

论文

北京市近30年用水结构演变及驱动力

翟远征^{1,2}, 王金生^{1,2}, 郑洁琼^{1,2}, 郇环^{1,2}

- 1. 北京师范大学 水科学研究院, 北京 100875;
- 2. 地下水污染控制与修复教育部工程研究中心, 北京 100875

摘要:

近30 a以来,北京市平均年降水量和水资源总量较多年平均值分别减少了6.89%和31.37%,而总用水量在这期间达到了历史上的最高峰。对用水结构的准确分析和科学预测是制定水资源利用发展规划的基本前提和基础,也是进行产业结构调整和优化主要依据,因此对于社会经济和资源环境的协调发展具有重要意义。在分析改革开放30 a来北京市总用水量、农业、工业、生活和环境用水量及用水结构演变规律的基础上,进一步揭示了总用水量和用水结构演变的驱动因子,最后对未来一段时期内总用水量和用水结构的演变趋势及其对未来水资源供需形势的影响作了预测和探讨,受工农业用水减少,以及生活和生态用水增加的影响,未来一定时期内总用水量将在现有约 $35 \times 10^8 \text{ m}^3/\text{a}$ 的基础上继续缓慢平稳下降;南水北调水进京后在未来一定时期内将明显减轻北京市的供水压力。该研究成果将为协调社会经济发展与水资源的关系、制定合理的水资源战略规划和可持续发展提供科学依据。

关键词: 北京 用水结构 产业结构

Evolution and Driving Forces of Water Consumed Structure in Beijing during the Past 30 Years

ZHAI Yuan-zheng^{1,2}, WANG Jin-sheng^{1,2}, ZHENG Jie-qiong^{1,2}, HUAN Huan^{1,2}

- 1. College of Water Sciences, Beijing Normal University, Beijing 100875, China;
- 2. Engineering Research Center for Groundwater Pollution Control and Remediation, Ministry of Education of China, Beijing 100875, China

Abstract:

During the past 30 years, average annual precipitation and total water resources of Beijing have decreased by 6.89% and 31.37% compared with those during 1956-2000, while total water resources consumed in this period reached pinnacle historically. The exact analysis and scientific forecast of water consumed structure are not only the basic premise and foundation for establishing the development plan of water resources utilization, but also the main warranty for industrial structure adjusting and optimizing. Accordingly, it's of great significance for the harmonious development between socioeconomy and resources environment. Based on the analysis of total water resources consumed, agricultural, industrial, domestic and environmental water consumed, and evolution of water consumed structure, further driving forces of evolution of total water resources consumed and water consumed structure are revealed, and finally the prediction and discussion are made for the evolution of total water resources consumed and water consumed structure and supply-demand situation of water resources in the near future, the total water consumption of each year in the near future will go on to decline steadily and slowly based on the present amount (around $35 \times 10^8 \text{ m}^3/\text{a}$) influenced by the decrease of agriculture and industry water consumption, and the increase of resident and ecological water consumption; the pressure of Beijing from water supply will reduces obviously within a certain period in the near future after the reach of water from South-to-North Water Transfer Project. We hope that these endeavor will provide scientific basis for harmonizing the relationship between socio-economic development and water resources, establishing rational strategic plan of water resources, and social sustainable development.

Keywords: Beijing water consumed structure industrial structure

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通讯作者: 王金生(1957-),男,教授、博导。E-mail: wangjs@bnu.edu.cn

作者简介:

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