

PANDAS IN NUMBERS

1600

The scientific estimates place the number of wild pandas at approximately 1600.

57%

The current protected area network covers 57% of giant panda habitat and 71% of its population.

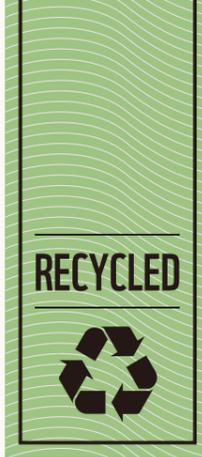


5600

By 2010, 5600 households in the panda areas have benefited from WWF's community sustainable development projects.

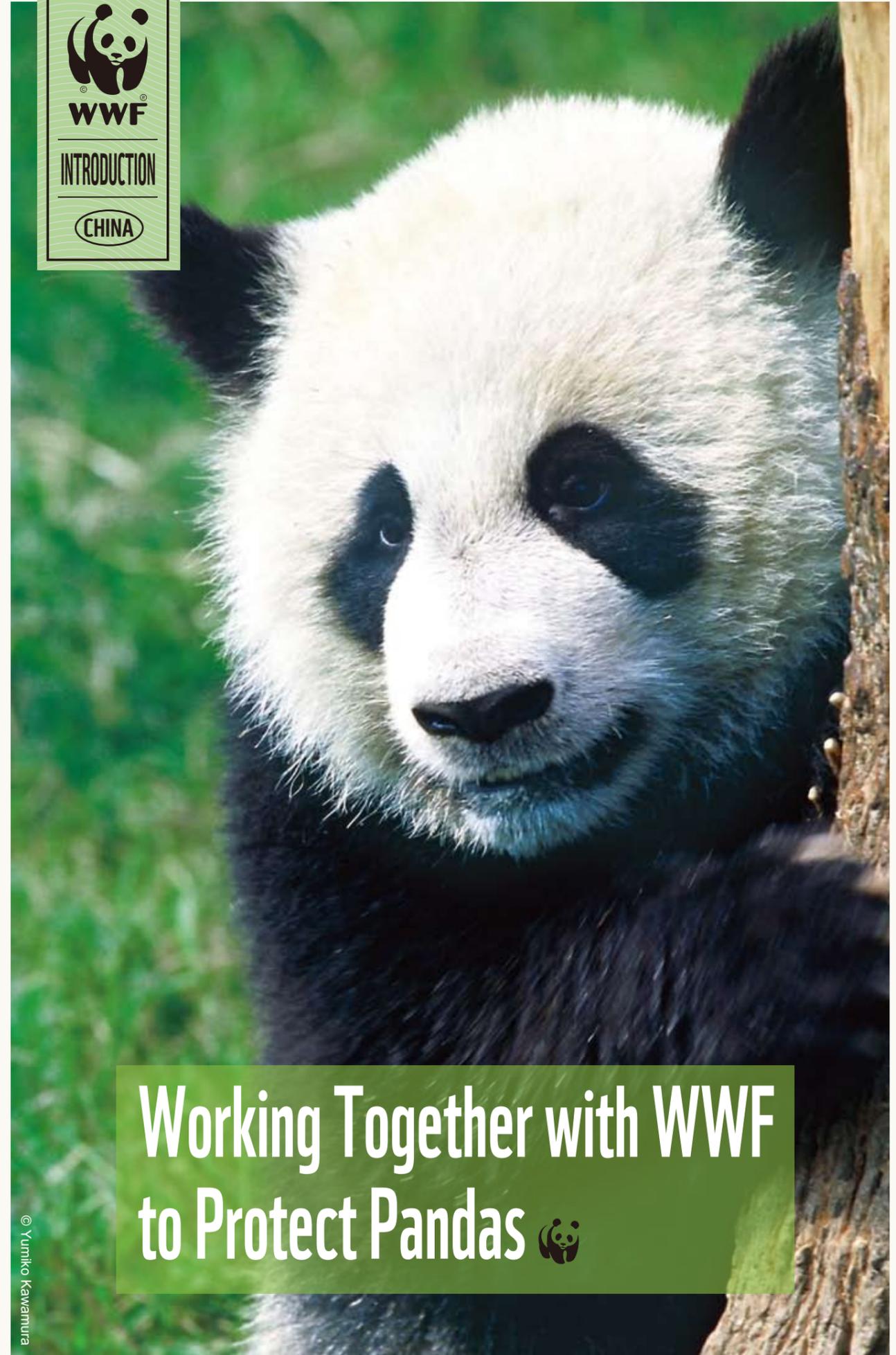
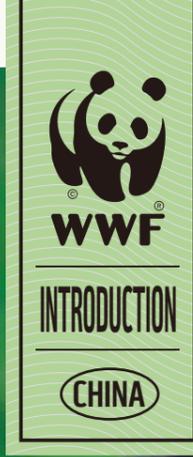
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The gant panda is one of WWF's 13 global priority species and species groups.



WWF • Working with WWF to Protect Pandas

CHINA www.wwfchina.org



Working Together with WWF
to Protect Pandas 

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Why we are here.

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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Preface

Just as we can't imagine China without the Great Wall and the Terra Cotta Warriors, it is difficult to imagine China without giant pandas.

The giant panda is one of WWF's 13 global priority species or species groups, and the upper Yangtze Basin where giant pandas are found is an important global biodiversity hotspot. While pandas remain threatened and in need of protection, panda conservation work is about much more than just the protection of the giant panda itself. As a flagship species for biodiversity conservation in China, the status of the giant panda directly reflects the quality of panda habitat and the health of the entire ecosystem pandas occupy. Thus protection of pandas requires protection of the entire ecosystem they inhabit and effectively protecting wild pandas will also serve to protect many other species of rare plants and wildlife in the panda's home range.

Protecting pandas in the wild is also important for the quality of human life. The forests where pandas live are an important water conservation area for the Yangtze River, as these forests are the source of

more than half of the water flowing through the middle and lower Yangtze River basin. These forests are also important for controlling soil erosion and reducing the severity of flooding. Thus, conserving giant panda habitat helps to protect ecosystems that provide water and other benefits for millions of people residing in and downstream of the panda's range.

Giant pandas are the feature attraction of many zoos around the world, bringing joy to millions of visitors each year, and the birth of a new panda cub in captivity is always headline news.



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生生相依 方能生生不息



Chinese dove tree, Sichuan.

Photo by Zhang Ming

But while giant pandas living in artificial zoo environments are thriving, giant pandas living in the wild still face many threats to their continued survival. The Third National Survey Report on Giant Pandas (1999-2003) and other recent researches showed that: 1) there are only about 1600 giant pandas remaining in the wild, 2) half of the giant panda's habitat is not yet protected, and 3) the future of nearly one third the wild panda population is highly uncertain.

Human activities continue to be the biggest threats to the survival of pandas in the wild. Over the past three decades, large-scale development activities, such as construction of roads, dams, and hydropower facilities; mining operations; and mass tourism, have had large impacts on giant panda habitat in the upper Yangtze Basin. These human activities are further exacerbated by the impacts of climate change and natural disasters such as the catastrophic May 2008 Sichuan earthquake, with the end result being the widespread loss, degradation and fragmentation of panda habitat. For a number of smaller isolated panda populations, the cumulative impact of habitat fragmentation and degradation will likely be the local extinction of these small populations.

What would the world be like without giant pandas? How could we tell our children that the lovely black and white animal in their story books no longer exists?



Chinese monal, the Upper Yangtze River Basin.

Photo by Dong Lei

If pandas disappear it will mean that the ecological umbrella has been broken, and many other animals that live in panda habitat will likely disappear too. Humans will also be impacted, since if we can't maintain an ecosystem healthy enough to support wild creatures, in all likelihood our own quality of life will deteriorate. Only by recognizing our interconnectedness with the natural environment and safeguarding the ecosystems that we threaten can the circle of life continue.

How long will the giant panda survive in the wild? It all depends on our efforts. Panda habitat can only expand if there is a halt put on uncontrolled development and intrusive tourism in the panda's range, so that pandas can regain the tranquil habitat they require. Only when we carefully consider the needs of giant pandas in the wild can we achieve the goal of healthy coexistence with pandas.

When it was founded in 1961, World Wide Fund for Nature (WWF) selected the giant panda as its logo, and WWF has had a programme dedicated to panda conservation for many years. As the first international NGO to be invited by the Chinese government to work in China, WWF began its work there with a panda conservation research project at the Wolong Nature Reserve in Sichuan Province, which brought worldwide attention to the little known life of pandas in the wild. WWF next worked with the State Forestry Administration (SFA) to conduct national surveys on the status of panda populations and their habitat. A report titled "Comprehensive Survey Investigation Report on China's Giant Panda and Its Habitat" resulted, which provided the baseline data necessary for developing a panda conservation plan and for establishment of nature reserves to protect pandas. Today, WWF continues to assist the SFA in carrying out its giant panda protection projects.

Over the past three decades, WWF's panda conservation strategy has gradually evolved from focusing on the protection of a single species to an ecosystem-wide approach to panda protection. As part of this approach, WWF's on-the-ground project work has shifted from individual site oriented conservation projects to developing a comprehensive landscape-based panda conservation plan for the pandas entire existing and potential range in southwest China. Today, WWF remains dedicated to the long-term effort that will be needed to protect the panda in the face of the numerous growing threats to its survival.

Robert Swan, one of the 20th Century's greatest explorers, once said "the biggest threat to this planet is the belief that someone else will save it." When it comes to protecting the giant panda, most people feel there is no action they can take as an individual to protect the panda. On the contrary, you can work with us to become the backbone of international efforts to protect the giant panda. Working together, there is much we can accomplish to protect this unique natural treasure.

Introduction to Giant Pandas and Panda Conservation

The giant panda is a Class I state protected species in China and is listed in the IUCN Red List of Threatened Species. Giant pandas have distinct black and white coats, and adult pandas weigh about 80-150 kg. They are generally solitary animals without fixed dens that feed primarily on bamboo.

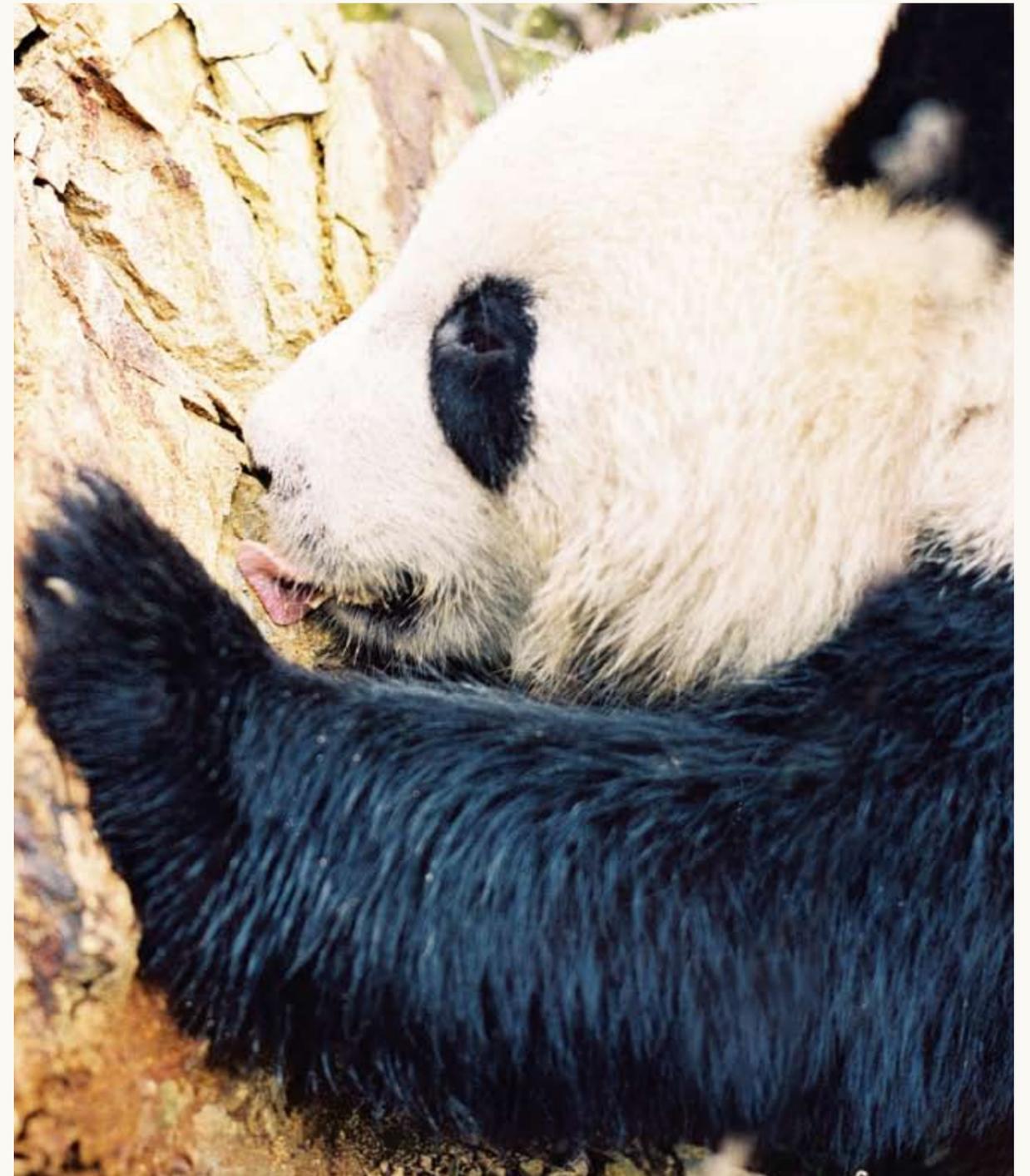
Where are giant pandas found?

Today, giant pandas are only found in the Qinling, Minshan, Qionglaihan, Liangshan, Daxiangling, and Xiaoxiangling Mountains of Sichuan, Shaanxi, and Gansu Provinces, where they inhabit deciduous broadleaf, mixed conifer, and sub-alpine coniferous forests between elevations of about 1200 – 3400 m. They occupy a total area of about 3 million hectares spread across 45 counties in 16 prefectures.

How many wild pandas in the wild?

According to the Third National Survey Report on Giant Pandas (1999-2003), there are about 1600 giant pandas remaining in the wild.

There are about
1600
giant pandas remaining in the wild.



Giant panda, the Upper Yangtze River Basin.

Photo by Zhao Naxun

Why should we protect giant pandas?



Red panda, the Upper Yangtze River Basin.
Photo by Wu Jiawei



Takin, Qinling Mountains, Shaanxi.
Photo by Guan Ke



Golden monkey, the Upper Yangtze River Basin.
Photo by Yun Yang



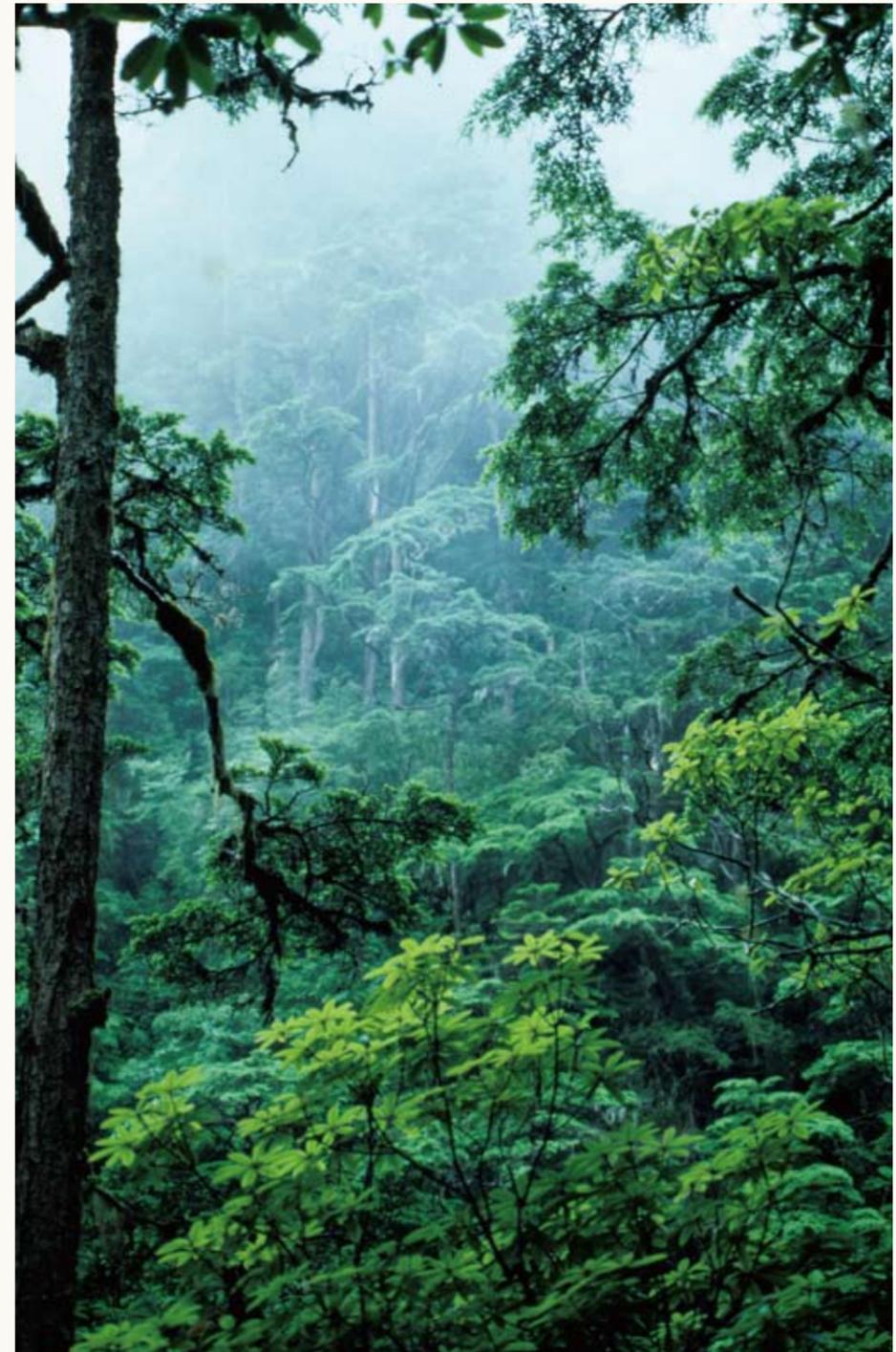
Crested ibis, Qinling Mountain wetlands, Shaanxi.
Photo by Chen Xu

Protection of Giant Pandas and Many Other Rare Animals

Giant panda conservation efforts will not only protect the panda, it will also benefit many other rare species of animals and plants in the southwest China biodiversity hotspot. The giant panda is a flagship species for biodiversity conservation, thus protection of the giant panda and its habitat serves to raise a protective umbrella for other species that are found in giant panda's home range, including such endangered species as the takin, golden monkey, red panda, and crested ibis. Consequently, protection of the giant panda serves to protect both the ecosystems the panda inhabits as well as many other species.

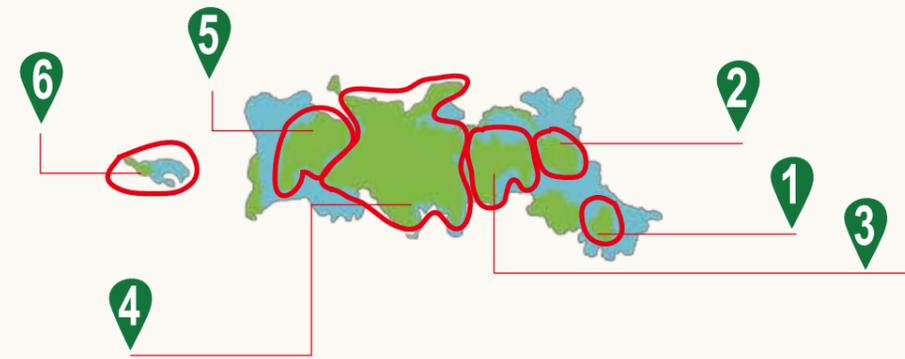
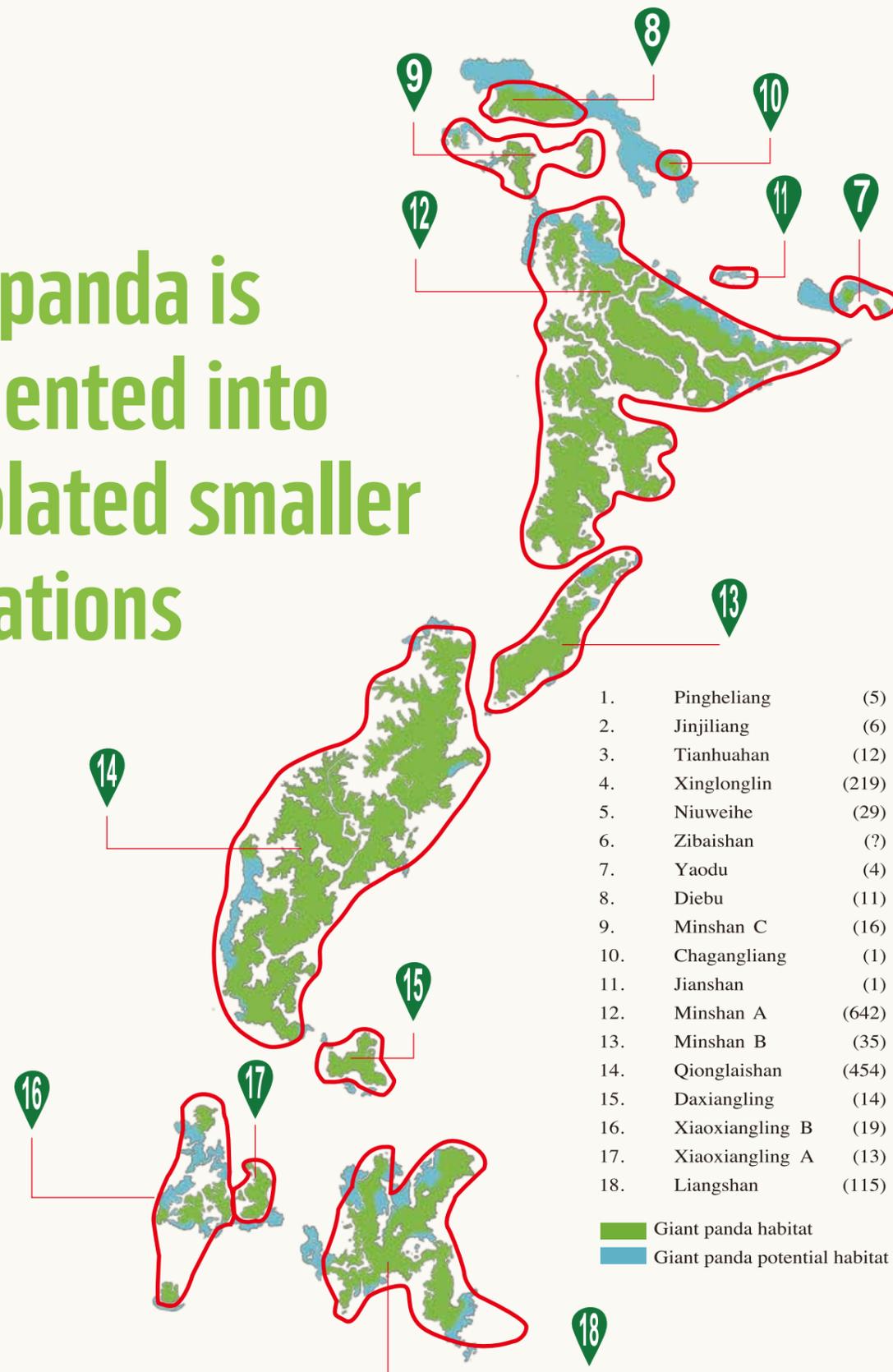
Protection of the Giant Pandas and Our Common Home

The forests the giant panda inhabits are the main water conservation areas for the upper Yangtze and the Yellow River basins. Major tributaries of the Yangtze that flow through the panda's home range include such important rivers as the Min, Han, Jialing, Yalong, and Dadu Rivers, which flow out of the mountains to nurture the densely populated Sichuan Basin and Hanjiang Plains of Hubei Province. Together, these five rivers supply more than half of the surface flow in the middle and the lower Yangtze River basin. At the same time, these forests serve as perhaps the most important flood control feature of the upper Yangtze Basin and serve to control soil erosion and landslides. Thus protecting these forests not only protects giant pandas, but also provides tremendous benefits for humans as well.



The Upper Yangtze River Basin where giant pandas are found is an important global biodiversity hotspot. Wolong Nature Reserve, Sichuan.
Photo courtesy of Wolong Nature Reserve.

Giant panda is fragmented into 18 isolated smaller populations



Threats to Pandas

Although an extensive nature reserve network for giant panda protection exists, unfortunately these reserves presently only protect 57 percent of the giant panda's habitat and just 71 percent of the entire giant panda population. While panda habitat lying outside the boundaries of protected areas is particularly at risk, all pandas throughout their range are faced with the threats that include the rapid pace of large-scale infrastructure development in the region, overexploitation of natural resources, mass tourism, natural disasters, and climate change. Thus the continued existence of the giant panda in the wild is still far from secure. Brief description of current threats to the giant panda follow.

Isolation of Panda Populations

Because of ongoing habitat degradation, fragmentation, and loss, the giant panda population is now divided into 18 isolated sub-populations. Most of these are small groups have less than 100 individuals. Although great efforts are being made to reconnect isolated populations through the creation of a series of panda migration corridors, recent research suggests that the smaller of these sub-populations are not genetically viable and are presently threatened with local extinction.

Lack of Integrated Habitat Protection

In spite the existence of the 62 nature reserve giant panda conservation network, the entire system still lacks effective coordination across provincial, prefecture, and county boundaries, and at times even between neighboring nature reserves. Thus information sharing and coordination between these reserves at a panda habitat-wide scale needs to be implemented to improve panda protection efforts.

Challenging Threats

Traditional threats that have directly impacted giant panda populations for centuries include deforestation – both for timber and to clear land for agriculture, poaching, and over-collection of non-timber forest products. While today these activities are much better controlled, they have not been entirely eliminated and continue to pose a threat to giant pandas and their habitat. Other new threats have largely challenged to giant panda and its habitat protection in recent years.

Large scale infrastructure and over resources exploitation, such as road construction, dam and hydropower facilities, mining operations, and mass tourism, lead to the degradation, fragmentation, and loss of giant panda habitat.

Road Construction

The extensive network of highways and railroads that crisscross the giant panda's range is a leading cause of panda habitat fragmentation and isolation of panda populations, as pandas shy away from traffic noise and many of these transportation corridors are lined with fences that pandas can not cross. In spite of the threat that road and rail line construction pose to the well-being of pandas, many more new national, provincial, and county level roads are planned or are currently under construction. According to environmental impact assessments, the road network expansion currently being planned for the Qinling Mountains may cause a 30 percent reduction in viable giant panda habitat in that region. Thus, it is imperative that pandas be taken into consideration when planning road construction activities.



Dam and Hydropower Facilities

Dam and hydropower stations are widely scattered throughout many areas in the panda's range. Unfortunately, these reservoirs flood large areas of panda habitat, and lead to further isolation of panda populations. On the Xushui River in the Qinling Mountains alone, there are already 19 dams that have been built, are under construction, or are planned - on a reach of the river that is only 165 kilometers long. This high density series of hydropower cascades may eventually lead to the complete fragmentation of the Qinling panda population into isolated eastern and western groups. If this occurs, all genetic exchange between animals in the two groups will cease, which could eventually lead to the extinction of both panda populations if humans do not intervene.



13
large mining
operations in
Minshan
Mountains

Mining Operations

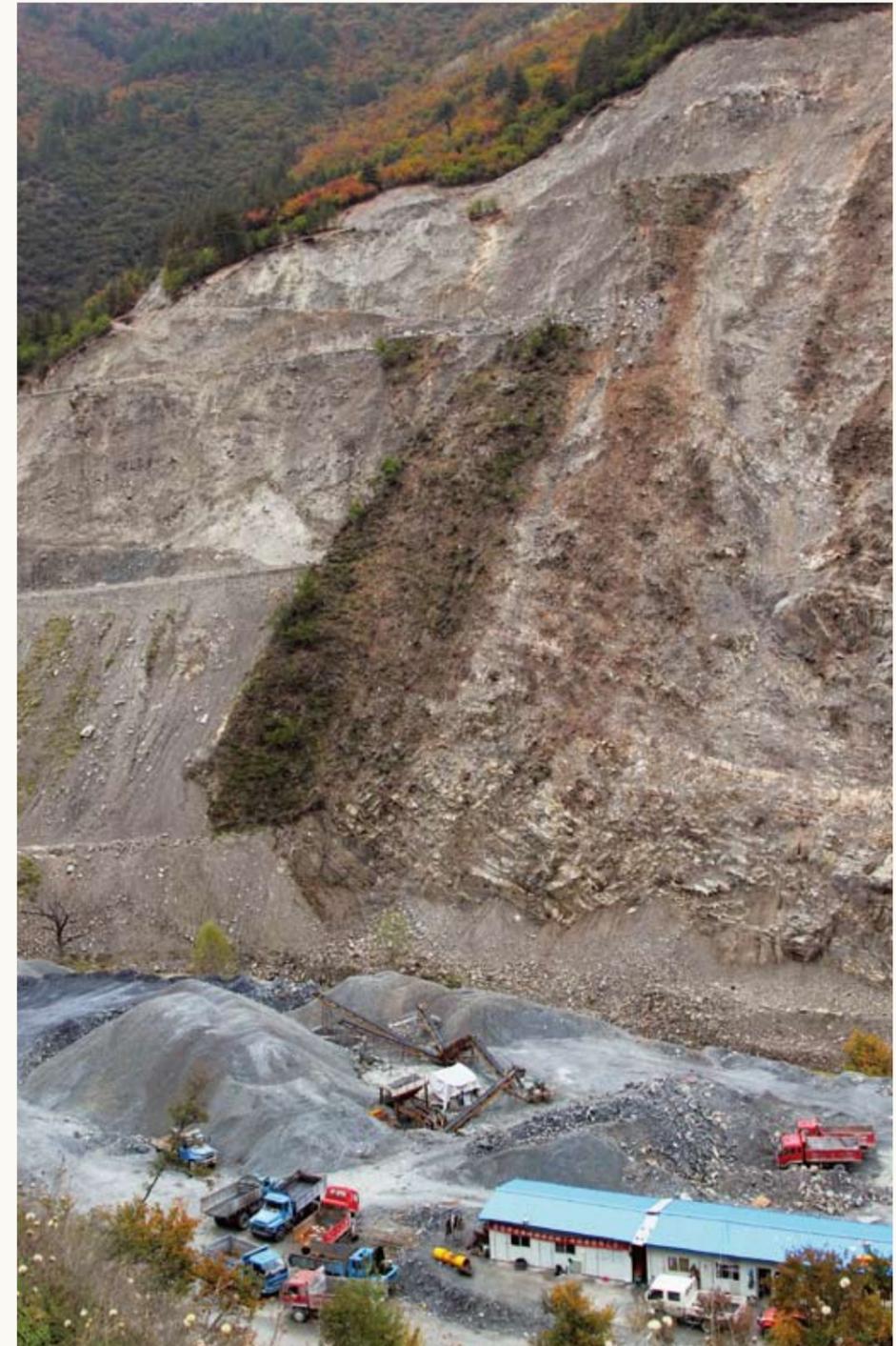
Mining poses another large threat to giant pandas. At present, many mining operations are located adjacent to panda reserves in nature reserve buffer zones. Among other things, these mine operations result in the destruction of forests and vegetation, large-scale noise and water pollution, and the improper accumulation of solid waste. Presently in the Minshan Mountains panda landscape alone there are 13 large mines, most of which are located next to panda nature reserves and, consequently, have direct negative impacts on those reserves and their pandas.

Mass Tourism

Mass tourism development in giant panda areas has also had negative impacts on panda conservation. For example, prior to the 1980s, the Jiuzhaigou Nature Reserve had a high density of pandas and there was a very good chance for visitors to see a panda in the wild there. Today, however, the heavy tourist traffic and over-development of the Great Jiuzhai Circuit Road have made it almost impossible to see a wild panda anywhere in the region. Consequently, it can be concluded that panda populations inhabiting nature reserves focused on mass tourism for maximum economic gain are less likely to survive in the long term due to the high level of disturbance that affects them.

Climate Change

Climate change currently presents another challenge for the existing panda conservation network. Analysis of meteorological data over the past 30-50 years shows that the average temperatures in panda areas are rising. It is predicted that this will cause panda areas in Sichuan to shift to new locations at higher elevations as the panda's preferred vegetation slowly shifts upslope. One study based on research from the Qinling Mountains predicts that, within 50 years, the current panda nature reserve network will cover less than half of existing panda habitat due to a climate-induced, upward elevation shift in the panda's preferred bamboo species.



Mining operations in the giant panda areas.

Photo by Zhang Ming

The WWF Green Heart of China Project



WWF is the first NGO invited by Chinese government to protect giant panda in 1980.

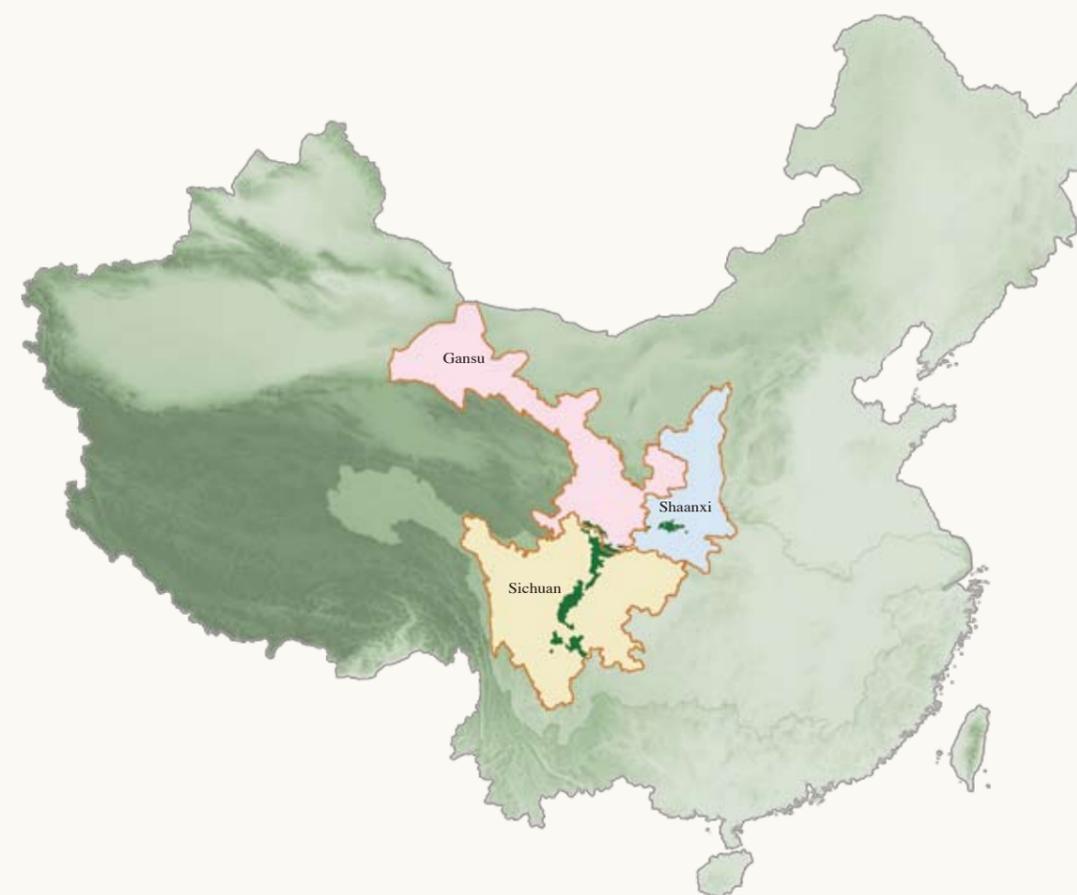
@WWF-Canon/WWF Int

WWF's association with the giant panda is a long one, stretching back to selection of the panda as WWF's logo upon establishment of the organization in 1961. Fifty years later, WWF continues to work with the Chinese government on panda conservation projects in Sichuan, Shaanxi and Gansu Provinces, providing technical and financial support for the establishment of a strong panda habitat conservation network in the upper Yangtze Basin.

In 2007, WWF launched its "Green Heart of China Project," which aims to increase protection of panda habitat and associated ecosystems by promoting development of an integrated landscape conservation and sustainable development plan for the upper Yangtze Basin. The project was planned as a six-year programme running through the end of 2012, with total budget of about RMB 100 million. The project initially evaluated direct threats and major challenges facing giant panda conservation efforts. Based on the findings of this initial evaluation, WWF is presently exploring methods for reducing the widespread impacts that large-scale infrastructure construction projects are having on giant panda habitat. At the same time, WWF is also promoting ecotourism and sustainable use of forest resources as non-destructive methods for increasing incomes in panda range areas while also addressing the impacts of climate change on the upper Yangtze Basin. One immediate objective of the Green Heart of China Project is to contribute to stabilizing and increasing the number of giant pandas in the wild while simultaneously ensuring that the forests of the upper Yangtze Basin continue to provide ecological services for the benefit of humans. Brief descriptions of the project's major focus areas follow.

Green Heart of China Project Vision

By 2030, all giant panda habitat is integrated into a comprehensive panda conservation network protected at a landscape level, with a viable giant panda population living in well-managed forests in the upper Yangtze Basin that in turn provide ecological services to people living further downstream.



■ Giant panda distributed areas.

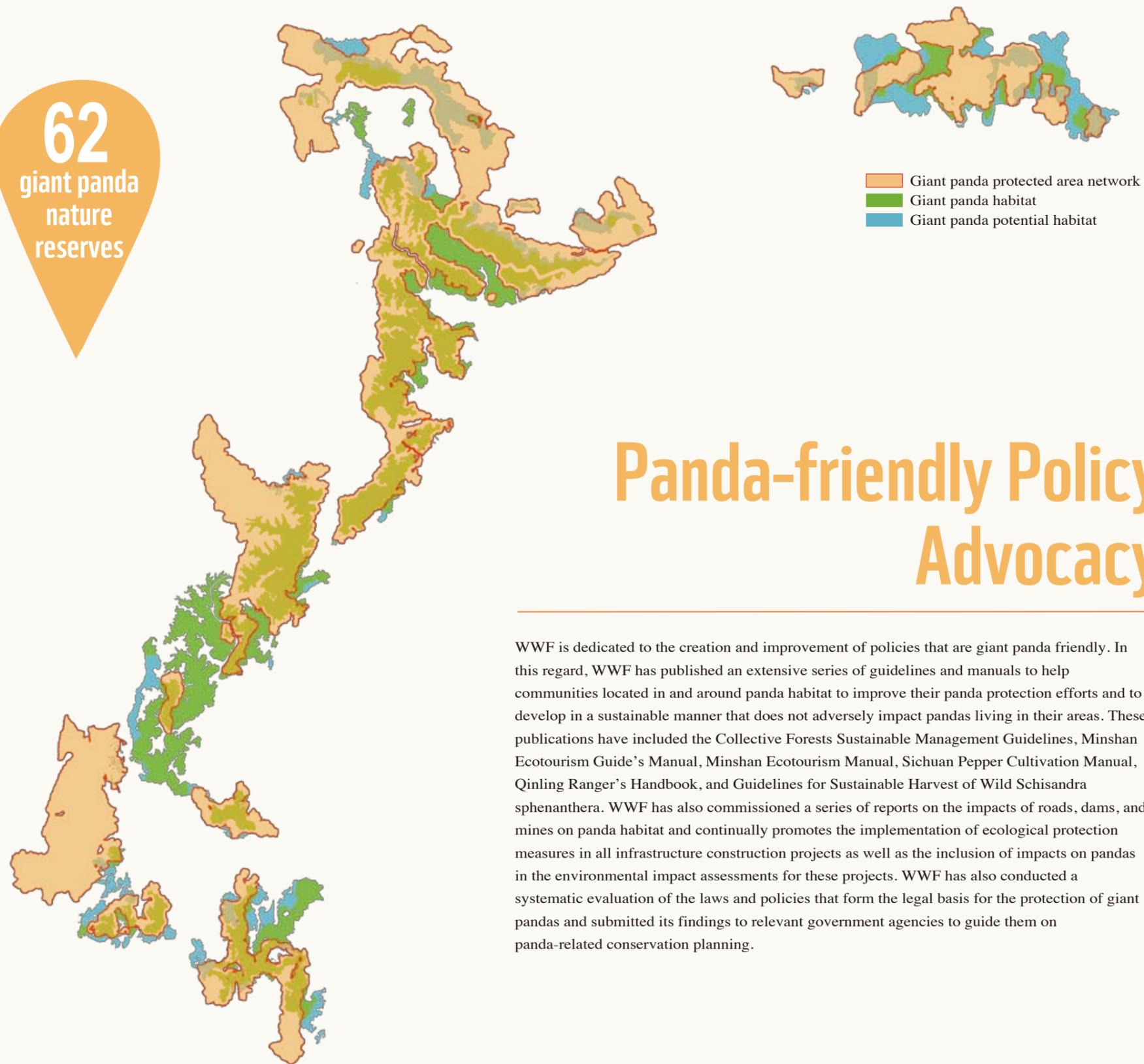
Panda Nature Reserves

The Chinese government has long sought to protect giant pandas. From the first giant panda nature reserves established in the 1960s to recent habitat conservation programs, government agencies have promoted the systematic protection and management of giant pandas and their habitat. By the end of 2009, 62 giant panda reserves and a giant panda habitat conservation network had been established.

62
giant panda
nature
reserves

Panda Migration Corridors

In order to encourage genetic exchange between panda populations that have been isolated, WWF has been working to establish migration corridors to connect isolated panda groups. Working in cooperation with its various partners, WWF has so far established a comprehensive plan for maintenance of 13 key panda migration corridors. These migration corridors will be managed specifically for panda conservation and are comprised of strips of relatively undisturbed or restored panda habitat that cross territory which can no longer support pandas. Through reconnection of isolated panda populations, it is hoped that genetic exchange along these corridors will be sufficient to prevent the local extinction of formerly isolated panda groups.



Panda-friendly Policy Advocacy

WWF is dedicated to the creation and improvement of policies that are giant panda friendly. In this regard, WWF has published an extensive series of guidelines and manuals to help communities located in and around panda habitat to improve their panda protection efforts and to develop in a sustainable manner that does not adversely impact pandas living in their areas. These publications have included the Collective Forests Sustainable Management Guidelines, Minshan Ecotourism Guide's Manual, Minshan Ecotourism Manual, Sichuan Pepper Cultivation Manual, Qinling Ranger's Handbook, and Guidelines for Sustainable Harvest of Wild Schisandra sphenanthera. WWF has also commissioned a series of reports on the impacts of roads, dams, and mines on panda habitat and continually promotes the implementation of ecological protection measures in all infrastructure construction projects as well as the inclusion of impacts on pandas in the environmental impact assessments for these projects. WWF has also conducted a systematic evaluation of the laws and policies that form the legal basis for the protection of giant pandas and submitted its findings to relevant government agencies to guide them on panda-related conservation planning.

Recent monitoring of the giant panda migration corridor established in the Qinling Tunnel area on China's National Highway 108 has shown that this corridor has already had great early success. Infrared camera photos have documented rare panda zone species, including the takin and golden monkey, using the corridor while giant pandas have been sighted in the vicinity of the corridor and are expected to eventually begin using it.



Panda Habitat Monitoring System

In order to track ecological trends in giant panda areas, WWF has worked together with various partners to develop a panda habitat monitoring system that provides a sound scientific basis for implementing panda conservation activities. In 1999, WWF launched its trial habitat monitoring project simultaneously at selected panda reserves in Sichuan, Shaanxi, and Gansu Provinces. Based on this work, WWF provided support to the State Forestry Administration to issue the "Technical Regulations for Monitoring of the Giant Panda and Its Habitat." This document has since become the standard guideline for ecological monitoring practices in panda areas and is the first technical regulation code issued in China that specifically targeted a single species.



In early November 2010, giant pandas at the Yele Nature Reserve in the Xiaoxiangling Mountains of Sichuan were successfully photographed for the first time using camera traps triggered by infrared heat sensors. For four years WWF has been supporting the Yele Nature Reserve and 5 other reserves to monitor wildlife using camera traps, which has not only improved our knowledge of the fauna of these reserves, but has also provided a powerful method for educating people about the secret lives of the animals that inhabit these forests.



The panda walks past one of motion-detector cameras.

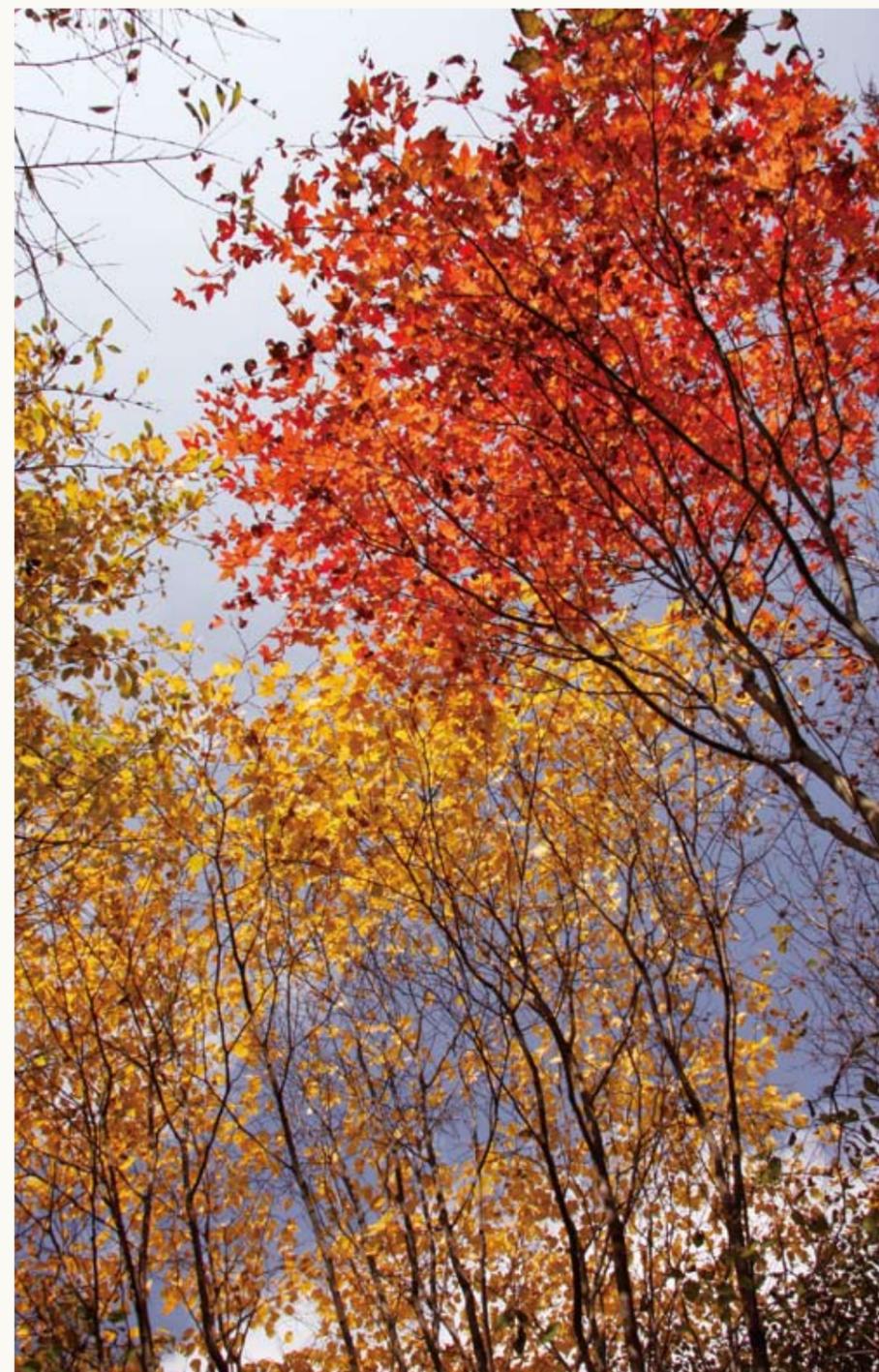
Capacity Building for Nature Reserve Staff

In order to increase the capacity of staff members at panda nature reserves to monitor, identify issues, and take mitigative action in their patrol areas, WWF has provided extensive training for these conservation workers. These trainings have included modules on the topics of identifying wild flora and fauna – particularly rare and endangered species, use of GIS applications to build nature reserve databases, nature reserve management, migration corridor management, and community sustainable development planning. WWF has also made large conservation equipment donations to these reserves to provide rangers with the equipment necessary to effectively do their work, including items such as computers, digital cameras, GPS units, and tents.



Protection of Forest Resources

Protection of forests is a critical aspect of giant panda conservation work. In order to promote long-term protection of forests in panda areas, in 2006 WWF began a sustainable forestry management program that follows that latest thinking on this topic, including the identification of High Conservation Value Forests (HCVFs). This giant panda forest management concept has been promoted in Sichuan and Shaanxi Provinces. Some forest pilots have been selected to practice this concept.



WWF promotes the protection of forests in the panda areas.

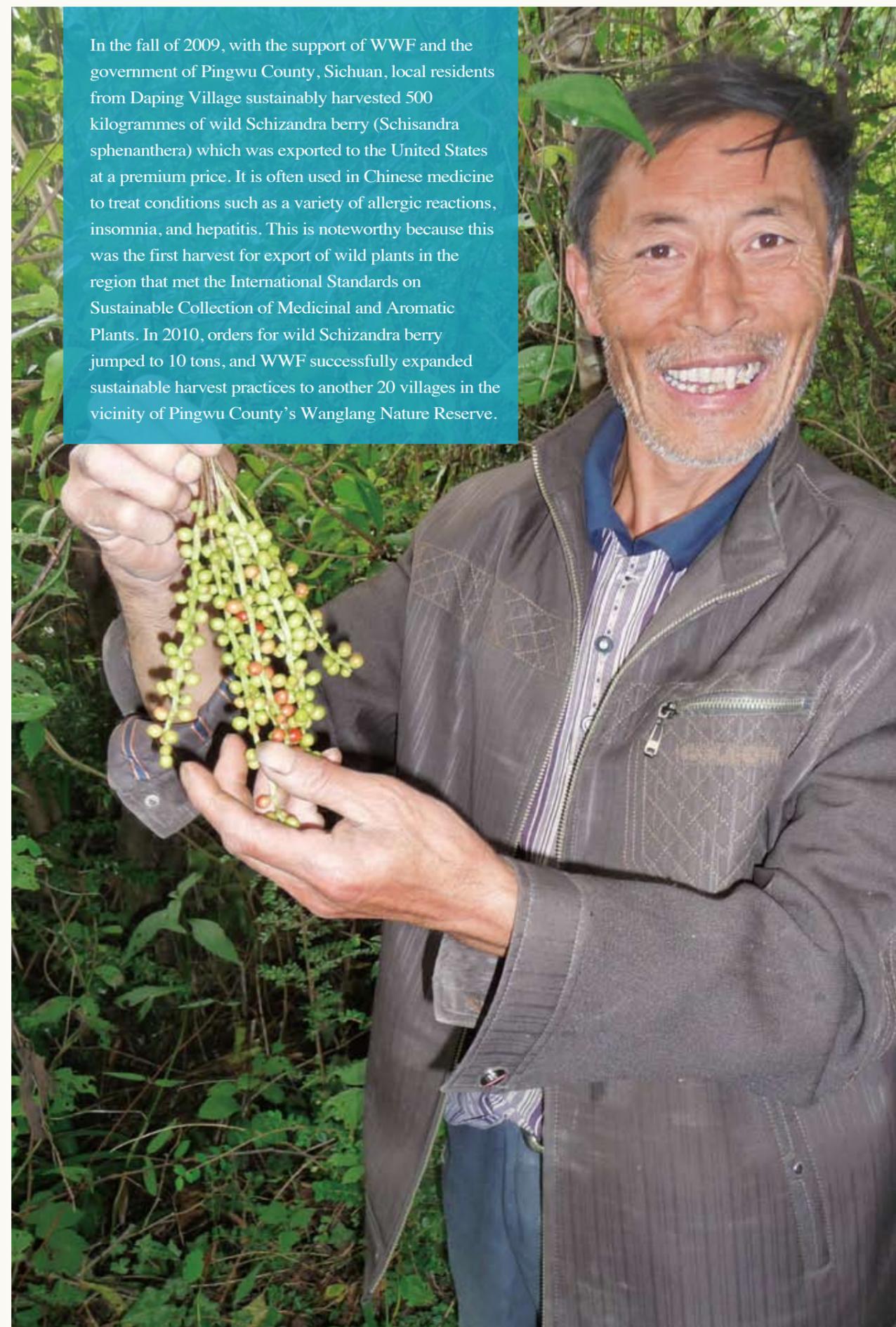
Photo by Zhao Jinna

5600
households have
benefited from
WWF's sustainable
community
development
projects

Sustainable Community Development in Panda Areas

Over the years, WWF has implemented various alternative livelihood and green energy projects in communities adjacent to panda reserves. These projects have not only helped local residents to increase their incomes, but have also enabled them to become better stewards of their natural resource base so that nature conservation and economic development are no longer mutually exclusive in these areas. As of 2010, WWF support had led to 4150 households in giant panda areas adopting fuel-efficient wood stoves and biogas systems, 550 households starting bee-keeping operations, and 750 households planting Sichuan pepper orchards, with all participating communities receiving training on the sustainable harvest of wild medicinal plants. WWF support also contributed to 150 women of the Qiang nationality forming embroidery collectives, 80 households in panda areas starting a home-stay program for visiting tourists, and more than 50 households building small artificial wetlands in their courtyards. In addition, more than 10,000 villagers in giant panda areas have participated in various training workshops to improve their awareness of giant panda issues and the need for sustainable development in panda regions.

In the fall of 2009, with the support of WWF and the government of Pingwu County, Sichuan, local residents from Daping Village sustainably harvested 500 kilogrammes of wild Schizandra berry (*Schizandra sphenanthera*) which was exported to the United States at a premium price. It is often used in Chinese medicine to treat conditions such as a variety of allergic reactions, insomnia, and hepatitis. This is noteworthy because this was the first harvest for export of wild plants in the region that met the International Standards on Sustainable Collection of Medicinal and Aromatic Plants. In 2010, orders for wild Schizandra berry jumped to 10 tons, and WWF successfully expanded sustainable harvest practices to another 20 villages in the vicinity of Pingwu County's Wanglang Nature Reserve.





Mr. Li Dongcheng is a bee-keeper and a participant in WWF's alternative livelihoods project in Longcaoping Village in Guanyinshan Nature Reserve, Shaanxi Province. He told us "before, a box of bees could only produce several kilograms of honey. But now that methods have improved, and honey yields have doubled, so we have earned about 20,000 yuan from bee-keeping alone. Bee-keeping is the most popular livelihood choice in this area. It only requires a small initial investment but produces a good harvest. And it does not destroy natural resources." When asked about his understanding of the ecological environment, his answer was simple: "Before there was logging going on and the mountains were bare. But now, in order to protect the panda, there are more trees and the mountains are green again. Only after the environment improved could we have such good yields of honey!"



Walk into any Carrefour store in October and you will smell the rich aroma of Sichuan peppers from the Minshan Mountains. The Minshan Mountains of Sichuan and Gansu Provinces are rich in beautiful landscapes and rare and endangered wildlife such as the giant panda. Yet the logging and hunting activities of local communities are both over-exploiting natural resources and severely threatening local wildlife. In 2007, WWF helped train local farmers in the Minshan Mountains to cultivate Sichuan peppers and then worked with the retail giant Carrefour to market these peppers. Each year at harvest time, Carrefour organizes an annual in-store “Sichuan Pepper Festival” to promote both Sichuan pepper sales and development of alternative livelihoods in participating Minshan communities. By 2010, the Sichuan Pepper Association of Maoxian County in Sichuan Province had provided more than 90 tons of Sichuan peppers to Carrefour stores, while more than 1300 households are participating in this program that have had an average increase of 500 yuan in their annual incomes.

Ecotourism Development

In order to support both nature conservation and economic development, WWF promotes low-impact ecotourism in giant panda areas. To further this aspect of panda conservation efforts, WWF has reached a consensus with provincial tourism authorities to develop a sustainable tourism industry that is conscious of the need to protect biodiversity and the environment. In this regard, WWF assists local communities to provide eco-tourism related services, such as homestays and nature guides, by giving technical ecotourism trainings on these and other topics in panda area communities.



Raising Public Awareness

Public awareness and education are a critical component of WWF's work in panda areas. WWF has conducted more than 100 public awareness and education campaigns in panda range areas, such as the "Qinling Youth Ambassadors," "Wetland Ambassadors," and "Earth Hour" Programmes. In addition, millions of people from all over China have participated in these and other WWF public awareness activities, including participation in bird-watching, nature photography, and eco-study tours that WWF has organized.

100
eco-events for
public
awareness
and
education



Pambassadors for panda monitoring in Longxi-Hongkou Nature Reserve, Sichuan.

Photo by Shang Tao



WWF is assisting nature reserves and forest farms in panda areas in developing ecotourism management plans, building tourist information and environmental education centers, and mitigating the negative impacts of tourism on these reserves. In 2010, WWF supported the construction of tourist information and environmental education centers at the Changqing National Nature Reserve in Shaanxi Province and the Laohegou Forest Farm in Pingwu County, Sichuan Province. These centers feature photo exhibits about these sites, comprehensive educational displays on local natural resources, and descriptions of conservation efforts at these sites. These centers also organize local environmental education activities.



Looking Toward the Future

In alignment with China's 12th National Five-Year Plan for 2011-2015 and China's 2011-2020 Giant Panda Conservation Plan – China's second ten-year panda conservation plan – WWF will further refine its comprehensive strategy for integrated conservation of both pandas and their habitat. In this coming phase of WWF's panda work, WWF will be attempting to designate a "Giant Panda Eco-Zone" to establish a harmonious balance between humans and nature in the panda's upper Yangtze Basin home. Thus, over the coming decade, WWF will work with its partners to advance the following strategic panda conservation objectives:

Provide policy guidance at the national level with respect to the long-term protection of giant pandas and their habitat;

In the next 10-20 years, working with its partners, WWF will be attempting to designate a "Giant Panda Eco-Zone" to establish a harmonious balance between humans and nature in the panda's Upper Yangtze Basin home

- Demonstrate clean energy technologies, alternative livelihoods, and sustainable development practices to reduce dependence on the local natural resource base in panda range area communities.
- Demonstrate forest and wetland carbon offset certification and low-carbon city practices to help mitigate the long-term impacts of climate change on the upper Yangtze Basin.
- Develop and implement a climate change adaptation strategy for panda range areas.
- Advocate for improvement of relevant national policies concerning pandas and further develop the giant panda conservation network.
- Evaluate current climate change impacts models and advocate for relevant policies to mitigate and adapt to climate change.



森林就是我的家
张子钰十岁画

Tell me about forest. Drawn by Zhang Ziyu, 10 years old.

What can you do to protect pandas?

The survival of the giant panda ultimately depends on each and every one of us. Effectively protecting this rare, special creature will bring great benefits to many other species, including our own, by better protecting our common home, planet Earth.



If you wish to become a socially and environmentally responsible business, you can

- Join WWF's Corporate Alliance to support panda conservation;
- Procure certified raw materials, such as FSC wood products, that ensure the environmental sustainability and traceability of the certified goods;
- Maintain a low carbon office, such as by reducing unnecessary printing, photocopying, and paper consumption and by minimizing energy use;
- Implement an office policy on low carbon travel, avoid non-essential business travel, and take trains instead of airplanes as much as possible;
- Use sustainable production principles in the workplace;

If you wish to become a socially and environmentally responsible individual, you can

- Follow a green, low carbon lifestyle to save energy and other resources;
- Purchase products with FSC or organic-green certification;
- Refrain from buying wildlife products;
- Holiday as an ecotourist rather than as part of mass tourism excursions;
- Share your environmental awareness with family and friends;
- Volunteer for WWF and participate in our exciting environmental activities;

We would like to thank the following organizations for their generous financial support for over the years to WWF China's panda conservation programmes:

WWF International
 WWF Netherlands
 WWF UK
 WWF Sweden
 WWF US
 WWF Germany
 WWF New Zealand
 WWF Canada
 Swedish International Development Cooperation Agency
 EU-China Biodiversity Programme
 Fondazione Zegna
 The Mitsui & Co., Ltd. Environment Fund
 The Carrefour Fund
 The Coca-Cola Company
 Hilton Hotels Corporation

We would also like to extend a special thank you to the following partners that have provided support over the years to WWF China's panda conservation programmes:

State Forestry Administration
 Sichuan Forestry Department
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 Gansu Forestry Department

Sichuan Provincial Wildlife Resources Investigation Protection and Management Station
 Shaanxi Nature Reserves and Wildlife Protection and Management Station
 Gansu Provincial Wild Flora and Fauna Management Bureau
 Research Center for Eco-environmental Sciences of the Chinese Academy of Sciences
 Institute of Zoology of the Chinese Academy of Sciences
 Chengdu Institute of Biology of the Chinese Academy of Sciences
 Chinese Academy of Forestry
 Chinese Research Academy of Environmental Sciences
 Survey and Planning Institute of the State Forestry Administration
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 Sichuan Academy of Forestry
 Shaanxi Institute of Zoology
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 Sichuan University
 China West Normal University
 Northwest University
 Northeast Forestry University

Sichuan Wolong National Nature Reserve
 Sichuan Tangjiahe National Nature Reserve
 Sichuan Jiuzhaigou National Nature Reserve
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 Sichuan Xiaozhaizigou Nature Reserve
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Shaanxi Taibaishan National Nature Reserve
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 Shaanxi Qingmuchuan National Nature Reserve
 Shaanxi Sangyuan National Nature Reserve
 Shaanxi Laoxiancheng Nature Reserve
 Shaanxi Guanyinshan Nature Reserve
 Shaanxi Motianling Nature Reserve
 Shaanxi Wuliangshan Nature Reserve
 Shaanxi Niuweihe Nature Reserve
 Shaanxi Yingzuishi Nature Reserve
 Shaanxi Huangbaiyuan Nature Reserve
 Shaanxi Huangguanshan Nature Reserve
 Shaanxi Pingheliang Nature Reserve
 Shaanxi Niangniangshan Nature Reserve (in planning)
 Shaanxi Banqiao Nature Reserve (in planning)
 Shaanxi Panlong Nature Reserve (in planning)
 Shaanxi Houzhengzi State-owned Forest Farm

Gansu Baishuijiang National Nature Reserve
 Gansu Jianshan Nature Reserve
 Gansu Yuhe Nature Reserve
 Gansu Duoer Nature Reserve
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Further Reading

- Chengdu University of Traditional Chinese Medicine, Chengdu Institute of Biology of the Chinese Academy of Sciences and the Sichuan Academy of Chinese Medicine Sciences, 2010. Guidelines for Sustainable Harvest of Schisandra sphenanthera. Beijing: WWF China and the EU-China Biodiversity Programme.
- Institute of Zoology of the Chinese Academy of Sciences and WWF China, 2009. Landscape and GIS Based Habitat Conservation Gap Analysis for Giant Pandas in Qinling and Minshan Mountains. Beijing: WWF China.
- Institute of Zoology of the Chinese Academy of Sciences and WWF China, 2009. Impact of Mining Activities on the Giant Panda and Its Habitat in the Minshan Mountains. Beijing: WWF China.
- Chinese Research Academy of Environmental Sciences and WWF China, 2009. Impact of Proposed Lanzhou-Chongqing Expressway and Railway in Minshan and Yangxian-Taibai on the Giant Panda and Its Habitat in the Qinling Mountains. Beijing: WWF China.
- Chinese Research Academy of Environmental Sciences and WWF China, 2010. Impact of Dam and Hydropower Station Construction on Giant Pandas and their Habitat in the Qinling Mountains. Beijing: WWF China.
- Research Center for Eco-environmental Sciences and WWF China, 2011. Atlas of Biodiversity and Conservation in the Yangtze River Basin. Beijing: Science Press.
- Fan, Juntao, 2009. Impact of Climate Change on Giant Panda Distribution Patterns in the Qinling Mountains. Unpublished masters thesis. Beijing: Chinese Research Academy of Environmental Sciences.
- Kangmei Community Center and the Wild China Ecotour Company, 2008. Tour Guide for Ecotourism in the Minshan Mountains. Beijing: WWF China.
- Mao County Sichuan Pepper Association, 2007. Manual for Green Sichuan Pepper Cultivation. Beijing: WWF China.
- Ministry of Environmental Protection, 2010. China Biodiversity Conservation Strategy and Action Plan 2011-2030. Beijing: Ministry of Environmental Protection.
- Northeast Forestry University and WWF China, 2010. Evaluation of Laws and Regulations on Conservation of the Giant Panda and Its Habitat. Beijing: WWF China.
- Schaller, George B., Jinchu Hu, Wenshi Pan, and Jing Zhu, 1985. The Giant Pandas of Wolong. Chicago: University of Chicago Press.
- Sichuan Academy of Social Sciences and the Sichuan Forestry Department, 2006. Collective Forests Sustainable Management Guidelines. Beijing: WWF China.
- Sichuan Forestry Department, China West Normal University, and the Sichuan Academy of Forestry, 2009. Technical Guidelines to Post-Earthquake Vegetation Restoration in Panda Habitats. Beijing: WWF China.
- Sichuan Transportation Department, 2007. Guidelines to Road Construction in Ecological Sensitive Areas. Beijing: WWF China.
- State Council of the People's Republic of China, 2010. National Priority Zoning Plan. Beijing: State Council of the People's Republic of China.
- State Council of the People's Republic of China, 2011. 12th National Five-Year Plan 2011-2015. Beijing: State Council of the People's Republic of China.
- State Forestry Administration, 2006. The 3rd National Survey Report on Giant Pandas in China. Beijing: Science Press.

Further Reading

- State Forestry Administration, 2009. Technical Regulation for Monitoring of Giant Pandas and their Habitat. Beijing: State Forestry Administration.
- State Forestry Administration, 2011. China's National Giant Panda Conservation Plan 2011-2020. Unpublished Draft. Beijing: State Forestry Administration.
- State Forestry Administration, 2011. Framework for the 4th National Survey of Giant Pandas in China. Unpublished Draft. Beijing: State Forestry Administration.
- Taibaishan National Nature Reserve and the Beijing Forestry University, 2009. Research on the Impact, Drivers, and Response Strategy of Tourism Development in Taibaishan National Nature Reserve. Beijing: Beijing Forestry University.
- Sichuan Province Climate Center and WWF China, 2009. Analysis and Prediction of Climate and Environmental Change Trends in Giant Panda Habitat. Beijing: WWF China.
- WWF International, 2008. Global Conservation Programme Framework, 2008-2020. Gland, Switzerland: WWF International.
- Xu, Ming and Chaode Ma, ed., 2009. Yangtze River Basin Climate Change Vulnerability and Adaptation Report. Beijing: China Hydropower Press.
- Zhu, Chunquan, Fengyou Wang, and Zheng Han, ed., 2011. Toolkit for High Conservation Value Forests and the Studies and Applications in China. Beijing: China.