

## Nearly half of China's provinces fail to meet water quality targets

Fourteen out of 31 provinces failed to meet their water quality improvement targets over the 12th Five-Year Plan period, according to a new report released by Greenpeace East Asia. The report analyzes changes in surface water quality by province from 2011-2015 based on publically available government data and information obtained from province-level environmental protection bureaus.

### **Key Findings**

Findings show that water pollution in key urban areas is particularly severe. At the end of the 12th Five-Year Plan period, 85.3% of water in Shanghai's major rivers was categorized as grade IV or worse, or unsuitable for human contact [1]. In 2015, the percent of surface water that was deemed not usable for agriculture or industry (worse than grade V) in Beijing, Tianjin and Hebei was 39.9%, 65.9% and 30.2%, respectively [2]. In Tianjin the percent of surface water unsuitable for human contact (grade IV or worse) reached 95.1% in 2015.

While surface water quality improved on a national scale during the first two years of the 12th Five-Year Plan period, this improvement flattened off beginning in 2013. In eight provinces, more than half of water in major rivers was deemed unsuitable for human contact (grade IV or worse) as of 2015.

Fifteen provinces successfully met their water quality targets over the five-year period. They are: Shanghai, Jiangsu, Anhui, Gansu, Guizhou, Guangxi, Fujian, Xinjiang, Tibet, Shandong, Hebei, Yunan, Ningxia, Shaanxi and Zhejiang. The 14 provinces that failed to meet their targets are: Liaoning, Henan, Beijing, Shanxi, Heilongjiang, Jilin, Jiangxi, Guangdong, Hubei, Hainan, Qinghai, Hunan, Sichuan and Inner Mongolia. Due to a lack of

consistent water quality data from Chongqing for the entire five-year plan period and a lack of measurable targets in Tianjin, Greenpeace was unable to determine whether these two provinces met their surface water quality targets.

Although Shanghai achieved its water quality target for the 12th Five-Year Plan period, pollution levels in the province remained severe. In 2015, 56.4% of water in Shanghai's major rivers was categorized as not usable for agriculture or industry purposes (worse than grade V). None of the water in Shanghai's major rivers was categorized as grade I or grade II.

Surface water quality in Inner Mongolia, Sichuan and Shanxi declined between 2011 and 2015. The percentage of surface water suitable for human contact (grade I-III) in Inner Mongolia and Sichuan dropped by 13.6% and 6.3%, respectively.

### **Jiangsu and Henan Case Studies**

A case study conducted based on data from Jiangsu province showed that enhanced sewage treatment systems and a decline in pollution-heavy industry corresponded with surface water improvements. Jiangsu saw a dramatic improvement in surface water quality over the 12th Five-Year Plan period; the percentage of surface water suitable for human contact (grade I-III) increased from 35.5% in 2011 to 48.2% in 2015.

By contrast, a case study conducted using data from Henan province showed that water quality in the province has deteriorated since 2012. This decline corresponds with a high rate of chemical fertilizer use and a lack of sufficient wastewater treatment. Water quality in Henan is an issue of regional importance, as the province is home to four major river basins.

## **Background**

Under the Five-Year Environmental Protection Plan, provinces are required to set water improvement targets at the start of each five-year plan period [3].

This report is the first time data about the completion of targets by each province has been made public.

In 2015, the State Council issued the Water Pollution Prevention and Control Action Plan (also known as the “Water Ten Plan”), which states that provinces are responsible for meeting water quality targets [4]. According to the plan, the amount surface water that is not suitable for agricultural or industrial use (worse than grade V) in the Jing-Jin-Ji area must be reduced by 15% by 2020. The plan also mandates the elimination of all water that is worse than grade V from the Yangtze River Delta and Pearl River Delta by 2020.

## **Methodology**

Greenpeace gathered and analyzed 145 sets of surface water quality data from 31 province-level environmental protection bureaus for the period 2011-2015. A province was determined to have met its water quality target if all surface water objectives were fulfilled.

## **Recommendations**

Based on the results of the study, Greenpeace urges all provinces to set ambitious water improvement targets and to meet these goals. The findings of this report show that Shanghai and Tianjin in particular need to prioritize water quality improvement. Provinces that have shown a decline in surface water quality, such as Inner Mongolia, Sichuan, and Shanxi, must take initiative to reverse this trend.

The two case studies shed light on some of the factors that can contribute to

water quality improvement, such as a decreased reliance on heavy industry, decreased chemical fertilizer use and improved sewage treatment systems.

[1] China's government categorizes water on a scale of grade I-V and "grade V+". Water rated worse than grade III is deemed unsuitable to be used as a drinking water source, or for activities such as swimming and fishing. Water worse than Grade IV is categorized as unsuitable for industry and "entertainment" use. Grade V water can be used for agriculture and "scenery" purposes. Water rated worse than grade V has no functional application.

[2] Surface water refers to water in rivers and lakes. For some provinces, only data from rivers was available for analysis. Details available in report.

[3] [http://www.gov.cn/zwggk/2011-12/20/content\\_2024895.htm](http://www.gov.cn/zwggk/2011-12/20/content_2024895.htm)

[4] <http://chinawaterrisk.org/notices/new-water-ten-plan-to-safeguard-chinas-waters/>