

Yong Ding River Restoration

Design concepts & techniques

永定河绿色生态走廊简介

朱晨东 — 基于邓卓智的资料
Chendong Zhu

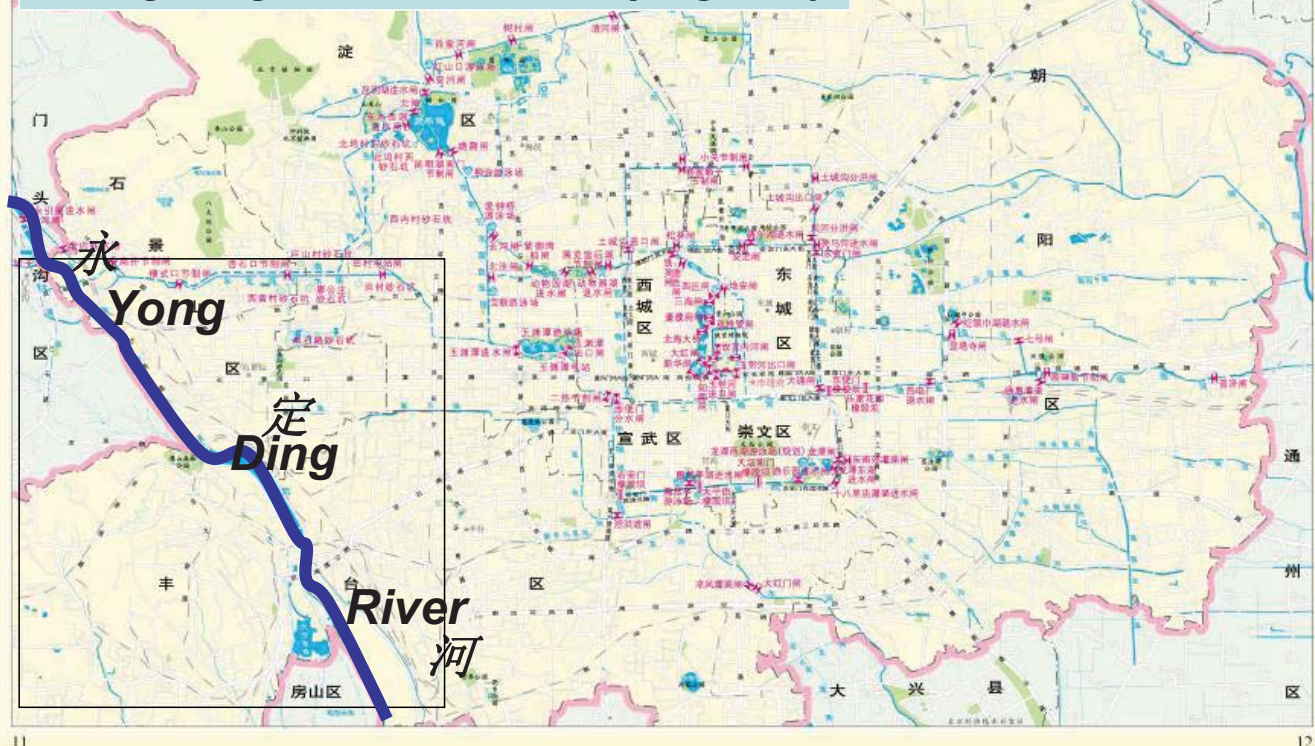
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简明情况Introduction

- 永定河是中国四大重点防洪江河之一，是海河水系最大的一条河流，流域总面积4.7万km²，北京境内流域面积约3200km²。
- ✓ Yongding River——
 - One of the 4 key rivers faced with flood control in China
 - The largest river in the Haihe River System
 - Total river basin area:47000km²(3200km² in Beijing)
 - 永定河北京段全长170km，分为官厅山峡段、平原城市段、平原郊野段，流经门头沟、石景山、丰台、房山和大兴五个区。永定河也是北京的母亲河，孕育了北京深厚的文化底蕴和独特的人文资源。北京城市总体规划将永定河定位为“北京西部绿色生态走廊”，防洪、供水、生态是永定河三个重要功能。
- ✓ Yongding River in Beijing——
 - Length of Beijing river reach: 170km
 - 3 parts: Mountain river reach, Urban river reach in flood plain, Rural river reach in flood plain. Flow through 5 districts.
 - In Beijing urban development master plan, Yongding River is planned to be an ecological corridor in the western part of Beijing with important functions of flood control, water supply and ecological services.

永定河与北京城的关系

Yongding River and Beijing City

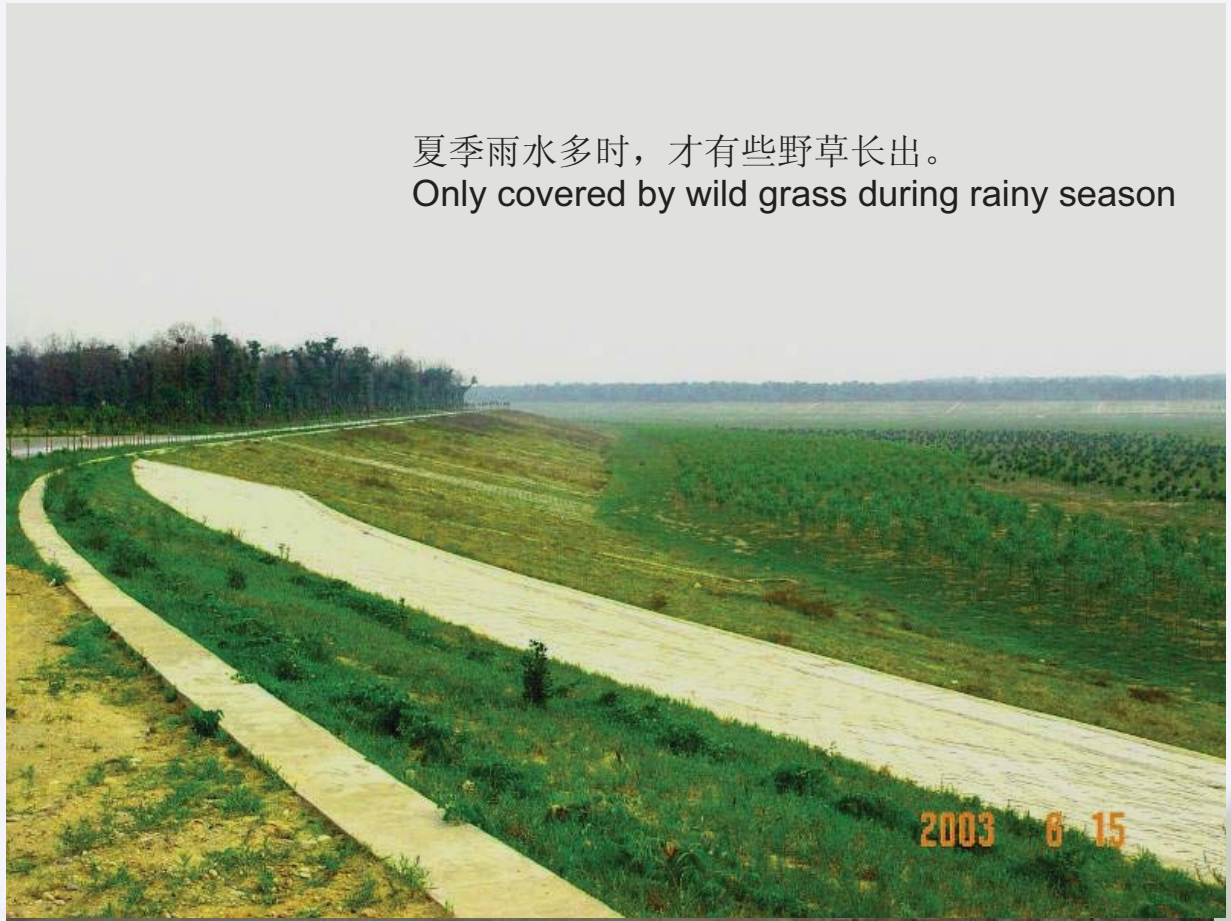


生态恶化 Ecological degradation

- 20世纪80年代以来，北京水资源紧缺，永定河有限的水资源几乎全部用于北京西部工业建设，使部分河道断流。
- From the 1980s, because of water shortage and industrial water use in western part of Beijing, parts of the river dried up.
- 因为挖沙，河道内形成了许多大大小小的沙坑。由于坑壁陡峭，植物无法生长，河床逐渐沙化，冬春季节，风沙弥漫。
- River bed dredging destroyed vegetation and caused sand storm in Spring.
- 随着沿岸地区经济的发展，入河污水排放量逐年增多，污染河道。永定河生态环境日趋恶劣。
- River polluted by waste water discharge.

2003年永定河——干涸、乱采沙石

Yongding River in 2003——Drying up and dredging



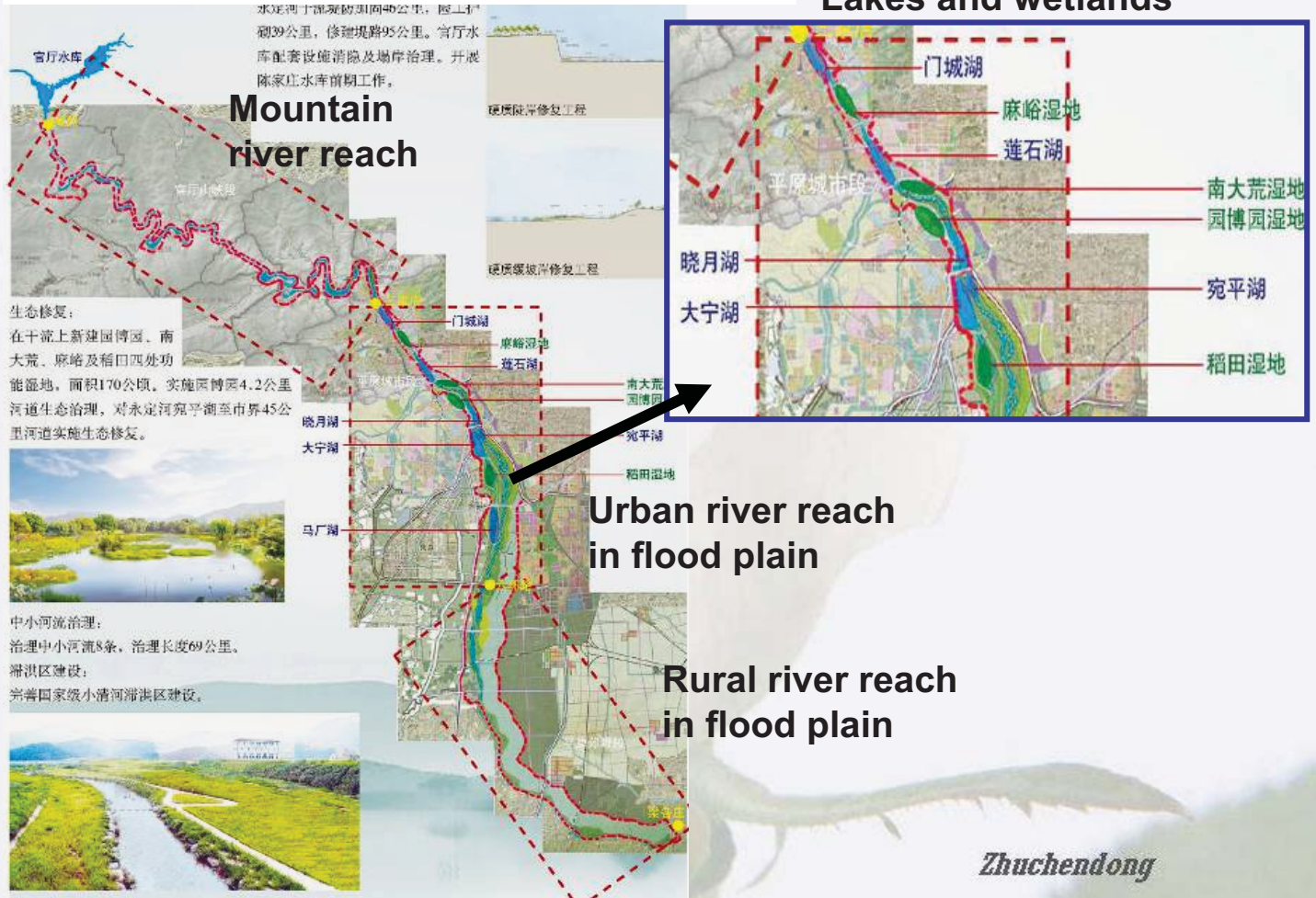
建设目标Objectives

- 2009年北京市政府提出：加快永定河绿色生态走廊建设，完成规划编制，实施河道治理和生态建设。
- Yongding River restoration was carried out from 2009, consists of planning, river channel construction and ecological restoration.
- 设计采用“生态补水型”的治理模式，通过优化调度水资源，增加河道蓄水，形成由溪流连通的湖泊和湿地，修复河流自然形态。形成6处湖泊，总面积680公顷；其中：串联湖泊的溪流长50公里，水面面积270公顷。
- By artificial water supply, 6 lakes(6.8km²) connected by water flow(50km,2.7km²) would be formed in urban river reach.
- 结合绿地规划，利用两岸滩地、护堤地及城市滨河带，建设10大主题公园；为市民休闲、体育健身、垂钓嬉水提供场所，实现河流与市民间的相互融合。
- Combined with green land plan, making use of riparian areas, 10 theme parks would be built for relaxation, physical fitness, fishing,etc.

永定河绿色生态走廊建设工程

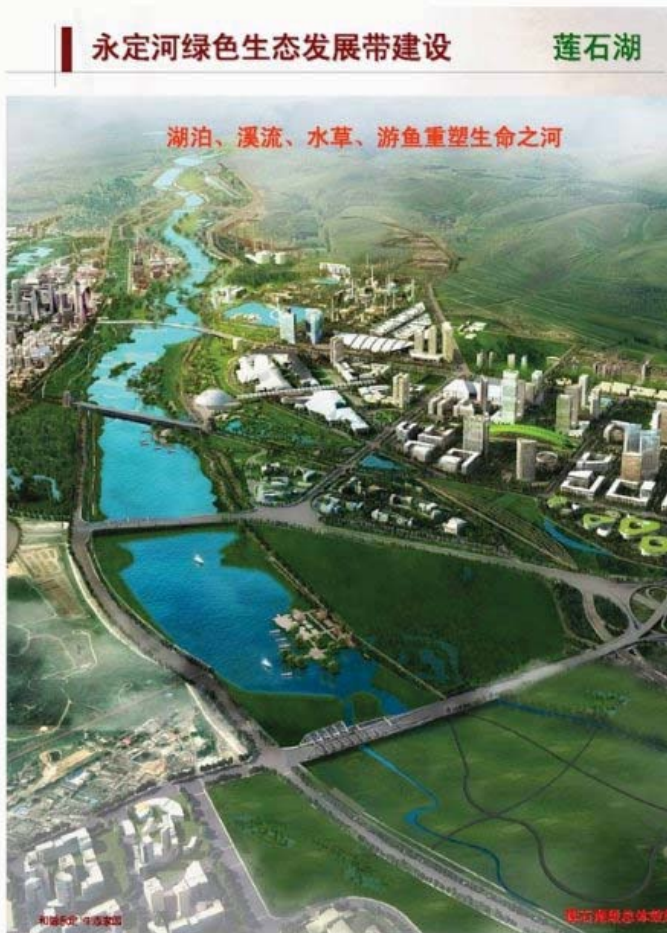
Yongding River Restoration Project

Lakes and wetlands

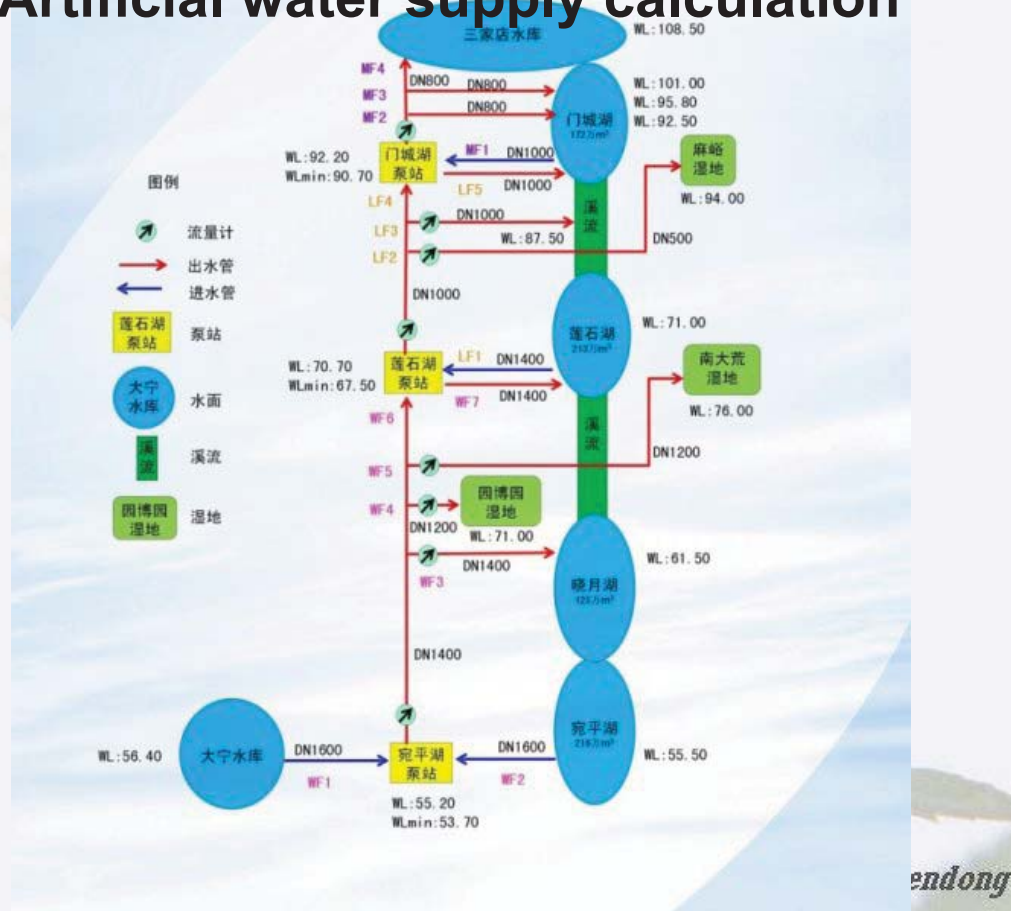


Lianshi Lake

Wanping Lake

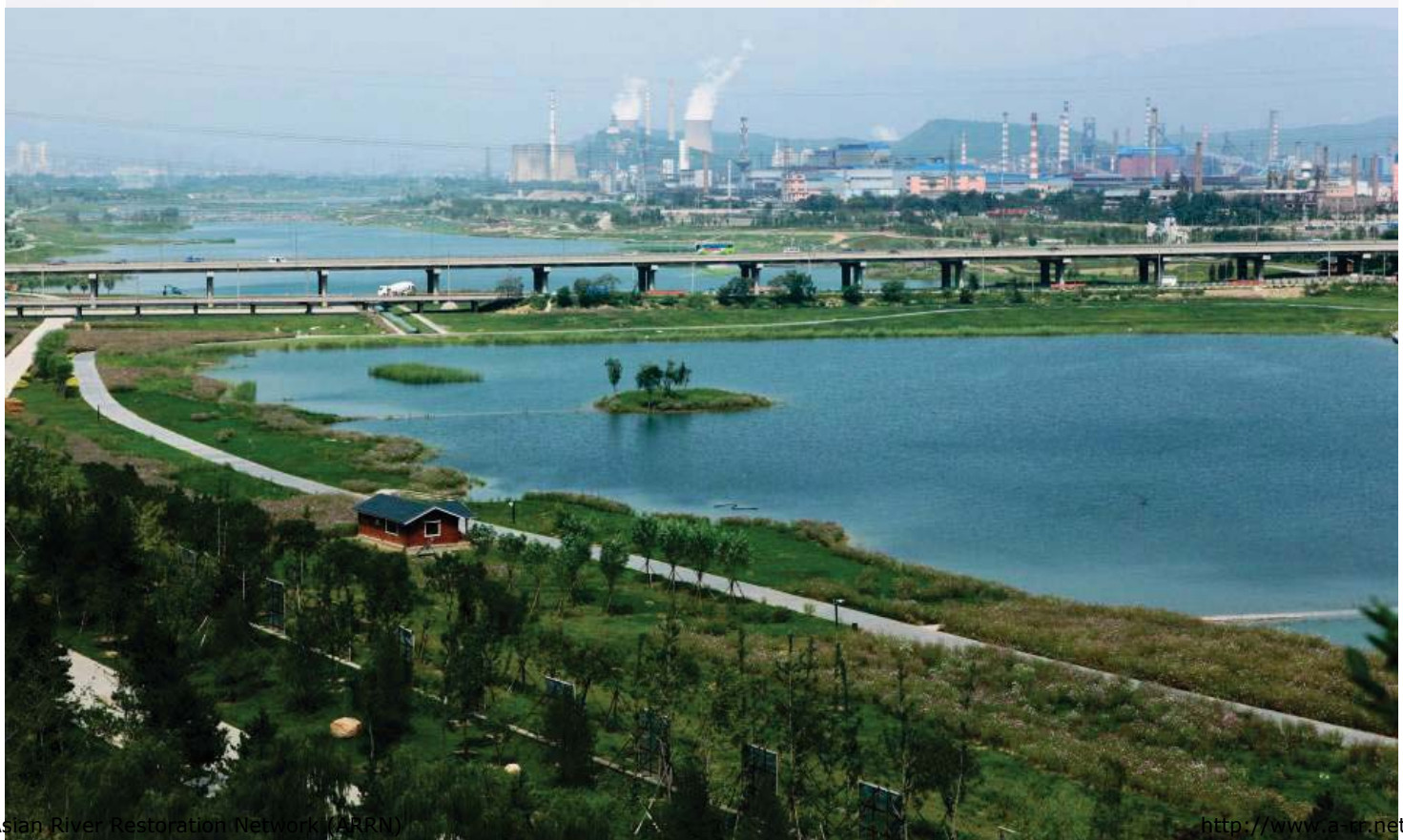


永定河配水水量计算 Artificial water supply calculation



endong

2009年规划，2010年开工，2011年河道见水
Planned in 2009, Project began from 2010, lakes appeared in 2011



莲石湖Lianshi Lake



晓月湖Xiaoyue Lake



永定河晓月湖

宛平湖Wanping Lake

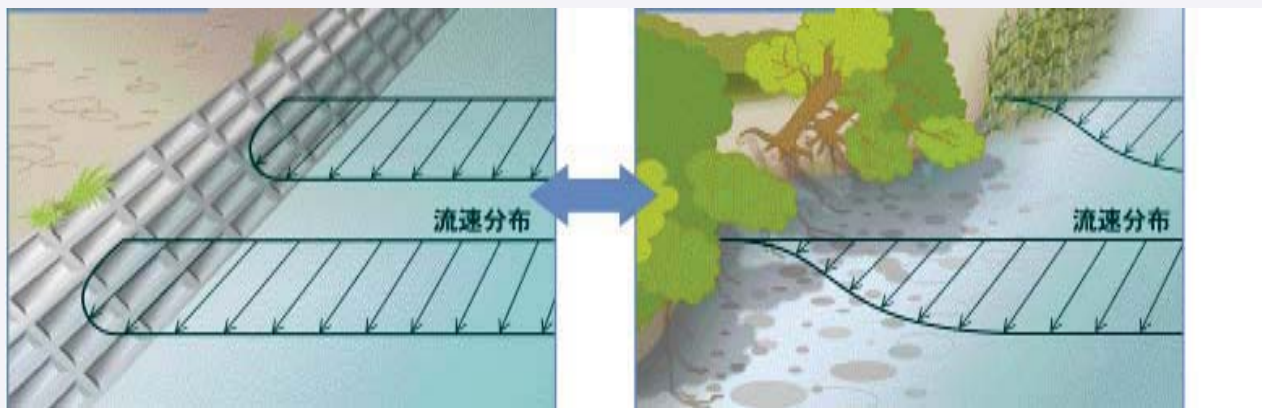


【由死变活 由污变清】
Restoring water flow and water quality



【由直变弯】

From straight to meandering



【由硬变软】

From artificial to natural



【以小见大 以柔克刚】

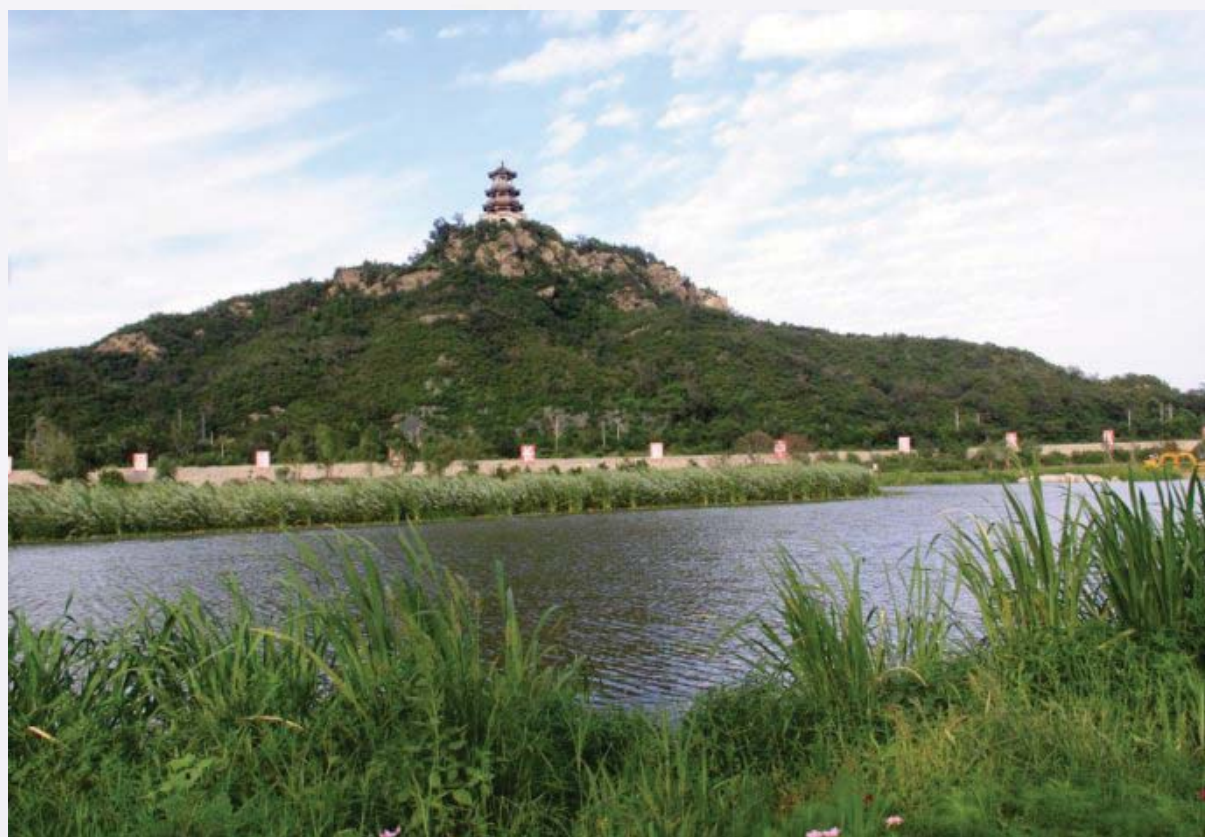
From hard to flexible



Zhuchendong

【以水带绿 以绿净水】

Vegetation supported by water, Water purified by vegetation



Zhuchendong

【丰水多蓄 水少多绿】

Storing water in rainy season, maintaining vegetation in dry season



【水退草丰 水绿相间】

River corridor covered with water and vegetation



【融入自然】

Integrated into nature



【自行车】 Bicycle path



【休闲】 Leisure



【放生】 Free captive animals



【露营】 Camp



【泛舟】 Boating



【赏月】 Enjoy the moon light



Zhuchendong

应用有关“风水”的理念 模拟自然界的水系形态

Applying traditional geomancy concept to simulate natural river morphology



之玄如织：意思是河网像织布的经纬线，交叉、密集。

Intensive river network

回环曲引：意思是河道要自然缓和弯曲，不要顺直，不要急弯。

Gentle river bend, not straight and sharp bend

<http://www.a-rr.net/>



【回环区引】 Meandering water front



【绕抱有情】 Meandering water front



【自然跌水】 Multiple water falls



【纵向连通】

Hydrological continuity between upstream and downstream



【横向连通 竖向连通】

Lateral and vertical hydrological continuity



【河床修复 滩地修复】

Restoring river bed and riparian area



【水鸟的家园】

Habitat for water bird



【堤防修复 睡堤唤醒】

More natural embankment

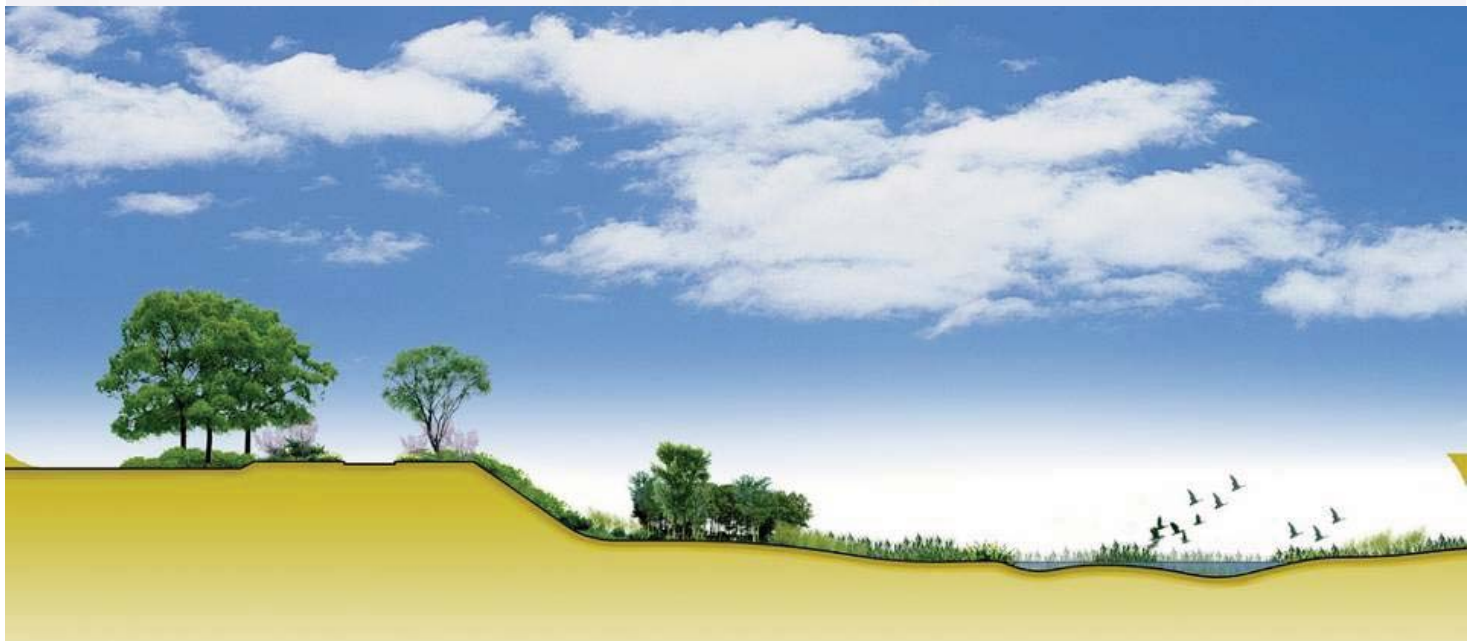


【自然景观 亲水设计】 Natural landscape water front design



Zhuchendong

【安全生态 润物无声】 Safe and more natural



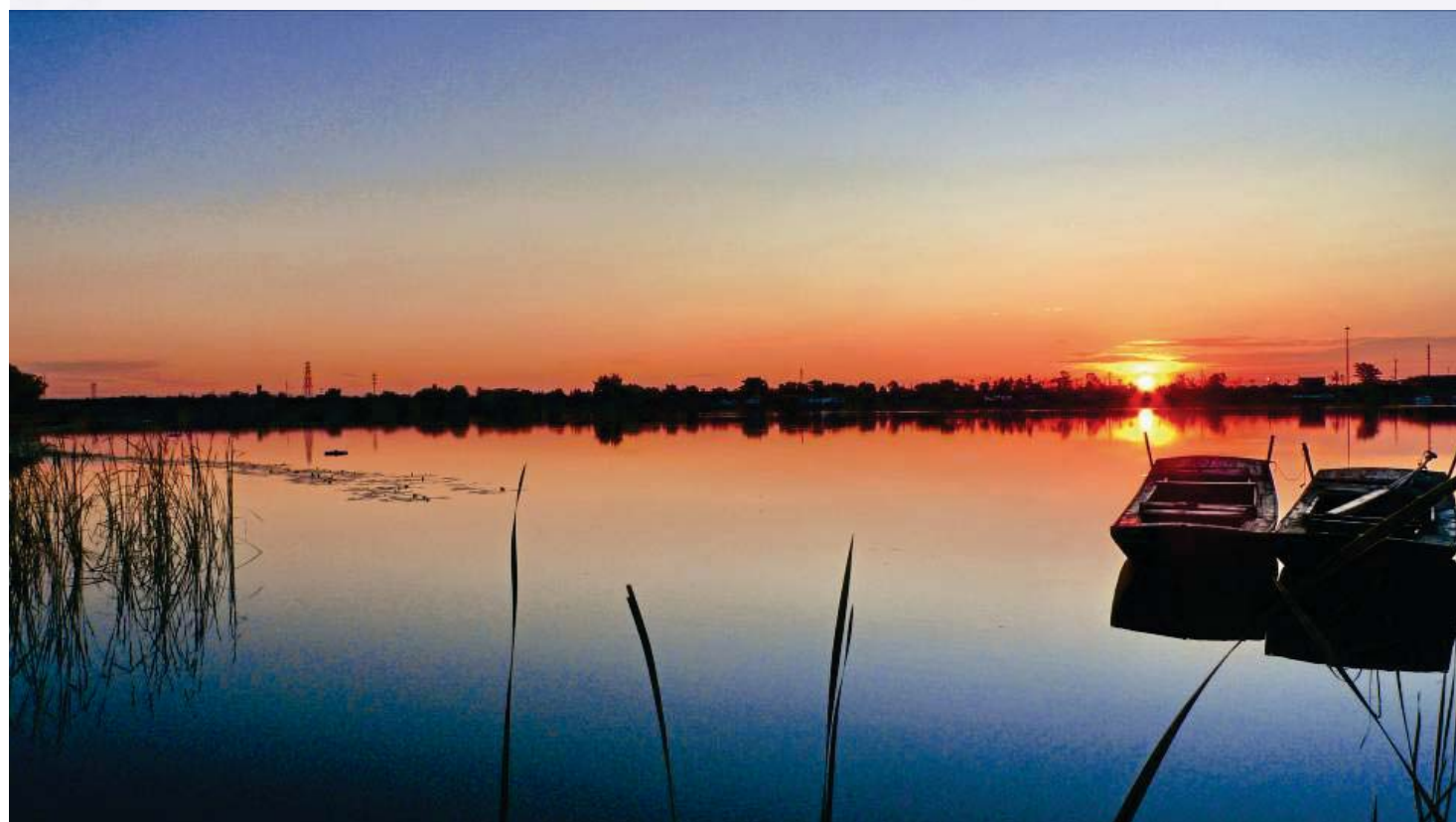
Zhuchendong

【和谐永定 绿色家园】 Harmony and green homeland



Zhuchendong

【你的梦 我的梦 梦之河】 River in our dream



Zhuchendong

【走进你 亲近你 呵护你】

Getting close to the river, caring the river



【我们爱你 我们的母亲河】

We love you Our mother river



An abstract graphic of a blue liquid wave flowing from the left side of the slide towards the right. The wave has a dark blue core and lighter blue outer edges, creating a sense of movement and depth. It is set against a light blue background.

感谢您！
Thank you!

Email: zhuchendong831@sina.com