2005

Report on the State of the Environment in China

State Environmental Protection Administration

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The "2005 Report on the State of the Environment in China" is released in accordance with *Environmental Protection Law of the People's Republic of China*.

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Minister of the State Environmental Protection Administration

June 2, 2006

CPC Central Committee Holds National Symposium on Population, Resources and Environment

Mr. Hu Jintao, Secretary General of the Communist Party of China (CPC) Central Committee, chaired the Ninth National Symposium on Population, Resources and Environment and made an important speech on doing well in population, resources and environment work. The CPC Central Committee convened the symposium in Beijing on March 12, 2005

Xinhua News Agency

Mr. Wen Jiabao, Premier of the State Council met with the Council Members during the 4th Meeting of the 3rd Phase of China Council for International Cooperation on Environment and Development (CCICED) (November 18~20, 2005), and stressed the need to accelerate the building of a resource-saving and environment-friendly society.

In 2005, the CPC Central Committee and the State Council further enhanced the guidance of environmental protection work, and made a number of major decisions for addressing environmental issues and promoting the environmental protection cause. The CPC Central Committee held the ninth National Symposium on Population, Resources and Environment on March 12, 2005 on the occasion of the annual National People's Congress and CPPCC, when CPC Secretary General Hu Jintao and Premier Wen Jiabao delivered important speeches. Secretary General Hu stressed that adjusting the economic structure and change the economic growth pattern is the prerequisite to implement the scientific outlook on development. We should be clearly aware of the significance of economic restructuring and transition of economic growth pattern to alleviate the pressures on population, resources and environment, and to realize a comprehensive, coordinated and sustainable development. We should stress and pay close attention to various tasks related to resource conservation, environmental protection and ecological improvement, take a new road towards industrialization, and promote the socio-economic development so as to achieve a benign circle. Premier Wen Jiabao demanded that efforts be made to address environmental pollution problems that constitute severe threats to public health, earnestly prevent and control water pollution, accelerate the control of urban air pollution, have strict control of the access to construction projects from the environmental aspect, and rigorously carry out environmental laws.

The *Decision of the State Council on the Implementation of the Scientific Outlook on Development and Strengthening Environmental Protection* (hereinafter referred to as *The Decision*, Document of the State Council, No. 39, 2005), which was released on December 3, 2005, is the guideline to steer the balanced development of economy, society, and environment. In order to implement *The Decision*, the State Council convened the sixth National Conference on Environmental Protection during April 17-18, 2006, when Premier Wen Jiabao and Vice Premier Zeng Peiyan presented at the Conference and made important speeches. Premier Wen highlighted that the key to do well in environmental protection work under the new situation is to accelerate three transformations as follows: to transform from giving weight to economic growth and making light of environmental protection to paying equal attention to both matters; to transform from the fact that environmental protection lags behind economic growth to enabling the former to keep pace with the latter; to transform from protecting the environment mainly by administrative means to resorting to a combination of legal, economic, technical, and administrative instruments if necessary, to address environmental issues. The three transformations are directional, strategic and of historic nature, it is a new milestone in the history of China's environmental protection development.

China made considerable progress in environmental protection work in 2005. We further enhanced the prevention and control of pollution in key river basins, major areas, cities, and sea areas, and expedited the construction of pollution treatment projects. We continued to launch special environmental protection campaigns to punish enterprises that discharge pollutants illegally and safeguard people's health. We undertook immense inspections on the environmental impact assessment (EIA) of construction projects, the implementation of "three simultaneities" system, and the nationwide environmental safety inspection. We promoted the construction of eco-provinces, environmental protection model cities, eco-demonstration zones, and environmentally beautiful towns and villages, and strengthened the safety regulation of nuclear

facilities so as to safeguard the nuclear safety and radiation environment.

On November 13, 2005, an explosion in the benzene plant, Jilin Chemical Company of China National Petroleum Corporation triggered a major water pollution accident in the Songhua River, which attracted great attention of the CPC Central Committee and the State Council. Under the concerted efforts of relevant departments under the State Council, Heilongjiang and Jilin Provincial Governments, station troops and armed forces, pollution prevention and control work was unfolded actively, which guaranteed the drinking water safety of residents along the Songhua River.

China's national environmental quality remained stable in the year 2005 despite a 9.9% growth of GDP compared with last year. The surface water quality had no obvious changes, The Pearl River and Yangtze River enjoyed fairly good water quality, the Liaohe River, Huaihe River, Yellow River, and Songhua River were all of poor water quality, and Haihe River suffered from severe water pollution. The water quality in centralized drinking water sources of major cities was good at large, and that of offshore seawater was improved to some extent, but the East China Sea and Bohai Sea were heavily polluted. The urban air quality turned out to be better than the previous year despite heavy pollution in some cities. The acid rain distribution area maintained stable, but the intensity and frequency of acid rain in part of those areas increased. Cities enjoyed fairly good acoustic environment at large, and the radiation environmental quality basically kept at the natural base level.

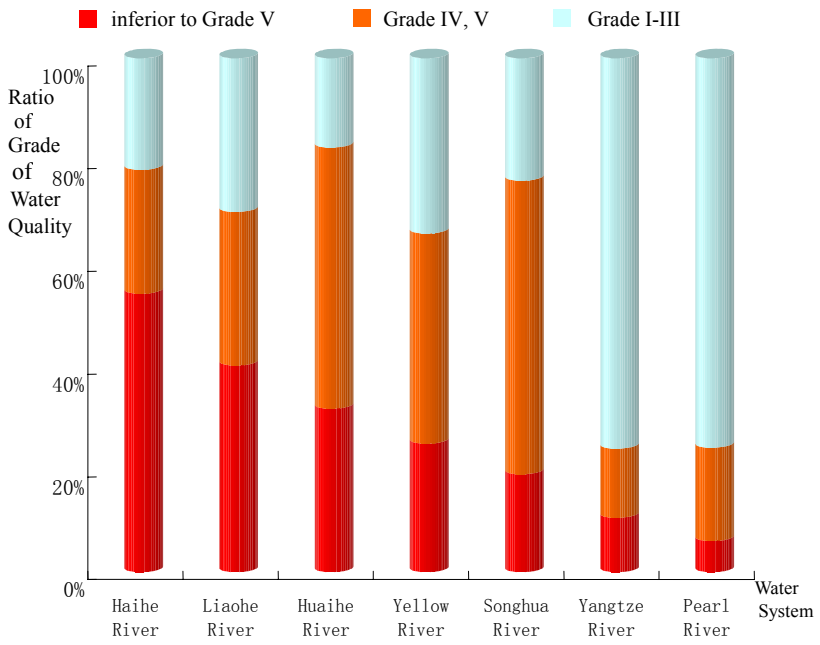
Environment

General Situation

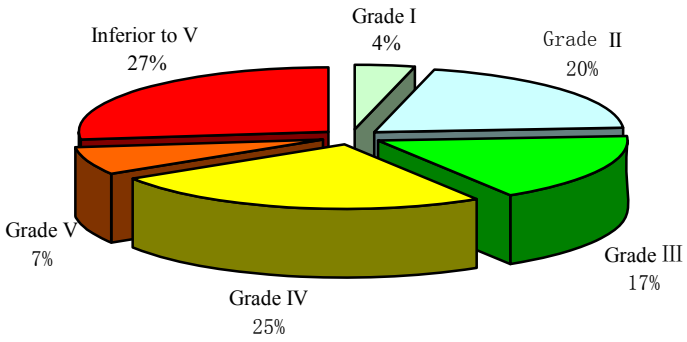
1. Water Quality of the Seven Major Rivers

In 2005, the water quality of the Yangtze River, Yellow River, Pearl River, Songhua River, Huaihe River, Haihe River and Liaohe River was basically the same as the previous year.

Among the 411 surface water monitoring sections in the seven major rivers covered by the National Environmental Monitoring Center (NEMC), those with water quality at Grade I-III, IV-V, and those of the quality inferior to Grade V constituted 41%, 32%, and 27% respectively. Among others, the Pearl River and Yangtze River enjoyed fairly good water quality, Liaohe River, Huaihe River, Yellow River, and Songhua River suffered from poor water quality, and Haihe River was heavily polluted. The major pollutants were ammonia nitrogen, BOD_5, permanganate index, and oils.



Comparison of Water Quality in the Seven Major Rivers in 2005

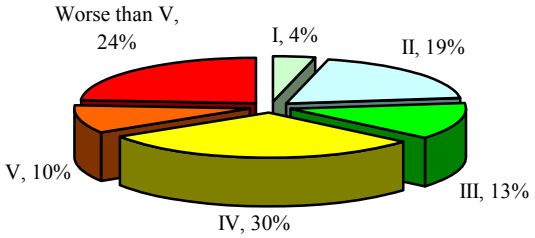


Comparison of Water Quality in the Seven Major Rivers in 2005

Comparison of Water Quality in the Seven Major Rivers in 2005

Seven Major Rivers	Grade I & II (%)	Grade III (%)	Grade IV (%)	Grade V (%)	Inferior to Grade V (%)
Yangtze River	56	20	11	2	11
Yellow River	7	27	34	7	25
Pearl River	55	21	18	0	6
Songhua River	5	19	45	12	19
Huaihe River	3	14	38	13	32
Haihe River	17	5	18	6	54
Liaohe River	14	16	22	8	40
Total	24	17	25	7	27

Among the 100 trans-province sections of the seven major rivers under national environmental monitoring program, 36%, 40%, and 24% fell into Grade I-III, Grade IV-V, or was worse than Grade V respectively. Trans-province river sections of the Haihe River and Huaihe River systems suffered from heavy pollution.



Comparison of Water Quality in Trans-Province Sections of the Seven Major Rivers in 2005

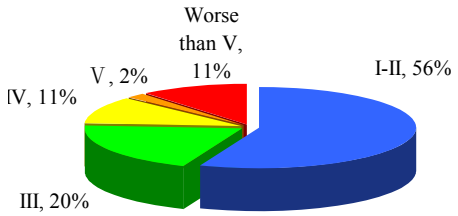
(1) Yangtze River System

Water quality of the Yangtze River system was good at large. 76%, 13%, and 11% of the 104 surface water sections under national monitoring program had water quality at Grade I-III, Grade IV-V or failed to meet Grade V respectively. The major pollutants were oils, ammonia nitrogen

and BOD_5.

The mainstream of the Yangtze River enjoyed good water quality, and compared with last year, all sections had no remarkable changes in water quality. The mainstream was slightly polluted in Yunnan and Shanghai Sections despite excellent or good water quality in other sections.

In general, the tributaries of the Yangtze River experienced slight pollution. No obvious changes in tributary water quality were observed compared with the previous year. The Yalong River, Jialing River, Hanjiang River, and Wujiang River witnessed excellent water quality, Dadu River, Minjiang River, Xiangjiang River, Yuanjiang River, and Ganjiang River had good water quality (among others, Meishan Section of Minjiang River was heavily polluted, and Nanchang Section of Ganjiang River suffered from moderate pollution), and Tuojiang River was mildly polluted.



Proportions of Varied Water Quality in the Yangtze River System in 2005

The water quality in the Three Gorges Reservoir area of the Yangtze River was excellent, and that of all the six sections under national monitoring program fell into Grade II. No obvious changes of water quality were observed compared with the previous year.

Trans-province sections of the Yangtze River enjoyed good water quality. Among the 20 sections, 80% had water quality up to Grade I-III, 15% fell into Grade IV-V, and another 5% failed to meet Grade V. Water quality in these sections did not change much compared with last year. The following sections suffered from poor water quality: Chuhe Section and Chahe Section bordering Anhui Province was worse than Grade V, Xindianpu Section of Baihe River in the boundary of Henan and Hebei Province fell into Grade V, Laochi Section of Fujiang River bordering Sichuan Province and Chongqing Municipality met Grade IV, and Tieluqiao Section of Jinsha River in the boundary of Yunnan and Sichuan Province was of Grade IV. All the other 16 trans-province sections met or were superior to Grade III national water quality standard.

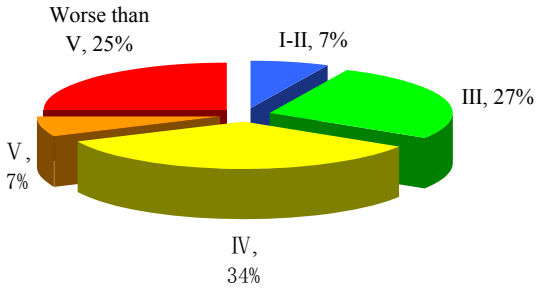
Water Quality of Trans-province Sections of the Yangtze River System in 2005

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the Section	Grade of Water Quality	
				2005	2004
Chuzhou	Chuhe River	Chahe	Anhui-Jiangsu	Worse than Grade Ⅴ	Worse than Grade Ⅴ
Nanyang	Baihe River	Xindianpu	Henan-Hebei	Ⅴ	Worse than

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the Section	Grade of Water Quality	
				2005	2004
					Grade Ⅴ
Shuifu	Jinsha River	Tieluqiao	Yunnan-Sichuan	Ⅳ	Ⅳ
Suining	Fujiang River	Laochi	Sichuang-Chongqing	Ⅳ	Ⅳ
Nanyang	Tanghe River	Meiwan	Henan-Hebei	Ⅲ	Ⅲ
Panzhihua	Jinsha River	Longdong	Yunnan-Sichuan	Ⅱ	Ⅰ
Chongqing	Yangtze River	Zhutuo	Sichuan-Chongqing	Ⅱ	Ⅱ
Chongqing	Yangtze River	Peishi	Chongqing-Hebei	Ⅱ	Ⅱ
Yueyang	Yangtze River	Chenglingji	Hunan-Hebei	Ⅱ	Ⅱ
Jiujiang	Yangtze River	Yaogang	Jiangxi -Hebei	Ⅱ	Ⅱ
Anqing	Yangtze River	Wanhekou	Jiangxi-Anhui	Ⅱ	Ⅱ
Nantong	Yangtze River	Yaogang	Jiangsu-Shanghai	Ⅱ	Ⅱ
Guangyuan	Jialing River	Bamiaogou	Gansu-Sichuan	Ⅱ	Ⅱ
Yuechi	Qujiang River	Sailongxiang	Sichuan-Chongqing	Ⅱ	Ⅱ
Chongqing	Jailing River	Lize	Sichuan-Chongqing	Ⅱ	Ⅱ
Chishui	Chishui River	Lianyuxi	Guizhou-Sichuan	Ⅱ	Ⅲ
Shiyan	Hanjiang River	Yangwei	Shannxi-Hebei	Ⅱ	Ⅱ
Nanjing	Yangtze River	Jiangning River mouth	Anhui-Jiangsu	Ⅰ	Ⅱ
Tongren	Wujiang River	Yanhe	Guizhou-Chongqing	Ⅰ	Ⅰ
Wudu	Bailong River	Chouziba	Gansu-Sichuan	Ⅰ	Ⅰ

(2) Yellow River System

The Yellow River system was moderately polluted. Of the 44 surface water sections under national monitoring program, 34%, 41% and 25% respectively fell into Grade I-III, IV-V or worse than Grade V. The major pollutants were oils, ammonia nitrogen and BOD_5.



Proportions of Varied Water Quality in Yellow River System in 2005

The mainstream of the Yellow River suffered from mild pollution, and the water quality remained the same with the previous year. Qinghai Section and Gansu Section of the mainstream enjoyed

good water quality; Henan Section, Ningxia Section, Shaanxi-Shanxi Section, Baotou Section of Inner Mongolia Autonomous Region, Hohhot Section, and Heze Section of Shandong Province were slightly polluted; Wuhai Section of Inner Mongolia Autonomous Region was under heavy pollution.

In general, the tributaries of the Yellow River suffered from heavy pollution, and the water quality remained the same as in the previous year. Yihe River had excellent water quality, and Luohe River enjoyed good water quality. Dahei River, Bahe River, and Qinhe River were slightly polluted; Huangshui River and Yiluo River suffered from moderate pollution, and Weihe River, Fenhe River, Sushui River, and Beiluo River were heavily polluted.

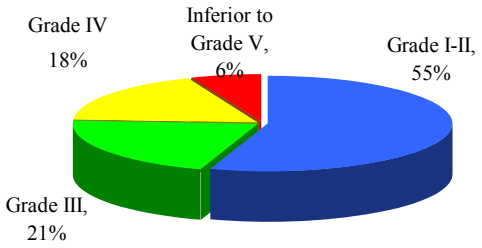
The trans-province sections of the Yellow River under national monitoring program had poor water quality. 9%, 55%, and 36% of the 11 trans-province river sections under national monitoring program fell into Grade I-III, Grade IV and V, or was worse than Grade V respectively. The following trans-province sections witnessed poor water quality: Lasengmiao Section bordering Ningxia and Inner Mongolia Autonomous Regions in the mainstream of Yellow River failed to meet Grade V; Tongguan Suspension Bridge Section of Weihe River in the boundary of Shaanxi, Henan and Shanxi Province was worse than Grade V; Hejin Bridge section of Fenhe River bordering Shaanxi-Shanxi provinces failed to meet Grade V; Zhangliuzhuang Section of Songshui River bordering Shaanxi and Shanxi Province had water quality poorer than Grade V; Minhe Bridge Section (Huangshui River) in the boundary of Qinghai and Gansu Province fell into Grade V, and other trans-province sections had water quality meeting or better than Grade IV.

Water Quality of Trans-province Sections of the Yellow River System in 2005

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the Section	Grade of Water Quality	
				2005	2004
Wuhai	Yellow River	Lasengmiao	Ningxia-Inner Mongolia	Worse than Grade V	Worse than Grade V
Weinan	Weihe River	Tongguan Suspension Bridge	Shaanxi-Henan, Shanxi	Worse than Grade V	Worse than Grade V
Yuncheng	Fenhe River	Hejin Bridge	Shanxi-Shaanxi, Shanxi	Worse than Grade V	Worse than Grade V
Yuncheng	Sushui River	Zhangliuzhuang	Shanxi-Shaanxi, Shanxi	Worse than Grade V	Worse than Grade V
Minhe	Huangshui River	Minhe Bridge	Qinghai-Gansu	V	V
Zhongwei	Yellow River	Zhongweixiaheyan	Gansu-Ningxia	IV	Worse than Grade V
Hohhot	Yellow River	Lamawan	Inner Mongolia-Shanxi	IV	IV
Sanmenxia	Yellow River	Fengduling Bridge	Shaanxi-Shanxi, Henan	IV	IV
Heze	Yellow River	Liuzhuang	Henan-Shandong	IV	V
Jiyuan	Qinhe River	Wulongkou	Shanxi-Henan	IV	IV
Tianshui	Weihe River	Putaoyuan	Gansu-Shaanxi	III	III

(3) Pearl River System

Pearl River system enjoyed good water quality at large. Of the 33 surface water sections under national monitoring program, 76%, 18% and 6% fell into Grade I-III, Grade IV or was worse than Grade V respectively. There were no sections with water quality at Grade V. The major pollutants were oils, BOD_5 and ammonia nitrogen.



Proportions of Varied Water Quality in Pearl River System in 2005

The overall water quality of the mainstream Pearl River was good with water quality the same as last year. Water quality in Yunnan Section of the mainstream was excellent, Guizhou Section and Guangxi Section enjoyed good water quality, and Guangdong Section was slightly polluted (among others, Changzhou Section had water quality worse than Grade V, and Lianhuashan Section fell into Grade IV).

Water quality of the tributaries of the Pearl River was good at large, and no obvious changes were observed compared with 2004. Dabang River, Duliu River, Liujiang River, Zuojiang River, Lijiang River, Guijiang River, and Dongjiang River enjoyed excellent water quality; Longjiang River, Youjiang River, Yongjiang River, Hejiang River, and Beijiang River observed good water quality. Beipan River and Modaomen Watercourse were slightly polluted.

The trans-province water section of Pearl River enjoyed excellent water quality. All the seven trans-province water sections under national-level monitoring program met or were better than Grade III quality standard.

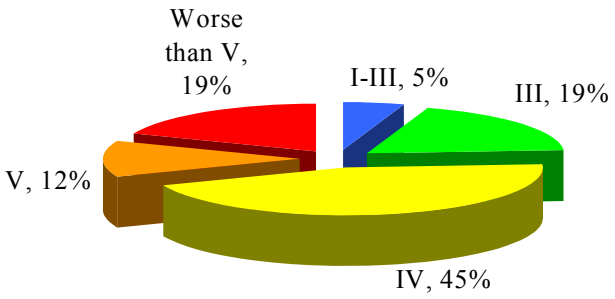
Water Quality of Trans-province Sections of the Pearl River System in 2005

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the Section	Grade of Water Quality	
				2005	2004
Southwest Guizhou Province	Nanpan River	Sanjiangkou	Yunnan-Guizhou	III	III
Hechi	Hongshui River	Liupai	Guizhou-Guangxi	III	III

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the Section	Grade of Water Quality	
				2005	2004
Hechi	Longjiang River	Liujia	Guizhou-Guangxi	III	I
Hezhou	Hejiang River	Fulong Wharf	Guangxi-Guangdong	III	II
South Guizhou Province	Hongshui River	Luoyang	Guizhou-Guangxi	II	II
Wuzhou	Xijiang River	Jieshou	Guangxi-Guangdong	II	II
Southeast Guizhou Province	Duliu River	Congjiang Bridge	Guizhou-Guangxi	II	II

(4) Songhua River System

Songhua River system was slightly polluted. Of the 42 surface water sections under national monitoring program, 24%, 57% and 19% respectively fell into Grade I-III, Grade IV-V or were worse than Grade V. The major pollutants were permanganate index, oils and ammonia nitrogen.



Proportions of Varied Water Quality in Songhua River System in 2005

Being mildly polluted, the mainstream Songhua River remained the same with the previous year in terms of water quality. Changchun Section of mainstream was moderately polluted; Jilin Section enjoyed good water quality; from the river section that was bound out of Jinlin Province to the upper reaches of Harbin city was of good water quality. Other sections were slightly polluted.

In general, the tributaries of the Songhua River suffered from moderate pollution. Compared with last year, the water quality of tributaries turned out to be better. Among others, Ashi River, Yinma River and Yitong River were heavily polluted; Hulan River and Mudan River suffered moderate pollution, while Nenjiang River, Yalu River and Tao'er River were mildly polluted.

The trans-province sections of Songhua River that were under national-level monitoring program witnessed passable water quality. Among others, 34% fell into Grade I-III, 66% was at Grade IV

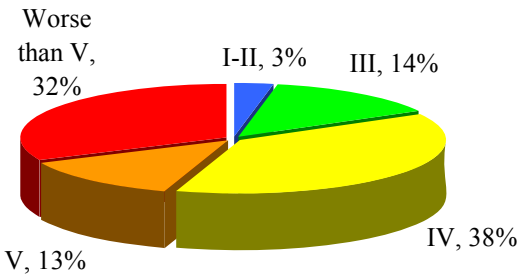
level. No section of Grade V or worse was observed.

Water Quality of Trans-province Sections of the Pearl River System in 2005

Region Name	River Name	Section Name	Provinces in the upper and lower reaches of the section	Grade of Water Quality	
				2005	2004
Zhaoyuan	Songhua River	Zhaoyuan	Jilin-Heilongjiang	IV	IV
Zhaoyuan	Nenjiang River	Inner mouth of Nenjiang River	Jilin-Heilongjiang	IV	IV
Hulunbei'er	Yalu River	Chengjisihan	Inner Mongolia-Heilongjiang	IV	—
Xing'an League	Tao'er River	Silihen	Inner Mongolia-Jilin	IV	IV
Songyuan	Songhua River	Ganshuigang	Jilin-Heilongjiang	III	III
Baicheng	Nenjiang River	Baishatan	Jilin-Heilongjiang	II	IV

(5) Huaihe River System

Huaihe River system suffered from moderate pollution. 17%, 51%, and 32% of the 86 surface water sections under national monitoring program fell into Grade I-III, Grade IV-V, or failed to meet Grade V respectively. Major pollutants were permanganate index, BOD_5, ammonia nitrogen and oils.



Proportions of Varied Water Quality in Huaihe River System in 2005

The overall water quality of mainstream Huaihe River had slight pollution. No obvious changes occurred in the mainstream Huaihe River compared with the year 2004. Xinyang Section of Henan Province, Fuyang Section, Bengbu Section, and Chuzhou Section of Anhui Province, and Xuyi Section of Jiangsu Province were mildly polluted. Huainan Section of Anhui Province observed moderate pollution.

Generally speaking, the tributaries of the Huaihe River had heavy pollution. The water quality of the tributaries did not change much compared with last year. The Shihe River, Huanghe River,

Shiguan River, Xifei River and Tuohe River were slightly polluted; Honghe River, floodway of Honghe River, and Huihe River had moderate water pollution. Yinghe River and Wohe River suffered from heavy pollution.

In general, rivers in Shandong Province had moderate water pollution but no remarkable changes of water quality compared with that of the previous year. Zhangtong River enjoyed good water quality; Chengguo River, Shagou River, Wuhe River, and Yihe River were seriously polluted; Xizhi River witnessed moderate pollution, and other rivers all had mild pollution.

The trans-province sections of the Huaihe River subject to nation-level monitoring had moderate water pollution, among which 13% had water quality at Grade I-III, 56% was of Grade IV-V, and another 31% failed to meet Grade V.

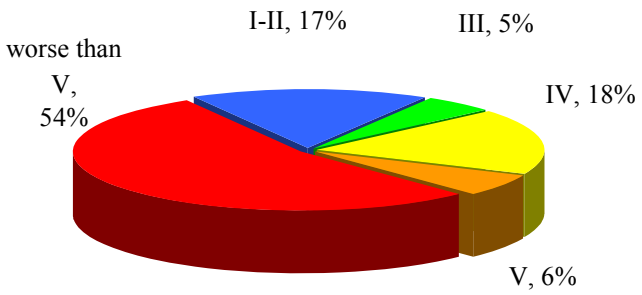
Water Quality of Trans-province-boundary Sections of the Huaihe River System in 2005

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the section	Grade of Water Quality	
				2005	2004
Shangqiu	Baohe River	Maqiao	Henan –Anhui	Worse than Grade V	Worse than Grade V
Fuyang	Yinghe River	Jieshou	Henan –Anhui	Worse than Grade V	Worse than Grade V
Fuyang	Heici River	Niqiu	Henan –Anhui	Worse than Grade V	Worse than Grade V
Fuyang	Quanhe River	Lower reaches of Linquan Section	Henan –Anhui	Worse than Grade V	Worse than Grade V
Bozhou	Huiji River	Back of Liuzhai Village	Henan –Anhui	Worse than Grade V	Worse than Grade V
Bozhou	Wohe River	Bozhou	Henan –Anhui	Worse than Grade V	Worse than Grade V
Suzhou	Kuihe River	Yangzhuang	Jiangsu-Anhui	Worse than Grade V	Worse than Grade V
Suzhou	Suihe River	Bali Bridge of Si County	Anhui-Jiangsu	Worse than Grade V	Worse than Grade V
Suzhou	Xinbian River	Road Bridge of Si County	Anhui-Jiangsu	Worse than Grade V	Worse than Grade V
Pizhou	West Picang Floodway	Aishanxi Bridge	Jiangsu-Shandong	Worse than Grade V	V
Zhoukou	Wohe River	Luyifu Bridge	Henan –Anhui	V	V
Shangqiu	Dasha River	Baogong Temple	Henan –Anhui	V	IV
Shangqiu	Huihe River	Huangkou	Henan –Anhui	V	IV
Zhumadian	Honghe River	Bantai	Henan –Anhui	V	V

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the section	Grade of Water Quality	
				2005	2004
Fuyang	Floodway of Honghe River	Taolao	Henan –Anhui	V	Worse than Grade V
Fuyang	Huaihe River	Wangjia Dam	Henan –Anhui	IV	V
Huaibei	Tuohe River	Xiaowang Bridge	Henan –Anhui	IV	IV
Huaibei	Dongsha River	Linhuanji	Henan –Anhui	IV	IV
Chuzhou	Huaihe River	Xiaoliu Lane	Anhui-Jiangsu	IV	IV
Sihong	Xinsui River	Daqu	Anhui-Jiangsu	IV	IV
Linyi	Wuhe River	No. 310 Road Bridge	Shandong-Jiangsu	IV	IV
Linyi	East Picang Floodway	Dongpianhong	Shandong-Jiangsu	IV	IV
Linyi	Shuhe River	Gaofengtou	Shandong-Jiangsu	IV	IV
Linyi	Baima River	Jiezhuang	Shandong-Jiangsu	IV	IV
Linyi	Xinshu River	Daxing Bridge of Linshu	Shandong-Jiangsu	IV	IV
Linyi	Shagou River	Shagou Bridge	Shandong-Jiangsu	IV	IV
Linyi	Zhangtong River	Zhangtong Bridge	Shandong-Jiangsu	IV	Worse than Grade V
Zaozhuang	Grand Canal	Tai'erzhuang Bridge	Shandong-Jiangsu	IV	IV
Xinyang	Huaihe River	Huaibin Hydrological Station	Henan-Anhui	III	III
Xuzhou	Grand Canal	Lanjia Dam	Jiangsu-Anhui	III	III
Linyi	Yihe River	Gangshang	Shandong-Jiangsu	III	IV
Liu'an	Shihe River	Hongshizui	Anhui-Henan	II	II

(6) Haihe River System

Haihe River System was heavily polluted. Of the 65 surface water sections subject to national-level monitoring, 22%, 24% and 54% met Grade I-III, Grade IV-V or failed to meet Grade V standard respectively. Major pollutants were ammonia nitrogen, oils and BOD_5.



Proportions of Varied Water Quality in Haihe River System in 2005

The mainstream of Haihe River suffered from heavy pollution, and compared with the previous year, no remarkable changes occurred in terms of water quality.

Other tributaries of the Haihe River were heavily polluted, and no obvious changes were observed. Luanhe River enjoyed good water quality; Yongding River and Ziya River were slightly polluted. The South Canal, Dasha River, Zhangweixin River, Tuhai River, Majia River and North Canal suffered from heavy pollution.

The trans-province sections of Haihe River under national monitoring program had moderate pollution. 24% had water quality at Grade I-III, 38% was of Grade IV-V, and 38% failed to meet Grade V.

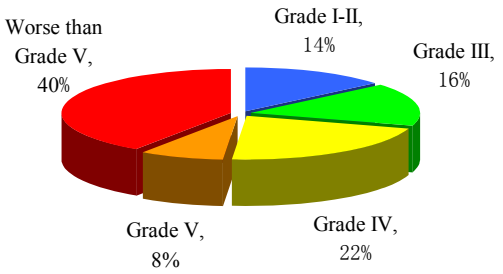
Water Quality of Trans-province-boundary Sections of the Haihe River System in 2005

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the section	Grade of Water Quality	
				2005	2004
Liaocheng	Wei Canal	Chenggou Bay	Hebei-Henan-Shandong	Worse than Grade V	Worse than Grade V
Langfang	North Canal	Wangjiabai	Beijing-Hebei	Worse than Grade V	Worse than Grade V
Dezhou	Chahe River	Tianlongzhuang	Shandong-Hebei	Worse than Grade V	Worse than Grade V
Cangzhou	South Canal	Sangyuan Bridge	Shandong-Hebei	Worse than Grade V	Worse than Grade V
Daming	Weihe River	Longwang	Henan-Hebei	Worse than	Worse than

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the section	Grade of Water Quality	
				2005	2004
County		Temple		Grade V	Grade V
Liaocheng	Majia River	Rentang Bridge	Henan-Shandong	Worse than Grade V	Worse than Grade V
Liaocheng	Tuhai River	Bitun	Henan-Shandong	Worse than Grade V	Worse than Grade V
Liaocheng	Jindi River	Zhangqiu	Henan-Shandong	Worse than Grade V	Worse than Grade V
Tianjin	North Canal	Tumenlou	Hebei-Tianjin	V	V
Tianjin	Heilonggang River	Gonggang floodgate	Hebei-Tianjin	V	V
Jinghai County	Ziya River	Xiaohe Gate	Hebei-Tianjin	IV	Ⅳ
Zhangjiakou	Baihe River	Houcheng	Hebei-Beijing	IV	III
Beijing	Yongding River	Yanhecheng	Hebei-Beijing	IV	IV
Zhangjiakou	Yanghe River	Zuowei Bridge	Shanxi-Hebei	IV	Worse than Grade V
Zhangjiakou	Sanggan River	chuaigutuan	Shanxi-Hebei	IV	III
Shijiazhuang	Mianhe River-Yehe River	Didu	Shanxi-Hebei	IV	IV
Handan	Zhanghe River	Liujiazhuang	Shanxi-Hebei	III	II
Changzhi	Zhuozhang River	Wangjiazhuang	Shanxi-Henan	III	IV
Tianjin	Shahe River	Shahe Bridge	Hebei-Tianjin	II	I
Beijing	Chaohe River	Gubeikou	Hebei-Beijing	II	II
Beijing	Juma River	Dashadi	Hebei-Beijing	I	I

(7) Liaohe River System

Liaohe River system suffered from heavy pollution. 30%, 30% and 40% of the 37 surface water sections fell into Grade I-III, Grade IV-V, or was worse than Grade V respectively. Major pollutants were ammonia nitrogen, oils and permanganate index.



Proportions of Varied Water Quality in Liaohe River System in 2005

The mainstream of the Liaohe River was heavily polluted, and the water quality remained the same with last year.

The tributaries of the Liaohe River had heavy water pollution, and compared with the year 2004, water quality deteriorated to some extent. The Dongliao River, Laoha River, and Xilamulun River were slightly polluted. Xiliao River had moderate water pollution. The Tiaozi River and Zhaosutai River suffered from heavy pollution.

The trans-province sections of the Liaohe River System under national monitoring program were of poor water quality. Of the three monitored sections, Dianzi Section of Laoha River bordering Liaoning Province and Inner Mongolia Autonomous Region fell into Grade III water quality; Sishuang Bridge Section of Dongliao River in the boundary of Jilin and Liaoning Province had water quality of Grade V; and Fudedian Section of Liaohe River bordering Jilin Province, Inner Mongolia and Liaoning Province failed to meet Grade V.

Water Quality of Trans-province-boundary Sections of the Liaohe River System in 2005

Region Name	River Name	Section Name	Provinces in the Upper and Lower Reaches of the section	Grade of Water Quality	
				2005	2004
Tieling City	Liaohe River	Fudedian	Jilin, Inner Mongolia and Liaoning	Worse than Grade V	V
Shuangliao City	Dongliao River	Sishuang Bridge	Jilin-Liaoning	V	IV
Chifeng City	Laoha River	Dianzi	Liaoning-Inner Mongolia	III	III

2. Water Quality of Rivers in Zhejiang Province and Fujian Province

Rivers in Zhejiang Province and Fujian Province enjoyed good water quality at large. No obvious changes occurred compared with that of last year. Of the 32 surface water sections subject to national-level monitoring, 34% had water quality at Grade I-II, 41% fell into Grade III, 22% was at Grade IV, and another 3% met Grade V. No sections were observed with water quality worse than Grade V. The major pollutants were oils, ammonia nitrogen and BOD_5.

3. Water Quality of Rivers in Southwest and Northwest China

Rivers in Southwest China Rivers in Southwest China enjoyed good water quality. Compared with the previous year, no obvious changes were observed. Of the 17 surface water sections subject to national-level monitoring, 6% had water quality at Grade I, 53% fell into Grade II, 23% met Grade III, 6% was of Grade IV, and another 12% failed to meet Grade V. The major pollutants

were lead and permanganate index.

Rivers in Northwest China The water quality of Rivers in Northwest China was good, with no obvious changes compared with the year 2004. 85% of the 28 surface water sections under national monitoring program were of water quality at Grade I-III, 7% was at Grade IV, and the proportions of sections with water quality both at or worse than Grade V were 4%. The major pollutants were ammonia nitrogen and oils.

4. Water Quality of Lakes and Reservoirs

In 2005, of the 28 major lakes and reservoirs under national monitoring program, 2 met Grade II, accounting for 7%; 6 fell into Grade III, taking up 21%; 3 were at Grade IV, constituting 11%; 5 witnessed Grade V of water quality, taking up 18%; and 12 failed to meet Grade V, accounting for 43%. Among others, Taihu Lake, Dianchi Lake and Chaohu Lake had their water quality worse than Grade V. The major pollutants were total nitrogen (TN) and total phosphorus (TP).

Water Quality of Major Lakes and Reservoirs in 2005

No. / River system	Number	I	II	III	IV	V	Worse than V	Major pollutants
Three major lakes	3	0	0	0	0	0	3	TN, TP
Large freshwater lakes	10	0	1	2	2	2	3	
Urban lakes	5	0	0	0	0	2	3	
Large reservoirs	10	0	1	4	1	1	3	
Total	28	0	2	6	3	5	12	
Percentage (%) in 2004		0	8	18	15	22	37	
Percentage (%) in 2005		0	7	21	11	18	43	

(1) Taihu Lake

Lake Body In 2005, although the annual average values of permanganate index and total phosphorus in Taihu Lake body met Grade III and Grade IV respectively, the heavy pollution caused by total nitrogen made the water quality fail to meet Grade V. The nutrition index of the lake body proved to be 62, indicating that the lake was in moderate eutrophication. The water quality of the lake body did not change much in comparison with the last year.

None of the 21 sites under national monitoring program witnessed Grade I-IV water quality, and 33% and 67% fell into Grade V or failed to meet Grade V respectively. The major pollutant was total nitrogen. Wuli Lake and Meiliang Lake were much more seriously polluted than the central part of the lake as well as the east bank area.

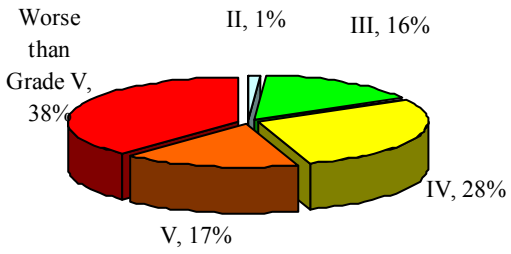
Major Pollutant Index of Taihu Lake Body and the Water Quality in 2005

Lake Area	Permanganate Index (mg/L)	TP (mg/L)	TN (mg/L)	Chlorophyll a (mg/L)	Index of nutrition	Grade of Water Quality

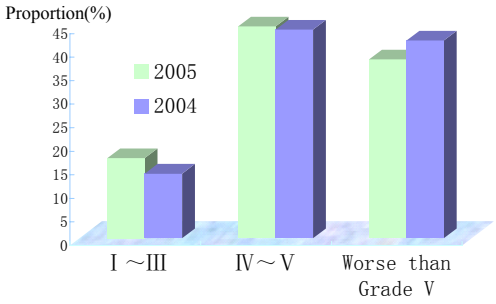
					state	2005	2004
Wuli Lake	6.3	0.137	5.60	0.047	67	Worse than Grade V	Worse than Grade V
Meiliang Lake	6.0	0.106	4.66	0.038	65	Worse than Grade V	Worse than Grade V
West bank area	5.5	0.101	3.77	0.049	65	Worse than Grade V	Worse than Grade V
East bank area	4.5	0.047	1.68	0.017	55	Worse than Grade V	V
Central part	4.4	0.064	2.18	0.027	60	V	V
Average value of the whole lake	4.9	0.077	2.86	0.032	62	Worse than Grade V	Worse than Grade V

Rivers Surrounding the Lake The rivers around Taihu Lake had moderate pollution. However, compared with last year, the overall water quality of those rivers had become better. Major pollutants were ammonia nitrogen, oils and BOD_5.

Of the 89 surface water sections subject to national-level monitoring, 1% had water quality at Grade II, 16% fell into Grade III, 28% was of Grade IV, 17% met Grade V, and another 38% failed to meet Grade V standard.



Proportions of Varied Water Quality of Rivers around Taihu Lake in 2005



Comparison of Water Quality in Rivers around Taihu Lake between 2004 and 2005

(2) Dianchi Lake

Lake Body In 2005, the Grass Sea of Dianchi Lake experienced serious eutrophication, while the Outer Sea was under moderate eutrophication. The monitoring results of the ten sites under national monitoring program of the lake indicated that the water quality of the Grass Sea failed to meet Grade V, and that of the Outer Sea fell into Grade V. The pollution of Grass Sea was much

more serious than the Outer Sea. No obvious changes occurred in terms of water quality of the lake body compared with last year.

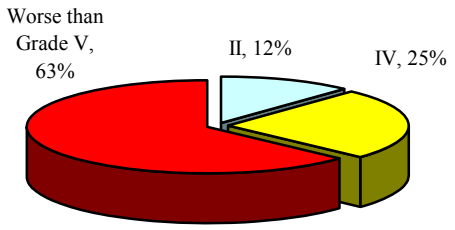
The Major Pollutant Index of Dianchi Lake Body and Its Water Quality in 2005

Lake Area	Permanganate index（mg/L）	TP（mg/L）	TN（mg/L）	Chlorophyll a（mg/L）	Index of nutrition state	Grade of Water Quality	
						2005	2004
Grass Sea	7.0	1.07	13.1	0.097	76	Worse than Grade V	Worse than Grade V
Outer Sea	6.2	0.186	1.82	0.043	62	V	V

Comparison of Major Pollutant Index in Dianchi Lake Area between 2004 and 2005

Year	Lake Area	Permanganate index（mg/L）	TP（mg/L）	TN（mg/L）	Index of nutrition State
2005	Grass Sea	7.0	1.07	13.1	76
	Outer Sea	6.2	0.186	1.82	62
2004	Grass Sea	7.7	1.295	13.1	79
	Outer Sea	5.7	0.155	1.98	63

Rivers Surrounding the Lake The rivers around Dianchi Lake suffered from heavy pollution in 2005. The water quality worsened off to some extent compared with last year. The major pollutants were ammonia nitrogen and BOD_5. Of the 8 surface water sections under national monitoring program, 12% had water quality at Grade II, 25% was of Grade IV water quality and 63% failed to meet Grade V.



Proportions of Varied Water Quality of Rivers around Dianchi Lake in 2005

(3) Chaohu Lake

Lake body In 2005, Chaohu Lake was in moderate eutrophication state (among others, west part experienced moderate eutrophication, and east part had minor eutrophication). The monitoring results of the 12 sites under national monitoring program indicated that the overall water quality of the lake body failed to meet Grade V (among others, the east part fell into Grade V, and the west part was worse than Grade V). The west part experienced more serious pollution than the east part. Compared with the year 2004, no obvious change occurred in terms of water quality.

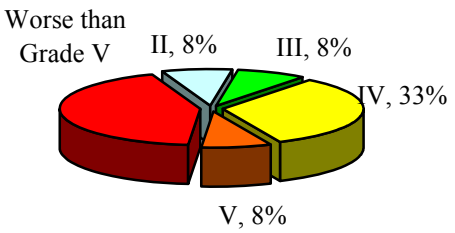
Major Pollutant Index and the Water Quality of Chaohu Lake Body in 2005

Lake Area	Permanganate index（mg/L）	TP （mg/L）	TN （mg/L）	Chlorophyll a （mg/L）	Index of Nutrition State	Grade of Water Quality	
						2005	2004
West part	5.8	0.34	2.78	0.031	65	Worse than Grade V	Worse than Grade V
East part	3.8	0.11	1.18	0.004	52	V	V
Average of the whole lake	4.8	0.22	1.98	0.002	61	Worse than Grade V	Worse than Grade V

Comparison of Major Pollutants in Chaohu Lake Area between 2004 and 2005

Year	Lake Area	Permanganate Index （mg/L）	TP （mg/L）	TN （mg/L）	Index of Nutrition State
2005	West part	5.8	0.34	2.78	65
	East part	3.8	0.11	1.18	52
	Average of the whole lake	4.8	0.22	1.98	61
2004	West part	5.7	0.332	3.77	67
	East part	4.1	0.123	1.18	54
	Average of the whole lake	4.9	0.227	2.48	62

Rivers Surrounding the Lake Of the 12 surface water sections under national monitoring program in rivers around Chaohu Lake (including two sections containing pollutants), 8% fell into Grade II, 8% was of Grade III water quality, 33% had water quality of Grade IV, 8% witnessed water quality at Grade V and the remaining 43% failed to meet Grade V. The major pollutants were ammonia nitrogen, BOD_5 and dissolved oxygen.



Proportions of Varied Water Quality of Rivers around Chaohu Lake in 2005

(5) Other Large Freshwater Lakes

Among the 10 major freshwater lakes under national monitoring program, Xingkai Lake had water quality of Grade II; Erhai Lake and Bositeng Lake were of Grade III water quality; Jingbo Lake

and Poyang Lake fell into Grade IV; Dongting Lake and Nansi Lake had Grade V water quality, and Baiyangdian Lake, Dalai Lake and Hongze Lake was worse than Grade V. The major pollutants were total nitrogen, total phosphorus, permanganate index, etc.
Compared with the previous year, the water quality of Poyang Lake was remarkably improved from the level inferior to Grade V to Grade IV, so was the case of Nansi Lake from worse than Grade V to Grade V. Other large freshwater lakes witnessed no evident change in water quality.

Of the 8 lakes (no data for the rest of two lakes), Erhai Lake and Poyang Lake were in mesotrophic state; Nansi Lake and Hongze Lake experienced mild eutrophication; Bositeng Lake, Jingbo Lake, Dongting Lake and Dalai Lake were under moderate eutrophication.

Water Quality of 10 Major Freshwater Lakes in 2005

Name of lakes and reservoirs	Index of nutrition state	Nutrition level	Grade of water quality		Major pollutants
			2005	2004	
Xingkai Lake	—	No data available due to incomplete items	II	II	—
Erhai Lake	42	Mesotrophic state	III	III	—
Bositeng Lake	61	Moderate eutrophication	III	III	—
Poyang Lake	46	Mesotrophic state	IV	Worse than Grade V	Total phosphorus (TP)
Jingbo Lake	61	Moderate eutrophication	IV	IV	Permanganate Index
Nansi Lake	55	Minor eutrophication	V	Worse than Grade V	TN, TP
Dongting Lake	66	Moderate eutrophication	V	V	TP
Hongze Lake	55	Minor eutrophication	Worse than Grade V	Worse than Grade V	TN
Dalai Lake	62	Moderate eutrophication	Worse than Grade V	Worse than Grade V	Permanganate Index
Baiyangdian Lake	—	No data available due to incomplete items	Worse than Grade V	—	TN, ammonia nitrogen

(6) Urban Lakes

Of the 5 urban lakes included in the monitoring statistics, Kunming Lake (in Beijing City) and Xuanwu Lake (in Nanjing City) were of Grade V water quality; Xihu Lake (in Hangzhou City), Donghu Lake (in Wuhan City) and Daming Lake (in Jinan City) failed to meet Grade V. The major pollutants were total nitrogen and total phosphorus. Kunming Lake and Xihu Lake experienced

mild eutrophication, and Xuanwu Lake, Donghu Lake and Daming Lake had moderate eutrophication.

Compared with 2004, the water quality of Xihu Lake deteriorated from Grade V to worse than Grade V. Kunming Lake, Xuanwu Lake and Donghu Lake had no remarkable change in water quality.

Water Quality of Kunming Lake, Xuanwu Lake, Xihu Lake, Daming Lake and Donghu Lake in 2005

Name of lakes	Index of nutrition state	Nutrition level	Grade of Water Quality		Major pollutants
			2005	2004	
Kunming Lake	54	Mild eutrophication	V	V	Total nitrogen
Xuanwu Lake	63	Moderate eutrophication	V	V	TN, TP
Xihu Lake	58	Mild eutrophication	Worse than Grade V	V	TN
Daming Lake	60	Moderate eutrophication	Worse than Grade V	Worse than Grade V	TN
Donghu Lake	63	Moderate eutrophication	Worse than Grade V	Worse than Grade V	TN, TP

(7) Large Reservoirs

In 2005, of the 10 large reservoirs under monitoring program, Shimen Reservoir (in Shaanxi Province) had Grade II water quality. Qiandao Lake (in Zhejiang Province), Danjiangkou Reservoir (in Hubei Province), Miyun Reservoir (in Beijing City) and Dongpu Reservoir (in Anhui Province) met Grade III; Yuqiao Reservoir (in Tianjin City) fell into Grade IV; Songhua Lake (in Jilin Province) was of Grade V water quality; Menlou Reservoir (in Shandong Province), Dahuofang Reservoir (in Liaoning Province) and Laoshan Reservoir (in Shandong Province) failed to meet Grade V. Among others, Qiandao Lake was in oligotrophic state, Yuqiao Reservoir had mild eutrophication, and the rest 7 large reservoirs were in mesotrophic state (except Shimen Reservoir, which did not undergo eutrophication status evaluation due to incomplete data).

Compared with last year, the water quality of Danjiangkou Reservoir turned out to be better from Grade IV to Grade III; Songhua Lake had its water quality change from Grade IV to Grade V, while Dahuofang Reservoir and Laoshan Reservoir deteriorated from Grade V to worse than Grade V. No obvious change of water quality occurred in other large reservoirs.

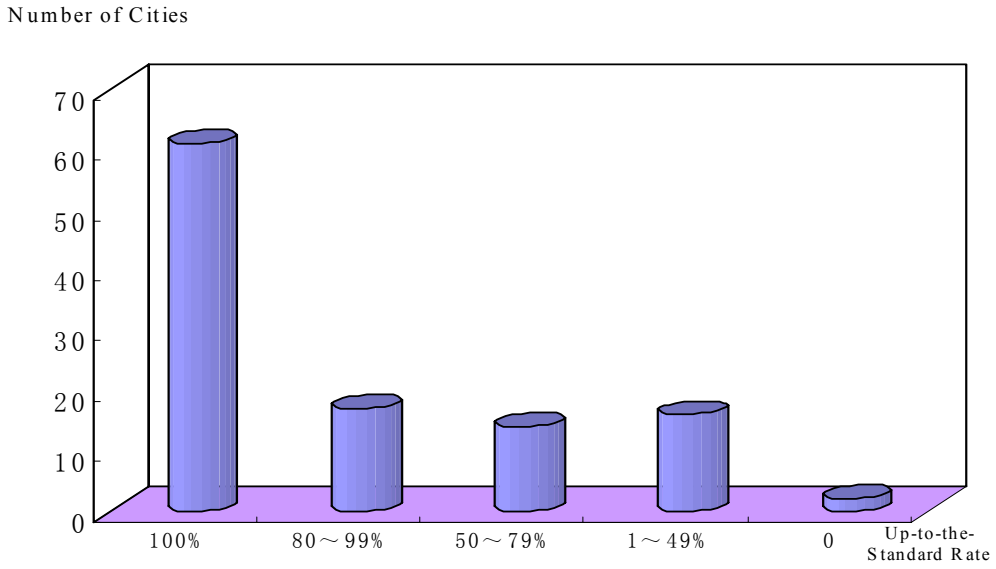
Water Quality of 10 Major Reservoirs in 2005

Name of lakes and reservoirs	Index of Nutrition State	Nutrition level	Grade of Water Quality		Major Pollutants
			2005	2004	
Shimen Reservoir	—	No date available due to incomplete	II	II	—

Name of lakes and reservoirs	Index of Nutrition State	Nutrition level	Grade of Water Quality		Major Pollutants
			2005	2004	
		items			
Qiandao Lake	29	Oligotrophic state	III	III	—
Danjiangkou Reservoir	32	Mesotrophic state	III	IV	—
Miyun Reservoir	36	Mesotrophic state	III	III	—
Dongpu Reservoir	43	Mesotrophic state	III	III	—
Yuqiao Reservoir	58	Mild eutrophication	IV	IV	Total Nitrogen (TN)
Songhua Lake	49	Mesotrophic state	V	IV	TN
Menlou Reservoir	43	Mesotrophic state	Worse than Grade V	Worse than Grade V	TN
Dahuofang Reservoir	44	Mesotrophic state	Worse than Grade V	V	TN
Laoshan Reservoir	44	Mesotrophic state	Worse than Grade V	V	TN

5. Water Quality of Centralized Drinking Water Sources in Urban Areas

Of the 113 key environmental protection cities, Tai'an, Qujing, and Tongchuan were excluded of the statistics due to insufficient water supply. The monitoring results of 360 centralized drinking water sources of the remaining 110 major cities showed that the water quality of centralized water sources in key cities was good at large. An average of 1.61 billion tons of water was taken monthly from the 113 key environmental protection cities, among which 1.29 billion tons reached the standard, taking up 80%. 320 million tons failed to meet with the standard, accounting for 20%. The major pollutants index in rivers was fecal coliform, and the major pollutants index of lakes or reservoirs was total nitrogen.



Up-to-standard rate of water quality in centralized drinking water sources in 110 cities in 2005

6. Groundwater

(1) Groundwater Quality

In 2005, 160 cities (including the regions under the jurisdiction of cities in the plain area) across the country launched the work to monitor underground water quality (139 cities at or above prefecture level and 21 at county level). The area of underground water monitoring sites totaled 1.11 million km^2.

Compared with the previous year, the overall quality of underground water in major cities and plain areas across the country remained stable despite the deteriorating trend in part of the areas. The monitoring results indicated that the pollution of underground water aggravated in 21 cities (mainly in Northwest, Northeast, and Southeast areas), 14 cities had their pollution situation alleviated (mainly in North China and Northwest region) and 123 cities witnessed stable underground water quality.

Northeast China Poor or extremely poor water quality was observed mainly in Baishan, Baicheng, Dalian, and Mudanjiang City. Good or excellent water quality was distributed in Yanji, Liaoyuan, Tonghua, Anshan, Shenyang, Tieling City, etc. Compared with the previous year, nitrate and nitrite levels tended to rise up, and the level of iron, sulphate, and chlorides increased to some extent in part of the areas.

North China Provinces, autonomous regions and municipalities directly under the State Council in North China all had very few pollutants remarkably aggravated, those pollutants being total hardness, sulphate, nitrate, and nitrite. Compared with last year, groundwater quality of the whole region remained stable at large. The groundwater pollution in the city of Handan, Tangshan, Tongliao and Baotou aggravated, while that of Shijiazhuang, Chengde, Langfang, Hohhot, Jining and Wuhai was alleviated.

Northwest China Compared with last year, the levels of chloride, sulphate, nitrate, nitrite and ammonia nitrogen increased to some extent, so did the content of cyanide in Ankang City. Xifeng, Pingliang, Xining, Golmud, Dushanzi, and Kuerle witnessed excellent and stable groundwater quality, while Xi'an, Ankang, Tianshui, Yinchuan, Shizuishan, Miquan, Usu, Keshen, Hutubi, and Changji had poor or even worse groundwater quality.

East China In general, East China region enjoyed good groundwater quality. In comparison with 2004, the pollutant levels were stable, but some areas witnessed an increase in total hardness, dissolved solids, nitrate, fluoride and COD. Shandong Province mainly experienced poor or even worse water quality. Such water quality distributed in the urban areas of Hangzhou, Jiaxing, Wenzhou, Taizhou, Fuyang, Bengbu, Bozhou, Huaibei, Suzhou (in Anhui Province), Nanchang and Ji'an as well.

Central and South China The groundwater quality in this region remained stable, and turned gradually to be better from northern part to southern part. Groundwater pollution in Zhengzhou City was eased at large, while that of Huangshi, Changsha, Xiangtan, and Yueyang City aggravated. Apart from Zhengzhou, Xianning, and Binzhou City that enjoyed excellent or good water quality, the major monitoring sites in other cities of Henan, Hunan, and Hubei Province suffered from poor or extremely poor water quality. Guangdong and Hainan Province had good water quality. The contents of sulphate and chloride in groundwater of Kaifeng City increased slightly, while the content of iron and manganese in Wuhan City groundwater rose to some extent. All the regular indicators in the groundwater of Xiangfan, Huangshi, Changsha, Beihai and Liuzhou City increased.

Southwest China This region was dominated by excellent or good water quality, while the major monitoring sites in Kaiyuan, Chuxiong, Guiyang City, some sections of Anshun City, Chengdu, and Deyang City experienced poor water quality. Compared with last year, except the heavier groundwater pollution in Chuxiong City, the groundwater quality in other regions did not change much, and only very few indicators increased (nitrate and nitrite are the major indicators that witnessed increase, and dissolved solids and sulphate rose in specific areas).

(2) Funnel of Groundwater Depression

There were 188 funnels of groundwater depression nationwide. Of the 171 funnels with systematic statistics, 65 had expanded (a total increase in area of 6,736 km^2), 57 shrank (a total reduction in area of 2,175 km^2) and another 49 remained stable.

In 2005, measures such as sealing the wells to limit the exploitation of groundwater were taken to prevent ground subsidence in the Yangtze River Delta. As a result, the expansion of funnels of groundwater depression was mitigated to some extent, and the area of the funnel in No. II confined aquifer of Suzhou-Wuxi-Changzhou area reduced by 700 km^2. Affected by the overexploitation of groundwater for a long time, North China Plain still had funnels of groundwater depression, especially in Cangzhou-Dezhou-Hengshui area where the funnels of deep groundwater depression continued to grow both in terms of area and depth. No. III confined aquifer of Cangzhou City in Hebei Province had its funnels increase by 2,089 km^2, and the groundwater table was as deep as 101m.

7. Discharge Amount of Wastewater and Major Pollutants

In 2005, the total discharge amount of wastewater across the country amounted to 52.45 billion tons (among which the industrial effluent came up to 24.31 billion tons, and domestic sewage amounted to 28.14 billion tons). The COD emission totaled 14.142 million tons (including 5.548 million tons from industrial sector and 8.594 million tons from domestic sources). The release of ammonia nitrogen was 1.498 million tons (including 525,000 tons from industrial sources and 973,000 tons from domestic sources).

Discharge Amount of Wastewater and Major Pollutants in Recent Years across China

Item / Year	Discharge amount of wastewater (100 million tons)			Discharge amount of COD (10,000 tons)			Discharge amount of ammonia nitrogen (10,000 tons)		
	Total	Industrial	Domestic	Total	Industrial	Domestic	Total	Industrial	Domestic
2001	432.9	202.6	230.3	1404.8	607.5	797.3	125.2	41.3	83.9
2002	439.5	207.2	232.3	1366.9	584.0	782.9	128.8	42.1	86.7
2003	460.0	212.4	247.6	1333.6	511.9	821.7	129.7	40.4	89.3
2004	482.4	221.1	261.3	1339.2	509.7	829.5	133.0	42.2	90.8
2005	524.5	243.1	281.4	1414.2	554.8	859.4	149.8	52.5	97.3

In 2005, 91.2% of the industrial wastewater in China was discharged up to the standard, up by 0.5 percentage point. Among others, the up-to-the-standard rate in major enterprises and industries was 92.8%, 0.9 percentage point higher than the previous year, and that of non-major enterprises and industries was 80.6%, same as that of the last year.

Countermeasures and Actions

【Investigations on the Manganese pollution accident in the bordering area of Hunan Province, Chongqing Municipality and Guizhou Province】 In August 2005, State Leaders made important instructions on the Manganese pollution accident in the bordering area of Hunan Province, Chongqing Municipality and Guizhou Province in succession. In order to put these instructions into effect, SEPA, together with the three provincial (municipal) governments concerned developed the *Plan on the Treatment of Manganese Pollution in the Bordering Area of Hunan Province, Guizhou Province and Chongqing Municipality*. 41 electrolytic Manganese enterprises in this area made the efforts to treat Manganese pollution following the above Plan. By the end of December 2005, most of the electrolytic enterprises had basically completed the treatment work. Accordingly, rivers in this area saw improved water quality, and the surface water quality met Grade III national standards.

【Progress of Water Pollution Prevention and Control in Major River Basins】In 2005, the COD reduction targets of the Huaihe River, Haihe River, Liaohe River, Taihu Lake, Chaohu Lake, Dianchi Lake, eastern route of South-to-North Water Diversion Project, the Three Gorges Reservoir area as well as its upper reaches were met respectively by 100%, 61%, 65%, 76%, 95%, 0, 17% and 33%. Taihu Lake, Chaohu Lake and Dianchi Lake area basically completed the task of reducing total phosphorus.

By the end of 2005, of the 2,130 pollution treatment projects defined in the Tenth Five-Year Plan for water pollution prevention and control, 1,378 projects had been finished, accounting for 65%, 466 were underway, taking up 22%, and 286 had not yet started construction, accounting for 13%. 86.4 billion yuan of investment had been secured, accounting for 53% of the total inputs. 70%, 56%, 43%, 86%, 53%, 54%, 68% and 68% of the projects were completed respectively in the Huaihe River, Haihe River, Liaohe River, Taihu Lake, Chaohu Lake, Dianchi Lake, eastern route

of South-to-North Water Diversion Project, the Three Gorges Reservoir area and its upper reaches, and 57%, 55%, 34%, 77%, 62%, 15%, 19% and 77% of investment was secured respectively in these areas. The proportions of completed projects in areas of those river basins were as follows:

Huaihe River Basins: 81%, 64%, 63% and 56% respectively in Shandong, Jiangsu, Anhui, and Henan provinces.

Haihe River Basins: 91%, 76%, 67%, 61%, 49% and 44% respectively in Beijing, Henan, Tianjin, Shandong, Shanxi and Hebei.

Liaohe River Basins: 66%, 44% and 18% respectively in Liaoning, Jilin and Inner Mongolia.

Taihu Lake Basins: 100%, 89% and 79% respectively in Shanghai, Jiangsu Province and Zhejiang Province.

Eastern Route of South-to-North Water Diversion Project: 71% in Shandong Province and 51% in Jiangsu Province.

The Three Gorges Reservoir Area and its upper reaches: 79%, 68%, 66%, 56% and 39% respectively in Sichuan, Hubei, Chongqing, Guizhou and Yunnan provinces.

【Information on meeting the targets set by the Tenth Five-Year Plan for water pollution prevention and control in major river basins】 Of the 453 river sections under the water quality monitoring and assessment program as set in the Tenth Five-Year Plan for water pollution prevention and control in the Huaihe River, Haihe River, Liaohe River, Taihu Lake, Chaohu Lake, Dianchi Lake, eastern route of South-to-North Water Diversion Project, the Three Gorges Reservoir area and its upper reaches, 270 sections reached the water quality standard, taking up 60%.

Take the permanganate index as an example, 84%, 57%, 50%, 45% and 73% of the sections in Huaihe River, Haihe River, Liaohe River, eastern route of South-to-North Water Diversion Project, and the Three Gorges Reservoir area and its upper reaches met the standards. As to both the permanganate index and the total phosphorus, 36%, 50% and 50% of the sections in Taihu Lake, Chaohu Lake and Dianchi Lake had their water quality up to the standard. The up-to-the-standard rates of water quality in sections of all river basins were shown as below:

Huaihe River Basins: Henan-95%, Jiangsu-91%, Anhui-79%, Shandong-68%.

Haihe River Basins: Tianjin-87%, Beijing-75%, Henan-67%, Shandong-47%, Hebei-40%, Shanxi-33%.

Liaohe River Basins: Inner Mongolia-100%, Liaoning-40%, Jilin-38%.

Taihu Lake Basins: Jiangsu-43%, Zhejiang-0%.

Eastern route of South-to-North Water Diversion Project: Jiangsu-57%, Shandong-38%.
The Three Gorges Reservoir area and its upper reaches: Chongqing-100%, Guizhou-100%, Yunnan-80%, Hubei-67%, Sichuan-58%.

【Surveys on the organic pollution in drinking water sources of major cities】 Leaders of CPC and the State Council attached great importance to drinking water safety. CPC Secretary General Hu Jintao, Premier Wen Jiabao, and Vice Premier Zeng Peiyan all delivered important instructions on this matter for many times. In order to carry out the important instructions of the CPC and State Council on solving drinking water safety problems, SEPA launched the campaign to monitor and investigate the hazardous and toxic organic pollutants in drinking water sources of major cities across the country in 2005. A total of 231 sampling sites were located in 206 drinking water sources of 56 cities, and 2,300 samples were collected, which generated 37,234 data on monitoring and investigating of hazardous and toxic organic pollutants. According to the survey, preliminary information was obtained on the type and levels of hazardous and toxic organic pollutants (volatile organic pollutants, semi-volatile organic pollutants, organic chlorine pesticide and organic phosphorus pesticide) in centralized drinking water sources of major cities. The findings paved the way for further formulation of relevant standards, criteria and analytical methods on organic pollutants in drinking water sources, and provided scientific basis for improving and deepening environmental management.

Laws, Regulations, Rules and Standards on Environmental Protection

The amended *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes* was effective from the date of April 1, 2005. The State Council issued the *Regulation on Safety and Protection of Radioactive Isotope and Irradiating Apparatus* and *Decision of the State Council on the Implementation of the Scientific Outlook on Development and Strengthening the Environmental Protection*. SEPA formulated and issued the *Administrative Measures on Qualification for Construction Project Environmental Impact Assessments*, *Measures on Prevention of Pollution Caused by Hazardous Waste*, *Administrative Measures on Automatic Supervision and Control of Pollution*, *Measures for the Procedure for Formulating Regulations on Environmental Protection, Regulation on the Review and Approval Procedures for Environmental Impact Assessment Statements of Construction Project, and Provisions on the Rules of Conduct and Honest Administration of Construction Project Environmental Impact Assessment*.

China issued 104 various environmental standards in 2005, including 26 national standards for the control of pollutant discharge, 24 sample standards in the environment field, 53 industrial standards for environmental protection and one national technical policy concerning pollution prevention and control. The year 2005 saw the issuance of the largest number of national environmental standards.

International Cooperation and Exchanges on Environment

In 2005, President Hu Jintao, Premier Wen Jiabao, Vice Premier Zeng Peiyan and other State Leaders attended the activities of international cooperation on environmental protection on 12 occasions. SEPA leaders were involved in overseas visits and meetings for 14 occasions, while 31 inbound visits and delegations were arranged for foreign officials ranking at or above ministerial levels. 494 groups were sent to 60 countries and regions in the world, involving 1,379 person/times, and 714 person/times from 61 countries were invited to China. 230 person/times were provided with opportunities for overseas trainings. Up to 145 million U.S. dollars from overseas sources were either secured or utilized across the whole year.

In 2005, the State Council officially approved China's accession to the *Cartagena Protocol on Biosafety*. Vice Premier Zeng Peiyan attended the 23rd session of UNEP Governing Council and made his speech. China donated 500,000 U.S. dollars for the first time to UNEP to support the environmental impact assessment in the wake of the tsunami of Southeast Asia. The new office of the Permanent Representatives of China to UNEP was completed and put into operation. China signed or renewed nine bilateral cooperation documents on the environment and nuclear safety with the United States, Brazil, Ukraine and other countries. SEPA held the China-African Conference on Environment Cooperation for the first time at abroad, marking the beginning of the training programs provided by China for talents of African countries in the environment field. China further explored new cooperative mechanisms for biodiversity conservation, etc., in Greater Mekong Sub-region, and initiated the mechanism for environmental cooperation under the framework of Shanghai Cooperation Organization. All parties concerned reached a consensus on the installation of the 4th Phase of China Council for International Cooperation on Environment and Development (CCICED). Zhou Qiang, President of All-China Youth Federation, was awarded "Champion of the Earth" by UNEP, while SEPA granted the "Award of International Cooperation on Environment Protection" to three foreign friends who had made outstanding contributions to China's international cooperation undertaking in the environment field, including Hau-sing Tse, Vice President of Canadian International Development Agency.

On February 21, 2005, Vice Premier Zeng Peiyan presented at the 23rd session of UNEP Governing Council held in Nairobi at the invitation of UNEP and the opening ceremony of Global Forum of Environment Ministers. He delivered important speeches, and met with UNEP Executive Director Dr. Töpfer and other distinguished foreign guests. He also attended China-African Conference on Environment Cooperation and made a speech.

Rigorously Punishing Environmental Irregularities and Undertaking Special Campaigns on Environment Protection

As require by *Notice of the Administrative Office of the State Council on Launching In-depth Special Campaigns on Treating Enterprises with Illegal Pollutant Discharge and Safeguarding the Public Health*, SEPA, National Development and Reform Commission (NDRC), Ministry of Supervision, Ministry of Justice, State Administration of Industry and Commerce and State Administration of Work Safety jointly held the TV-teleconference on National Special Campaign on Treating Enterprises with Illegal Pollutant Discharge and Safeguarding Public Health. From June to November 2005, the above campaign was conducted nationwide for a period of five months. 1.32 million person/times of law enforcers nationwide were engaged in this campaign. They inspected 560,000 enterprises, and put on record and handled 27,000 environmental irregularity cases, of which 18,500 had been concluded. 2,609 enterprises that discharged pollutants illegally were either banned or closed down, 2,170 ones were ordered to suspend operation for improvements, 4,302 ones were ordered to rectify within a limited period, 9,468 enterprises went through administrative penalties, and 311 people responsible for environmental infringement were punished according to law. A group of enterprises that discharged pollutants illegally and caused heavy pollution were rigorously investigated and punished, some protruding environmental problems that impaired the public health were basically addressed, and accordingly, the environmental quality of some regions remarkably improved.

China's Investments in Environmental Pollution Treatment

China invested 238.8 billion yuan RMB (an increase of 25.1% than in the year 2004) in treating environmental pollution in 2005. Among others, 128.97 billion yuan (up by 13.0%) was used for urban environmental infrastructure construction, 45.82 billion yuan (up by 48.7%) was for treating industrial pollution sources, and 64.01 billion yuan (an increase of 39.0%) went to the implementation of the "Three simultaneities" system in new projects. The total investments in environmental pollution treatment accounted for 1.31% of China's GDP in 2005.

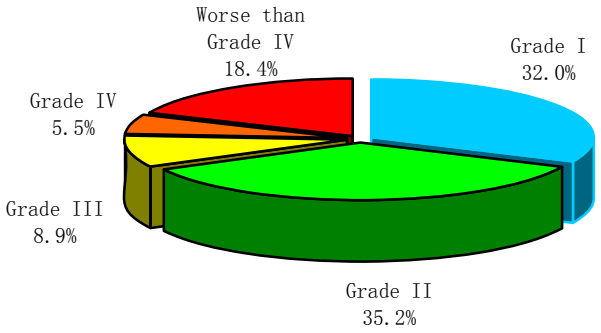
Marine Environment

General Situation

In 2005, most of the coastal sea areas experienced good water quality despite heavy pollution in some areas. Water quality of high sea areas remained in good condition.

67.2% of the coastal sea areas in China had water quality at Grade I or II standard, up by 17.6 percentage points than the previous year; 8.9% experienced Grade III water quality, down by 6.5 percentage points; and 23.9% witnessed water quality of Grade IV or failed to meet Grade IV, a decrease of 11.1 percentage points.

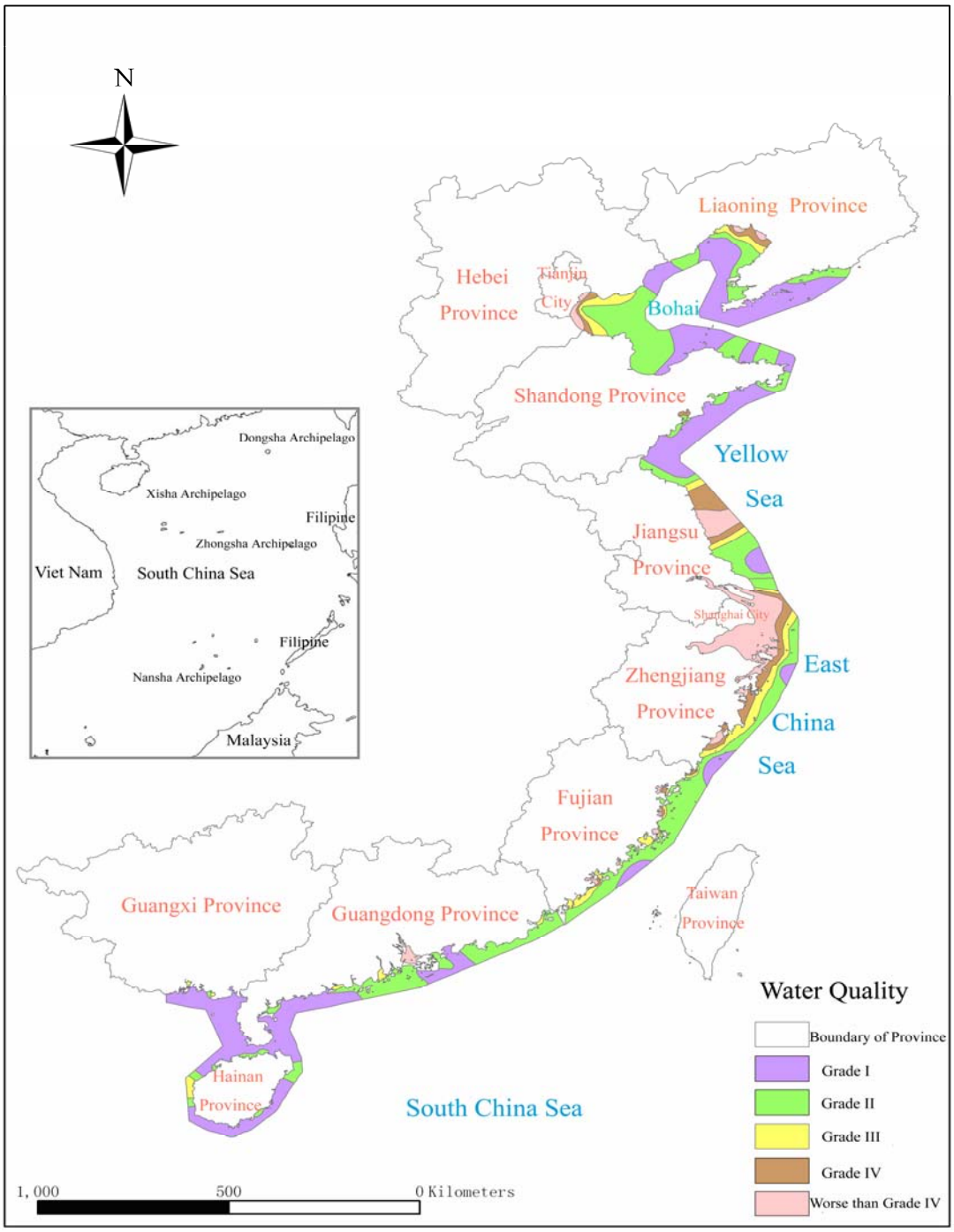
The monitoring results of nine major bays indicated that the Yellow River Mouth and Beibu Gulf enjoyed good water quality, which was dominated by Grade I or II standard. Jiaozhou Bay and Minjiang Mouth came next, with half of the water quality at Grade II standard and half failing to meet Grade IV. Zhujiang Mouth, Liaodong Bay, and Bohai Bay suffered from poor water quality, with 60%-80% of the water at or worse than Grade IV standard. The Yangtze River Mouth and Hangzhou Bay had the worst water quality, which mostly failed to meet Grade IV.



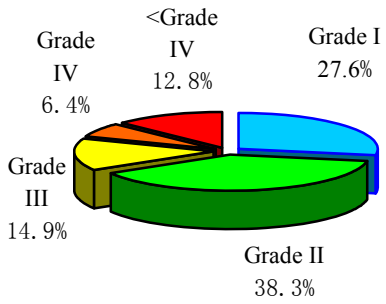
Distribution of Water Quality in Coastal Sea Areas Nationwide in 2005

In 2005, in terms of coastal seawater quality of the four sea areas, the Yellow Sea and South China Sea enjoyed overall good water quality, Bohai Sea had passable water quality, and East China Sea suffered from bad water quality. However, compared with last year, water quality of the coastal areas of the four major seas all experienced improvements to varied degrees.

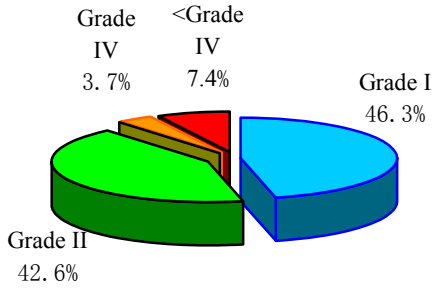
The Yellow Sea and South China Sea had a higher proportion of water quality at Grade II standard, up to 88.9% and 85.8% respectively. Among others, that of Yellow Sea increased by 5.5 percentage points, while that of South China Sea was up by 8.0 percentage points. 66.0% of Bohai Sea water met Grade I or II standard, an increase of 25.6 percentage points compared with that of the previous year; and 19.2% was at or worse than Grade IV standard, down by 26.1 percentage points. The major pollutants were inorganic nitrogen and activated phosphate. East China Sea had 35.5% of water quality at Grade I or II standard, up by 18.3 percentage points compared with in 2004. 52.7% was at Grade IV or failed to meet Grade IV, a drop of 8.6 percentage points.



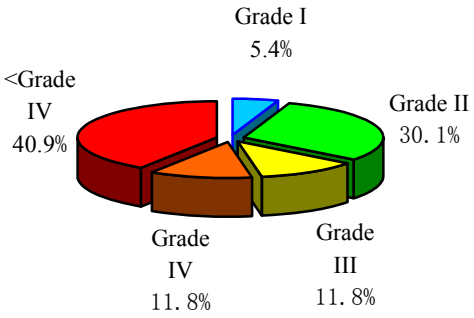
Sketch Map of Water Quality in China's Coastal Sea Areas in 2005



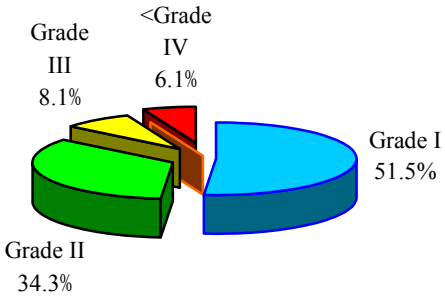
Water Quality in Bohai Sea



Water Quality in Yellow Sea

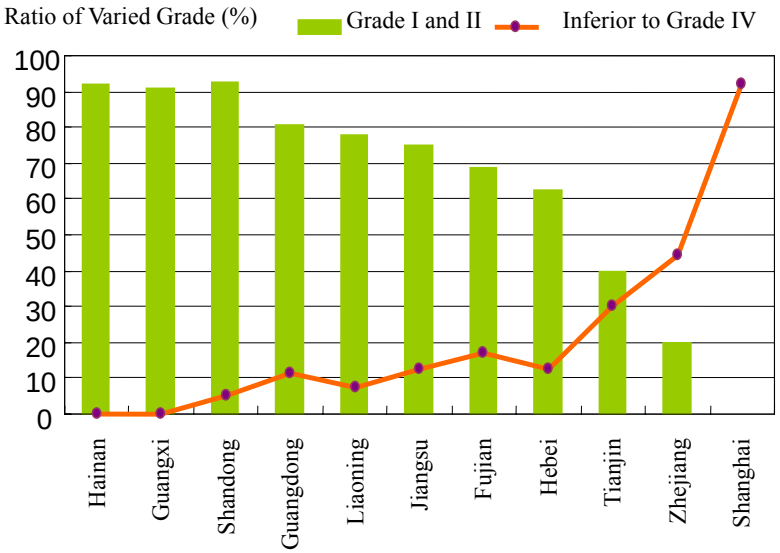


Water Quality in East China Sea



Water Quality in South China Sea

In 2005, among the coastal provinces, autonomous regions and municipalities nationwide, Hainan, Guangxi, Shandong and Guangdong enjoyed good coastal seawater quality, while Shanghai and Zhejiang suffered from bad coastal seawater quality.



Seawater Quality of Coastal Provinces, Autonomous Regions and Municipalities in 2005

Red Tides

The year 2005 saw 82 cases of red tides in all the sea areas, down by 15% than the previous year; and involving an area of 27,070 km^2, the same with last year. However, both the occurrences and area of red tides triggered by toxic algae had increased drastically. Large-scale red tides concentrated in the sea areas of middle Zhejiang Province, sea areas of the outer of the Yangtze River Mouth, Bohai Bay, Meizhou Bay, etc.

The red tide monitoring area continued to play an important role. 42 occurrences of red tides were identified in this region, involving an aggregated area of nearly 15,420 km^2, accounting for 51% of the total occurrences and 57% of the total area. The East China Sea was still plagued by red tides.

Red tides mainly impaired coastal fisheries and algae cultivation, and the direct economic losses caused by red tides exceeded 69 million yuan.

Large-scale Red Tides Occurring in China's Sea Areas in 2005

Duration	Site	Area (km^2)	Biological species causing red tides
April 1	Sea area of middle and southern Zhejiang Province	3,000	*Skeletonema costatum*
May 24 ~ June 1	Sea area of outer Yangtze River Mouth	7,000	*Skeletonema costatum*, Thalassiosira
June 2 ~ June 10	Bohai Bay, and the sea area from Tianjin Municipality to Binzhou City	3,000	Gymnodinium, *Karenia mikimotoi*
June 3 ~ June 5	Sea area from Taohua Island, Xiazhi Island of Zhejiang Province to Jiushan Islands	2,000	*Prorocentrum triestinum*, *Karenia mikimotoi*
June 8	Outer Yangtze River Mouth	2,120	*Skeletonema costatum*
June 8 ~ June 11	Sea area from Shengshan Mountain of Zhejiang Province to West Lvhua Mountain of Shanghai Municipality	1,300	*Prorocentrum triestinum*, *Karenia mikimotoi*
June 10 ~ June 13	Sea area of south Jiushan Islands	2,000	*Prorocentrum triestinum*, *Karenia mikimotoi*
June 16 ~ June 18	Sea area near Bayuquan Port, Yingkou City, Liaoning Province	2,000	*Noctiluca scintillans*

Sept. 23 ~ Sept. 27	Sea area of Meizhou Bay	1,000	*Skeletonema costatum*

Countermeasures and Actions

【Blue Sea Action Plan in major sea areas】 After initiating the Blue Sea Action Plan in the year 2001, SEPA began to implement the plan in Yangtze River Mouth and the adjacent sea area, and Pearl River Mouth and the adjacent area in 2005. The surveys on land-source pollutants in Yangtze River Mouth and adjacent sea areas, and the monitoring of estuarine sediment flux and marine ecological environment finished at the end of 2005. The surveys and planning of Pearl River Mouth and the adjacent sea area also finished.

【Water Quality Weekly on Sea Bathing Beaches of Some Coastal Cities】From June to September 2005, SEPA continued with the monitoring work of water quality in 28 sea bathing beaches of 16 coastal cities, and released 17 issuances of *Water Quality Weekly on Sea Bathing Beaches of Some Coastal Cities*. 89.3% of the sea bathing beaches was suitable or relatively suitable for swimming.

【Building marine protected areas】The year 2005 saw the establishment of two nation-level marine protected areas in Ximen Island of Leqing City and Ma'an Islands of Shengsi County, Zhejiang Province. Among others, Ximen Island Marine Protected Area covered an area of over 20 km^2, and enabled the effective protection of 37 varieties of cay life-forms, 92 kinds of creatures inhabited in mud and shoals, world-level endangered birds like *Larus saundersi* and Black-faced Spoonbill, national class-II protected animals such as *Egretta eulophotes* and Spot-billed Pelican that inhabited in wetlands, and the mangrove forests distributed in the northernmost region of China. With an area of 549 km^2, Ma'an Islands Marine Protected Area ensured effective protection of islands marine ecosystems characterized mainly by rich marine species resources, unique natural terrestrial features and intertidal wetlands.

Inspection on National Environmental Safety

CPC Central Committee and the State Council attached great importance to environmental safety, identified the need to carry out inspections on environmental safety (especially in chemical plants and enterprises), and urged relevant units to take precaution measures and improve corresponding preparedness plans for hidden troubles that may cause major environmental pollution. In December 2005, SEPA made emergent arrangment for local authorities to launch the inspection on environmental safety, and to investigate the following places one by one, i.e., enterprises along the banks of rivers, lakes, and seas that cause heavy pollution and pose high risks, especially the large-and medium-scale chemical enterprises or industrial parks in the upper reaches of centralized drinking water sources and surrounding residential areas, storage and disposal sites of hazardous wastes, and other major areas and units. By January 2006, 180,000 person·times of law enforcers had been called out nationwide, and 49,000 enterprises had undergone inspection. 28,000 enterprises in 19 provinces, autonomous regions and municipalities including Beijing and Tianjin were inspected one by one, which revealed more than 5,800 various hidden troubles of environmental safety or pollution problems. 2,351 enterprises were ordered to rectify in a limited period, and 232 enterprises with prominent problems were listed for major treatment which would be monitored by the authority. SEPA sent out five inspection teams to ten provinces (or cities) with concentrated chemical enterprises to carry out spot check, and carried out the supervision of the 11 listed enterprises with prominent hidden troubles of environmental safety for correction, including Xingtai Iron & Steel Company Ltd. of Hebei Province for major treatment and supervision.

Songhua River Water Pollution Accident

On November 13, 2005, a benzene and nitrobenzene plant in Jilin Chemical Branch of China National Petroleum Corporation exploded, about 100 tons of benzene, nitrobenzene and aniline flowed into the Songhua River, which formed a pollution belt of nearly 100 km downstream the Songhua River and flowed into the Heilongjiang River. It triggered serious water pollution accident, impaired the life and production of residents along the riverbanks, and aroused extensive attention both at home and abroad.

Upon the breakout of the accident, CPC Secretary General Hu Jintao and Premier Wen Jiabao made important instructions for many times, demanded that relevant departments and local governments adopt effective measures and do a good job in response to the accident. Moreover, Premier Wen Jiabao appeared in Harbin City to inspect the situation of the Songhua River pollution, and made the arrangement on the work for pollution prevention and control. The Administrative Offices of both CPC Central Committee and State Council released the Briefing on the Songhua River Major Water Pollution Accident, and the State Council set up a coordinating group to handle the accident, which coordinated and commanded the pollution prevention and control work. More than 300 officials and experts from SEPA departments, affiliated units and 11 provincial and municipal environmental agencies, together with relevant local departments, monitored and predicted the movements and changes of pollution in time. The effective and down-to-earth work ensured the drinking water safety of residents along the banks of the Songhua River. At 2:00am on December 25, 2005, the levels of nitrobenzene and benzene in all monitored sections of the Songhua River and Heilongjiang River in China met national water standards, and the pollution belt stayed for a period of 42 days within China.

After the accident, in the principle of sincerity, enhancing mutual trust and reducing misgivings, the Chinese Government briefed the Russian Government on the latest developments of water pollution in the river. It took the initiative to cooperate with Russian experts, jointly monitored the water quality, and released the information timely to the international communities. It also enhanced the communications with UNEP and other international organizations, representing the image of a responsible country. The actions and measures taken by the Chinese Government were recognized by its Russian counterpart and the international community.

On December 8, 2005, Zhou Shengxian, Minister of SEPA, inspected the monitoring section of the Songhua River pollution accident in the front line of Jiamusi City, at the Heilongjiang River.

Cadmium Pollution Accident in Beijiang River of Pearl River Basins

On December 16, 2005, Shaoguan Smelting Plant illegally discharged wastewater with Cadmium levels exceeding the standards, and triggered the major environmental pollution accident in Beijiang River of Pearl River Basins. After the accident, SEPA especially sent some staff to provide timely technical guidance and coordination, and assisted the Guangdong Provincial Government in its emergency responses. Having taken a number of measures such as minimizing the peak, reducing cadmium level and diluting with water, the pollution warning was released on January 26, 2006.

Extremely Severe and Major Environmental Pollution Accidents Occurred in 2005

In 2005, SEPA was reported on 76 environmental emergency accidents, among which four were extremely severe accidents, 13 major accidents, 18 big accidents and 41 common ones. 536 people were either poisoned or injured. The number of accidents increased by nine compared with that of last year.

Classified by the causes of the accidents, there were 26 accidents occurred in the wake of production accidents, taking up 34.2%; 26 triggered by traffic accidents, accounting for 34.2%; 19 caused by illegal pollutant discharge of enterprises, taking up 25%; and five accidents due to other factors, accounting for 6.6%. Sorted by pollution types, there were 41 water pollution accidents, 24 air pollution accidents, 13 accidents on soil contamination, and four accidents on solid waste pollution, accounting for 53.9%, 31.6%, 17.1%, 5.3% respectively (some accidents caused pollution to water, air and soil simultaneously) of the total. All the pollution accidents were handled properly.

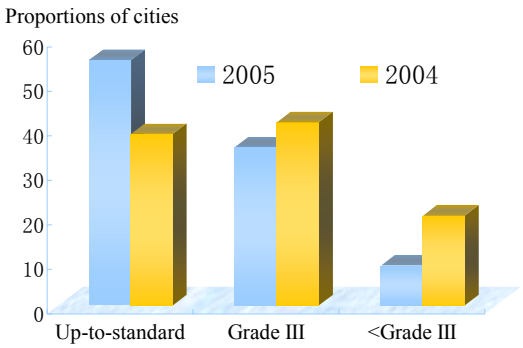
Atmospheric Environment

General Situation

Overall urban air quality was improved to some extent compared with the previous year despite heavy pollution in some cities.

Of the 522 cities under the monitoring program of 2005, 319 were at or above prefecture level, and 203 were of county level. 22 cities met Grade I national air quality standard, accounting for 4.2%; 293 met Grade II standard, taking up 56.1%; 152 met Grade III standard, taking up 29.1%, and 55 failed to meet Grade III, accounting for 10.6%. The major pollutant was inhalable particulates.

Compared with last year, the proportion of cities with air quality at or better than Grade II increased by 12.6 percentage points among the 522 cities. The percentage of cities with air quality worse than Grade III dropped by 9.9 percentage points. So the urban air quality had some improvement.



Proportions of Cities with Varied Levels of Air Quality

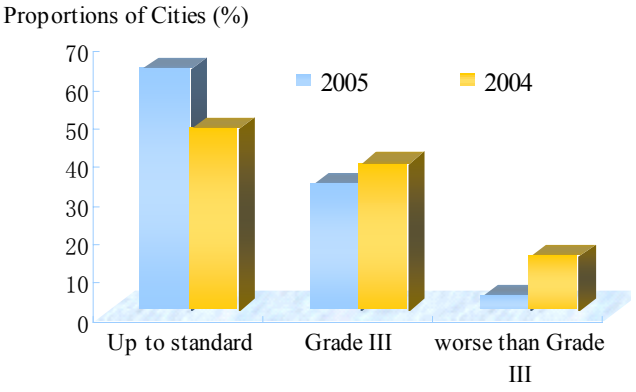
Comparison of Ambient Air Quality among Comparable Cities between 2004 and 2005

Grade of Air Quality	2005	2004
At or better than Grade II (up to standard), %	51.9	39.3
Grade III, %	37.5	40.2
Worse than Grade III, %	10.6	20.5

Major Pollutants in the Air

Particulates were still the major pollutant that affected the air quality, but the situation turned better than in last year. Among the cities under monitoring, 40.5% had particulates exceeded Grade II standard, down by 12.0 percentage points than last year; 5.5% surpassed Grade III standard, a decrease of 9.4 percentage points than that of the last year.

Cities with heavy particulate pollution were mainly distributed in provinces (autonomous regions, or municipalities directly under the Central Government) such as Shanxi, Ningxia, Inner Mongolia, Gansu, Sichuan, Henan, Shaanxi, Hunan, Liaoning, Xinjiang and Beijing.

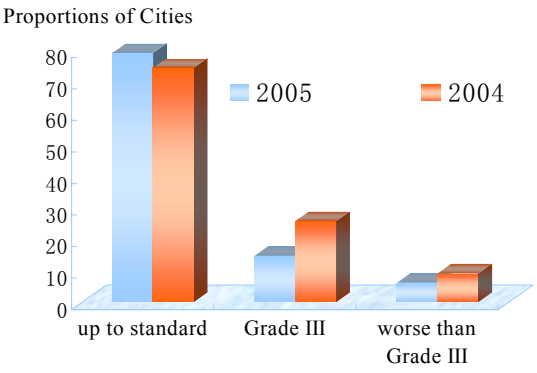


Proportions of Cities with Different Levels of Particulates

Proportions of Cities with Different Levels of Particulates

Levels of Air Quality	2005	2004
Grade II (up to standard), %	59.5	47.5
Grade III, %	35.0	37.6
Exceeding Grade III%	5.5	14.9

In general, SO_2 levels in urban areas remained the same with last year. Among the comparable cities, 77.4% had the annual average SO_2 level meeting Grade II national standard (0.06mg/m^3), and 6.5% met Grade III standard (0.10 mg/m^3). Cities suffering from heavy SO_2 pollution distributed in provinces (autonomous regions, or municipalities directly under the Central Government) like Shanxi, Hebei, Gansu, Guizhou, Inner Mongolia, Yunnan, Guangxi, Hubei, Shaanxi, Henan, Hunan, Sichuan, Liaoning, and Chongqing.



Proportions of Cities with SO_2 at Different Levels

Proportions of Cities with SO_2 at Different Levels

Proportions of Cities, % / SO_2 levels		2005	2004
Grade II（≤0.06 mg/m^3）		77.4	74.5
Exceeding Grade II（>0.06 mg/m^3）		22.6	25.5
	Including those exceeding Grade III(> 0.10 mg/m^3)	6.5	8.8

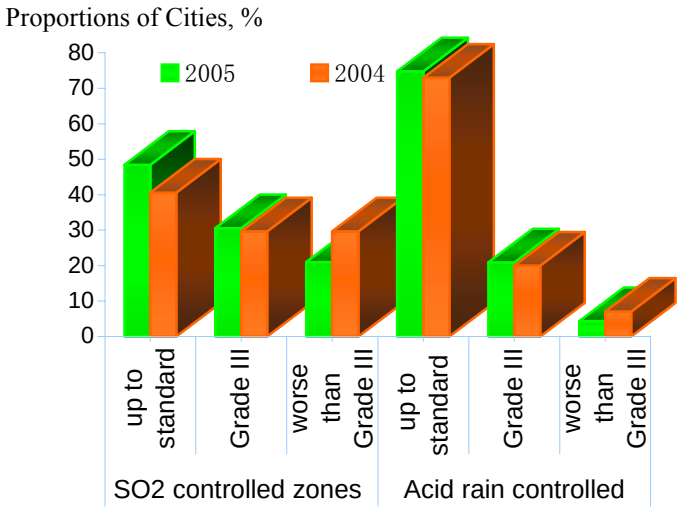
NO_2 levels of all cities in the statistics met Grade II national standard. However, major cities like Guangzhou, Beijing, Ningbo, Shanghai, Hangzhou, Harbin, Urumchi, Nanjing, Chengdu and Wuhai observed relatively higher NO_2 levels.

SO_2 Pollution in the Two Controlled Zones

Among the 62 comparable cities in the SO_2 controlled zone, 45.1% had the annual average SO_2 levels meeting Grade II standard, an increase of 4.5 percentage points. 54.9% failed to meet Grade II standard, of which 13 cities surpassed Grade III standard, taking up 21.0% and down by 8.7 percentage points. SO_2 pollution was alleviated in some of the cities that suffered from heavy SO_2 pollution. Of the comparable cities in acid rain controlled zones, 73.9% had annual average SO_2 levels meeting Grade II standard, up by 0.9 percentage points; and 4.5% failed to meet Grade III standard, down by 2.5 percentage points compared with that of the last year.

SO_2 Pollution in the Two Controlled Zones

SO_2 levels	SO_2 Controlled Zones		Acid Rain Controlled Zone	
	2005	2004	2005	2004
Proportion of cities with SO_2 levels at or better than Grade II standard, % ($SO_2 \leq 0.06$ mg/m^3)	45.1	40.6	73.9	73.0
Proportion of cities with SO_2 levels at Grade III standard, % (0.06 mg/m^3 < $SO_2 \leq 0.10$ mg/m^3)	33.9	29.7	21.6	20.0
Proportion of cities with SO_2 levels exceeding Grade III standard, % ($SO_2 > 0.10$ mg/m^3)	21.0	29.7	4.5	7.0



Comparison of SO_2 pollution in the Two Controlled Zones between 2004 and 2005

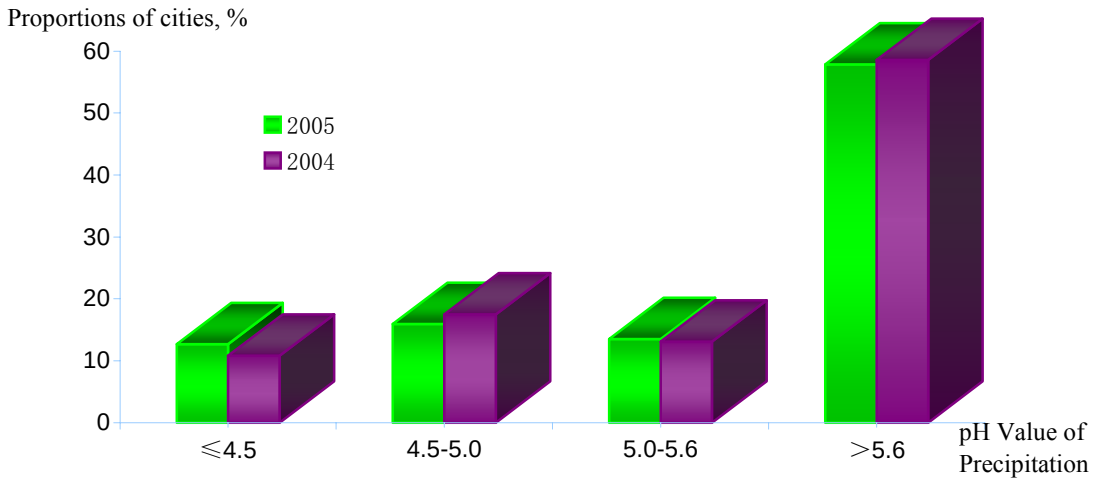
Air Quality of Major Cities

Of the 113 major cities for air pollution prevention and control, Haikou and Beihai City had air quality at Grade I standard, taking up 1.8%, 46 cities including Zhanjiang experienced Grade II standard air quality, accounting for 40.7%; 58 ones met with Grade III, taking up 51.3%; and seven ones failed to meet with Grade III, accounting for 6.2%. Compared with last year, 15 more cities reached the air quality standard and 23 ones less failed to meet with Grade III standard. The air quality of national key environmental protection cities was remarkably improved.

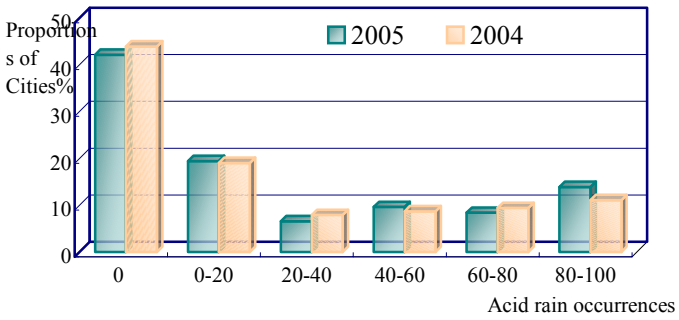
Acid Rain

357 out of 696 cities (or counties) under national acid rain monitoring program experienced acid rain in 2005, taking up 51.3%. Among them, the acid rain occurrence was 100% in Xiangshan County and Anji County of Zhejiang Province, Shaowu City of Fujian Province, and Ruijin City of Jiangxi Province.

In 2005, the annual average pH value of precipitation in 696 cities (counties) nationwide ranged from 3.87 (Guixi City of Jiangxi Province) to 8.35 (Kuerle City of Xinjiang Autonomous Region). 267 cities had pH value below 5.6, accounting for 38.4%. Among them, Guixi City of Jiangxi Province, Changsha and Liuyang City of Hunan Province, Zigui County of Hubei Province, and Shunde District of Foshan City, Guangdong Province had the annual average pH value no more than 4.0.



Proportions of Cities with Different Precipitation Acidity

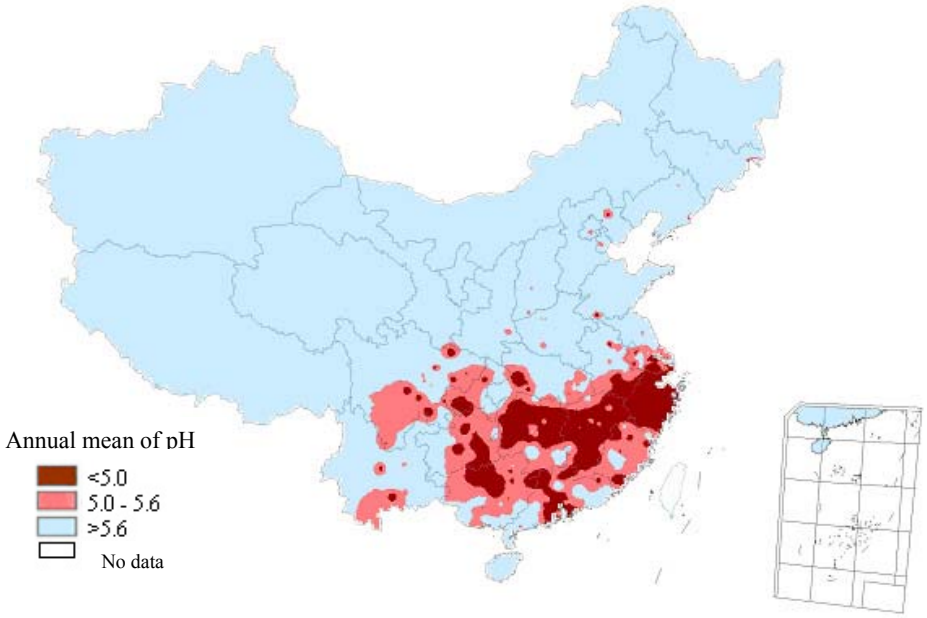


Proportions of Cities with Different Acid Rain Occurrences

Compared with 527 cities in the 2004 statistics, the proportion of cities where acid rain appeared increased by 1.8 percentage points, while cities with annual average pH value below 5.6 rose by 0.7 percentage point. Among them, the proportion of cities with pH value less than 4.5 increased by 1.9 percentage points. Cities with acid rain occurrences exceeding 80% rose by 2.8 percentage points. The fact that even more cities had low pH value and high acid rain occurrences indicated that acid rain pollution in 2005 deteriorated compared with that of 2004.

Compared with last year, North China saw some increased occurrence of acid rain in 2005, while acid rain occurrences in other areas remained stable. The acid rain areas distributed mainly south of Yangtze River and east of Sichuan and Yunnan Province, covering most areas of Zhejiang, Jiangxi, Hunan, Fujian, Guizhou, Guangxi, and Chongqing. Zhejiang, Jiangxi, and Hunan Provinces saw more serious acid rain, so did northwest Guangxi Autonomous Region and Pearl River Delta of Guangdong Province.

In northern cities like Beijing, Tianjin, Dalian, Dandong, and Tieling City of Liaoning Province, Tumen City of Jilin Province, Hunchun City of Heilongjiang Province, Chengde City of Hebei Province, Luoyang and Nanyang City of Henan Province, and Weinan and Shangluo City of Shaanxi Province, the annual average pH value were below 5.6.



Distribution of Precipitation Acidity Nationwide in 2005

Acid Rain Controlled Zones

The annual average pH values of precipitation in the 111 cities within the acid rain controlled zones ranged between 4.02 (Changsha City of Hunan Province) and 6.79 (Yunfu City of Guangdong Province). 103 cities had experienced acid rain, taking up 92.8%; 25 cities had the acid rain occurrences to be more than 80%, accounting for 22.5% and up by 3.7 percentage points. The annual average pH values of 81 cities were below 5.6, taking up73.0% and down by 1.1%. 27 cities saw the pH value less than 4.5, accounting for 24.3% and up by 2.8 percentage points. The scope of areas polluted by acid rain in the controlled zones remained stable but with heavier pollution.

Proportions of Cites with Different Precipitation Acidity in the Acid Rain Controlled Zones in 2005

Precipitation Acidity（pH Value）		＜5.6				≥5.6
		Total	＜4.5	4.5~5.0	5.0~5.6	
Proportions of Cities, %	2005	73.0	24.3	34.2	14.5	27.0
	2004	74.1	21.5	33.0	19.6	25.9

Proportions of Cites with Different Acid Rain Occurrences in the Acid Rain Controlled Zones in 2005

Acid Rain Occurrences, %		0	＞0-≤20	＞20-≤40	＞40-≤60	＞60-≤80	＞80-≤100
Proportions of Cities, %	2005	7.2	21.6	7.3	20.7	20.7	22.5
	2004	9.8	17.0	13.4	19.6	21.4	18.8

Discharge Amount of Major Pollutants in Waste Gas

In 2005, the SO_2 emissions amounted to 25.493 million tons (including 21.684 million tons from industrial sector and 3.809 million tons from domestic sector). The soot emissions were 11.825 million tons (including 9.489 million tons from industrial sources and 2.336 million tons from domestic sources). The industrial dust amounted to 9.112 million tons.

Discharge Amount of Major Pollutants in Waste Gas Nationwide in Recent Years

Unit: 1,000 tons

Item / Year	SO_2 emissions			Soot emissions			Emissions of industrial dust
	Total	Industrial	Domestic	Total	Industrial	Domestic	
2000	1995.1	1612.5	382.6	1165.4	953.3	212.1	1092.0
2001	1947.8	1566.6	381.2	1069.8	851.9	217.9	990.6
2002	1926.6	1562.0	364.6	1012.7	804.2	208.5	941.0
2003	2158.7	1791.4	367.3	1048.7	846.2	202.5	1021.0
2004	2254.9	1891.4	363.5	1095.0	886.5	208.5	904.8
2005	2549.3	2168.4	380.9	1182.5	948.9	233.6	911.2

Countermeasures and Actions

【Rectification of calcium carbide industry, ferroalloy industry and coke industry in the bordering area of Shanxi Province, Shaanxi Province, Inner Mongolia and Ningxia Autonomous Region】 In 2005, 185 enterprises that failed to comply with industrial policies were either banned or closed down, and a total of 1.43 billion yuan were invested in 933 enterprises that complied with the industrial policies for dust removal and collection. By now, 369 enterprises were permitted to operate upon inspection and acceptance, taking up 39%; 264 enterprises suspended production for treatment, accounting for 28.3%; and 300 enterprises were in natural production collapse due to market factors, taking up 32.7%.

A group of enterprises discharging pollutants illegally were either closed down or suspended production. The first nine enterprises that were listed and supervised by competent authorities involved 1,159 enterprises, of which 199 were closed down or suspended production, and 384 ones restored production after treatment. From October 29 to November 2, 2005, Ministry of Supervision, together with SEPA, looked into and secured evidence on the fact that Wuhai Municipal Government of Inner Mongolia Autonomous Region failed to close down or suspend the production of 16 small coke enterprises as scheduled. At a result, the city government cut off the power and water supply for the 16 enterprises in a short time. Thanks to more than two years' sustained control measures, the situation of "ignition from village to village and smoke everywhere" in the past was gradually reversed in the calcium carbide, ferroalloy, and coke industries bordering Shanxi, Shaanxi, Inner Mongolia and Ningxia.

【Prevention and control of pollution caused by vehicle emissions】 In 2005, the amount of in-service cars nationwide increased at a high speed. 5.707 million cars were produced this year

and 5.7582 million cars were sold, up by 12.6% and 13.5% respectively than in last year. The in-service cars and motorcycles exceeded 43 million and 94 million respectively, an increase of 20.6% and 23.6% compared with the previous year. With the increase in the number of in-service cars across the country, the pollution caused by vehicle emissions became increasingly prominent.

SEPA further enhanced the supervision and regulation of new vehicles, in-service vehicles and vehicle-use fuels, and released 15 groups of vehicle types that met with national environmental standards. National Phase II Motor Vehicle Emission Standards was put into effect from July 1, 2005 in China, and the examination and approval work for various vehicles (engines) that comply with National Phase I Motor Vehicle Emission Standards was ceased. Meanwhile, SEPA took active measures to promote low-sulfur fuels in China so as to ensure smooth implementation of National Phase III Motor Vehicle Emission Standards nationwide. In the end of December 2005, Beijing took the lead in enforcing the National Phase III Motor Vehicle Emission Standards as approved by the State Council.

【Beijing City implements its 11th-stage air pollution prevention and control measures】 In 2005, Beijing continued to strengthen the control of pollution caused by coal combustion, finished the transformation of 249 coal-burning boilers (capacity less than 20 tons) with the application of clean energy, and carried out desulfurization treatment to 81 coal-burning boilers (with the capacity more than 20 tons) from 27 units. Beijing has gradually upgraded its vehicle emission standards, and began to supply fuels complying with National Phase III Motor Vehicle Emission Standards from July 1, 2005. It has enhanced the regulation of in-service vehicles, renewed or phased out 28,000 outdated taxies and more than 3,900 old diesel-powered buses. All the renewed vehicles met National Phase III Motor Vehicle Emission Standards. Beijing authority has intensified the regulation and supervision of a variety of construction sites, strengthened the control of industrial pollution, and commenced the efforts in relocating Shougang Group and stopped the operation of Beijing Chemical Works. Thanks to a series of measures fighting air pollution, Beijing has met the target of 63% of the days in 2005 meeting or better than Grade II national air quality standards.

Management of Environmental Impact Assessment

In 2005, 314,083 construction projects went through the review and approval procedures by environmental protection agencies at all levels, including 948 ones reviewed and approved by SEPA, 7,532 ones by competent provincial departments, and 106,619 ones by prefecture and municipal-level environmental protection agencies. 99.5% of the construction projects implemented environmental impact assessment system. Relevant surveys revealed that considerable construction projects in some areas did not apply or go through the EIA procedures in corresponding competent environmental authorities.

In 2005, 100,239 construction projects across the country were completed and put into production, including 72,527 ones that should have implemented the "three simultaneity" system. 71,848 of them actually implemented the system, and 68,689 were qualified, taking up 94.7%. Of those projects, 133 were at the national level, and the implementation and qualification rate was up to 100%; 1,638 were provincial-level construction projects, of which 96.6% implemented the system and qualified; 30,860 ones were at prefectural-and municipal-level, the above rate being 93.9%; and there were 67,608 county-level projects, of which 95% implemented the system and qualified. The total investment on the actual implementation of projects concerning "Three synchronizations" was 2.04139 trillion yuan, up by 861.2 billion yuan than that of 2004. The actual investment on environmental protection in the above mentioned projects totaled 64.14 billion yuan, an increase of 18.1 billion yuan than the previous year.

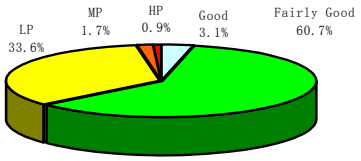
SEPA undertook the massive inspection on the implementation of EIA system and the "three simultaneity" system among construction projects. Efforts were made to check 55,000 ongoing and proposed construction projects across the country, which revealed 1,190 ones that failed to meet the environmental requirements. 30 large-scale construction projects initiated illegally were ordered to cease construction, the review and approval procedures of 45 construction projects were postponed due to inconformity with access conditions, irrational siting, and unimplemented pollution prevention and control measures. The review and approval procedures of six electric-power construction projects were ceased because of not compliance with environmental regulations and failing to be incorporated into national power planning.

Efforts were made to launch the pilot projects on EIA of Inner Mongolia Autonomous Region planning and Dalian City planning, of major industries like railways and petrochemical industry, as well as of other major special planning. Continuous progress were made to promote the environmental impact assessment of development programs in the middle and upper reaches of Lancang River, Dadu River, the upper reaches of Yalong River, and Yuanshui River Basins. Efforts were also made to conduct EIA for rail traffic planning in Shanghai and other cities, the layout of port construction nationwide and the national planning for highways. Investigations and reviews were conducted on the EIA of major economic and technical polices concerning petrochemical industry and the integration of forest and paper making industry.

Acoustic Environment

General Situation

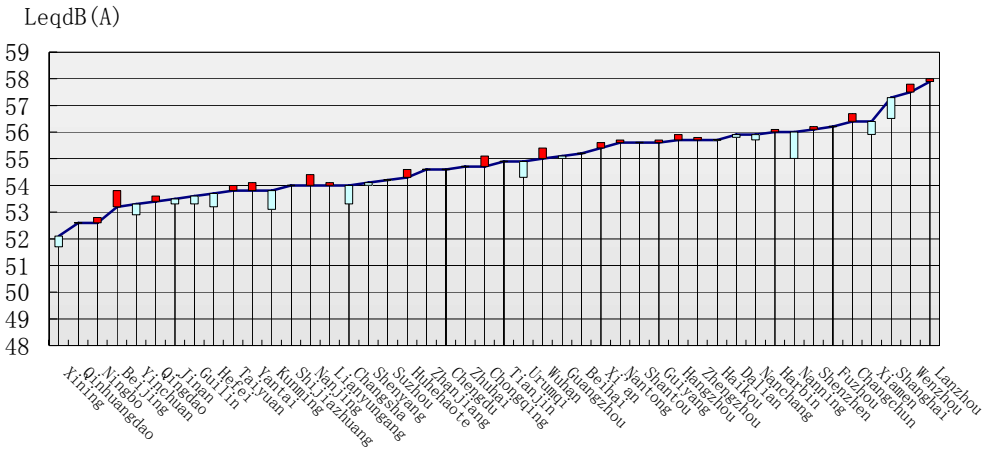
Urban Regional Environmental Noise: Among the 351 cities (counties) monitored, 11 cities (3.1%) had good urban area-wide acoustic environment, 213 cities (60.7%) had fairly good area-wide acoustic environment, 118 cities (33.6%) registered light noise pollution while 6 cities (1.7%) and 3 cities (0.9%) respectively recorded medium or heavy noise pollution.



State of Urban Regional Acoustic Environment in 2005

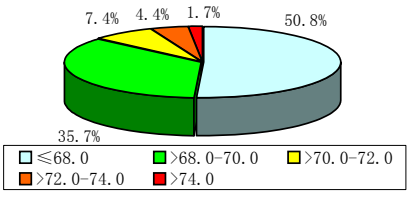
Of the 46 national key cities on environmental protection monitored (excluding Lhasa City), the range of equivalent sound level of area-wide environmental noise was within 52.1～57.9 dB(A), and the area weighted average of the equivalent sound level was 54.5 dB(A).

Among the 46 national key cities of environmental protection, 26 cities (56.5%) enjoyed fairly good acoustic environment on urban areas while 20 cities (43.5%) had light noise pollution (LP). The acoustic environment on urban areas of all the key cities displayed no evident change compared with the previous year.



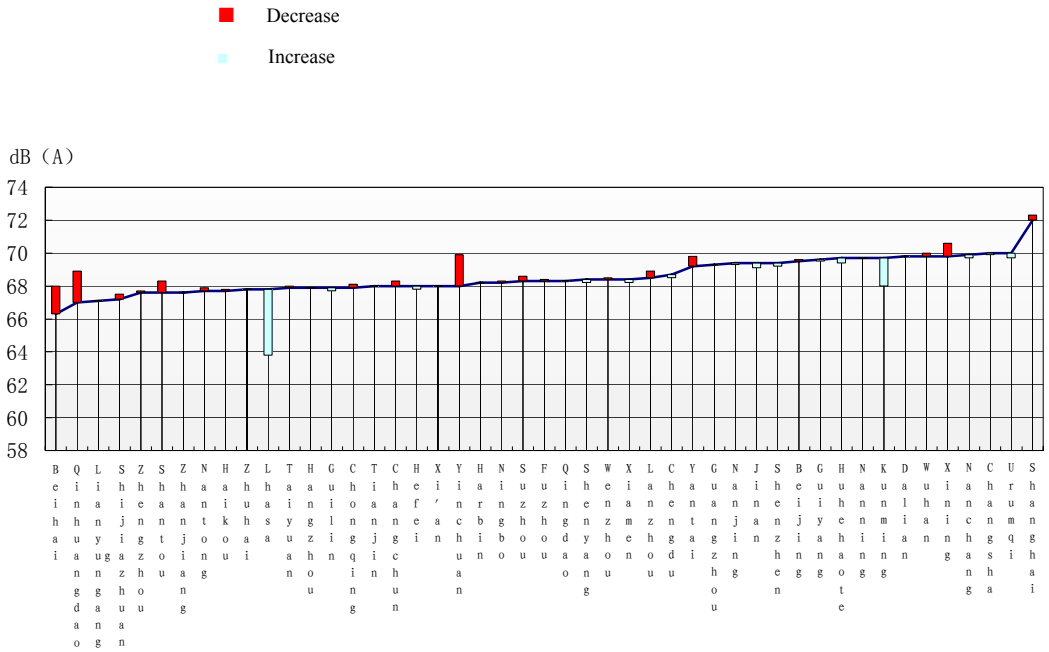
Annual Comparison of Equivalent Sound Level of Urban Area-wide Environmental Noise of the 47 National Key Cities on Environmental Protection in 2005

Road Traffic Noise: Among the 364 cities (counties) monitored, the average equivalent sound level of 185 cities (50.8%) was at or below 68.0 dB(A); 130 cities (35.7%) was within the range of 68.0 and 70.0 dB(A); 27 cities (7.4%) was within the range of 70.0 and 72.0 dB(A); 16 cities (4.4%) was within the range of 72.0～74.0 dB(A) and 6 cities (1.7%) was above the level of 74.0 dB(A).



State of Acoustic Environment of Urban Traffic Noise in 2005

Of the 47 national key cities on environmental protection, the monitored road length totaled 7,153.2 km, of which the equivalent sound level of 2,034.5 km exceeded 70 dB(A), accounting for 28.4% of the total length. The average equivalent sound level fell into the range between 66.3～72.0 dB(A) and the weighted average of sound level on the length road was 68.7 dB(A).

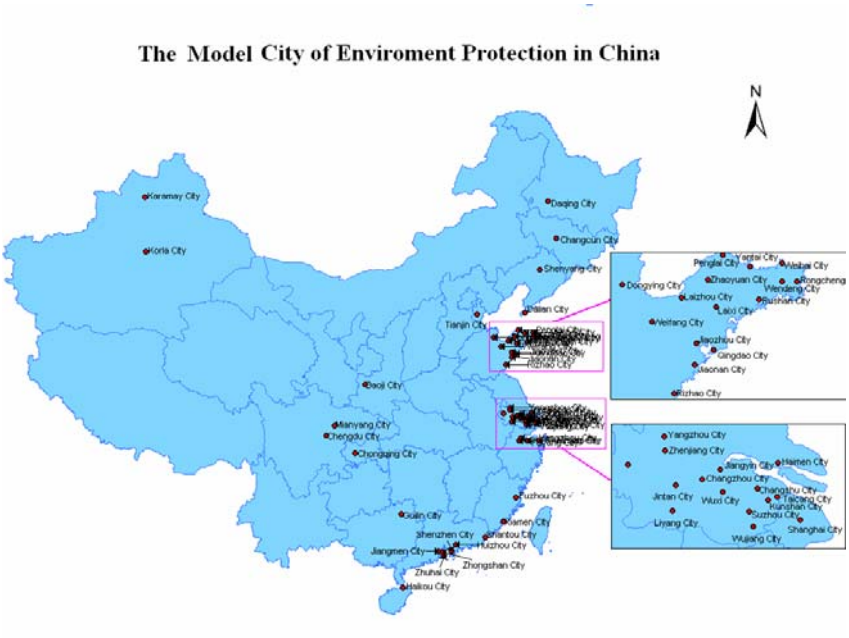


Annual Comparison of Equivalent Sound Level of Road Traffic Noise of the 47 National Key Cities on Environmental Protection in 2005

Among the 47 national key cities on environmental protection, the average equivalent sound level of road traffic of Lhasa and Kunming city saw more than 1dB (A) of growth, while the city of Qinhuangdao, Yinchuan and Beihai witnessed more than 1 dB(A) of reduction in 2005 compared with the previous year.

The Establishment of National Model Cities on Environmental Protection (NMCEP)

On June 3 of 2005, SEPA held the Mayor Summit of NMCEP with more than 100 participants in the Great Hall of the People. At the Summit, Vice Premiere Zeng Peiyan delivered a very important speech and awarded the plates to the latest batch of designated NMCEPs. All the participating mayors of the Summit jointly inked a Proposal of Mayors of NMCEP calling on all the city mayors across the country to protect urban environment. By the end of 2005, a total of 53 cities were designated as NMCEP and 3 cities as National Model District on Environmental Protection. Presently, over 100 cities from 24 Provinces, Autonomous Regions and Municipalities are engaging in the establishment campaign of NMCEP.



Distribution Map of NMCEP in China

Building Ecologically Sound Provinces (Cities and Counties) and National Environmentally Beautiful Towns (County)

By the end of 2005, 9 provinces had carried out the campaign to build Ecologically Sound Provinces including Hainan. In addition, a set of cities (counties and districts) of Ningbo, Qingdao, Shenzhen, Xiamen, Hangzhou, Changsha, Nanjing, Jinan, Suzhou, Yangzhou, Shaoxing, Panjin, Yancheng, Quzhou, Zhongshan, Zhoushan, Huaihua, Huangshan, Ma'anshan, Zhuhai, Wuxi, Haining, Anji, Changshu, Zhangjiagang, Kunshan, Jiangyin, Huoshan, Dujiangyan, Minhang District of Shanghai, Chaoyang District, Haidian District And Miyun County of Beijing had launched the building of Ecologically Sound Cities (Counties and Districts). Starting from 1995, the SEPA had examined and approved the construction of 528 pilot sites and units of ecological demonstration zone in 9 batches, and the number of designated state level ecological demonstration zones had reached 233 in 4 groups.

In 2005, 99 towns and counties mainly distributed in 19 provinces (Autonomous Regions and Municipalities) and the Xinjiang Production and Construction Corps including 94 towns such as Beifang Town of Huairou District of Beijing and 5 counties like Xinxiang County of Houma City of Shanxi Province were given the title of National Environmental Beautiful Town (County) by the SEPA. Up to now, 178 National Environmental Beautiful Towns (Counties) have been nominated in 4 batches.

Building of State-level Pilot Provinces (Cities) on Circular Economy, Eco-industrial Demonstration Parks, State-level Demonstration Zones on ISO14000 and National Environmentally Friendly Enterprises

In 2005, the SEPA had approved the construction planning of a series of State-level Eco-industrial Demonstration Parks (Bases) including Shangjie District of Zhengzhou City, Weifang Marine Chemical High-tech Industrial Development Zone, Yantai Economic and Technological Development Zone and Development Zone in Guiyang City (over phosphorus and coal chemicals) and hosted the demonstrational meetings on the development planning on circular economy of a number of cities such as Yima City of Henan Province, Wuwei City of Gansu Province, Hancheng City of Shaanxi Province and Rizhao City of Shandong Province. By the end of 2005, altogether 8 pilot provinces and cities on circular economy and 17 State-level Eco-industrial Demonstration Zones had been set up.

By the end of 2005, 26 areas had won the title of State-level Demonstration Zones on ISO14000 including the New District of Suzhou City, among which nine were High-tech Industrial Development Zones, 10 were Economic and Technological Development Parks, four scenic spots, one administrative zone, one bonded area and one export processing zone.

Also by the end of 2005, 140 enterprises in 21 provinces, municipalities and autonomous regions had applied for the construction of National Environmentally-friendly Enterprise, and 32 of which had been approved for the accreditation of the title by the SEPA.

Solid Wastes

General Situation

In 2005, 1.34 billion tons of industrial solid wastes were generated across the country, up by 12.0% against the previous year while the discharge of industrial solid wastes was 16.547 million tons, down by 6.1% compared with that of 2004. The amount of industrial solid wastes under integrated reuse totaled 770 million tons, resulting in an integrated utilization rate of 56.1%, same as that of the previous year.

Countermeasures and Actions

【Development of Relevant Laws, Regulations and Standards】 On April 1st of 2005, the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes* was put into effect. The SEPA also issued the *Measures on the Prevention and Control of Environmental Pollution Caused by Abandoned Hazardous Chemicals*, released the environmental protection control standards for 12 types of imported solid wastes as raw materials after necessary revision and formulated and released the environmental protection control standards for imported solid wastes as raw materials—compressed piece of scrap automobile.

In 2005, the General Administration of Quality Supervision，Inspection and Quarantine worked out and issued the notice on the prohibition of the regeneration of kinescope from waste glass under the joint efforts with SEPA and other relevant departments. Besides, the Ministry of Commerce, General Administration of Customs and the SEPA jointly released No. 105 Notice on the prohibition of the processing and trading of certain commodities, banning the processing and trading of 16 types of imported wastes including waste and scrap copper.

【Environmental Management on Medical Wastes】 In 2005, teamed up with the Ministry of Public Health, SEPA conducted another round of special investigation on the management and disposal of medical wastes based on the similar checkup initiated in 2004. The two ministries jointly released the *Circular on Some Issues Concerning the Classification of Medical Wastes* in a bid to further step up and standardize the management of medical wastes. SEPA issued some related standards including the *Technical Specification on the Project Construction of Centralized Incineration Disposal of Medical Wastes*.

【Prevention and Control of Pollution from Electronic Wastes】 Under the concerted instruction of the SEPA, NDRC and Ministry of Information Industry, Guangdong Provincial Environmental Protection Bureau asked Shantou Municipal Government to compile the Planning of the Industrial Demonstration Park on the Integrated Utilization of Waste Electric Appliances, thus stimulating the work on the prevention and control of environmental pollution from electronic wastes in Guiyu Town of Shantou City, Guangdong Province.

【Management of Imported Wastes】In 2005, SEPA distributed the *Circular on Furthering the Administration Regarding the Examination and Approval of Imported Waste Steel* amid its efforts to better the examination and approval as well as management work of imported waste steel. On October 10, SEPA began to get access to the electronic port network of various customs in its

examination and approval of wastes import. Such a move have increased its work efficiency and strengthened the macro regulation of government department.

In an effort to reinforce the check and approval of designated enterprises to process and utilize waste hardware electric appliances, waste wires and cables and waste electric motors, SEPA had altogether designated 502 such enterprises (in 3 groups) for 2005 in 28 provinces and municipalities in 2005. Besides, SEPA also intensified the check and approval of imported wastes and the supervision and administration of enterprises engaged in the processing and utilization of such wastes. In 2005, the Administration had dispatched over 40 person/times for site inspection on over 70 enterprises in 20 provinces and found out more than 300 fake certifications accordingly.

The work on "zoned management" on imported wastes was further promoted. In August of 2005, SEPA published the *Technical Specification on the Environmental Protection Regarding the Centralized Dismantlement and Utilization of Waste Electric Motor*. Correspondingly, various provinces and autonomous regions like Shandong, Hebei and Guangxi all initiated the construction of processing parks of imported wastes, and Jiangsu Province unfolded its construction of the pilot zone on the dismantlement of compressed piece of scrap automobile.

【Implementation of International Conventions】 In 2005, the Chinese Government ratified the *Stockholm Convention on Persistent Organic Pollutants*, started relevant implementation work and participated in relevant meetings regarding this Convention subsequently. It had also participated, for the first time, in the Meeting on Globally Harmonized System for the Classification and Labeling of Chemicals (GHS). Additionally, SEPA had organized and hosted the Sino-Norwegian Workshop on the Environmental Management of Hazardous Wastes from the Disposal of Cement Kilns, organized the convocation of the International Conference on the Management Policy and Treatment and Disposal Technologies of Hazardous Wastes, which drove up the management of domestic hazardous wastes and jointly launched the Sino-Germany Program on the Management of Waste Pesticides with Germany together with the Ministry of Agriculture.

【Activities on Urban Environmental Sanitation and Cleanup】 A total of 3.11 billion m^2 road area were under regular cleanup during 2005, 660 million m^2 of which was cleaned by mechanic means, taking up 21.11% of the total area, up by 3.1 percentage points than 2004. The amount of domestic refuse and excrement cleared and transported away in 2005 totaled 195 million tons. In medium and large sized cities, daily refuse and excrements could be basically cleared away on the same day as they are produced.

Management of the Import and Export of Chemicals

In 2005, a total of 728 kinds of new chemical substances were approved for exemption of notification, 29 registration certificates were issued on the environmental management of new chemical substances, and 116 supervision notices on the environmental impact of new chemical substance were released after examination. In addition, The Inventory of Chemical Substances Manufactured or Imported in the People's Republic of China was updated and published with the addition of 1,465 types of new chemical substances, adding up to a total of over 44,500 types of new chemical substances in the Inventory.

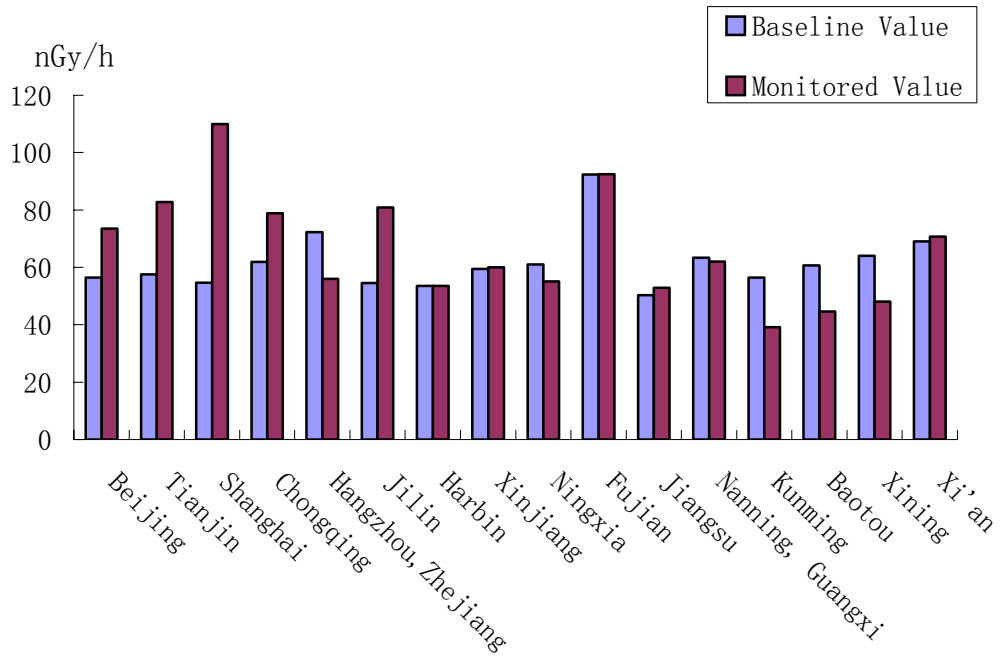
In June of 2005, SEPA and the General Administration of Customs jointly released the *Catalogue of Toxic Chemicals under Prohibition or Strict Restriction in China (Batch II)*, including 7 types of toxic chemicals with potential serious environmental damage into the environmental management of the import and export of toxic chemicals. The Catalogue was then put into effect from July 10th. In December of 2005, the two ministries jointly released the *Catalogue of Toxic Chemicals under Strict Restriction* in China, pushing the total number of toxic chemicals under relevant environmental protection registration up to 188. This Catalogue was released from January 1st in 2006. In December of 2005, the SEPA, Ministry of Commerce and General Administration of Customs jointly released the *Catalogue of Goods Prohibited for Import (Batch VI)* and the *Catalogue of Goods Prohibited for Export (Batch III)*, including 20 types of toxic chemicals eliminated and banned by international conventions into the inventory of banned goods for import and export. This Catalogue was put into effect from January 1st of 2006.

Radiation and Radioactive Environment

General Situation

The Quality of National Radioactive Environment According to the monitoring results of the National Radioactive Environmental Monitoring Network in 2005, the atmospheric absorption rate of γ radiation in some provinces, municipalities and autonomous regions under monitoring was within the fluctuation range of the average baseline value of the natural radioactivity.

The radon concentration in the atmosphere of such cities as Beijing, Baotou, Nanjing, Nanning, Harbin, Chongqing and Urumqi was between 2.8 ~164.8 Bq/m^3, which was generally the same as the monitoring results of previous years. The indoor radon concentration was lower than the *National Standards for the Control of Indoor Radon Concentration*. The total α and β radiation of aerosol in cities like Shanghai and Urumqi maintained normal level.



Atmospheric Absorption Dose Rate of γ Radiation in Selected Provinces and Municipalities in 2005

The Radioactive Environment of Pollution Sources In 2005, the Zhejiang-based Qinshan Nuclear Power Base and Guangdong-based Dayawan and Ling'ao Nuclear Power Plants were all under safe and normal operation. According to relevant monitoring results, the concentration of total α, total β and γ radioactive elements of aerosol in the surrounding environment of Zhejiang-based Qinshan Nuclear Power Base and Guangdong-based Dayawan and Ling'ao Nuclear Power Plants and the specific activity of total β in the atmospheric sediments were all

within the fluctuations of the baseline value.

The specific activity of radionuclide in the well water of surrounding areas and offshore seawater of Qinshan Nuclear Power Base saw no abnormal situation. The specific radioactivity of total α and total β in drinking water was both lower than relevant national standard regarding domestic drinking water quality and met drinking requirements. Apart from ^{238}U, ^{232}Th, ^{226}Ra and ^{40}K of natural radionuclide γ, only ^{137}Cs of artificial radionuclide γ was found during the monitoring of the soil, soil of intertidal zone and sea and pond sediment samples of its surrounding environment. The concentration of the radionuclide saw no substantial change compared with the baseline value before the operation of the nuclear power plant. In addition, the concentration of other artificial radionuclide was all below the minimum detection level at the same level of the control point.

In 2005, the monitoring results of tritium level of the surrounding environment of Qinshan Nuclear Power Base showed that the concentration of rain tritium and tritium gas in particular monitoring sites was higher than the pre-operation baseline value. The monthly average concentration of tritium in the air was 379.2mBq/m3·air, and the monthly average concentration of rain tritium reached 10.1Bq/L at the monitoring site of Xiajiawan. The specific activity of water tritium in its surrounding lakes and ponds was higher than the monitoring value of the control point and the baseline value before operation, the specific activity of tritium in the seawater of the discharging outlet of Qinshan No. 3 Nuclear Power Plant was higher than that of the sampling outlet for certain periods of time, the annual accumulative tritium discharge volume of radioactive air pollutants for the Qinshan Nuclear Power Base was lower than the target value for management, and the additional doze caused to the public was also below the limit value of relevant national standard.

In the western Daya Bay sea area, the concentration of tritium in seawater was 13Bq/L, higher than the baseline value, while the concentration level of other artificial radionuclide all fell into the fluctuation range of the baseline value. The key nuclide ^{110m}Ag discharged from the nuclear power plant was detected in the aquatic sample of fresh oyster with the content of 0.04Bq/kg, down by certain degree compared with that of the previous year.

The Electromagnetic Radiation Sources The monitoring results showed that the electromagnetic radiation level of the surrounding buildings and at the environmentally sensitive points near most mobile communications base stations met national *Regulations for Electromagnetic Radiation Protection (GB8702-1988)*, except those building roofs where the antenna of a number of mobile communications base stations were set up. The electromagnetic radiation of certain sensitive points near 110 KV power transmission lines exceeded national standard, and the electromagnetic radiation near some 500 KV high-voltage power transmission lines exceeded national standards. In addition, the electromagnetic radiation at such sensitive points as around some radio and television broadcasting facilities failed to meet the above national standard.

Countermeasures and Actions

【Laws and Regulations on Nuclear Safety and Management】 Enacted by the State Council on October 4, 2005, the *Regulation on the Safety and Protection of Radiation Isotope and Radiating Apparatus* was put into effect from December 1st of the same year.

【Safety Supervision and Management of Radioactive Sources】 In 2005, a total of 12 stealing incidents of radioactive sources were reported across the country, among which 3 were identified as major incidents (namely the July 13 Incident in Heilongjiang; the incident of iridium-192 flaw detection sources loss in Shanghai and the incident of iridium-192 flaw detection sources loss in Jilin) and 9 were normal ones. As a result, all of the lost or stolen hazardous sources were back, and only one case of death occurred in the July 13 Incident throughout the year. The overall situation of radioactive safety saw remarkable improvement than the previous year.

In 2005, 400 times of import and export of radioactive sources and unsealed radioactive substances were approved after examination with the import of over 3,000 radioactive sources including 1422 Co-60, 509 Cs-137, 340 Po-210 and 104 Am-241 respectively through the whole year.

Also in 2005, 11 units received the radioactivity safety permits after going through relevant examination procedures, and the EIA documents of 6 construction projects involving the application of nuclear technology all completed the review work by relevant experts.

【Special Action on the Prevention and Control of Radioactive Pollution from the metallurgy of Uranium Mines】 In 2005, the *Special Action on the Prevention and Control of Radioactive Pollution from Uranium Mining and Metallurgy Facilities* was launched in 14 major provinces having uranium metallurgical facilities. Through relevant reporting and registration as well as careful investigation, the basic situation uranium mining and metallurgy industry in China was understood, together with the problems left over by past practice and other illegal exploration activities. In addition, relevant requirements for the treatment and correction within a given period of time were put forward to institutions and enterprises not having gone through all the procedures regarding EIA, lacking complete set of treatment facilities of the three wastes or required monitoring instruments or not having fully implemented the prevention and protection measures against radiation. All the above had effectively promoted the development of the prevention and control of radioactive pollution from the mining and metallurgy facilities of uranium mines.

【Monitoring and Emergency Response of Radioactive Environment in China】 With the successive operation of the Radiation Monitoring Technical Center and the Nuclear and Radiation Accident Emergency Response Technical Center under SEPA, 31 Class I Radiation Monitoring Stations (of various provinces, autonomous regions and municipalities) and 2 Class II Stations (of Baotou and Qingdao City) across the country, a nationwide radioactive environment monitoring network was established, thus upgrading the supervisory monitoring of key radiation pollution sources as well as the discharged pollutants. The Environmental Protection Bureaus of most provinces and municipalities set up their respective emergency response teams, compiled relevant emergency response plan and carried out prompt radioactive environment monitoring following the occurrence of radioactive pollution accidents caused by the loss of radioactive sources, offering timely and effective support to the treatment of such pollution accidents.

Arable Land/Land Resources

General Situation

According to the survey result on land use changes, China in 2005 has a total of 122.0827 million hectares of arable land, 11.549 million hectares of vegetable land, 235.7411 million hectares of forests, 262.1438 million hectares of grassland, 25.5309 million ha of other farm land, 26.0151 million hectares of residential area and factory and mining areas, 2.3085 million ha of land for transportation, 3.5987 million ha of land for water conservancy, and the rest were unused land. Compared with that of 2004, arable land reduced by 0.30%, vegetable land area rose by 2.31%, forest land increased by 0.30%, grassland decreased by 0.21%, residential area and factory and mining areas increased by 1.11%, land for transportation use rose by 3.37% and land for water conservancy purpose grew by 0.26%.

In 2005, the net loss of arable land across the country was 361,600 hectares, of which 138,700 hectares were used for construction; 53,500 hectares were destroyed by disasters, 390,300 hectares were restored to their original landscape to conserve ecology, 12,300 hectares were lost due to agricultural restructuring and 306,700 hectares were added resulting from land rehabilitation. In addition, 73,400 hectares of land was found to have been occupied by construction projects without reporting the change of land use.

The total area of farmland in mainland China decreased by 7.6 million hectares during the period of 1998~2005, among which 1.4178 million hectares were taken for construction purposes. Meanwhile, 2.1317 million hectares of usable farmland were added through land rehabilitation.

Water and Soil Erosion The area of land affected by water and soil erosion in mainland China was 3.56 million km^2, accounting for 37.1% of the total national territory. Among them, 1.65 million km^2 was affected by water erosion and 1.91 million km^2 by wind erosion. It occurred mainly in mountainous areas, hilly land, windy and dusty regions, especially in the middle and upper reaches of major rivers of China. 5 billion tones of soil were lost due to water and soil erosion across the country every year.

Countermeasures and Actions

【Overall Development of the Planning of Land and Resources】 By compiling the Guideline of the 11^{th} Five-Year Plan for Land and Resources, the Ministry of Land and Resources completed the early stage of work for the compilation and revision of the Guideline of the Utilization of Land Nationwide and fully deployed corresponding tasks to each province. With the deepening of preparatory research of this work, the planning and compilation work of the provinces of Liaoning and Xinjiang were advanced steadily, and that of Guangdong province were formally initiated.

【Actively Participating in Macro-regulation and Consolidating the Achievements Made in Land Market Streamlining】 We had carefully implemented the demarcation of the boundaries of development zones to the four directions and completed the planning and examination of development zone. Based on the achievements obtained during the market streamlining of the previous year, 10 development zones were cut down after checkup with the reduction of 5,200

km^2 of area. In addition, the pre-warning and forecasting system for state-level development zones had taken the preliminary shape with the fulfillment of the monitoring and analysis of 160 state-level development zones.

【Control of Water and Soil Erosion】 In 2005, altogether 46,000 km^2 eroded land were treated comprehensively, among which 14,900 km^2 were covered by key national projects for water and soil conservation while 31,100 km^2 were done by other departments, local governments and social forces. Throughout the whole year, comprehensive treatment for water and soil erosion were conducted in 3,402 small rivers, among them, 2,427 had completed such work involving 2.24 billion cubic meter of earth and stone and 654 million work days by the mass. In total, 498,600 hectares of slope farmland, low land and flood plain were improved nationwide; 2.863 million hectares of forest and grassland for water and soil conservation were built and 237,000 small-scale water conservancy projects were built. Over 840 silt embankments were newly built in the loess plateau.

【Implementation of Key Water and Soil Conservation Projects】 In 2005, the central government carried out the key water and soil erosion prevention and control project in the mid and upper reaches of the Yangtze River and Yellow River, pilot silt embankment construction projects for water and soil conservation in the loess plateau, pilot project on the comprehensive treatment of water and soil erosion in the limestone area of south and north Panjiang River situated in the upper reaches of the Pearl River as well as in the black earth area of Northeast China, treatment project of the sandstorm sources of Beijing and Tianjin, project on the water and soil conservation in comprehensive agricultural development and other key water and soil conservation projects such as the water and soil conservation projects in eight major areas. Over 600 counties were covered by these water and soil conservation projects.

【Urban Geological Survey】 The Multiple Parameter Based Three-dimensional Geological Survey in Beijing had yielded some primary achievements. Based on the investigation of the current disposal situation of urban domestic refuse in Beijing as well as the geological environmental survey of the site selection for the treatment of such refuse, the geological environment most suitable for landfill were identified, and different categories of areas such as landfill prohibition area, landfill restriction area and potential landfill areas were marked according to related laws and regulations as well as their respective geological environment. 10 new grounds suitable for refuse storage were selected. This survey provided crucial scientific basis for the planning, site selection and construction of refuse treatment sites of Beijing in the future. In addition, a series of major cities in such provinces as Zhejiang, Jiangxi, Hainan, Yunnan, Sichuan, Heilongjiang and Gansu had carried out the investigation on geological problems of urban environment based on the pilot work of the previous year.

Development of Environmental Protection Industry

After nearly 3 decades of development, the environmental protection related industry of China has already established an industrial system boasting relatively complete set of industrial categories and scale economy. In specific, such areas as the multi-purpose utilization of resources and products adopting clean technology underwent blistering development, and the environmental protection service industry also attained substantial progress. The variety of environmental protection products is quite diverse with quite advanced production supporting capacity, which can basically satisfy the demand for general environmental pollution treatment at the present stage. However, the technology level and reliability of the core products still lags far behind that of developed countries.

In 2005, SEPA, NDRC and National Bureau of Statistics jointly launched a nationwide survey on the basic situation of environmental protection related industries with the year 2004 as the baseline. The survey results showed that in 2004 there were altogether 11,623 enterprises (with annual production output above 2 million RMB yuan) engaged in environmental protection related industries covered by the survey with 1.595 million people working in this sector, total annual output of 457.21 billion RMB yuan with 39.39 billion yuan of profit, tax payable amounting to 34.36 billion yuan, export contract value reaching $ 6.23 billion, per capita income 287,000 yuan and per capita profit of 25,000 RMB yuan.

Development and Protection of Geothemal Resources

Identified by formal surveying and examination and approval by competent administrative department of national resource reserves, there are altogether 103 geothermal fields across China with annual volume of 332.83 million m^3 available geothermal resources. There are altogether 214 geothermal fields passing the preliminary evaluation with annual volume of geothermal resources available for exploration amounting to around 500 million m^3. Calculated by the present development and utilization level, the annual underground heat water resources across China available for development and utilization totals around 6.717 billion m^3 containing 969.28×10^{15} joule of heat (equal to the heat produced by 32.834 million tons of coal equivalent).

According to latest statistics, the direct utilization amount of geothermal resources in China has already reached 13.76 m^3/s with annual utilization of geothermal energy at 10.779 million MWH, ranking No. 1 in the world. The development and utilization volume of geothermal power maintains an annual growth rate of 10%, accounting for, however, still a rather small share in the resource structure of less than 0.5%. The areas boasting relatively high level of development and utilization of geothermal resources across China in 2005 included Guangdong, Tianjin, Shaanxi, Beijing, Yunnan, Shandong, Fujian, etc.

Also in 2005, the Ministry of Land and Resources and China Mining Association jointly launched the activity of designating China Geothermal City and China Thermal Spring Hometown across the country in a bid to promote the development of demonstration sites of sustainable utilization of geothermal resources, standardize prospecting and exploration activities and protect resources and the environment. As a result, Hainan-based Qionghai, Beijing-based Xiaotangshan and Hunan-based Binzhou won the title of China Thermal Spring Hometown.

Geological Parks

In 2005, a total number of 53 new National Geological Parks were approved, 4 such parks were included in the 2nd batch of World Geological Parks by the UNESCO, and 6 were recommended for the application for the 3rd batch. Currently, there are 138 National Geological Parks and 12 World Geological Parks throughout China.

Construction of Urban Public Infrastructure

By the end of 2005, China has 661 cities divided into districts boasting a population of 358.94 million covering an area of 412,700 km^2. Among them, 32,500 km^2 were built area. The population density in urban area was 870 people per km^2. A total amount of 560.2 billion yuan of fixed assets investment was made throughout the year on urban pubic facilities, up by 17.64% than that of 2004.

Urban Water Supply and Conservation In 2005, the total urban water supply reached 50.1 billion m^3, up by 2.27% against 2004 and the total water consumption by production activities was 20.96 billion m^3 with the proportion in the total supply decreasing from 43.11% in 2004 to 41.79%. The volume of water consumed for public service amounted to 7.09 billion m^3, increasing from 13.95% of 2004 to 14.14% in total water supply. Domestic consumption of water totaled 17.25 billion m^3, accounting for 34.41% of the total water supply as compared with 33.67% of 2004. The urban water consumption population was 326.82 million, taking up 91.1% of the total, an increase of 2.3 percentage points than the previous year. The daily water consumption per capita was 204.1 liters, down by 6.7 liter compared with that of 2004. In 2005, 3.8 billion m^3 of water was saved, staying at relatively the same level as that of 2004.

Centralized Heating and Supply of Gas in Urban Areas In 2005, the total supply of gas was 25.58 billion m^3, increased by 4.21 billion m^3; the supply of natural gas reached 21.05 billion m^3, rising by 4.12 billion m^3; the supply of liquefied gas was 12.22 million tons, up by 953,000 tons as compared with that of the previous year. There were 294.88 million people using gas in cities, accounting for 82.2% of total urban population, up by 0.7 percentage point against 2004. By the end of 2005, steam heating capacity reached 107,000 tons/h, and hot water-heating supply capacity amounted to 198,000 MW. The area of centralized heating totaled 2.52 billion m^3, up by 16.67% against the previous year.

Urban Public Transportation By 2005, China had 309,6000 vehicles for public transportation, up by 7.9% against 2004. The number of railcars was 6,133, increased by 1,406 than in 2004. The number of buses per 10,000 people was 8.63, increasing by 0.22 than in the previous year. The total length of rail transportation operation routes was 444 km, 44 km more than in 2004. The accumulated passengers in the whole year numbered 48.37 billion person-times, up by 13.23% than in 2004, and the passenger number of rail transportation grew by 24.26% than that of 2004. There were 1,169 passenger ships carrying 260 million person-times, 5.55% increase than 2004. The total number of urban taxies was 937,000, up by 33,000 than that of 2004.

Urban Public Utilities By the end of 2005, the total length of urban road was 247,000 km covering an area of 3.92 billion m^2. Urban road area per capita was 10.93 m^2, an increase of 0.59 m^2 compared with that of 2004. The volume of sewage treated around the year was 18.71 billion m^3 with the treatment rate achieving 51.99%, up by 6.32 percentage points compared with that of 2004.

Urban Greening By the end of 2005, the vegetation cover of urban built-up areas totaled 1.06 million hectares, up by 10.16% against the previous year. The green coverage of built-up urban areas rose to 32.64% from 31.66% in 2004. Urban public green area was 284,000 hectares, an increase of 31,000 hectares over the previous year, and the public urban vegetation area per capita was 7.91 m^2, up by 0.52 m^2 compared with that of 2004.

Forests

General Situation

According to the 6th National Survey on Forest Resources, the forest area in China reached 175 million hectares with the forest coverage of 18.21%. The volume of live standing timber reserve and forest reserve reached 13.618 billion m^3 and 12.456 billion m^3 respectively. China's forest area accounted for 4.5% of the world's total and ranked the 5th globally. Its forest reserve took up 3.2% of world's total, ranking the 6th in the world. With regard to artificial forest, the total conserved area of such forest in China topped the world. Compared with the result of the 5th National Census on Forest Resources (1994~1998), the forest area of China grew by 15.968 million hectares; the corresponding coverage ratio increased by 1.66 percentage points; the forest reserve surged by 889 million m^3; the forest reserve per hectare climbed by 2.59 m^3; the ratio between forests for commercial purpose to that for welfare purpose changed from 83:17 to 63:37; the area of broad-leaved forest and broad-leaved tree and coniferous tree mingled forest inched up by 3 percentage points; and the area of half-mature and near-mature forest was up by 2.99 percentage points.

Plant Diseases and Insect Pests According to statistics, a total of 9.329 million hectares of forests were subject to plant diseases and insect pests in 2005. Among them, 6.997 million ha had been treated with control means, accounting for 75% of the total. Among them, 64% was prevented or controlled in a nuisance-free manner, while the disaster rate was 5‰.

Forest Fire Disasters As indicated by relevant statistics, there were 11,542 cases of forest fire across the country in 2005, down by 14.3% against the previous year. Among them, there were 6,574 fire alarms (down by 4.6% year-on-year); 4,949 general fire disasters (down by 24.2% year-on-year); 16 major fire disasters (down by 57.9% year-on-year); and 3 very big fire disasters (maintaining the same level as the previous year).

A total area of 73,700 ha of forest was subject to fire in 2005, a reduction of 48.2% compared with that of 2004. As a result, the fires caused 152 casualties (including 40 slightly injured; 20 seriously injured and 92 deaths), 39.7% less than that of the previous year.

Countermeasures and Actions

【Progress of the Six Forestry Projects】 In 2005, altogether 3.1194 million hectares of forest were planted (by artificial and aerial sowing methods) in the six key forestry projects, accounting for 85.51% of the total afforestation area in China. Amidst the efforts, 2.3655 million ha of mountains had been closed for forest cultivation.

The Natural Forest Resource Protection Program In 2005, the afforestation task of 1.1667 million hectares of forest was completed with 118,400 hectares of artificial forest and 306,400 hectares of aerial sowing. A total area of 741,900 ha of mountains (desserts) had been closed for forest cultivation, and the forest area under protection and management amounted to 96.79 million ha.

The Program of Converting Farmland to Forest (Grain for Green) The total afforested area in 2005 was 3.3531 million ha (including 398,900 ha of the Program of Control the Sand Sources of Beijing and Tianjin), of which 2.2032 were artificially planted including 861,200 ha of forest converted from farmland and 1.342 million ha of forest planted in barren mountains and waste land suitable for tree planting. A total area of 1.1499 million ha of mountains (desserts) had been closed for forest cultivation, and 47,700 ha of land were planted with grass.

The Program of Controlling the Sand Sources of Beijing and Tianjin In 2005, a total of 1.8223 million ha of land were treated within the sand source area, of which 742,200 ha of afforestation tasks were accomplished including 344,200 ha of artificial forest, 74,300 ha of afforestation by aerial sowing and 323,700 ha of mountains (desserts) closed for forest cultivation; 281,800 ha of grassland was treated; 798,300 ha of small river basins area was treated comprehensively; and 17,600 sites of water conservancy supporting facilities were constructed.

The Three North Shelter and the Yangtze River Basin Shelter Forest Programs In 2005, 612,300 hectares of land were afforested under the project including 345,500 ha of artificial forest, 22,700 ha of forest by aerial sowing and 244,100 ha of mountains (desserts) closed for forest cultivation. In addition, 23,000 ha of shelter forest with low yield and efficiency were improved.

The Program of Developing Wildlife Protection Zones and Nature Reserves By the end of 2005, 1,699 nature reserves had been established and managed by the forestry sector across China with a total area of 120 million ha, covering 12.5% of the land territory of China.

The Fast-Growing Timber Forest Base Development Program in Key Regions In 2005, 16,700 ha of fast-growing timber forest were planted including 9,000 ha on barren mountains and wasteland.

【Related Policies on Protecting Natural Forest Resources】 In June of 2005, the China Banking Regulatory Commission and State Forestry Administration jointly issued the *Circular on the List of Forestry Enterprises within the Natural Forest Protection Project Area Subject to the Exemption of Debts in Financial Institutions as well as the Exemption Amount (Batch I)*, exempting the debts of 731 logging enterprises to financial institutions totaling 8.811 billion RMB yuan, which marked the proper solution of the major problem of insolvency of forestry enterprises within the Natural Forest Protection Project Area to financial institutions due to logging ban and restriction and would play a critical role in easing the burden of debts of these enterprises and promoting their structural reform and organizational innovation.

【Establishing Garden Cities】 By the end of 2005, 87 cities (districts) were awarded the title of "*National Garden Cities (Districts)*", and 10 counties were awarded the title of "*National Garden County*" across China.

【China Human Settlement and Environment Award】 By the end of 2005, 12 cities had won "China Human Settlement and Environment Award" established by the Ministry of Construction.

These cities included Shenzhen, Dalian, Hangzhou, Nanning, Shihezi, Qingdao, Xiamen, Sanya, Haikou, Yantai, Yangzhou and Weihai. A total of 152 cities or projects won "China Human Settlement and Environment Model Award". Both awards had vigorously promoted the work of municipal governments in improving urban human settlement environment.

【State-level Scenic Spots】 In 2005, 10 new state-level scenic spots were approved by relevant department. By the end of the year, China had altogether boasted 187 state-level scenic spots. According to the statistics from 170 such places, these scenic spots cover an area of 69,000 km^2 with the area available for tourism up to 31,000 km^2 and annual reception of 370 million tourists.

Grassland

General Situation

Natural grassland in China covers an area of 393 million hectares, taking up approximately 41.7% of the national territory. It is about three times of the arable land and over two times of woodland. Among them, 331 million hectares are grassland available for human use, accounting for 84.3% of the total. The grassland of Tibet Autonomous Region is the largest in terms of administrative division of around 82.05 million hectares, registering 68.1% of the land area of the Region. The area of grassland available for human use of the Region is about 70.85 million ha. The Inner Mongolia Autonomous Region ranks the second with natural grassland area of 78.8 million ha, taking up 68.8% of the land area of the Region. The area of grassland available for human use of the Region is about 63.59 million ha. Besides, 5 provinces (autonomous regions) of Xinjiang, Qinghai, Sichuan, Gansu and Yunnan boast the area of grassland exceeding 15 million ha, while other 6 provinces (autonomous regions) of Guangxi, Heilongjiang, Hunan, Hubei, Jilin and Shaanxi had grassland area ranging between 1~5 million ha.

Plague of Insect Pests and Rats In 2005, the total grassland area subject to insect pests and rats across mainland China reached around 38 million ha with 21.333 million of which seriously damaged. The area of so-called “rat plagued wasteland” or “black-soil-patch” damaged by rats for years amounted 8 million ha, accounting for 2.87% of the total area of usable grassland of 13 provinces suffering from frequent plague of rats. Under the initiative of the Rat Plague Free Demonstration Zone Construction Project, the area undergoing prevention and treatment stood at 6.658 million ha, saving 599 million yuan of estimated economic losses for pasture along.

A total area of 18.667 million ha of grassland was plagued by insects in 2005 in China, accounting for 6.69% of the total area of usable grassland of 13 provinces with frequent plague of rats, among which 12.667 million ha suffered from the damage by grassland locust. The insect plague was especially severe in such provinces as Inner Mongolia, Xinjiang, Qinghai, Sichuan and Gansu. Throughout the whole year, relevant insect prevention and control work was carried out over 2.843 million ha of land, saving 254 million yuan of economic losses. The implementation of the project of restoring pasture to grassland had remarkably upgraded the ecological vegetation of the grassland. Together with enhanced efforts in insect prevention and control over the previous years, all the measures having taken had added up to the notable shrinking of the area of grassland insect plague in 2005.

Grassland Productivity and Pasture Deterioration Grassland productivity across China in 2005 basically tallied with that of the previous year. The production volume of fresh grass from natural grassland totaled 937.84 million tons, equaling to around 294.21 million tons of hay. The capacity for raising livestock was about 230.31 million sheep unit. Judged from the overall situation, all natural grassland across China suffered from different degree of overgrazing except for the ecological construction project areas. The average overgrazing level on natural grassland in 17 major monitoring provinces and autonomous regions stood at 35% with Inner Mongolia, Xinjiang, Gansu and Sichuan over 40%.

Presently, 90% of the available natural grasslands of China experienced various degrees of degradation, and the trend that ecological environment was improved at local level while the overall situation was deteriorating had not been changed. The underlying reasons for accelerated grassland degradation were as the follows: first, the trend of overgrazing had not been curbed fundamentally; second, grassland damages resulted from irrational development, industrial pollution, plague of insect pests and rats; third, illegal and reckless collection and digging of herbs or other commercial plants happened from time to time.

Pasture Production Situation of Major Grassland Areas

Province	Pasture Production (in 10 thousand tons)		Variation (in 10 thousand tons)	Variation Rate (%)
	2004	2005		
Hebei	1103.4	1097.9	-5.5	-0.5
Shanxi	810.8	805.3	-5.5	-0.68
Inner Mongolia	6050.3	6037.1	-13.2	-0.22
Liaoning	209	219.2	10.2	4.89
Jilin	474.5	504.3	29.9	6.3
Heilongjiang	1411.9	1470.9	59	4.18
Guangxi	504.9	495.6	-9.2	-1.83
Chongqing	280.7	251.4	-29.3	-10.44
Sichuan	2611.1	2686.7	75.6	2.9
Guizhou	411.1	374.6	-36.5	-8.87
Yunnan	1450.3	1154.9	-295.5	-20.37
Tibet	2669.1	2648	-21.1	-0.79
Shaanxi	809.8	805.3	-4.5	-0.56
Gansu	1300.4	1378.7	78.3	6.02
Qinghai	3280.8	3627	346.2	10.55
Ningxia	145.9	126.6	-19.3	-13.23
Xinjiang	3552.3	3557.6	5.3	0.15

Grassland Fire and Snow Disasters In 2005, there were altogether 566 grassland fires across mainland China. Among them, 499 arose warnings, 63 were general grassland fires, 3 big grassland fires and 1 very big grassland fire disaster. A total of 53416.36 ha of grassland were subject to fires with no human casualty. Both the number of very big grassland fire disasters and the corresponding damaged area remained at a rather low historical level. Compared with the same period of the previous year, the number of grassland fire disasters grew by 77, up by 15.75%; very big ones dropped by 1, down by 25%; and the areas subject to the disasters increased 28291.66 ha, representing 112.6% growth.

According to incomplete statistics, during the period of 2005 winter and 2006 spring, 5 provinces including Inner Mongolia, Xinjiang, Qinghai, Gansu and Tibet experienced snow disasters,

affecting over 22.96 million livestock. As a result, 904,500 cattle or sheep died from these disasters, causing the direct economic losses of 150 million yuan.

Countermeasures and Actions

【Implementing the project of restoring pasture to grassland】 In 2005, the central budget allocated altogether 1.881 billion yuan on projects of restoring pasture to grassland covering a construction area of 6.6667 million ha with the reseeding over 2 million ha of grassland. The projects covered four major areas including the degraded grassland in eastern Inner Mongolia, the desert-like grassland area at the western part of Inner Mongolia, Gansu and Ningxia, the river source grassland area in the eastern part of Tibet Plateau and the degraded grassland in northern Xinjiang stretching over 8 provinces and autonomous regions of Inner Mongolia, Sichuan, Yunnan, Tibet, Qinghai, Gansu, Ningxia and Xinjiang as well as 116 counties (banners or corps) of the Xinjiang Production and Construction Corps. By the end of December of 2005, the construction work of these projects proceeded smoothly as per the implementation schedule of the project of restoring pasture to grassland. Throughout the year of 2005, over 6 million ha of construction or fencing work had been completed. As indicated by the results of monitoring and performance assessment of more than 20 representative counties conducting the projects selected among the 5 provinces and autonomous regions of Xinjiang, Inner Mongolia, Gansu, Sichuan and Ningxia, the vegetation in the areas undergoing the projects of restoring pasture to grassland had evident recovery, and pasture yield grew by 46%.

【Grassland Protection and Development】 With further improvement of grassland family contract operation system, China had altogether implemented the system over 200 million ha of grassland, registering 70% of the total area of usable grassland. The move had effectively mobilized the enthusiasm of farmers and herdsmen in grassland protection and construction. It was estimated that the accumulated reserves area of grass planting surpassed 27 million ha, the area of grassland with fencing exceeded 33 million ha, while the area undergoing grazing prohibition was over 33 million ha. The production mode of pasturing and semi-pasturing area featuring the dependence on natural grassland pasturing gradually transformed with the replacement of natural grassland pasturing by pen feeding and rearing of more than 20 million livestock. In some places, the operation of pasture industrilization was vigorously promoted and consequently led to the production of over 2 million tons of dry grass products, thus enhancing the sustainable development of stockbreeding on grassland.

【Grassland Legislation and Law Enforcement】 In addressing the issue of overloading and overgrazing on grassland and in light of the *Grassland Law of the People's Republic of China* , the Ministry of Agriculture developed the *Measures on the Administration of the Balance between Grassland and Livestock*, which was effected on March 1 of 2005. The Ministry also issued the *Circular on Further Strengthening the Supervision on Grassland* in coping with some prominent problems such as the illegal damaging activities of grassland in some areas, making an overall plan for the supervision and management work of grassland across China. In order to protect the resources of liquorices and Chinese ephedra, the Ministry of Agriculture and NDRC jointly released the *Circular on Issuing the Plan for the Collection and Procurement of Liquorices and Chinese Ephedra in 2005*. In addition, in cooperation with NPC Agricultural and Rural Area

Committee, the Ministry also carried out site investigations on the enforcement of the *Grassland Law of the People's Republic of China* in Xinjiang, Inner Mongolia, Sichuan and other provinces and autonomous regions to further promote the implementation and enforcement of the Law.

Environmental Protection and Treatment of Mining Sites

In 2005, the Central Government appropriated 753.31 million yuan fund for environmental treatment projects of mining sites. Together with local supporting funds totaling 2.80491 billion yuan, a total number of 194 projects were conducted in 30 provinces (autonomous regions and municipalities). The funds from central budget boosted the initiative of local governments as well as mining enterprises in the treatment of mining environment and promoted sustainable development of the mining industry.

In 2005, 28 units were qualified for the title of "National Mining Park" after examination and review.

Development of Ecological Homes

The initiative of developing ecological homes to enrich the people was carried out, the usage of biogas in rural areas was energetically developed, and the project of clean rural areas was promoted. During the 10th "Five-Year" Plan period, the Central Government had earmarked 3.5 billion yuan to support the construction of biogas pits in rural areas. By 2005, the number of household using biogas reached 18 million with the completion of biogas projects for 2497 large-and-medium-sized livestock and poultry breeding sites and 137,000 purification biogas pits for domestic sewage. Pilot projects on clean rural areas were carried out in 6 provinces (cities) of Hunan, Sichuan, Chongqing, etc. With the construction of treatment and utilization facilities of night soil, refuse, stalks and domestic sewage and the development of rural logistic services, the three wastes (night soil, refuse, stalks and domestic refuse and sewage) were transformed to "three materials" (fuel, fertilizer and feed), and the "three cleanness" (at home, in the field and of water resource) were realized. Consequently, the dirty, messy and unfavorable environmental conditions of rural areas were greatly ameliorated, and agricultural non-point pollution was also prevented and treated at its source.

Biodiversity

General Situation

Species There were about 6,266 vertebrate species in China (including about 500 beasts, 1,258 birds, 376 reptiles, 284 amphibians and 3,862 fishes), accounting for around 10% of the world's total. China had over 30,000 higher plants species and ranked the third in the world only after Malaysia and Brazil. Among the above-mentioned flora there were 106 families of mosses, taking up 70% of the world's total; 2,600 species of ferns included in 52 families, accounting for 80% and 26% of the world's total in terms of family and species respectively; 8,000 species of woody plants including 2,000 species of arbors. Out of the 750 gymnosperm species in 71 genera of 12 families, China boasted over 240 species in 34 genera of 11 families. The species number of conifer in China registered 37.8% of the world's total while the number of angiosperm took up 54% and 24% of the world's total in terms of family and genera respectively. In addition, the named insects of China amounted over 3,000.

Since most regions of China have not been affected by the tertiary and quaternary continental glacier, a great number of peculiar species were conserved. According to relevant statistics, around 476 species of terrestrial vertebrate were exclusive in China, accounting for 19.42% of the total number of terrestrial vertebrate species in China. Around two thirds of amphibian species were exclusive in China. Among the over 30,000 species of higher plants, about 50%~60% were exclusive in China. A series of animals and plants such as giant panda, golden monkey, red ibis, South China tiger, takin, Tibetan antelope, brown-eared pheasant, Chinese monal, white-flag dolphin, Chinese alligator, *metasequoia*, silver fir, Dovetree, Taiwania Hayata, gingkgo, *Abies Beshanzuensis* and *Emmenopterys Henryi Oliv* were all rare and endangered animal and plant species exclusive in China.

Current Situation and the Change of Endangered Species With continued progress of the conservation project of wildlife and the conservation and restoration of the habitats of endangered species, the trend of sharp decrease of most wild fauna and flora resources under national protection had already been effectively curbed, and their population dynamics were getting stable. With the implementation of such conservation and breeding measures of endangered wild species, stable artificial population had already been established for over 200 rare and endangered wild animals, and over 1,000 rare and endangered wild flora were under sound protection in breeding bases such as botanical gardens. In particular, the population of such extremely endangered wild fauna and flora species of giant panda, red ibis, Chinese alligator, yew, orchid family and cycad were kept rising. In 2005, for giant panda alone, 25 were born across the country with 21 having survived. By the end of 2005, the population of artificially fed giant pandas across China had totaled 183, and the work of letting endangered wild animals return to the nature including giant panda, red ibis, wild horse, elk, Chinese alligator and so on were advancing steadily.

However, generally speaking, the situation of insufficiency and over-consumption of wildlife resources in China was still grave with the following reflections: due to damage and over-exploitation of their habitats, the population diminishing trend of some non-national key protected wild plant and animal species hadn't been altered, especially for those of high economic

value.

Wetland China is home to abundant wetland resources with all types of wetland in the world existing in China. Besides, it also had the type of highland wetland exclusive in China. According to the statistics of the National Wetland Resource Survey (1995~2003), China has 38.48 million ha of all types of wetland with the area over 100 ha each at present. Among them, 36.2 million ha were natural wetlands, accounting for 3.77% of the national territory, and the rest were 2.28 million ha of manmade wetlands (only reservoirs and ponds). Natural wetlands accounted for 94% of the total, among which 5.94 million ha were coastal wetlands (accounting for 15%), 8.21 million ha were river wetlands (accounting for 21%), 8.35 million ha were lake and pond wetlands (accounting for 22%) and 13.7 million ha were marsh swamps (taking up 36% of the total). Manmade wetlands registered 6% of the total area. In 2005, China had designated 9 wetlands as international key wetlands. Up to now, there are altogether 30 wetlands of China listed in the Catalogue of International Key Wetlands.

The wetlands of China bear rich biodiversity including 101 families of flora with over 100 species of higher plants among the category of endangered ones. The fauna and flora species of the coastal wetlands numbered around 8,200 (including 5,000 plants and 3,200 animals), while the inland wetlands boasted about 1,548 species of higher plants, over 1,500 species of higher animals and over 770 species of fresh water fishes. The species of birds in wetlands of China were diverse with the appearance of 31 out of the 57 endangered bird species in Asia (accounting for 54% of the total). They were also home to 50 species of ducks (accounting for 30% of the total) out of the 166 around the world; 9 recorded species of cranes out of the 15 over the world. Additionally, many birds of these wetlands were transnational migrant ones. Some of the wetlands in China were even the only wintering place or the only place on their migration route for some bird species. For instance, the *Grus Leucogeranus* wintering at Poyang Lake took up over 95% of its population over the globe.

Countermeasures and Actions

【Development of Nature Reserves】 In July of 2005, the General Office of the State Council issued a Circular approving the establishment of 17 State-level Nature Reserves with total area of 728,000 ha involving 12 provinces, municipalities and autonomous regions including Hebei, Inner Mongolia, etc. By the end of 2005, China had established 2,349 nature reserves of different types and levels covering a total area of 149.95 million ha including 143.95 million ha of land area of about 15% of the total national territory. The number of nature reserves rose by 155, and the total area increased by 1.72 million ha compared with that of the previous year. Among all the nature reserves, 243 were State-level Nature Reserves covering the area of 88.99 million ha, accounting for 10% of the total number and 59% of the total area of all the nature reserves over the country.

【Wetland Protection】 In 2005, China tremendously intensified the basic work of wetland protection, the legislation on wetland made great headways, the organizational construction of administrative organs on wetland protection was consolidated, and various wetland conservation projects were conducted actively to intensify the construction of nature reserves and wetland parks. In 2005, the State Council approved the *National Program on the Implementation of Wetland*

Protection in China. So far, 17.15 million ha of wetlands representing around 45% of the total area of wetlands in China have already been included in 473 nature reserves with the addition of more than 20 wetland types of nature reserves in 2005 alone.

The *Ramsar Convention on Wetlands* was vigorously implemented to promote the protection of wetland. On November 8th~15th of 2005, the Chinese Delegation attended the 9th Conference of Parties (COP9) of the Ramsar Convention on Wetlands. At the Conference, China was successfully elected as the member of the Standing Committee and the Financial Group of the Convention and for the first time became its standing member. Professor Cai Shuming from the Chinese Academy of Sciences also become the first Chinese laureate of the "Ramsar Wetland Conservation Award". In May of 2005, China and the Secretariat of the Convention jointly held the Asian Regional Conference on the Ramsar Convention on Wetlands successfully.

【Implementation of the Convention on Biological Diversity】 In line with the requirements of COP7 of the Convention on Biological Diversity, SEPA actively arranged related departments and experts to dully complete the *Third National Report on the Implementation of the Convention on Biological Diversity* as well as some special reports. SEPA also held multiple work meetings for the Coordinating Group of the Convention, which had enhanced the communication and understanding between different departments. It had also actively initiated a serial of publicity activities on the "International Biodiversity Day" including the holding of the symposia in commemoration of the "International Biodiversity Day" participated by journalists from 20 major media in its capital Beijing; the News Briefing on the "International Biodiversity Day"; activities on the "International Biodiversity Day", etc. Local EPB also enfolded wide-ranging publicity activities on the same issue, fostering a sound social atmosphere for the protection of biodiversity. They also organized special training courses on biodiversity conservation, which had enhanced the administration on biodiversity conservation.

【Implementation of the Cartagena Protocol on Bio-safety to the Convention on Biological Diversity】On April 27 of 2005, the State Council approved China's accession into the *Cartagena Protocol on Bio-safety to the Convention on Biological Diversity* (hereinafter referred to as the Protocol on Bio-safety). The authorization documents were submitted to and put in file at the headquarters of the United Nations on June 8 of 2005. The Protocol on Bio-safety took effect in China on September 6 of 2005 at which China formally became a party of the Protocol on Bio-safety.

The 2nd Meeting of the COP2 of the Protocol on Bio-safety was held from May 30 to June 3 of 2005 in Montreal of Canada. The Chinese Delegation composed of officials from SEPA, the Ministry of Foreign Affairs, MOST, MOFCOM, the Ministry of Agriculture, General Administration of Quality Supervision, Inspection and Quarantine, CAS, China University of Political Science and Law and the Hong Kong SAR Government actively participated in the Meeting.

【Work Progress on the Protection of Biological Species Resources】 At the beginning of 2005, SEPA teamed up with the members of the Inter-ministerial Joint Meeting on the Protection of

Biological Species Resources to embark on the compilation of the Planning on National Protection and Utilization of Biological Species Resources and the study on the *Regulations on the Administration of the Protection of Biological Species Resources*. In November of 2005, the 3rd Inter-ministerial Joint Meeting on the Protection of Biological Species Resources adopted the text of the Planning in principle and put forward some constructive suggestions on the drafting of the Regulations.

Also in 2005, SEPA, together with the Ministry of Education, the Ministry of Agriculture, State Forestry Administration, CAS, the State Administration of Traditional Chinese Medicine as well as other relevant departments, continued the key survey work on national biological species resources. As a result, the first batch of biological species resources catalogue was accomplished in 2005.

In an effort to properly carry out the No. 10 special issue of the "study on the issue of biological resources IPR" in the National Intellectual Property Rights Strategy study, SEPA, the Ministry of Foreign Affairs, MOST, the Ministry of Agriculture, MOFCOM, the Ministry of Public Health, General Administration of Quality Supervision, Inspection and Quarantine, State Forestry Administration, State Intellectual Property Office, State Food and Drug Administration, CAS and the State Administration of Traditional Chinese Medicine, 11 responsible departments in total jointly mapped out the *Work Plan on the Study of IPR Protection of Biological Resources* and special task description, pinpointing the content, target as well as work division of the study on IPR protection of biological resources for each department.

【Prevention and Control of Alien Invasive Species】 In 2005, the Ministry of Agriculture formulated and issued the *Contingency Plan for Major Agricultural Incidents Concerning Harmful Species and Alien Invasive Species*, collected the information and data of over 300 alien invasive species, established the database of alien invasive species in China and compiled the *Catalogue of Major Agricultural and Forest Alien Invasive Species in China*. In addition, the ministry also conducted adaptability risk assessment of 10 major potential invasive species. It carried out the demonstration of comprehensive technologies on the prevention and control of 8 invasive weed species and four invasive insects, continued the initiative of wiping out alien invasive species in 100 counties of 10 provinces by mobilizing more than 10 million person/time to carry out concentrated wiping out of such weeds as purple-stem *herba lycopi*, ragweed, *alternanthera philoxeroides* and little-blossom caltrop. As a result, the above mentioned plants were eliminated on over 20 million mu of land or waters.

【International Cooperation】 The Implementation Project of UNEP/GEF China Bio-safety Framework was progressed, the *Summary Report on the Study of the Development and Impact of Genetically Modified Organisms (GMOs) Related Technologies* and the *Report on the Study of Bio-safety related policy, Laws and Regulations and Administrative System in China* were revised and improved, the technical guidelines, reports on case study as well as other related guidelines on the risk assessment and risk management of GMOs such as GM fish, Bt (Bt – *bacillus thruingiensis*) cotton, Bt rice, GM soybean, nifA Pseudomonas Smithii, Bt Pseudomonas fluorescens and the safety of genetically modified food were further consolidated, the risk

assessment and environmental monitoring experimental study on genetically modified cotton and soybean were also under way, and the designing plan for the National Bio-safety Information Exchange Agency was drawn up.

Progress of the Project of Converting Farmland to Forests

The projects of converting farmland to forest is so far the most heavily funded ecological construction project having the strongest policy support, widest-ranging coverage and highest level of participation by the people. It has covered 120 million farmers from over 30 million rural households of more than 1,800 counties in 25 provinces (autonomous regions and municipalities) and the Xinjiang Production and Construction Corps.

Ever since the beginning of the project in 1999, the Central Government had invested the accumulated amount of 90.2 billion yuan into the huge project with 20.9422 million ha of farmland being converted to forests. Among them 8.6957 million ha were afforested on previous cropland, 10.8459 million ha were afforested on barren mountains and wasteland suitable for tree planting, 1.397 million ha of mountains were closed to facilitate afforestation. In 2005, the project had finished the investment of 26.812 billion yuan, among which 22.595 billion for living expenses and grain subsidies, 2.68 billion for seedlings while 1.537 for miscellaneous expenses. As a result, 861,200 ha of farmland were converted to forests, 1.342 million ha land were afforested on barren mountains and wasteland suitable for tree planting, and 1.1499 million ha of mountains were closed to facilitate afforestation.。

Protection of Agricultural Wild Flora Resources

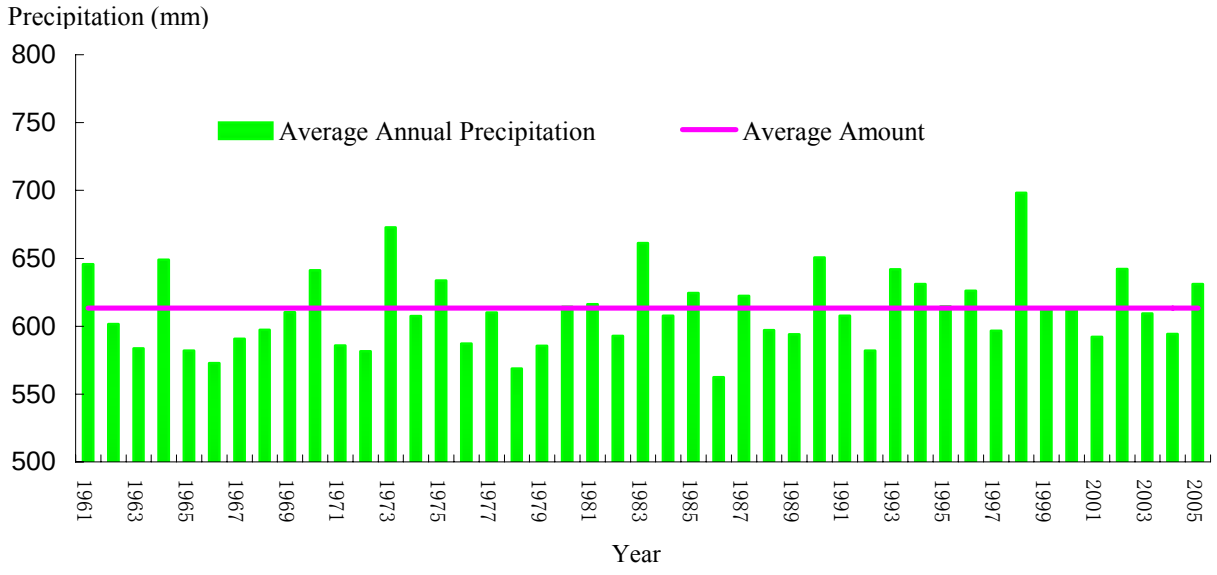
Presently, the authority has obtained primary understanding on the geological distribution, ecological environment, vegetation status, shape and characteristics, conservation value and endangered status of 191 agricultural wild flora species included in the *Catalogue of National Key Wild Flora Protection Species (Batch I)*, established the information and graphic database as well as GPS/GIS information database of these agricultural wild flora species. It has carried out focused investigation on and rescuing collection and storage of wild flora resources such as wild rice, wild beans, wild relatives of wheat, wild herbal plants and wild fruit trees with the storage of more than 3,000 samples of wild flora resources in other places, established 67 habitat reserves for agricultural wild plants and carried out effective protection of endangered species as well as their biotope. 34 new distribution spots of wild rice and 2 new species of wild relatives of wheat were found.

Climate and Natural Disasters

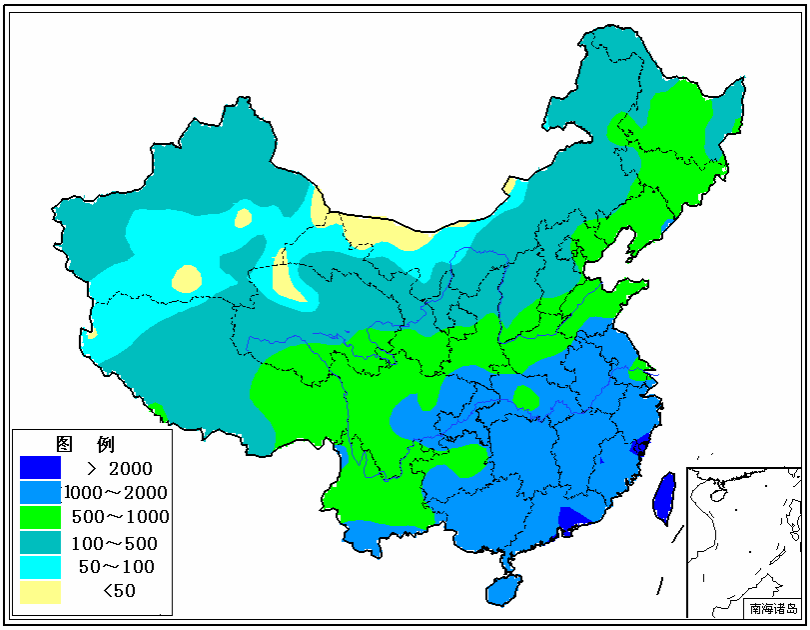
General Situation

General Climate Situation in China In 2005, the average annual precipitation of the country was a little more than the historical average, the annual average temperature was distinctively higher than the historical average, and the annual number of sunshine hours in most parts of mainland China was near or less than the historical average. Although there was no incidence of large-scale and lasting severe drought during the whole year and the frequency of spring sandstorms was less than the historical average. However, disasters like typhoon, rainstorm and flood and low temperature and freeze injury were more severe than normal years, and severe convective weathers such as gale, hail, tornado and thunderstorm occurred frequently. In 2005, the climatic disasters on the whole were similar to that of normal years with better agricultural climate. Compared with 2004, the degree of climatic disasters was heavier and the overall situation was worse than normal level.

Precipitation Distribution The average annual precipitation of China in 2005 was 631 mm, 17.7 mm more than in normal years. Most parts of China received the annual precipitation over 500 mm except for regions of the northern part of North China, Northwest China, southwestern part of Southwest China and Inner Mongolia where annual precipitation were below 500 mm.

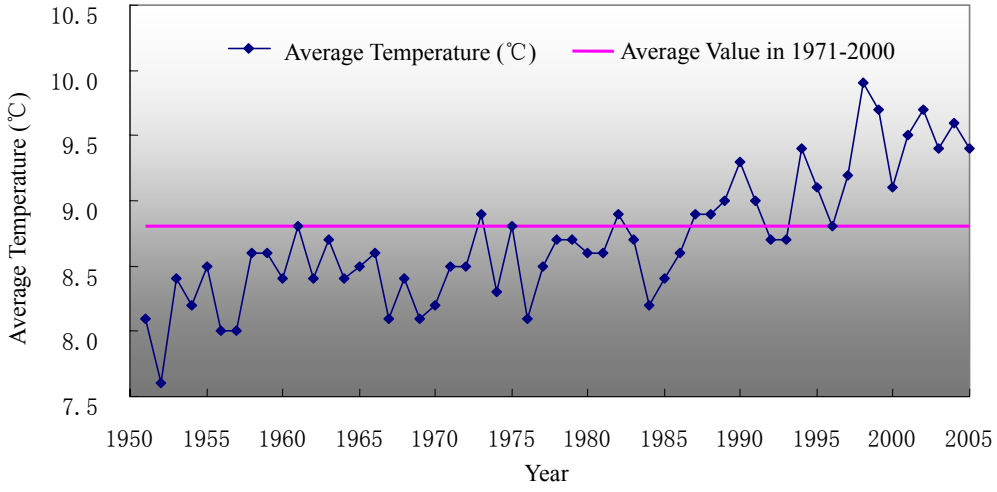


Changes in Average Annual Precipitation of China (in millimeter)



Distribution of Precipitation in China in 2005 (in millimeter)

Temperature Distribution The national annual average temperature in 2005 was 9.4℃, 0.6℃ higher than previous years. It was also the sixth warmest year since 1951. It was at the same level with 2003 while a bit lower than in 2004. Besides, the annual average temperature was higher than the historical average for the 9th consecutive year.



Changes of Annual Average Temperature of China (℃)

Climate Disasters In 2005, China experienced various kinds of climatic disasters such as drought, rainstorm and flood, typhoon, gale, hail, thunderstorm, tornado, high temperature, snow disaster, low temperature and freeze. Within the whole year, various kinds of natural disasters had incurred direct economic losses totaling 204.2 billion yuan with 2,475 deaths, falling into the category of rather severe disaster hit years. A total of 38.818 million ha of crops were affected,

among which drought, 69% suffered from rainstorm and flood disasters. In the southern part of South China, severe drought stretched across the three seasons of autumn, winter and spring; Yunnan experienced heavy drought in spring which rarely occurred in the past 50 years; the northeastern part of Northwest China and Inner Mongolia witnessed lasting drought during summer and autumn; the western part of the regions south of the Yangtze River and the western part of South China saw a certain period of prominent drought in autumn; the Xijiang River, Minjiang River, Huaihe River basins, Hubei, Hunan, Sichuan and Liaoning suffered from great rainstorm and flood disasters; and the Weihe River and Han River basins were stricken by very big flood during the autumn.

【Drought】In 2005, the scope of areas hit by drought was relatively small with less economic loss. Fortunately, there was no lasting severe drought on large scale, and the drought degree was lower than previous years. However, in the southern part of South China, severe drought lasted for three seasons of autumn, winter and spring; Yunnan experienced heavy drought in spring rarely occurred in the past 50 years; the mid and lower reaches of the Yangtze River were hit by drought in early summer; the northeastern part of Northwest China and Inner Mongolia witnessed lasting drought during summer and autumn; the western part of the regions south of the Yangtze River and the western part of South China saw a certain period of prominent drought in autumn.

【Typhoon/Tropical Storm】 There were 8 typhoons or tropical storms landed in China in 2005. These typhoons were of high grade, large scale and heavy damaging impact causing the greatest losses ever since 1997. In particular, No. 0509 typhoon of "Matsa" was the one causing the largest scale of impact and economic losses.

【Storm and Flood】 The disaster of storm and flood in 2005 was heavier than in normal years. The Xijiang River, Minjiang River, Huaihe River basins, Hubei, Hunan, Sichuan and Liaoning suffered from great rainstorm and flood disaster, and Weihe River and Han River basins suffered from very big flood during autumn.

【Sand Storm】 During the spring of 2005, 5 sand and dust storms occurred across China, the strongest of which occurred from April 27~28, strongly affecting Eren Hot City, Abag Banner, Mandula area and Xilin Hot City of Inner Mongolia.

【Thunderstorm】 In 2005, the disaster of thunder strike hit across the country with high frequency, large scale and great impact. According to estimate, more than 11,000 cases of thunder strikes occurred in 2005 around China, among which over 700 cases caused human casualties, and over 200 cases caused fire or explosion accidents. Consequently, more than 1,100 cases of building damage and over 2,700 cases of power supply failure occurred. Throughout the whole year of 2005, thunderstorm disasters had altogether caused more than 1,300 casualties with around RMB 600 million yuan direct economic losses and several billion yuan indirect economic losses.

Typhoons and Tropical Storms Landed in China in 2005

No. (Name)	Date of Landing	Venue of Landing	Maximum Wind Force (Grade)	Affected Areas
0505 Haitang	July, 18th July, 19th	Yilan, Taiwan. Lianjiang, Fujian	12 12	Fujian, Zhejiang, Jiangxi, Hubei, Anhui, Henan, Hebei
0508 Washi	July, 3rd	Qionghai, Hainan	10	Hainan, Guangdong
0509 Matsa	August, 6th	Yuhuan, Zhejiang	12	Zhejiang, Fujian, Shanghai, Jiangsu, Anhui, Shandong, Hebei, Tianjin, Liaoning
0510 Sanvu	August, 13th	Chenghai, Guangdong	10	Guangdong, Fujian, Jiangxi, Hubei
0513 Talim	Sept., 1st Sept., 1st	Hualian, Taiwan Putian, Fujian	12 12	Fujian, Zhejiang, Anhui, Jiangxi, Hubei, Henan, Jiangsu, Guangdong
0515 Khanun	Sept., 11st	Taizhou, Zhejiang	12	Zhejiang, Jiangsu, Anhui, Shanghai, Fujian
0518 Damrey	Sept., 26th	Wanning, Hainan	12	Hainan, Guangdong, Guangxi
0519 Longwang	Oct., 2nd Oct., 2nd	Hualian, Taiwan Jinjiang, Fujian	12 12	Fujian, Zhejiang, Jiangxi

Major Sand and Dust Weathers in China in the Spring of 2005

No.	Start and end date	Type	Main weather systems	Main areas affected	Wind Force (Grade)
1.	April 6th ～9th	Sand storm	Cold front	Blowing dust occurred in Nanjiang Basin, central and west Inner Mongolia, Qinghai, central and west Gansu and Ningxia. In particular, sand storms hit Minfeng, Tieganlike, Ruoqiang of Xinjiang, Guaizihu, Urad Middle Banner, Xilin Hot City and Xi Ujimqin Banner of Inner Mongolia, Lenghu and Nuomuhong of Qinghai, Dunhuang of Gansu and Yanchi in Ningxia. In addition, heavy sand storms hit Minfeng of Xinjiang.	Northwest wind of 4~5 grade, 6~7 in some areas
2.	April 16th ～21st	Sand storm	Mongolian cyclone; cold front	Blowing dust occurred in central Inner Mongolia, Dulan and Chaka of Qinghai, Dunhuang, Litai and the central part of Gansu, most parts of Ningxia, northern Shaanxi, central Shanxi, Hebei, Jinzhou of Liaoning, Xinxiang of Henan, western Shandong and Dangshan of Anhui. In particular, sand storms hit Guaizihu, Mandula, Zhurihe, Abag Banner, Xin Barag Right Banner of Inner Mongolia, Jiuquan of Gansu, Yulin of Shaanxi and Zhangbei of Hebei. In addition, heavy sand storms hit Tuole of Qinghai and Raoyang of Hebei.	Northwest wind of 3~4 grade, 5~6 in some areas

No.	Start and end date	Type	Main weather systems	Main areas affected	Wind Force (Grade)
3.	April 27th ～28th	Heavy sand storm	Mongolian cyclone; cold front	Blowing dust occurred in central and eastern Inner Mongolia, Shanxi, Hebei, northern Liaoning, southwestern part of Jilin, Beijing and northern Shandong. In particular, sand storms hit Eren Hot, Abag Banner, Xilin Hot, Sonid Left Banner, Narenbaolige, Hexigten-Banner, Helinger and Dong Ujimqin Banner. In addition, heavy sand storms hit Eren Hot, Abag Banner, Mandula and Xilin Hot of Inner Mongolia.	Northwest wind of 4~6 grade, 7~8 in some areas
4.	April 29th ～ May 1st	Sand storm	Mongolian cyclone; cold front	Blowing dust occurred in central and eastern Inner Mongolia, northwest of Hebei, northwestern part of Jilin, and southern Shandong. In particular, sand storms hit Eren Hot, Sonid Left Banner, Narenbaolige, Dong Ujimqin Banner and Xi Ujimqin Banner.	wind by north of 4~6 grade, 7 in some areas
5.	May 10th	Sand storm	Mongolian cyclone; cold front	Blowing dust occurred in central part of Inner Mongolia with some parts of it suffered from sand storm or heavy sand storm.	Northwest wind of 5~7 grade

Earthquake Disasters In 2005, China had experienced 22 earthquakes over the Richter scale of 5, four of which were of Richter scale 6 ~ 7 and the remaining 18 were of Richter scale 5 ~ 6. Mainland China was hit by 13 earthquakes and Taiwan by 9 quakes.

11 of the earthquakes that occurred in the mainland in 2005 caused disasters. The population affected by the disasters was 2.084 million. The total area affected by the disasters was approximately 15039.7 km^2. 15 people died, 90 were heavily injured, and 777 were lightly injured. The disasters altogether caused damages to houses of 3,457,153 m^2, 543,515 m^2 were of severe damage, 9,916,280 m^2 were of medium damage and 10,624,541 m^2 were of slight damage. The direct economic loss caused by earthquake disasters was RMB 2.63 billion yuan.

Earthquake Disasters and Their Damages in Mainland China in 2005

No.	Date		Venue	Magnitude	Casualties (Persons)			Damage to Buildings (m^2)				Direct economic losses (10,000 yuan)
	Day/Month	Time			Death	Seriously injured	Slightly injured	Destroyed	Serious	Medium	Light	
1	Jan, 5th	6:05	Barkam, Sichuan	4.7	0	0	0		1420	18188	98814	653
2	Jan, 26th	0:30	Simao, Yunnan	5.0	0	0	5	9870	28206	83617	442485	5280
3	Feb., 15th	7:38	Wushen, Xinjiang	6.2	0	0	0	197121	278622	657521	945201	15757.43
	Feb., 15th	19:16	Wushen, Xinjiang	5.1								
4	April, 8th	4:04	Zhongba, Tibet	6.5	0	0	0		2151	6053	11496	1034.2

No.	Date		Venue	Magnitude	Casualties (Persons)			Damage to Buildings (m^2)				Direct economic losses (10,000 yuan)
	Day/Month	Time			Death	Seriously injured	Slightly injured	Destroyed	Serious	Medium	Light	
	April, 8th	5:41	Zhongba, Tibet	5.2								
5	June, 2nd	4:06	Medog, Tibet	5.9	0	0	0	5048	16513	31789	78177	4187.4
6	July, 25th	23:43	Heilongjiang	5.1	1	1	10	23105		60758	19400	2744.68
7	Aug., 5th	22:14	From Huize, Yunnan to Huidong, Sichuan	5.3	0	4	40	41863	154220	468037	2141590	16998
8	Aug. 13th	12:58	Wenshan, Yunnan	5.3	0	2	27	8385	33971	84646	869640	9220
9	Aug., 26th	5:08	Moyu, Xinjiang	5.2	0	0	0	4246	14176	21620	20816	644.7
10	Oct., 27th	19:18	Pingguo, Guangxi	4.4	1	1	2	805		10817		2532
11	Nov., 26th	8:49	Between Jiujiang and Ruchang of Jiangxi	5.7	13	82	693	3166710	14236	8473234	5996922	203759.39
Total					15	90	777	3457153	543515	9916280	10624541	262810.8

Note: Three-category classification of destroyed, damaged and basically intact were adopted for buildings during the investigation of earthquake damages to buildings in rural areas of Lindian of Heilongjiang, Pingguo of Guangxi and the earthquake between Jiujiang and Ruchang of Jiangxi.

Geological Disasters In 2005, a total of 17,751 geological disasters happened in China, 854 of which had caused human casualty or direct economic losses over 500,000 yuan. Those disasters led to overall casualty of 1,021 with 578 deaths, 104 missing and 339 injured.

【Landslide】 In 2005, a total of 9,359 cases of landsides had happened across China, mainly distributing in the provinces (municipalities) of Fujian, Anhui, Hubei, Chongqing, Shaanxi, Zhejiang, Guangdong, etc. Among them, Fujian was the hardest hit by 5,934 cases of landslides, accounting for 63.4% of the total in China in 2005.

【Collapse】 The year of 2005 saw altogether 7,654 cases of collapses mainly in Anhui, Fujian, Zhejiang, Hainan, etc. Anhui Province, in particular, suffered from 6,445 cases of such disaster, taking up 84.2% of the total cases of China in 2005.

【Mud-rock Flow】 A total of 566 cases of mud-rock flow had occurred around China in 2005 mainly in provinces (municipalities) of Anhui, Xinjiang, Zhejiang, Sichuan, Liaoning, Hubei, Shaanxi, etc. Among them, Anhui province experienced 333 cases of such disaster, registering 58.8% of the total cases of China in 2005.

【Earth Collapse】 A total of 137 cases of earth collapse happened in China mainly in provinces of Guangdong, Hubei, Shandong, etc.

【Earth Subsidence】 Over 50 cities and regions across the country experienced earth

subsidence mainly distributed in the Pearl River Delta region, North China Plain, Fen-Wei Basin, etc.

【Ground Fissure】 Ground fissure mainly occurred in provinces of Henan, Shaanxi, Jiangsu, Hubei, Guizhou, Hebei, etc, generally resulted by factors such as groundwater extraction, mine exploration and precipitation.

【Seawater Invasion】 Seawater invasion often occurred in Shandong Province and Liaoning Province. The accumulated area of seawater invasion land in cities of Yantai, Qingdao, Weihai and Rizhao of Shandong Province totaled 649 km^2 while that in cities of Jinzhou, Huludao and Dalian of Liaoning numbered 740 km^2. In particular, the city of Dalian witnessed the addition of 27 km^2 of seawater invasion area in 2005, and other areas saw no substantial variation.

Marine Disasters 2005 was a year witnessing high frequency of marine disasters affecting large areas. All the 11 coastal provinces (municipalities and autonomous regions) suffered from such disasters, causing the largest economic losses ever since 1949. There were a total of 176 disasters of storm surges, red tides, ocean waves and oil spills during the whole year, causing direct economic losses of RMB 33.24 billion yuan with 371 deaths or missing.

In 2005, the direction economic losses China had suffered from storm surges, red tides and ocean waves grew by almost 5 times than in 2004. Among them, storm surge (including typhoon waves alongshore) was the primary marine disaster in 2005, causing the direct economic losses of 32.98 billion yuan and 137 death or missing. 66 cases of ship sinking accidents and marine accidents with casualties caused by cold-air waves and cyclone waves occurred in offshore areas, resulting in 234 death or missing and 191 million yuan of direct economic losses. Red tides also caused 69 million yuan of direct economic losses. However, sea ice didn't lead to any apparent economic loss.

Losses Caused by Major Marine Disasters in 2005

Type of Disasters	Occurrence	Number of death and missing	Direct economic loss (100 million yuan)
Storm surge	20	137	329.8
Red tide	82	None	0.69
Ocean waves	66	234	1.91
Oil spill	8	None	—
Sea ice	—	—	—
Total	176	371	332.40

Countermeasures and Actions

【Anti-thunderstorm Measures】 In January of 2005, China Meteorological Administration (CMA) issued two sector regulations of the *Regulations on the Administration of Professional*

Qualification of Anti-Thunderstorm Projects (Decree No. 10 of CMA) and the *Provisions on the Examination of the Designing and Completion Checkup and Acceptance of Anti-Thunderstorm Facilities (Decree No. 11 of CMA)* in an effort to further strengthen and standardize the administration of anti-thunderstorm activities.

【Artificial Rainfall Enhancement and Hail Prevention】 In 2005, the overall target area for artificial rainfall enhancement projects was about 2.58 million km^2 nationwide. 37 planes were leased with accumulated 608 flying tasks totaling 1,530 hours. Artificial rainfall increase by high-angle gun and rockets totaled over 17,600 times. Over 45,700 times' artificial hail prevention tasks were carried out in 25 provinces (autonomous regions, municipalities), Dalian, Qingdao and Xinjiang Production and Construction Corps, covering an area of over 440,000 km^2. This work had effectively prevented and reduced hail damage to agriculture.

【Earthquake Monitoring】 The construction of earthquake monitoring station network was in full swing with the enhancement of both monitoring scope and capacity. As a result, 90% of the national territory was under the monitoring network that can detect earthquakes with the magnitude over grade 3, the National Earthquake Instant Reporting System realized real time on-line connection, and the time span of earthquake instant reporting was greatly shortened with its accuracy remarkably improved.

【Prevention of Earthquake Disasters】 The *Technical Specification on Earthquake Safety Assessment of Project Sites* jointly issued by the General Administration of Quality Supervision, Inspection and Quarantine and the Standardization Administration of China took effect on October 1, 2005. The Specification stipulated technical requirements and methods for the assessment of earthquake safety of project sites, thus providing the basis for site selection of various construction, identification of the requirements for their anti-earthquake design and the earthquake safety assessment of project sites involved in earthquake prevention planning as well as social and economic development planning.

【International Emergency Aids on Tsunami and Earthquake Disasters】 In 2005, Chinese International Rescuing Team carried out four batches of two times of international rescuing missions for the tsunami in Indonesia and earthquake disaster in Pakistan. In the wake of the 7.8 magnitude earthquake in Pakistan, the Chinese International Rescuing Team dispatched 90 person/time in two groups, heading for the worst-hit region of Balakaut in Pakistan for a 32-day mission of work including emergency searching, first aid, medical treatment, epidemic prevention, disaster assessment and identification of post-disaster trend. In addition, the Chinese team also served as international rescuing coordinator, playing a crucial role in coordinating the rescue efforts of international communities. This rescuing work of China again won extensive recognition and praise from the international communities.

Water Supply Facility and Lavatory Renovation in Rural Areas

By the end of 2005, the benefiting rate of water supply facility in rural areas across China reached 94.06%, 1.7 percentage points higher than the end of the Ninth "Five-Year" Plan period. 579 million of rural population had access to tap water, taking up 61.32% of the total rural population, up by 6.12 percentage points than the end of the Ninth "Five-Year" Plan period. The rural population benefiting from hand-pumped well and rainwater collection accounted for 20.79% and 1.53% of the total rural population respectively, and the population enjoying other preliminary renovated water supply facilities was 98.6 million, taking up 10.42% of the total.

By the end of 2005, 55.31% of rural population of China had sanitary lavatories, up by 11.09 percentage points than that of 2000. Among these lavatories, the type of three-sectioned septic tank, the type of filler-shaped dual urns, the type of biogas pit, the type of separated collection of dung and urine and the type of water closet having complete sewer represented 15.71%, 4.96%, 5.73%, 0.41% and 4.14% of the total rural households respectively. Besides, 60.5303 million of rural households used other types of sanitary lavatory, registering 24.36% of the total rural households.

Note: The data in this Report does not cover Taiwan Province, Hong Kong and Macao, except for the data related to jurisdictional territory, land area, forest resources and earthquakes.

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Ministry of Land Resources
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State Statistics Bureau
State Forestry Administration
State Oceanic Administration
China Meteorological Administration
China Seismological Administration

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