of Kong Ge Liu Dui, the pilot village under the Asian Elephant Early Warning Project





## Who is on the Panel?

Name	Employer	Title
LU, Zhi	Peking University	professor
WEN, Cheng	Shan Shui Conservation Center	Director for Conservation and Research
Qinghai		
ZHANG, Li	Qinghai Provincial Forestry Administration, Department of International Cooperation	Director
LI, Ruofan	Sanjiangyuan National Administration	Director
MA, Hongbo	Qinghai Academy of Governance	vice dean
QU, Bo	Qinghai University, College of Finance and Economics	associate professor
CHEN, Shilong	Chinese Academy of Sciences Northwest Institute of Plateau Biology	deputy director
Yunnan		
ZHONG, Mingchuan	Qinghai Provincial Forestry Administration, Department of Conservation	Director
XU, Jianchu	Kunming Institute of Botany	researcher
YANG, Yuming	Yunnan Institute of Forestry	former president
MA, Jianzhong	Yunnan Institute of Forestry	researcher
KUANG, Rongping	Southwest Forestry University	professor

# Lancang River Conservation Fund Grant List

## Qinghai

Project Title	Organization Title (startups marked in green)
Environmental Protection and Wildlife Conservation in the Area of Guoqie Monestry	Environment Protection Group of Guoqie Monestry in Nangqen
Survey into the Hydropower and Mining Development Impacts in Upper Lancang River	Hengduan Shan Society
Chakme Sustainable Rural Livelihood of Traditional Handcrafts	Chakme Environment Society
Demo in Community Incentive Mechanism for Conservation and Sustainable Development by Woman Handcrafts	Qinghai Desertification Control and Deserticulture Association
Investigation in the Ecological Impacts of Stray Dogs in Tibetan Plateau	Gangri Neichog Research and Conservation Center
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
Waste Management and Environmental Education in Sulu Township Central Middle School	Sulu Township Central Middle School
Snow Leopard Survey in Gayang Township	Gayang Township Wildlife Patrolling Group
Conservation of Jiqu Tributary of Lancang River in Zadoi County	Duoxiao Village, Sulu Township
Experimental Natuere Eduction in Sahuteng Township Centre School	Sahuteng Township Centre School
One Drop of Water, One Piece of Grass—Sumang Monestry Environmental Education Brochure Project	Sumang Home Environmental Protection Association
Capacity Building of Civil Environmental Organizations in Nangqen	Nangqen Association of Youth Employment and Education
Survey of Endangered Tibetan Medicine Resource in Lancang River Headwater Areas	Ah Chun Feng (individual)
Plant Diversity Survey and Dynamic Monitoring of Database Construction in Lancang River Headwater Areas	CAS Northwest Institute of Plateau Biology
Bird Biodiversity Background Survey and Community Monitoring Training in Baizha Forest Farm of Sanjiangyuan Area	China Wilderness Nature (Beijing Qingmu Nature and Culture Communication Co., Ltd.)
Community-based Eco-tourism Development of Nangqen County	Yushu Research Center of Plateau Pastoral Area Development
Solutions of Stray Dogs in Yushu Area	Gangri Neichog Research and Conservation Center
Monitoring of Effectiveness and Maintenance of Anti-bear Fences in Daqing Village of Zaqing County	Animal Husbandary Committee of Daqing Village in Zaqing County
Regulation of Wildlife Rescue in Zadoi Area of Yushu	Qinghai University
Plant Specimen Collection in Yushu	Yushu Prefecture Museum
Professional Training of Environmental NGOs in Nangqen	Nangqen Association of Youth Employment and Education

## Yunnan

Project Title	Organization Title (startups marked in green)
Zhanila Yunnan Snub-nosed Monkey Population Survey in Weixi County, Yunnan	Shangrila Weixi Snub-nosed Monkey Conservation Association
Demonstration and Training in Rescuing and Reintroduction of Yunnan <i>Nyssa Sinensis</i>	Key Laboratory of Rare and Endangered Forest Plants of State Forestry Administration, Yunnan Academy of Forestry
Survey into the Species Population and Habitat Evaluation of Lizard Monitoring in Xishuangbanna	Xishuangbanna Tropical Forestry Science Academy
Yunnan Snub-nosed Monkey Community Conserved Area Demonstration Project in Bamei Village	Baima Snow Mountain Community Co-management Association
Endangered Wildlife Survey and Conservation in Meli Snow Mountain Yubeng and Mingyong Villages	Kawagarbo Conservation Association
Asian Elephant Human Conflict Community Warning System	Xishuangbanna Tropical Botanical Garden
Sustainable Wetland Management of Dong Lake in Eryuan County	Yunnan Biodiversity Conservation Foundation
Western Black-crested Gibbon Conservation in Wuliang Mountain in Jingdong County	Jingdong Western Black-crested Gibbon Conservation in Wuliang Mountain
"Through Their eyes" Images School- Environmental Enlightenment Education Project	Yunnan Through Their Eyes Rural Cultural Conservation and Research Center
Recovery of Traditional Waterhead Forest and Ecological Culture of Aka People	Fireplace Culture Society of Pu'er City
Survey and Conservation of Big Cats in Eastern Xishuangbanna Boundary Area	CFCA (Chinese Felid Conservation Alliance)
Research and Conservation of Frugivorous Birds in Xishuangbanna Nature Reserve	Xishuangbanna Tropical Botanical Garden
Patrolling and Conservation Project for the Yunnan Snub-nosed Monkey and Other Wildlife	Deqing County Foshan Township Bamei Village Taiju Wildlife Conservation Association
<i>Paphiopedilum Spicerianum</i> Conservation Research and Education Project	Xishuangbanna Tropical Botanical Garden
Eryuan County Xihu Village Non-point Source Pollution Survey and Action Planning	Yunnan Pesticide Eco-Alternatives Center
North Erhai Watershed Artificial Wetland Functions Evaluation	Institute of Eastern-Himalaya Biodiversity Research
Walnut Plantations Impact on Biodiversity in Dali Prefecture	Dali College
Traditional Ecological Knowledge of Waterhead Forest in Minorities of Lancang Watershed	Xishuangbanna Tropical Botanical Garden
Survey of Fireflies Species Status in Lancang Watershed in Yunnan	Yunnan Firefly Conservation Volunteers Group
Soil and Water Conservation Project in Yunxian County	Shangrila Laizhe Media Co.
Endangered Medicine Plant Resource Survey and Conservation among Lahu People	Yang Jiuyun (individual)
Survey of Snow Leopard population in Baima Snow Mountain	Yeri Village Yongdui village group



## Yunnan

Project Title	Organization Title (startups marked in green)
Deqing Hongpo Village Endangered Medicine Plant Resource Conservation Project	Gerao (individual)
<i>Porphyrio Porphyrio</i> Status Survey and Conservation in Xihu Lake in Eryuan County	Yunnan Wild Birds Association
Sustainable Tourism and Hostelling Alliance in Dali	Dali Good living Alliance
Research in the Decision Making Process and Public Participation of Huangdeng and Dahuaqiao Hydropower Stations	Yi Tai Rui Wo(Beijing) Environmental Consulting Co.
Local Ecological Knowledge Assessment on the Wildlife Resource Exploitation in Northwestern Yunnan of Lancang Basin	International Center for Research in Agroforestry (ICRAF)
Wetland Conservation Infrastructure Construction in Dalangba Community	Shuchang Community in Yunlong County, Yunnan
Public Participation of the Sulfuric Acid Plant in Dali	Yuantou Aihaozhe Environmental Institute
"Kawagarbo Dialogue" Forum	Shangrila Laizhe Media Co.
Eco-farm Reforestation in Laoying Mountain in Dali	Laoying Mountain Eco-farm
Reduction of Agricultural Nonpoint Source Pollution in Xihu Wetland of Eryuan County	Yunnan Pesticide Eco-Alternatives Center
Conservation Research of Orchid Plan in Lancang River Basin (particularly Yunnan <i>Cypripedium</i> )	Yunnan Academy of Forestry
Conservation Ability Promotion, Training and Dissemination of Western Yunnan Sub-species of <i>Nomascus Concolor</i> in Yongde Snow Mountain	Cloud Mountain Conservation
Field Survey and Building of Community Conserved Area of Yunnan Snub-nosed Monkey Population in Naren and Sayong	Baima Snow Mountain Community Co-management Association
Conservation Action for Rare Fauna and Flora Resources in Meili Snow Mountain Area	Rural Elderly Association of Yunling Village
Research in the Legal Enforcement and Sustainable Development of Erhai Conservation—a Case Study of Shuanglang Town	Kunming Chuangyi Institute of Ecological Conservation
Villagers' Awareness and Attitudes towards Asian Elephant Warning System in Xishuangbanna Communities	Xishuangbanna Tropical Botanical Garden, CAS
Rubbish Pollution and Fish Resource Survey of Fishing Spots in Nuozhadu Dam of Lancang River	Fireplace Culture Society of Pu'er City
Survey of Background Resources and Population Size of Herpetofauna Upstream of Lancang River	Southwest Mountain Studio

*An introduction to the Chinese Felid Conservation Alliance's Large to Mid-sized Animals Baseline Survey and Conservation along Biodiversity Corridors at the Eastern Borders of Xishuangbanna, a project supported by the Lancang River Conservation Fund*

## One Bullet

Ming jumps across the slippery river bed, pulls aside twisted vines, and stops at a less vegetated trail. "This is where we put the cameras." Wiping off sweat, he says to the men behind him. They walk up and closely examine this animal trail here in the rainforest, totally oblivious to the leeches sucking blood from their flesh.

The expedition team trudges on along the river valley. The monsoon season is coming. Now the waters remain shallow enough for them to pass on foot. It is the same trail that clouded leopards, Indo-chinese tigers, lesser mouse deer, and large Indian civets used to share. Now the rainforest is still here, but are the animals here, too?

Ming, who is leading the way, suddenly bends down and picks up something from the ground. It's a hunting bullet shell. The team thought they might find traps or clamps, but they never expected to see someone using a gun now. Yan walks up to him and says it might be someone from Laos. Looking at the fellow members, who exchange an uneasy look with one another, Yan adds that Pu'er tea business is making people rich on this side; few would risk their lives to hunt here, but the Laotians still hunt for a living, even more so on their side.

What animals can escape the fate of being shot in this vast expanse of rainforest swaddling between Laos and China?

© A bullet shell was found in the rainforest at Chinese-Laotian borders



No one knows.

That was one day in May 2015, when an expedition team was conducting a biodiversity baseline survey in the rainforest of Xishuangbanna at the Laotian-Chinese borders as part of the CFCA's investigation and conservation efforts in the border areas of Xishuangbanna, the project which aims to take the first step toward more action. It's supported by Shan Shui's Lancang River Conservation Fund.

## The Last Kingdom of Wildlife

Xishuangbanna National Nature Reserve was founded in 1958 only to cover less than 2,400 square kilometers of forest, accounting for 12% of the area of Xishuangbanna. It is comprised of five disconnected sub-areas. In between there used to be continuing landscapes of natural forest. But these ecological corridors, which played an important role in maintaining local biodiversity, were not incorporated into the national nature reserve system and therefore were not subject to conservation and legal protection.

Today, the best remaining corridor extends over an area of roughly 200 km<sup>2</sup> from south to north along the Chinese-Laotian borders east of Yiwu, a town in Mengla County. Along this corridor, the natural forest connecting two largest sub-areas (Mengyang and Mengla) of the said nature reserve remains relatively intact in terms of completeness, serving as an essential part of the local landscape integrity and of significant ecological functions. For instance, it's a key corridor for Asian elephant interpopulation genetic exchange in China. This is also an area where rare and endangered species, such as the gaur and the northern white-cheeked gibbon, may live.

On the other hand, this area is being threatened by the absence of conservation initiatives, the continuing loss of natural forests and habitats, and poaching. It's a corridor mostly comprised of large



© A jackal found in this survey



© A clouded leopard found in this survey



© A living large Indian civet

expanses of state-owned and collectively owned forestland out of the scope of the national conservation system and not targeted by any conservation groups or initiatives. More forest will be lost to the increased plantation of high-quality Pu'er tea, a local speciality whose prices have spiked in recent years. Poaching has always threatened wildlife in Xishuangbanna, where 14 Asian elephants were killed in the past seven years, one Indochinese tiger was killed in 2009, and a ghastly massacre of Asian elephants happened in the south of the said area in 2014, according to public news reports. Without prompt action against all the threats as described earlier, this significant natural corridor and the biodiversity it nurtures will be even more gravely endangered.

It is in this context that the CFCF applied for 150,000 yuan with the Lancang River Conservation Fund to collect background data and true information about biodiversity status in the area as a basis for conservation advocacy and strategy-making. Large to mid-sized animals are highly dependent on well-preserved habitats and thus are considered as an indicator species, the majority of which are most affected by habitat losses and human disturbances. Usually, they are primary poaching targets and are greatly threatened. The team first planned to get a general picture of threats and human disturbances to local biodiversity by investigating and evaluating the current status of large to mid-sized animals in the area. Such information would then be used to set up goals, identify needs, and take action.

Various forms of biodiversity surveys would be conducted in the area, including questionnaires, transect surveys, and camera surveys. Three monitoring and patrol teams would be set up responsible for routinely gathering information about wildlife activity and human interference (deforestation, poaching, etc.) and carrying out monthly patrols; each patrol should run 5-10km. Their responsibilities also

included camera maintenance, guide assistance, investigation, and data collection. Additionally, two training sessions were to be provided. The first training should focus on investigation, monitoring, and patrol skills. The second training should consider field studies and midterm monitoring summarization and improvement. In the meantime, local and nonlocal desensitization and education would be provided. Local education campaigns should include activities and printed materials to be provided at the villagers' council and whenever possible.

Now it's June 2016. One year has passed since the initial survey started as planned. The team has found a number of species in this cross-border rainforest, including jackals, black bears, lesser mouse deer, large Indian civets, and Asian golden cats. Many of these findings were hoped for but not expected. For example, images of the lesser mouse deer were captured nearly 1000 meters above sea level. Traces of living large Indian civets were found after many years of absence in Yunnan. The few camera traps seem to have worked quite well. But everyone feels that something is missing until one day Yan calls and says excitedly, "We got images of a clouded leopard!" This is a huge achievement. Last time such images were shot in Xishuangbanna was ten years earlier. It does not take long for the research institute of the Xishuangbanna Nature Reserve to get images of an Indochinese tiger nearby.

Such wonderful discoveries only mark the beginning, not the end, of a very promising project. The appearances of large carnivorous animals seem to indicate that the rainforest still remains complete. But the infrared data show a very worrisome result: key species, such as the Asian golden cat, clouded leopard, large Indian civet, lesser mouse deer, and the jackal, are distributing unevenly and the frequency of photographing them is extremely low, even though many other species still exist.



Ethnic minority peoples in both countries have long been accustomed to living by mountainous resources and hunting. Lumbering, burning, and poaching are common. Recent investigations revealed that although China has tightened anti-poaching and wildlife trade controls, an alarming amount of wild animals are being caught and traded in its neighboring countries, such as Laos and Myanmar, where, sadly, governmental control is insufficient.

Along the Laotian-Chinese borders, for example, habitats are shrinking; poachers have caused great damage to wildlife on the Chinese side for the past few decades and now are doing the same on the other side. When China became aware of the needs to preserve its rainforest and is capable of doing so, Laos is not—they have very few professional rangers to safeguard the rainforest and the animals living in it. Equally limited is their knowledge about what or how many animals are left in forests within their national borders.

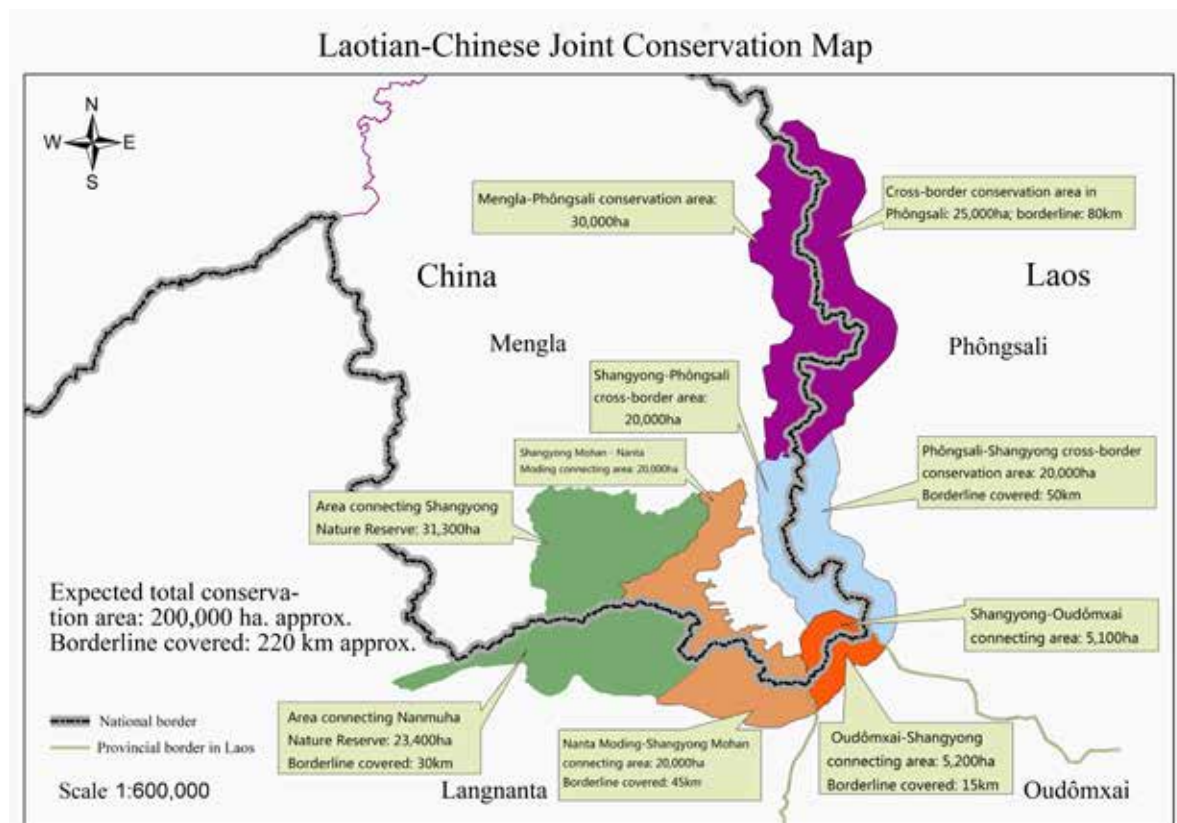
Animals, however, don't honor national borders. They travel back and forth between China and Laos

under a vast expanse of canopy that connects the two. Killings that happen in Laos, therefore, directly threaten animal populations in China. Now it is time for the latter to lead the way in cross-border conservation efforts because of such connectivity in the shared rainforest ecosystem.

Some form of cooperation was achieved between Xishuangbanna National Nature Reserve and competent authorities in Laos to preserve local biodiversity in a jointly protected area. Unfortunately, in the face of many obstacles (finances, equipment, etc.), not everything went as expected of the cooperation.

With such disappointment, the Xishuangbanna Nature Reserve, Shan Shui, and the CFCA drafted an action plan in August 2016 on the basis of the CFCA's accomplishments in this Lancang River project: Cross-Border Rainforest Preservation Action.

This initiative aims to set up joint investigation and patrol teams, collect rainforest biodiversity data, and further promote rainforest biodiversity conservation efforts across the two countries based on the



interpretation of Nature Watch data.

**The following are some of the specific tasks to be done:**

1. Set up a Sino-Laotian investigation team to evaluate the current states of wildlife in border areas in preparation for monitoring;
2. Set up a Sino-Laotian patrol team against poaching and other illegal human activities in the existing co-protected areas across the borders;
3. Provide training for Laotian wildlife conser-

vation managers as a way to help them build a community-based wildlife information network and to raise Laos's cross-border wildlife conservation capacity.

This action plan gained wide attention and support when it was promoted to the home page of Tencent's crowdfunding website as a "99 Public Service Day" cause initiated by the Chinese Internet entertainment company. All the donations will be used to execute this joint action plan, and every donor cares about how far it can go—Well, we shall see!

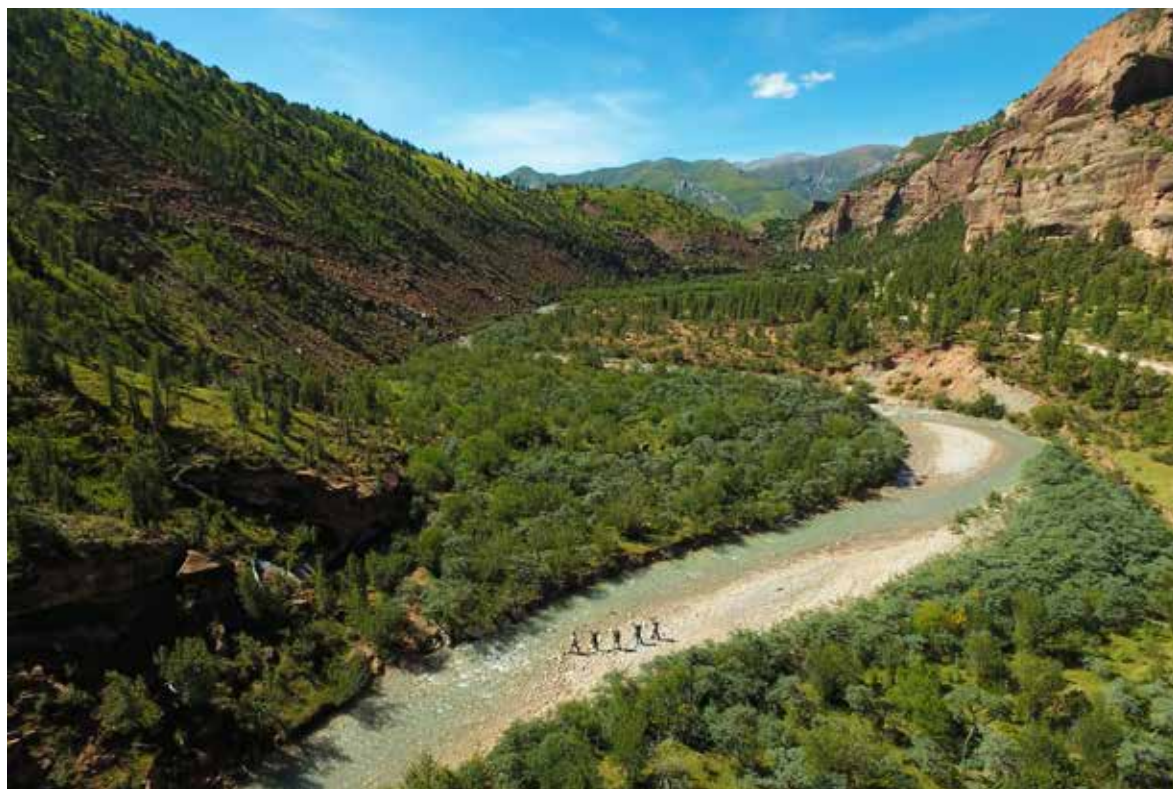
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## International Nature Watch Festival in Namsee Great Valley

The First International Nature Watch Festival was held from August 18 to 22 at the source of the Lancang River in Yushu Tibetan Autonomous Prefecture, Qinghai—more precisely in Namsee Great Valley of Zadoi County—as a way to support the establishment of the Sanjiangyuan National Park by what is known as "participatory approach."

This event welcomed 14 teams from China, America, Britain, and Germany to compete for the best camera records of different kinds and distributions of animals, birds, and plants in the designated area. Their efforts added to background data about the Great Valley. As initially assessed, there was photographic evidence of 10 animal species, 61 bird species, and 93 plant species spotted.





© Volunteer scientists trekking in Namsee Great Valley

## When Nature Reserves Become National Parks: Will Humans Drive Wildlife Away?

“Sa! Sa! “ Guide Dawa let out a cry. Hearing this syllable, Xi Zhinong and his students dashed over. “There is Sa over there! There! “ Dawa finally cried out his warning.

Sa means snow leopard in Tibetan. Dawa is a common Tibetan male name meaning the moon.

It was 7:40 pm in Beijing time, but it was still broad daylight in Namsee. Beside the photographers lay a blue sheep dead with two holes in its neck and a long slash into its guts, giving a faint smell of rotten meat which attracted a lot of flies. In the morning the corpse was still fresh and warm; life had just gone. Obviously its killer deserted it after a few bites because it was so close to the highway—only three or four meters away. This blue sheep probably got killed on its way down to the river alone.

The small holes around its throat were telltale

signs of a fatal attack by the snow leopard. When a cat goes after large prey, the first step is to aim at the throat making it choke to death.

The whole day Xi Zhinong had ambushed nearby. Upon realizing that it was being watched a few hundred meters above the ground, the snow leopard turned and disappeared behind the rock nearby. More than ten minutes later, the photographers decided to get into the car and look for it on the side of the hill, where it was probably lurking by now.

One hour passed, and it was getting dark. Helpless, they could do nothing but return. To prevent the corpse from being dragged away by wild dogs, Tashisame the “Bird Lama” and the guide Tsetin strapped it on a rock nearby.

“It has spots all over, and its big tail is just like this! “ Dawa posed like a Lucky Cat. Indeed, snow



leopards spell good fortune among townspeople now.

## A Competition Over 4,000 Meters above Sea Level

What you just read is a little story that happened at the end of August 2016 in the International Nature Watch Festival, an event hosted by the Zadoi government, the Sanjiangyuan National Park Langcang Headwater Area Administration Committee, Shan Shui Conservation Center, and PKU Center for Nature and Society. On June 7, 2016, the Sanjiangyuan National Park Administration (Preparatory) was officially founded to bring over 120,000 square kilometers of land into a new era of conservation.

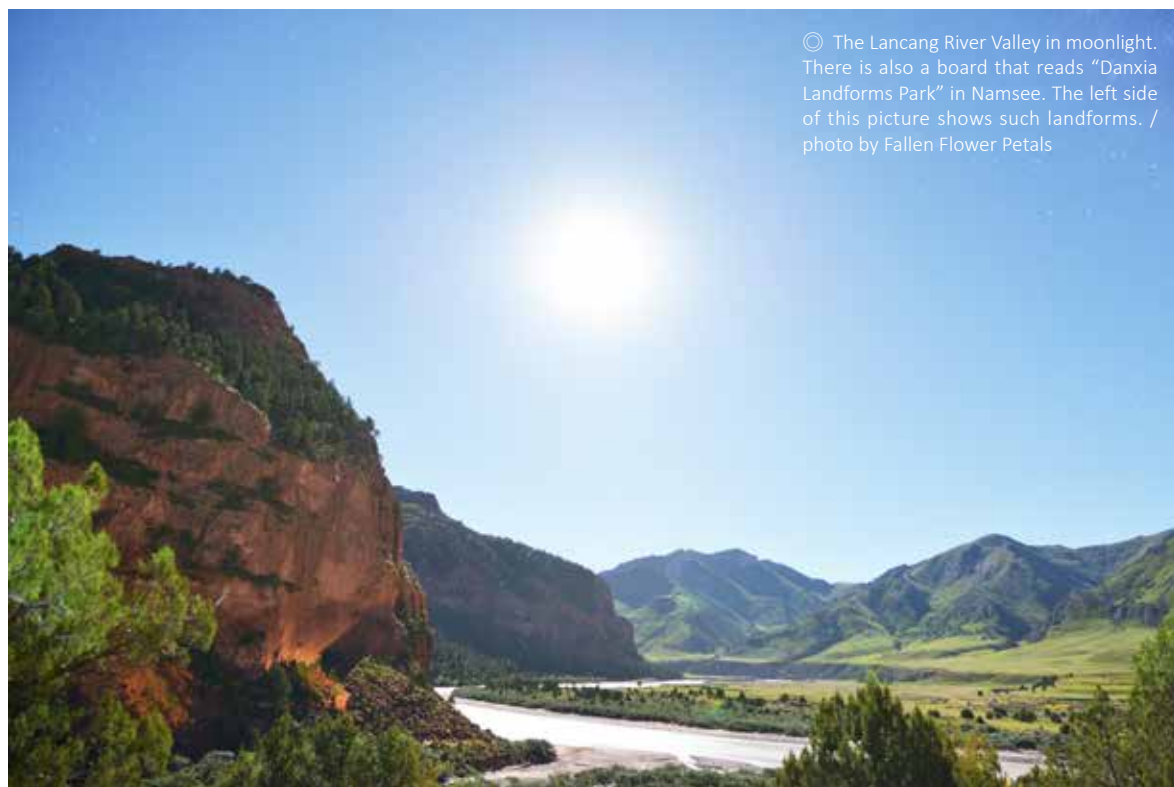
Zadoi is widely known for two living things. One is cordyceps and the other is none other than snow leopards. Namsee, a town of Zadoi, is hailed as the home of snow leopards. Every participant wished to get a close look at their big sneering faces, huge claws, and fluffy tails. For many of them, it would be a once-in-a-lifetime opportunity to spot snow leopards in their natural habitat. It would also mean something for the newly founded national park if any of the contestants could snatch a picture of the animal. This is why the county's Party Secretary Cai Danzhou was prepared to dish out big prizes to any of the local guides if his team found snow leopards.

Ming is a member of the Chinese Felid Conservation Alliance (CFCA), a Chinese nongovernmental group dedicated to the conservation of feline animals. The four-person team he was in drew the lot and got a particularly passionate guide. They were eager to win.

Early in the morning next day, the guide drove them to town and invited another local expert on board. After the meet-up, they split up into two groups and headed for two ravines. Seeing Ming was physically strong, the guide offered to carry his photography equipment and together they climbed over several hills.

But alas, how difficult it was to find snow leopards! They like to hide along the rocky ridges of elevated terrain. Should any blue sheep venture to feed on the grass below, these natural predators would jump out and kill them before you can say Whoa. Such drama may be staged anywhere in Namsee. These rocky ridges generally are of low height—only two hundred or three hundred meters elevated from the ground. But don't forget that the ground here is 4,000 meters above sea level. Climbing up and down with heavy bags on the shoulder is much more arduous than it would have been on the plains in eastern China.

That day Ming crossed three ridges and his



© The Lancang River Valley in moonlight. There is also a board that reads "Danxia Landforms Park" in Namsee. The left side of this picture shows such landforms. / photo by Fallen Flower Petals

guide, carrying his cameras, climbed two more. Through binoculars the guide repeatedly looked at the caves a few hundred meters away and patted the contestants on their shoulders from time to time. "Hey, look there! " A picture was taken using a 600mm-equivalent lens. When it was zoomed in, in, and in, a lone blue sheep finally became visible. It was lying in one of the caves, an old male, its horns heavy and magnificent.



© Snow leopards found the birdwatcher / photo by Terry Townshend

It was not until the sunset that the guide led the way back upon the team's request. No snow leopard was found that day. But at the sight of a huge herd of blue sheep, about 100 of them, they decided that there must be snow leopards around because blue sheep is their food. These cats rarely visit places where there are few blue sheep or argali.

When he was taking a field trip around the Qinghai Lake this April, Dr. George Schaller often sighed, "Empty. All empty. These mountains are empty. Nothing big here. " He should have been happy had he done his field study in Namsee.

When they met Ming and his fellow team members, that huge herd of blue sheep were eating grass on a slope and some were only a few hundred meters away. Upon seeing the men, they quickly hopped up the hill. A few big-horn males turned to stand on protruding rocks bellowing their warnings, but then they ran away, too. Their sudden move looked as if rocks on the grass had sprung to life. The animal is called blue sheep in English because its fur has a grayish blue color similar to that of rock. When he described Namsee, Xi Zhinong often stressed that local animals are not very afraid of humans. In places where they are, however, few blue sheep can tolerate human presence on the same side of a hill. Upon detecting human sounds in great distance, they jump over the hill and escape to the other side.

During the four-day competition, 14 teams obtained records of 10 animal species, 61 bird species, and 93 plant species. Of all the contestants, plus committee members, logistics staff, and tour guides, only ornithologist Terry Townshend managed to get a picture of a couple of snow leopards. It was a moment when he propped up a monocular used for birdwatching with his mobile phone attached to the

eyepiece (imagine how those folks carrying cameras and telephoto lenses would feel about that). He then managed to shoot pictures of what appeared to be two underage snow leopards licking each other and casting nonchalant looks at his direction. The guide heard from nearby herders that there were three snow leopards over there. Their mother should be around, too. A birdwatcher's eyes can be unbeatable, you know.

After another tiring and almost unfruitful day, Ming got a consolation prize for a huge stock of feline feces he found at a lower altitude. It was probably excrement from leopards, a species rarely seen in the locality. Just by examining feces, scientists would know what kind of animal, when it showed up, and what it ate. Traveling through the intestines, the poops carried some cells, whose DNA would give a lot of information, too.

© Leopard dung! Guess who got lucky! / photo by Ming







© A Glover's pika / photo by Wei Ming

### When *Drolmas* come, will animals run away?

On their third day in Namsee, the contestants were joined by an environmental NGO's investigation group as well as an international student study group. On their way back to the campsite, Ming and other team members ran into these two groups. Looking at a fleet of fancy cars, they asked the guide who were these people.

"Well, the art troupe and the work group, of course!" The man scratched his head for quite a while before he added, "Well, a lot of *Drolmas*!" It turned out that he forgot the word for "pretty girl" in Chinese.

At that night someone mumbled to the great soiree at the campsite: "So many *Drolmas*, will they scare animals away?"

This is indeed a problem. What can be done to facilitate the development and opening-up process of the human society and to guarantee conservation at the same time? Answers to this question challenge the wisdom of policy makers.

For the past 20 years, Nyiga has gone through a lot in his grassroots work. Now he serves as the

director of the Sanjiangyuan National Park Langcang Headwater Area Resources Administration. He's a proud Khampa man who would dress up in traditional Tibetan attire at every official gathering. A good ecological state as in Namsee, he believes, largely depends on local traditional culture and indigenous awareness.

"We were taught not to kill innocent lives at a very young age. There was this great famine back in the '60s and '70s; some hungry people were forced to hunt animals. But here folks felt the idea of hunting repulsive, they would rather be starved." What Nyiga said is true. Tibetan Buddhism relieved the tension between nature and a growing human population.

A talk with the contestants, local residents, and the guides often revealed two other positive factors in Namsee. The first is how this town escaped the fate of deforestation. Forest is relatively scarce in western Qinghai and otherwise bountiful in Namsee. But the dominant tree species here is the squiggly and twisted Tibetan juniper that cannot be used for domestic purposes. The second factor is associated with another bountiful natural resource in Zadoi County.

Cordyceps makes a good livelihood for many



local Tibetans and therefore necessitates the preservation of the environment they grow in. Harvesting cordyceps is considered an environmentally friendly practice in relative terms—very little damage would be sustained after a harvest, at least less than goat breeding and mining. Poverty-stricken households can make a decent income just by using their brawn. Unknowingly, cordyceps have become what is ironically called a “low IQ tax,” part of which goes to support poverty-alleviating and environmental causes. This situation might have been widely unexpected baffling quite a few science-minded environmentalists.

But would all that works well for a nature reserve also function in the national park system? This is a question we need to solve in near future.

Cai Danzhou and his colleagues think that at some point in time, this national park should be provided with some kind of access mechanism to go with high-end customized tourism. But how to set up thresholds and tour rules is one of the details the newly founded administration has yet to figure out. As a local leader put it, “There is some conflict between environmentalism and tourism no matter what they say.” The administration is aware of such conflict as well.

Shan Shui Conservation Center has always been a key supporter to the Sanjiangyuan National

Park. In a 2014 paper, *National Parks: Top-Down Design and Demonstration*, Lu Zhi and Wang Hao suggested a Sanjiangyuan Snow Leopard National Park be established within Sanjiangyuan National Nature Reserve. The following are four reasons to do this as specified in the paper:

1. It's important to protect the animal;
2. There is a conservation gap and most of the snow leopard habitat is outside the nature reserve;
3. Sufficient scientific data are available for reference; and
4. The government pays great attention and local communities are active.

In light of recent developments, the Sanjiangyuan National Park should have a promising future. If it comes out as expected, it will become a paradigm for conservation and economic development in western China. But no one exactly knows how to make that happen. We all have to grope our way through.

The final day of the festival was for everyone—local herders, conservationists, and the contestants—to have a Tibetan folk dance. All of a sudden the music was switched to the song *Drolma*. Soon everyone started to sing.

Singing together were the people who had spent the better part of their lives on the plateau, with the Khata in one hand and protective weapons in the other. They can't drop these things. At least not now.

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## Land-Trust Conservation

The Baixiongping Conservation Station is a land-trust entity jointly established by and run under the co-management of Shan Shui Conservation Center and Tangjiahe National Nature Reserve. At this station we work with grassroots conservationists to carry out patrol and monitoring, research, and nature education.

In 2016, we continued to explore the land-trust framework. When basic patrol and monitoring goals were met, we put more of our strength into conservation-based research, environmental advocacy, and nature education. Research topics included the relationship between forest vegetation and animals in the context of climate change, ecosystem health evaluation inside the nature reserve, and updating of rare species distribution data. A great deal of rare wildlife images and data were obtained using 82 cameras within an radius of 57 km<sup>2</sup> around the station. Constructive progress was made particularly in the study of scent marking behavior among yellow-throated martens, a rare carnivorous animal of significance to the forest ecosystem, as well as in the study of large herbivorous corpse decomposition in the nature reserve.

A great number of volunteer scientists were engaged in conservation: 51 volunteers participated in the Baixiongping volunteering activities throughout 2016. Backed up by the station, we also provided tech exchange and training inside and around the nature reserve benefiting over 50 people.

To promote this land-trust management mechanism, we held a number of experience sharing seminars in mega-cities like Chengdu and Beijing introducing what we have done with the Baixiongping—our experience was widely commended, particularly by the Sichuan Forestry Department. The Baixiongping Conservation Station was covered as a feature story by Nature Watchers, a program of the CCTV Documentary channel.

# The Guardians' Story | True and Romantic

## The Little Wood Cabin: 365 Days in the Mountains

In September 2014, autumn colors befell the woods along the Wenxian River in Tangjiahe Nature Reserve. This area is a key giant panda habitat. It is also where Shan Shui Conservation Center was working with the nature reserve's administration to build up a land-trust conservation station in an effort to bridge research and conservation. The first man appointed director of the Baixiongping Conservation Station is named Diao Kunpeng, and at the time was addressed cordially as Director Diao, which sounds pretty close to "wicked" in Chinese.

Three young people arrived at the station before the autumn came in 2015. The student vet Pan Shiyue, the ocean freighter second mate Gu Weilong, and the garden designer Zhang Xiao'ou would soon begin their one-year work with Director Wicked.



© From left to right: Diao Kunpeng, Zhang Xiao'ou, Pan Shiyue, Gu Weilong

### A Talented Crew of Four Explorers

Winter came cutting off water and power supplies at the station. Pan, a senior college student majoring in veterinary studies, brought some sweet potatoes to the riverside to feed the porcupine who needed to be kept for a while after the rescue. "Fancy-free, full of wild ideas, quick to laugh," she came to do her fellowship with determination and was soon known as a "Curious Babe" and "Super Girl" here at Baixiongping. Her responsibilities included pet dog plague investigation, wildlife rescue, dead animal sampling, and carnivorous animal study.

At 7:50 one morning in May 2015, Gu came aboard the ship, checked the navigational aids on the bridge, and made an entry in the logbook, getting ready for another day's work as the second mate on ocean freighters. But here at the Baixiongping station he turned himself into a photographer, a repairman, a driver, and someone responsible for takin and black bear research projects. That year he lost 15 kilos of weight. Sometimes he played guitar for his co-workers at the station. He could also play the *Castle in the Sky* with a bamboo leaf.

Zhang was a garden designer. Her research topic at the station was the *Impact of Human Activity on Wildlife in Highly Enclosed Areas of Tangjiahe Nature Reserve*. Her tasks included drawing sketches, making handiwork, taking care of rescued animals, and acting as an accountant. Meticulous and patient, she was lovingly referred to as a "Virgo who was born a little too early."

The ground was blanketed in snow. Diao Kunpeng took the fellows to retrieve recordings from the

camera traps. This was his second year at Baixiongping. Back in 2014, he climbed down the ivory tower and, as a bewildered young researcher, came to the crossroad of conservation frontlines. He would turn out to be an "old" director of the Baixiongping Station two years later. Indeed, all three Chinese characters in his name are associated with animals. When he applied for a place in the Institute of Zoology, the examiner stared at his name for a while before asking, "Are you sure you didn't change your name just for this occasion?"

### One Year at Baixiongping: An Interview

Shan Shui: When did you develop your interest in conservation? What made you decide to do fellow-



© The workers at Baixiongping often needed to clear the leaves-clouded passage to their tiny 60kWh hydropower station. A beautiful rainbow would rise when they succeeded!

ship at Baixiongping?

**Pan:** I grew up in mountain areas of southern Anhui and especially liked to climb trees and pick fruits with friends. I like to be free and I have great passion for nature, wildlife, and conservation. One day in my fourth and final year in college, a younger student asked me to sit her class because she wanted to skip it so she could apply for a short-term volunteering job at Baixiongping. That's when I first heard about it and followed Shan Shui's WeChat page. A few months later I needed a long-term internship, just when Baixiongping was looking for fellowship candidates. My eyeballs nearly fell out when I saw the news. I hurried to send out my resume and cover letter. Well, later I realized what an awful letter I churned out when I got really excited, hahahah~~~

**Gu:** I am always interested in doing public service. I've done a lot of volunteering work. Once I worked as a volunteer teacher in a remote mountain village for half a year. I started to pay attention to conservation when I watched a documentary film, *The Cove*. I began to follow Shan Shui a long time ago and always wanted to take part in its volunteering activities. But then I thought I couldn't do much in these short term activities. So I decided to be a fellow, and I did.

**Zhang:** When the nature reserve caught my attention in June 2015, a search on Zhihu.com led me to many conservation scientists and front-line workers; I started to follow their news. I started to read the *Last Panda*, a book written by the conservation maestro George Schaller. I started to learn more and more about in-situ projects led by Professor Lu Zhi and other conservationists in China. At that time I really wanted to change my major to nature reserve planning but I had never been to any nature reserve before. I searched online and found that there was a one-year fellowship program in Tangjiahe Nature Reserve. The length of time was ideal for me. So I decided to try my luck and sent out my resume.

**Shan Shui:** What impression did you have of Baixiongping when you arrived? Any difference from what you expected?

**Pan:** I had had no outdoors experience, so I expected it to be tough. But I didn't fuss over it too much because I like sports and I am sort of a tomboy. I thought I could survive. When I got here, I discovered it was terrific. There was good food, a nice bed, and even wifi connection. There was so much

less pollution and hustle and bustle than in the city. It was even better than a tourist resort. And best of all I got to stay with fun friends who had a lot to share and knew how to live their lives to the fullest. So every day was absolutely fantastic there.

### Cool vs. cold

**Gu:** I had lowered my expectations before I came here. I had expected the worst. Then I got here and found it was the best equipped conservation station in Tangjiahe and the most upbeat at work as well.

**Zhang:** My first impression was that there were nice views all around. You'd see green mountains once you opened up the door and there were all kinds of birds singing every morning. We lived in a wood cabin built with a balcony and a fireplace. It was just like a villa for anyone who dwells in a overcrowded city. But all living facilities away from human civilization can be sustained only with tremendous labor. Hydropower is used for the cell phone tower and other living necessities at Baixiongping, which means that someone has to go and check the power station and the hydraulic head every day. Water decreases in winter and our rustic engine can barely cope. So gradually we begin to lose power for heating stoves, hot water, the Internet, and the phones. Baixiongping would have been a lone isle in winter had it not been for Weilong's satellite phone (10 yuan per minute). When life got too hard in December, we would move out and stay for four months in the grid-powered research center 19 kilometers away. But the patrol and camera data retrieval continued throughout the winter. When we returned on such occasions, we found that the temperature in the cabin dropped around zero degree Celsius. And the water pipes outside the cabin broke. When we came back in the spring, we had to spend a lot of money getting the water pipes and other broke equipment fixed.

**Shan Shui:** We learned that Weilong used to be



© Four seasons at Baixiongping



a second mate on ocean freighters. What was your life like at sea? How was it different from here?

**Gu:** Life on the ship was actually a lot like here at the conservation station. There were only a handful of people you get to see every day. I could visit a lot of fun places on a voyage. But here I could learn a lot of interesting stuff every day. So I enjoyed both.

**Shan Shui:** What did you need to do at Baixiongping?

**Pan:** Well, we kind of shared everything and worked together most of the time. Only that we had different responsibilities. Usually Weilong was the keeper of cameras, batteries, and memory cards. The three of us took some cameras on our patrol. I would go up and check a dead animal if we came across one. And together we would place a camera, record its placement, etc, etc. Data in the retrieved memory cards needed to be downloaded to the hard drive and a copy to be made. Then a volunteer, Xiao'ou, and I sorted them out. Animal rescue and anatomy were more special work, but we didn't get to do any of it often.

**Gu:** I did quite a lot of work at Baixiongping, including hydroelectric maintenance, driving, equipment maintenance, camera retrieval, and volunteer training. These were routine work. I was also responsible for two research projects. One was a study on

how takin may destroy vegetation and the other was about black bear behavior.

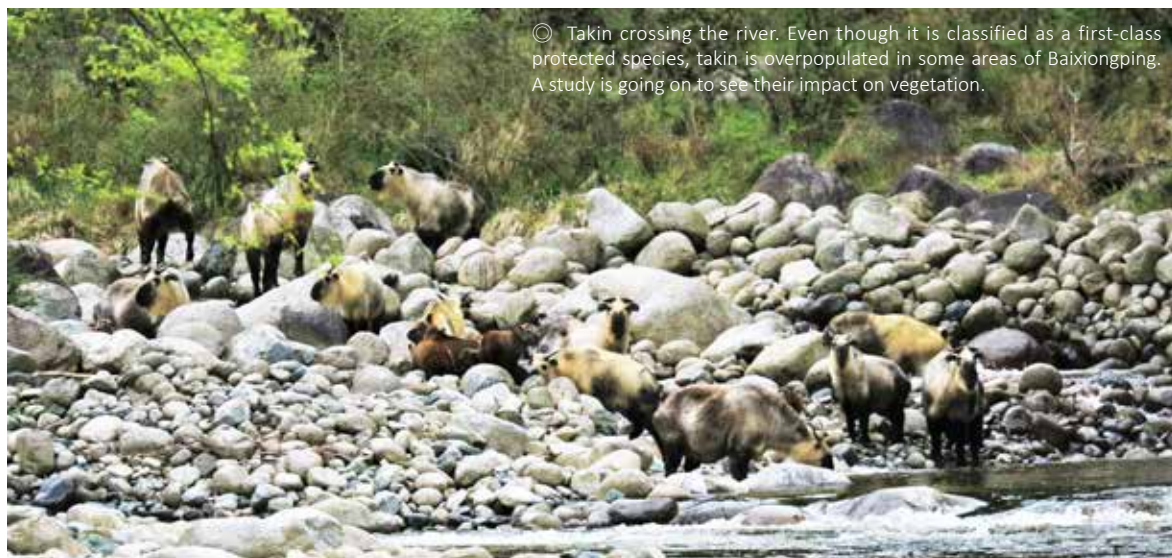
**Zhang:** Director Diao recruited us three as "research assistants." Each of us had a topic. Mine was the Impact of Human Activity on Wildlife in Highly Enclosed Areas of Tangjiahe Nature Reserve. One of my tasks was to do investigations and studies on this topic. Another task was to make Excel sheets out of the retrieved data. This was in fact pure labor work...a big energy consumer. But this is how we do things. But compared to the times when weather-beaten scientists sorted out the data he scribbled on a tiny notebook crouching on the ground all day, things have become much easier today. When there was not enough manpower, Shiyue and I would go and accompany Weilong on his way to retrieve data, lest something might happen to him if he went alone. This was also something those volunteers were dying to do out in the wilderness.

The most enjoyable work was when we came back and sat in front of the computer checking if we got images of giant pandas, leopard cats, black bears, snub-nosed monkeys, and other animals rarely seen around Baixiongping.

**Shan Shui:** At an experience sharing seminar we heard from Shiyue a lot of stories about animal

© Snub-nosed monkeys in their natural habitat / photo by Gu Weilong





© Takin crossing the river. Even though it is classified as a first-class protected species, takin is overpopulated in some areas of Baixiongping. A study is going on to see their impact on vegetation.

rescue. Can you tell us one that affected you the most?

**Pan:** It was a Himalayan goral the second day when I arrived. It was midnight and I had no wildlife rescue experience. I searched as much information as I could to make a diagnosis and give medications. But there were only some cefotaxime and glucose available at the station. It was well past midnight when the director finally announced that we tried our best and could only wait to see if it could live through the night. He hurried me off to bed. It turned out that it didn't. I was deeply affected. I felt I could do nothing even when I was there. I was let down for a few days. Later I was told that it is very difficult to rescue wild animals. Any one we could find was usually in really bad shape because as long as it could get up on its own, it would make adjustments and run. What's more, we had a lot of limitations at the station. After this setback I began to think more deeply about animal rescue.

**Shan Shui:** How did the takin and black bear research projects go?

**Gu:** We're already half a year or so into the takin project. Takin fences and a large number of camera traps were set up on two of three quadrats selected in the area of Baixiongping. A lot of data was processed. Now the project is still going on. The black bear project was approved in August. We just did some preliminary work before that. For example, we designed three traps and triggers and set them up along three transect lines where black bears can be caught. We also set up a lot of camera traps to study the activity and distribution patterns of black bears. We've already got a lot of infrared data.

**Shan Shui:** How did Xiao'ou study for her paper, the Impact of Human Activity on Wildlife in Highly Enclosed Areas of Tangjiahe Nature Reserve? What did she find?

**Zhang:** Camera traps were set up and angled at animal paths along several patrol lines. One camera was placed a little closer to the highway and another farther away along each line. We have been collecting data since the end of last October recording when humans and animals showed up and how long they stayed, what kind of animals there was, how many of them, etc. So we can draw two comparisons. One is comparing frequent and infrequent hu-



© Camera traps caught a lean black bear cub gorging himself on a dead boar and rolling on the ground afterwards.

man activity in relation to the rate by which animals are photographed and their diversity. The other one is comparing the photography rate and the diversity in November, the month when Baixiongping is opened up to tourists, and in the other months of the year.

One of my findings is that human activity does cause some disturbance to animals. The infrared data show that animals would show up on the same



path at least 6 hours after a human appeared. Another finding is quite surprising. In areas frequented by humans, the number and diversity of animals increased considerably compared to areas not frequented by humans. We have discussed particular reasons why this happened. There are many assumptions and possibilities. My assumption is that herbivorous animals are inclined to go to places where carnivorous animals appear reluctant to be near humans. Of course, there are other possibilities, and differences in elevation may be one of them.

**Shan Shui:** How did you spend your leisure time in your fellowship year at Baixiongping?

**Pan:** We had so much fun! Everybody was talented; lovely surprises came out everyday, you'd never get bored hahaha~! But now looking back, what I enjoyed the most was movie time on the second floor with Director Diao, Weilong, and Xiao'ou. But the important thing is not what we did. It's that we always stuck together, supported one another, and stayed happy.

**Gu:** We had a really awful lot of stuff to do for fun at Baixiongping. Everyone was talented—the director's kung fu, Xiao'ou's painting, Shiyue's flute. I liked to make things with my hands, like musical instruments and stuff.

**Zhang:** Painting, handiwork, raising cats, owls, and porcupines, or being dragged by the director and Shiyue to do some exercises, listening to Weilong play guitar, getting brainwashed with a new song he'd just learned to play.

**Shan Shui:** At the experience sharing seminar, the director said there were a lot of joy and trouble living in the mountains, and everyone talked about maybe one tenth of the first and one hundredth of the latter. Can you tell us what's the most difficult and joyful things you'd ever run into at Baixiongping?

**Pan:** Well, every day was a super big joy, so normally you would not try to rate it in your mind as the most difficult and the most joyful. But I can tell you one thing I found quite funny. It was back in the winter. The water level got so low that we lost electricity. So we lost signals and the Internet connections on our phones. We had to pick dead tree branches in the mountain and burn them for cooking and heating. We could see the stars very clearly at night but we couldn't stay out for too long; it was too cold. Instead, we would sit around the gas stove and sing songs or tell stories. It felt warm and cosy nevertheless. But that made my family really worried. At that time the director was on a business trip in Chengdu, and my mum called him and hit him like a ton of bricks. She demanded contact with her daughter. She finally got through to him after an arduous search. At first I didn't believe it was true, since I had just told my family a few days earlier that we were



© This is how Gu waited for hours at a cave just to photograph a corpse-eating young boar on March 26, 2016.

going to lose power and signals. Besides, both my parents are sensible and big-hearted people and often go on without calling me for weeks. Around that time Mr. Zou Tao and Dong Lei happened to be here at the station. They drove me down the mountain to make a call. It turned out that my mum really got worried and pissed-off. She demanded me go home immediately. While I was trying to calm her, I thought to myself that how our poor director could have braved himself for the storm of her hot temper, hahaha!

**Gu:** The most difficult thing was when we lost electricity last winter. We had no water, no power, no Internet, no signals; we couldn't do anything. All we did after sunset was light a candle and sit on the sofa staring into the darkness. Away from urban facilities for a while, I would easily find delight in any smallest thing. For instance, a call from the shipment company saying I got my package could set me on cloud nine for several days.

**Zhang:** The greatest difficulty: Crossing a river...I am super clumsy...I'd fall into the water seven times out of ten. So I feel immensely grateful for my friends here to help me out! The greatest joy: Introducing Dr. George Schaller, the conservation wizard, to scientific studies Shan Shui had been doing at Baixiongping. I wonder if anyone knows this kind of joy: You try to do what your hero has been doing and then one day you meet the great guy and get the chance to talk with him in person. You feel you've taken a big step forward from where you started.

**Shan Shui:** Have you got any achievements, ideas, or changes from your fellowship?

**Pan:** My greatest achievement is getting to know these wonderful, like-minded friends. We may leave for our destinies, but we will continue to support each other as always. The biggest change should be me having great interest in research and academic studies. I feel more motivated to learn and use knowledge in my major the best I can.

**Gu:** Achievement #1: I gained a true under-



standing of in-situ conservation and research and personally took part in such efforts. Achievement #2: I learned a lot about wildlife. Achievement #3: Frequent contact with managers of the nature reserve and various stations in my work at Baixiongping helped me boost my eloquence, flexibility, and interpersonal communication skills.

**Zhang:** I achieved like-minded friendships! This year I did my research, went on field trips, and helped Shiyue save animals. I feel that under Director Diao's guidance I became more professional in conservation. Here is the change: Some books had poisoned my mind and fed me with a belief that wild animals need humans and can have friendly relationships with us. But when I came here at Baixiongping, reality often punched me hard in the face...Well, it was the porcupine's face. We kept it for a month, but it still refused to be friendly. It always got angry at the sight of humans and tried to push its head out of the cage. The wound on its nose got worse when it did that, and quite a few needles fell from its body. It looked like a disaster. Director Diao often tried to talk sense into us and warned against insensible empathy with animals.

"The porcupine loves corn."

"Then it shall have corn." The Director would say.

"The porcupine loves sweet potatoes."

"Then it shall have sweet potatoes." The Direc-



© The porcupine rescued by the station

tor would say.

"The porcupine loves wood planks."

"Wood planks are mine. Ten yuan for each!" The Director would say.

"I hope that one's experience at Baixiongping will be a treasure for life. I also hope that more people will come here to witness and get involved in our efforts to preserve nature." Director Diao Kunpeng sent this message to all fellow researchers working at Baixiongping.

The following statement appears in every paper produced at Baixiongping: "It is hereby acknowledged that this project is sponsored by Shan Shui Conservation Center and Tangjiahe National Nature Reserve and that 42 volunteers and 3 grassroots workers employed by the nature reserve were involved in the installation and retrieval of cameras as well as data compilation for the purpose of this study." The following studies have been successfully applied to actual work in and for the nature reserve:



© Baixiongping has a Wall of Volunteers

- A Preliminary Study on Yellow-throated Marten Activity Rhythm and Scent Marking Behavior

- A Study on Dead Animal Decomposition in the Nature Reserve Based on Infrared Camera Technology

- A Study of the Baixiongping Conservation Station on Carnivorous Animal Populations in Tangjiahe Nature Reserve

- An Examination Report on Domestic Dogs Carrying Pathogens in Communities around Tangjiahe Nature Reserve

Another golden autumn is approaching. These fellow researchers have left their traces of change on the walls of the little cabin and in every inch of the fields they walked across. You may say this sounds like a metaphor of life. You say change is hard, but that doesn't stop people trying to make it happen. Baixiongping will recruit more short-term volunteers to safeguard this true and romantic kingdom of wildlife.

originally posted on Shan Shui's WeChat page  
September 13, 2016

Images provided by Diao Kunpeng from Shan Shui

Fellow researchers: Pan Shiyue, Gu Weilong, Zhang Xiao'ou  
article written and edited by Feng Yanqiu from Shan Shui

QR Code to the original post:



# Volunteer Scientists

Since it was founded in 2007, Shan Shui has made countless field trips with her friends. Many city dwellers thus have reconnected themselves to nature and rediscovered its value; some have joined the Nature Guardians team.

With in-situ science volunteering activities, nature education plans, and nature experience outputs, Shan Shui promotes nature education in nature reserves and local communities, explores effective participatory approaches, and engages Nature Guardians and Volunteer Scientists alike to get in touch with nature and hold up new hopes for a greener tomorrow.



© Volunteer scientists are learning about aquatic life in Shenzhen



© Volunteer scientists involved in the large carnivorous animal survey in giant panda habitats inside the Wolong Nature Reserve

© Volunteer scientists are having a Wanglang In-Forest Class!





# “Submerged Forest” :

## An Army of Species Show Up in Summer Palace!



© Shan Shui and volunteers are examining aquatic life and water quality

“The green tape-grass rooted in the soft mud / Sways leisurely in the water / I am willing to be such a waterweed / In the gentle flow of the River Cam” is how Xu Zhimo expressed nostalgia in *Taking Leave of Cambridge Again*. The “tape-grass” he mentioned in the poem is probably some kind of submerged plant that “sways leisurely in the water.”

Have you seen from a bridge an expanse of “submerged forest” that “sways leisurely in the water?” Have you ever imagined how it would look like at the angle of fish in the water?

August 12, 2016, Summer Palace. A shower brings the temperature down a little. A long stretch of sparkling emerald spreads over a tender, rippling bed of water. In preparation for the “Urban Wetland Ecosystem Restoration Pilot Project in Beijing,” Shan Shui is guiding a group of volunteers through a species and water quality survey.



© See how to take an angle in the water



### What’s the making of a “submerged forest?”

A beautiful forest emerges underwater when populations of submerged plants grow together by photosynthesis. They release oxygen, absorb excess nutrients in the water, and provide aquatic animals with food, shelter, and a place to lay eggs. They are the basis to solidify the aquatic ecosystem. Next time when you cross a river, remember to take a closer look into the water. They might just be there for you to find.

© Bog pondweeds





© Horned pondweeds / photo by Chen Yunfang



© A little confused? Now you have this comparison image, can you tell them apart? (Courtesy of <http://frps.eflora.cn/>)

Meet little sprites near or in the waters when you visit a city park. Fish are strange creatures that look quite different to your eyes and to the lens of an underwater camera.



© The snakehead fish / photo by Chen Wei

The eastern golden frog has colors that make fine cover in submerged plants. It quickly jumps into the water with a “ribbit” when it feels threatened.

This frog faces a leech trapped inside a big drop of water. One can’t help but wonder which scenario is more likely: that the frog keeps it as a magical crystal ball or that the leech tries to seek last refuge in front of its nemesis.

Butterflies captivated Vladimir Nabokov, the author of *Lolita*, so much that he became a successfully self-taught lepidopterist. In his poem *On Discovering a Butterfly*, he claimed:



© An eastern golden frog feeding on a damselfly: “Hey buddy, you got a light?” / photo by Chen Wei



© The eastern golden frog / photo by Chen Wei

*I found it and I named it, being versed  
in taxonomic Latin; thus became  
godfather to an insect and its first describer – and I want no  
other fame.*

How would you describe a butterfly, a dragonfly, and a damselfly? Short-lived? Fragile? Enchanting? We keep running into them along the way.

We get to learn about water bodies and biology, observe over 60 species, talk about our childhoods and fond memories associated with the biological world, discover butterfly eggs on a willow leaf a few meters away....these are only some of what we can do in six hours of a tour around Summer Palace. Such an “opening up” experience with a city park is also for you to try.



© The *Rhyothemis fuliginosa* Selys / photo by Chen Wei

originally posted on Shan Shui's WeChat page August 23, 2016  
article written and edited by Feng Yanqiu from Shan Shui



QR Code to the original post:

## Snow Leopard China: A Nongovernmental Snow Leopard Research and Conservation Network

Snow Leopard China is an alliance for snow leopard research and conservation co-founded in 2015 by several institutions and organizations including Shan Shui Conservation Center, the Peking University Center for Nature and Society, Wilderness Xinjiang, CFCA, Mt. Everest Snow Leopard Conservation Center, and the Beijing Forestry University Wildlife Institute. This network promotes private snow leopard research and conservation practices through information sharing, technical training, and other workable tools.

The most important sharing outlet for Snow Leopard China is Snow Leopard China Forum. The first Snow Leopard China Forum was held in Yushu in 2015 and the second took place in Xinjiang the following year, co-sponsored by Wilderness Xinjiang, the Eastern Tianshan State-owned Forest Administration, and Shan Shui Conservation Center. In the latter, Shan Shui issued the Snow Leopard Research and Monitoring Technical Guide, a means of technical support for the stated purposes.

© A snow leopard in wilderness  
photographed with our infrared cameras



© Dr. Wen Cheng is briefing the forum on our snow leopard conservation efforts / photo by Feng Chen

# About Us

## Board Members

Name	Profile
Mr Zheng Yisheng Acting Chair	Researcher of the Institute of Quantitative & Technical Economics, Chinese Academy of Social Sciences; deputy director of the Environmental Centre. His interests of study include sustainable development.
Mr. Xu Jintao director	Professor and vice dean of Peking University National School of Development; Director of China Center for Energy and Development; Executive Director and Deputy Chair of China Forestry Economics Society (CFES) His interests of study include pollution control policies for industrial companies, forest economics, urban traffic control policies, and the surveying and research of rural household behavior.
Ms. Sun Shan director	Ms. Sun is 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 and spent five years studying bio-medicine and wildlife genetics. In 2002, she launched the CI China Program with Lu Zhi and has since been working to administer 6.5 million US dollars of the Critical Ecosystem Partner Fund in the mountain areas of southwestern China. In 2010 she helped create LEAD & Beyond, a fellowship program designed to promote leadership for sustainable development, and served as its executive director.
Ms. Lu Yinghua director	Stockholder and initiator of Shan Shui Partnership Co.; having sponsored and called for multiple fundraising dinners and activities over the long years of her support to Shan Shui.
Mr. Cong Zhigang director	Partner of Dingtian Zhuoyue Investment Center; management advisor 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. Marjorie Yang Honorary Chair	A CPPCC member since 2003, Ms. Yang chairs Esquel Group, a leading Hong Kong-based textile and apparel manufacturer with operations throughout the world, while serving as Deputy Chairman of the Seoul International Business Advisory Council (SIBAC) and Honorary Chair of Shan Shui Conservation Center. Ms. Yang has found her passion to promote higher education and high/new technology and to share her experience with many renowned universities in the United States, mainland China, and Hong Kong SAR, where she chairs the board of directors in the Hong Kong University of Science and Technology. She is an advisory board member in various educational institutions, including MIT's CSAIL and Sloan School of Management, Harvard University, and Tsinghua University School of Economics and Management. In addition to her official responsibilities and public service contributions, Ms. Yang also serves the boards of the HSBC and Swire Pacific as an independent non-executive director. Earlier in her life she obtained her Bachelor's degree from MIT and then an MBA degree from Harvard Business School.



Name	Profile
<b>Mr. Xu Zhihong</b> senior advisor	<p>Professor of Peking University School of Life Sciences; researcher at the Shanghai Institute of Plant Physiology and Ecology, CAS; CAS and TWAS member; plant physiologist; former president of Peking University (Nov. 1999—2008).</p> <p>Currently Mr. Xu chairs the UNESCO's China MAB National Committee and leads the Enforcement of Scientific Ethic Committee for the CAS Academic Division. A great contributor to plant sciences and nature reserves in China, Mr. Xu has a long pursuit of study in plant developmental biology, plant cell culture and genetic manipulation, and botanical bioengineering.</p>
<b>Ms. Lu Zhi</b> founder	<p>Founder of Shan Shui Conservation Center; professor of conservation biology in Peking University; director of the Center for Nature and Society; IUCN World Heritage Committee member; standing committee member of China Association for Science and Technology; Global Agenda Councils member of World Economic Forum.</p>
<b>Ms. Chen Haiying</b> Chief Supervisor	<p>Ms. Chen obtained her BA in Economics from the Shanghai University of International Business and Economics before she went on to work in the Personnel Department and the International Business Management Department of the Ministry of International Business and Economic Cooperation (now the Ministry of Commerce). She also served as vice-consul for business at the Chinese consulate-general in Vancouver, Canada, and then as deputy director for public affairs in Bombardier Inc. Beijing Office. She moved to Esquel Group Hong Kong in 2003 and currently works as the Chief Representative of its Beijing Office.</p>
<b>Ms. Zhang Lin</b> supervisor	<p>Chief Investment Officer (CIO) of Dingtian Zhuoyue Investment Center; CIO of Ai You VC, a venture capital investment program of the Ai You Foundation;</p> <p>A Master of Finance from the Central University of Finance and Economics, Ms. Zhang has a wealth of experience in equity investment as well as a deep understanding of realities and needs concerning growth-oriented Chinese enterprises. Her contributions span across various sectors and industries, including pharmaceuticals, equipment, consumption, education, and agriculture.</p>

## Financial Overview

### Revenue & Expenditure (in ten thousand yuan)

	Revenue	Expenditure	Change in NAV
2015	1,433.99	1,434.68	-0.69
2016	1837.92	1,275.00	562.92

### Change in asset value (in ten thousand yuan)

	Beg. of yr.	End of yr.	Change
2015	1,168.58	1,407.15	238.57
2016	1,407.15	1,889.69	482.54

## Our Team

As of December 2016, Shan Shui had 26 employees, among whom 10 hold Master's or doctoral degrees, and 23 long-standing, non-resident consultants, among whom 7 are fellows, 7 are research advisors, and 9 are general advisors.

As of December 2016, we provided 23 staff training sessions, 15 of which are internal and 8 external, all designed to be completely inclusive for a creative and open mindset. Topics included work skills, team communication skills, and general knowledge about ecology and anthropology.

It is the fourth year since Shan Shui was accredited as a Chinese Five-A Social Organization (Jan 2013—January 2018) and the fifth year since her "tax exemption as an NGO in Haidian District" (2013—2017).



We gratefully acknowledge a crew of partners listed as follows (by alphabetic order)

Agence Française de Développement (L'AFD) en Chine	China Youth Development Foundation
Ai You Foundation and Aiyou Future Public-raising Foundation	Chinese Felid Conservation Alliance (CFCA)
Alibaba Foundation	Coca-Cola Shanghai Limited
Bayer China	Conservation International (CI)
Beijing Arctos Technology Co., Ltd	Critical Ecosystem Partnership Fund
Beijing Haidian District government	Dali University
Beijing HCVC Management Consulting Co., Ltd	Decathlon Wildlife Watching
Beijing New Oriental International School	Edrington Shanghai Limited
Beijing Shan Shui Partners Cultural Development Co., Ltd	Esquel Y. L. Yang Education Foundation
Blue Moon Fund	FAW-Volkswagen Audi
BMW China / BMW Warm-Heart Fund	Ford Environmental Awards
Brady Foundation	French Embassy in China
Bridgestone (China) Investment Co., Ltd	GAC-Toyota
CAAS Institute of Apicultural Research	Gangri Neichog Research and Conservation Center
Caixin Media Limited	Gansu Baishuijiang National Nature Reserve Administration
Canadian Embassy in China / Canada Fund	Gansu Provincial Forestry Administration
Cargill Investment (China) Limited	Gansu Wenxian Green Motian Mountains Conservation Association
CAS Chengdu Institute of Biology	GEF Small Grants Programme
CAS Institute of Mountain Hazards and Environment	George Schaller
CAS Kunming Institute of Zoology	Guangzhou Bosma Optoelectronic Technology Co., Ltd
CAS Kunming Institute of Zoology: Ecology, Conservation, & Environment Center	Guokr.com
Chengdu Aisi Market-oriented Consulting Co., Ltd	Hainan Protected Areas Project Management Office
Chengdu University of Traditional Chinese Medicine	Haiwen & Partners
Chengdu Urban Rivers Association	HSBC Bank (China)
China Academy of Social Sciences (CASS)	Huayi Brothers Foundation
China Agricultural University	IBE
China Birdwatching Association	IUCN
China Green Foundation	L'Oreal China—Kiehl's
	Lanzhou University Center for Community and Biodiver-

sity Research

Liangshan Prefecture Green Earth Agricultural Development Co., Ltd

Liz Claiborne-Art Ortenberg Foundation

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Mianyang Normal College

Ministry of Environmental Protection

Narada Foundation

National Geographic Society Air and Water Conservation Fund

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National Science Foundation (NSF) / Michigan State University

National Travel Channel Media Co., Ltd

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Peking University Center for Nature and Society

Peking University Yao Meng Lab

Qinghai Datong County Forestry Administration

Qinghai Department of Environmental Protection

Qinghai Development and Reform Commission, Sanjiangyuan Office

Qinghai Forestry Inventory and Planning Institute

Qinghai government, Legal Affairs Office

Qinghai Haxiu Township government

Qinghai Henan County Environmental Protection and Forestry Administration

Qinghai Nangqen County government

Qinghai Normal University

Qinghai Nyanpo Yutse Environmental Protection Association

Qinghai Provincial Forestry Administration

Qinghai Provincial Party School

Qinghai Sanjiangyuan National Nature Reserve Administration

Qinghai Snowland Great Rivers Environmental Protection Association

Qinghai Sojia Township government

Qinghai Tianjun County Forest PSB

Qinghai Yushu City government

Qinghai Yushu Prefecture CPC Committee and government

Qinghai Zadoi County government

Qinghai Zaqing Township government

Rockefeller Brothers Fund

SEE Foundation

Shaanxi Changqing National Nature Reserve Administration

Shi Yuzhu (Mr.) and Giant Investment Group

Sichuan Aba County Marong Tongge Eco-Tourism Cooperative

Sichuan Academy of Social Sciences

Sichuan Apiculture Management Station

Sichuan Baicaopo Provincial Nature Reserve

Sichuan Baishuihe National Nature Reserve Administration

Sichuan Dadu River Forestation Bureau

Sichuan Forestry Inventory and Planning Institute



Sichuan Forestry Research Institute	The Nature Conservancy (TNC)
Sichuan Gagong Mountains National Nature Reserve Administration	Through their Eyes Village Video-making Program
Sichuan Gexigou National Nature Reserve Administration	Tianjin National TV
Sichuan Giant Panda Conservation Fund	UNDP
Sichuan Guanba Village Apiculture Cooperative	UNESCO
Sichuan Guanba Watershed Conservation Center	Wang Jing (Ms.) and Tread Outdoor Products Co., Ltd
Sichuan Liangshan Prefecture Forestry Administration	Weng Ling (Ms.)
Sichuan Longqiao Black Bear Rescue Center	Wu Huimin (Mr.) and Lu Yinghua (Ms.)
Sichuan Ma'an Shan Provincial Nature Reserve Administration	Xu Jintao (Mr.)
Sichuan Mamize Provincial Nature Reserve	Ya'an Rural Photography Association
Sichuan Pingwu County Forest Conservation Association	Ya'an World Heritage Management Office
Sichuan Provincial Forestry Administration	Yachang Culture Group
Sichuan Shengguozhuang Provincial Nature Reserve Administration	Yunnan Academy of Social Sciences, Bama Culture Research Center
Sichuan Tangjiahe National Nature Reserve Administration	Yunnan Eryuan County Wetlands Administration
Sichuan University	Yunnan Gaoligong Mountains Nature Reserve Administration
Sichuan Wanglang National Nature Reserve Administration	Yunnan Huanglian Mountains Nature Reserve Administration
Sichuan Wolong National Nature Reserve Administration	Yunnan Kawagarbo Cultural Society
Sichuan Yele Provincial Nature Reserve	Yunnan Provincial Forestry Administration
Sichuan Forestry Administrations in various counties	Yunnan University
Snow Leopard Trust	Yunnan University Research Center of Border Regions and Minority Nationalities in Southwest China
State Forestry Administration	Yunnan Wetlands Office
Symantec Beijing	Yunnan Yunlong Tianchi Nature Reserve Administration
Taobao Software (China) Co., Ltd	
Tencent Foundation	

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摄影/李小龙

Founded in 2007, SHAN SHUI Conservation Center is a Chinese NGO dedicated to conservation practices. Together with our partners: communities, academics institutions, governments, companies and media, we support local initiatives to defend the land we depend on. We focus our work on the areas of most abundant biodiversity: Sanjiangyuan, Southwestern Mountainous Areas and Lancang-Mekong River Basin.

Our Vision: Eco-equality, a sustainable balance between nature and humans, traditional and modern culture, and the bottom-up versus and top-down decisions.

Our mission: To fulfill ecological ideals through science and culture, to empower natureguardians through actions.

## BEIJING OFFICE

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We are grateful to all the friends for supporting SHAN SHUI in the growth process, and hoping more people to join us and support the guardians of the nature home.



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