

The background of the cover features a close-up, high-angle photograph of water ripples. The ripples are concentric and spread outwards from a point, creating a sense of movement and depth. The colors are soft and natural, ranging from light blues and greys to subtle hints of green and yellow, reflecting the light on the water's surface.

# Water

INTERNATIONAL COOPERATION OUTCOMES IN  
THE FIELD OF WATER ENVIRONMENT

## 水环境项目国际合作 成果画册

环境保护部环境保护对外合作中心 编著

中国环境科学出版社

The background of the entire cover is a close-up photograph of water ripples, creating a sense of movement and texture. The ripples are concentric and spread out across the frame, with varying shades of light and dark gray.

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## 前言

环境保护部环境保护对外合作中心（简称“对外合作中心”）成立于 1989 年，是环境保护部直属事业单位，主要业务包括履行环境国际公约、开展双多边环保项目合作、加强全球环境政策研究、提供环保国际咨询和服务业务。

自 1992 年始，对外合作中心在水业务领域与世界银行、亚洲银行、全球环境基金、欧盟、意大利、德国、瑞典、澳大利亚等双多边国际组织和国家合作实施了 GEF 海河流域水资源与水环境综合管理项目、中欧流域管理项目、中澳环境发展项目等 20 多个水域国际合作项目。项目区遍布长江、黄河、海河、辽河、珠江、松花江、淮河七大流域及“三河三湖”重点区域。业务内容涉及流域与区域水资源与水环境综合管理、点源和非法点源污染防治、河流生态健康评价及生态补偿机制与政策研究等。项目研究成果为环境保护部“十五”、“十一五”“十二五”重点流域水污染防治规划编制和实施提供了有益的技术参考和借鉴。其中，全球环境基金（GEF）海河流域水资源与水环境综合管理项目被世界银行竣工检查团授予“非常满意”最高评价，并获得世界银行“副行长”奖。

为确保项目研究成果能够在国内水污染防治工作中发挥更大的作用，产生更好的环境效益。2012 年初，对外合作中心把水域国际合作项目成果汇编成册，经过一年多的努力，《水环境项目国际合作成果汇编》终于要与广大水环境保护工作者见面了。在此，我们要感谢环境保护部国际合作司、污染防治司、自然生态保护司、科技标准司、应急与事故调查中心，以及中国环境科学研究院、南京环境科学研究所、环境规划院等技术单位的大力支持与帮助。由于时间仓促、项目涉及面广，编辑过程中难免有疏漏，敬请国内外专家学者多包涵指正。另外，由于篇幅有限，编委会成员中难以包括所有参与项目实施的科研管理和技术人员，在此，我们向所有参与项目实施和对项目成果汇编给予帮助的人员表示衷心的感谢！

编者

二零一二年十二月

# Foreword

Foreign Economic Cooperation Office of Ministry of Environmental Protection (MEP-FECO) is an institution affiliated to MEP. It was founded in 1989 and mandated to implement international environmental agreements, carry out bilateral and multilateral environmental cooperation projects, strengthen the study of global environmental policies, and provide international consulting and services business in the field of environmental protection.

MEP-FECO has implemented more than 20 international projects in the field of water environment since 1992, in cooperation with bilateral and multilateral international organizations and countries such as World Bank (WB), Asian Bank, Global Environment Facility (GEF), European Union, Italy, Germany, Sweden, and Australia. Representative projects include the GEF Hai Basin Integrated Water Resources and Environment Management Project, EU-China Basin Management Programme, and Australian China Environment Development Partnership. These projects cover basins of the Yangtze River, Yellow River, Hai River, Liao River, Pearl River, Songhua River, and Huai River, as well as the key areas of "three rivers and three lakes" (Huai River, Hai River, Liao River and Tai Lake, Chao Lake, Dianchi Lake). Besides, projects above concentrate on basin and regional integrated water resources and water environment management, point source and non-point source pollution prevention, river ecosystem health evaluation and ecological compensation mechanism and policy. Project outputs provide useful technical reference for MEP to develop and implement the 10th, 11th, 12th Five-Year Plans for Water Pollution Control in Key Basins. In particular, the GEF Hai Basin Integrated Water Resources and Environment Management Project received the highest recognition of "very satisfied" from the WB Inspection Team and was presented the World Bank Vice President Award.

To facilitate a greater role of research findings in domestic water pollution control work and to produce more environmental benefits, MEP-FECO collected the outcomes of international cooperation in the field of water environment in early 2012, and after a year of hard work, the book titled *International Cooperation Outcomes in the Field of Water Environment* is finally ready to come out. Hereby, we appreciate the great support and help from Department of International Cooperation, Department of Pollution

# Foreword

Prevention and Control, Department of Nature and Ecology Conservation, Department of Science, Technology and Standards, and Center of Environmental Emergency and Accident Investigation of Ministry of Environmental Protection. Gratitude is also extended to Chinese Research Academy of Environmental Sciences, Nanjing Institute of Environmental Sciences, and Chinese Academy for Environmental Planning among research institutions. Due to time constraints and the wide project range, there may be omissions and we are expecting comments from experts and scholars at home and abroad. It is difficult to name each member involved in the projects due to limited space, and we would like to express our heartfelt thanks to all personnel in the project implementation and the book compilation.

Editor

December 2012



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# 1 世界银行 GEF 海河项目

## World Bank GEF Hai River Project

为研究和解决海河流域所面临的水资源与水环境问题，在我国有关部门的共同努力和世界银行的支持下，全球环境基金（GEF）赠款资助了“海河流域水资源与水环境综合管理项目”（简称“GEF 海河项目”）。项目旨在提高流域（图 1-1）水资源与水环境的综合管理水平，减轻流域水污染状况，改善渤海的水环境质量。

To study and address the issues associated with water resources and water environment in the Hai River Basin, with the joint efforts of departments concerned and the support from World Bank (WB), Global Environment Facility (GEF) has provided a grant for the Project for the Integrated Management of Hai River Basin Water Resource and Environment (referred to as GEF Hai River Project). This Project aims to raise the level of integrated management of water resource and water environment (Figure 1-1), reduce pollution in the river basin, and improve the water environmental quality in the Bohai Sea.

本项目以世界银行为国际执行机构，由水利部、环保部共同组织实施。自 2004 年 9 月项目全面实施以来，在财政部、水利部、环保部等有关部门的组织

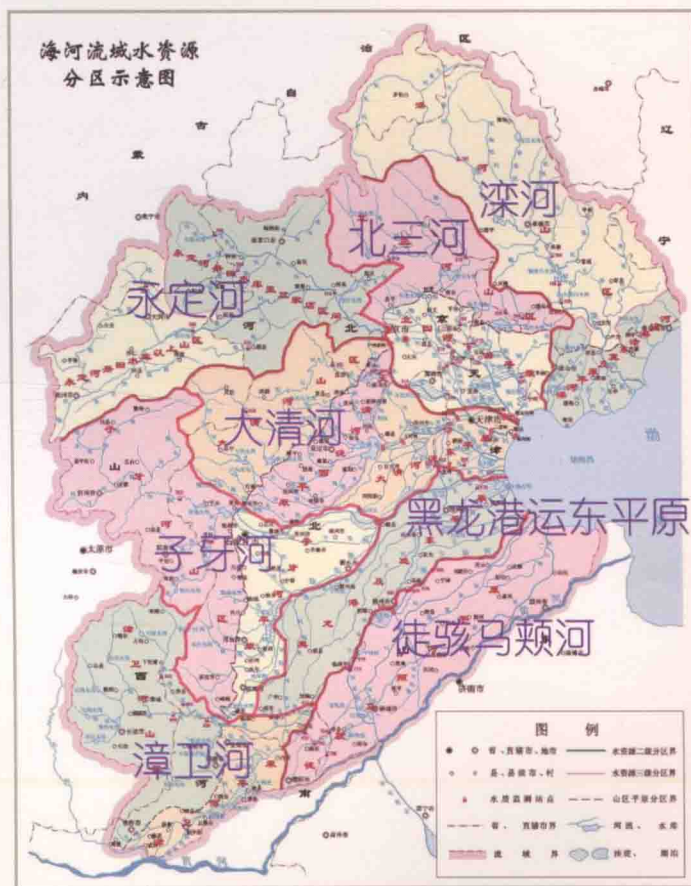


图 1-1 海河流域水资源分区示意图

Figure 1-1 Schematic diagram of water resources in the Hai River Basin

领导下,在世界银行的技术指导下,经过各级项目办和联合专家组、项目技术承担单位6年多的共同努力,全面完成了项目各项任务并取得显著成效,实现了项目预期目标。2011年6月,经世行竣工检查团检查验收,给予项目“非常满意”的评价。

With WB as the implementing agency, the Project was jointly organized and implemented by Ministry of Water Resources (MWR) and Ministry of Environmental Protection (MEP). Under the leadership of MWR, MEP and Ministry of Finance (MOF) and under WB's technical guidance, project offices at all levels, Joint Group of Experts, and technical commitment agencies have comprehensively completed the project tasks and accomplished remarkable achievements and the expected results after six years of concerted efforts since the full implementation in September 2004. WB Completion Inspection Task Force evaluated and considered the Project "very satisfied" in the inspection and acceptance in June 2011.

海河项目的构成,分为四个相互关联的部分:

- (1) 水资源与水环境综合管理 (IWEM);
- (2) 知识管理 (KM) 开发建设;
- (3) 天津滨海地区污水管理;
- (4) 项目管理、培训和监测评价。

GEF Hai River Project has four interconnected components:

- (1) Integrated water and environment management (IWEM);
- (2) Knowledge management (KM) development and construction;
- (3) Tianjin Binhai sewage management;
- (4) Project management, training, monitoring and evaluation.

通过项目实施,有效地促进和提升了海河流域水资源与水环境综合管理的科学水平,一定程度上缓解了入海水量减少和水质恶化的趋势,对于保护渤海乃至黄海及相邻的国际水域的海洋环境、生态系统及生物多样性发挥了重要作用。

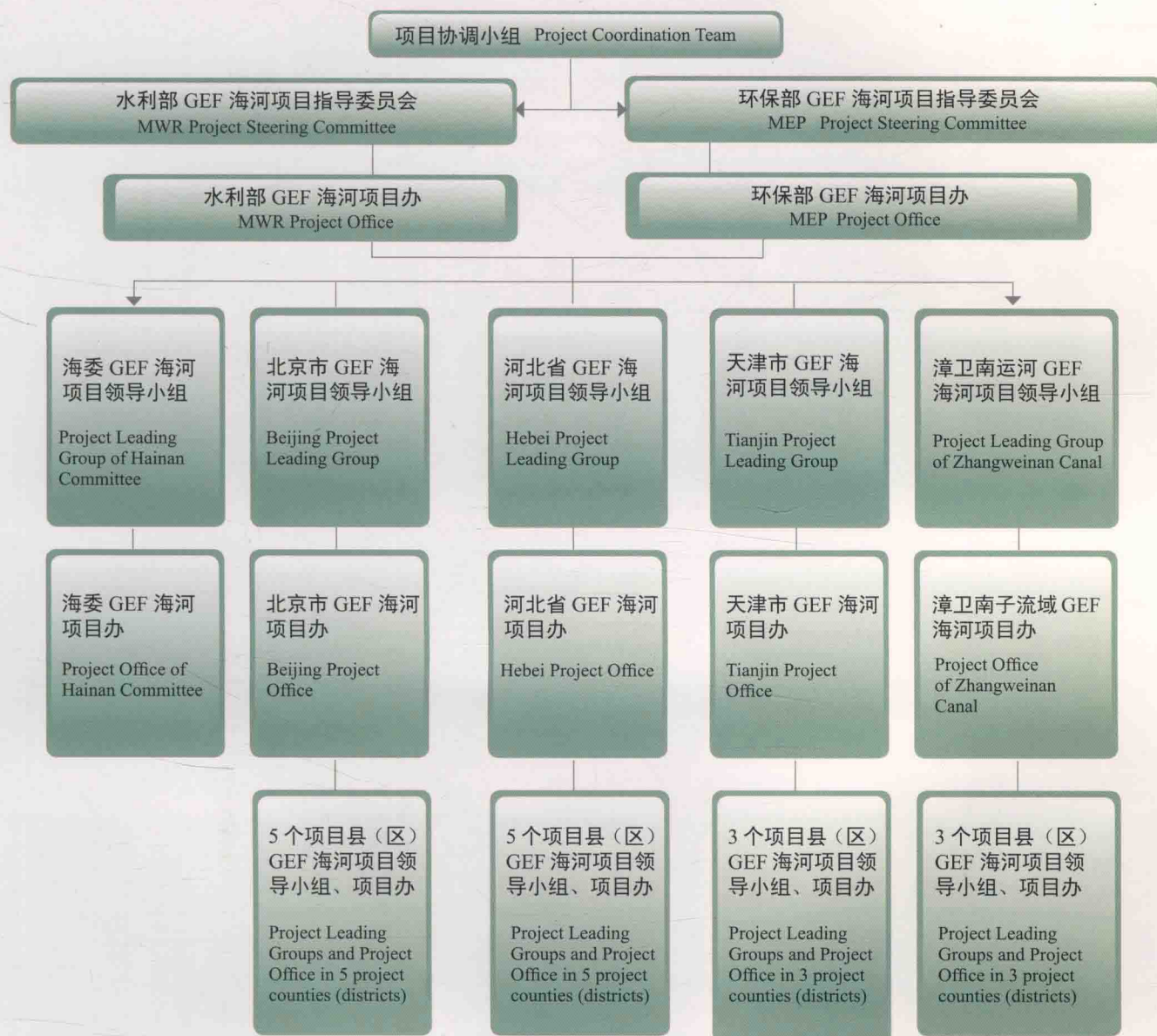


图 1-2 GEF 海河项目组织机构与管理关系示意图

Figure 1-2: Organization and management in the GEF Hai River Project