



Urban Wetlands in Beijing, China

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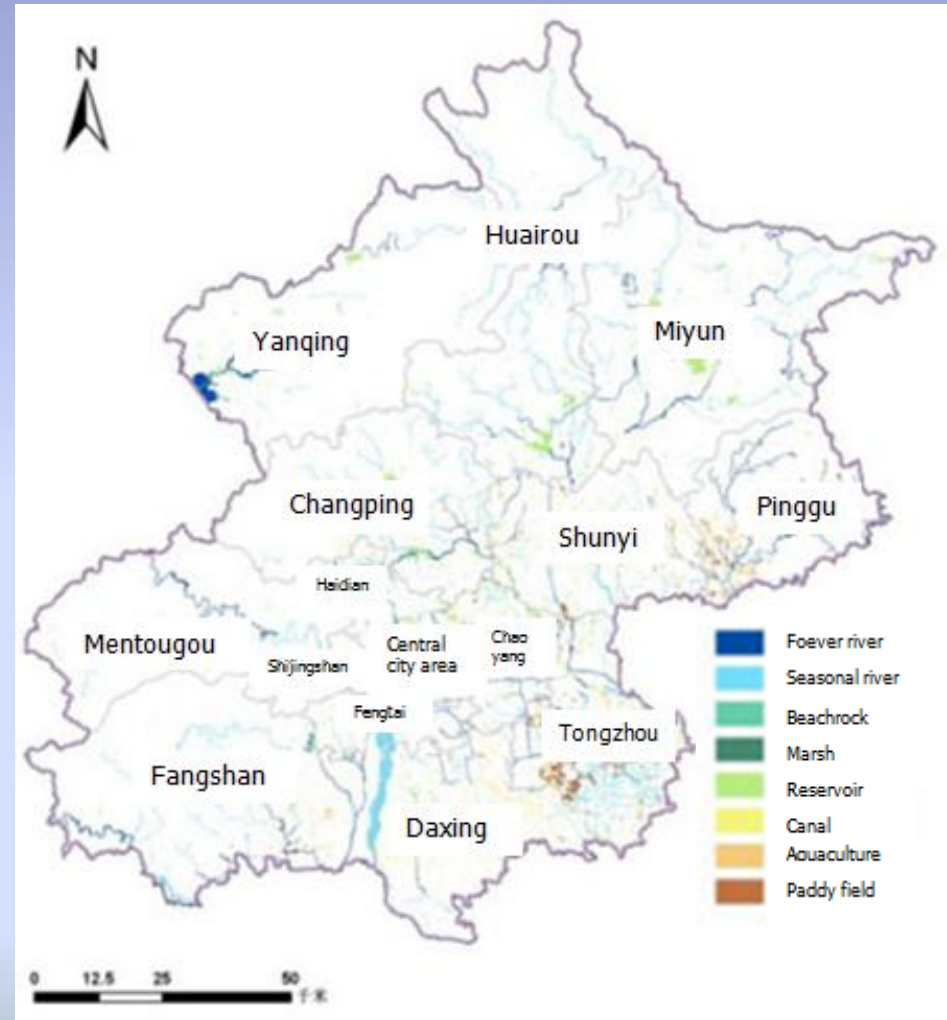
- Introduction of Beijing
- Different types of wetlands in Beijing
- Olympic Park
- The outline of Olympic Park
- Olympic Forest Park

Beijing



Wetlands in Beijing

- Natural wetlands
 - Riverine wetland
 - Natural lake
- Constructed wetlands
 - Water reservoirs
 - Lake Parks
 - Artificial channels



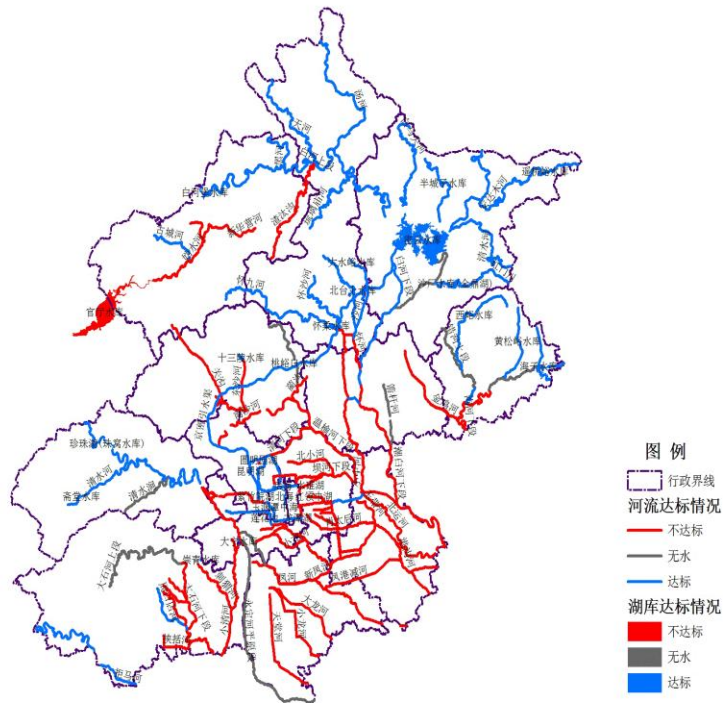
River wetlands



Yongding River

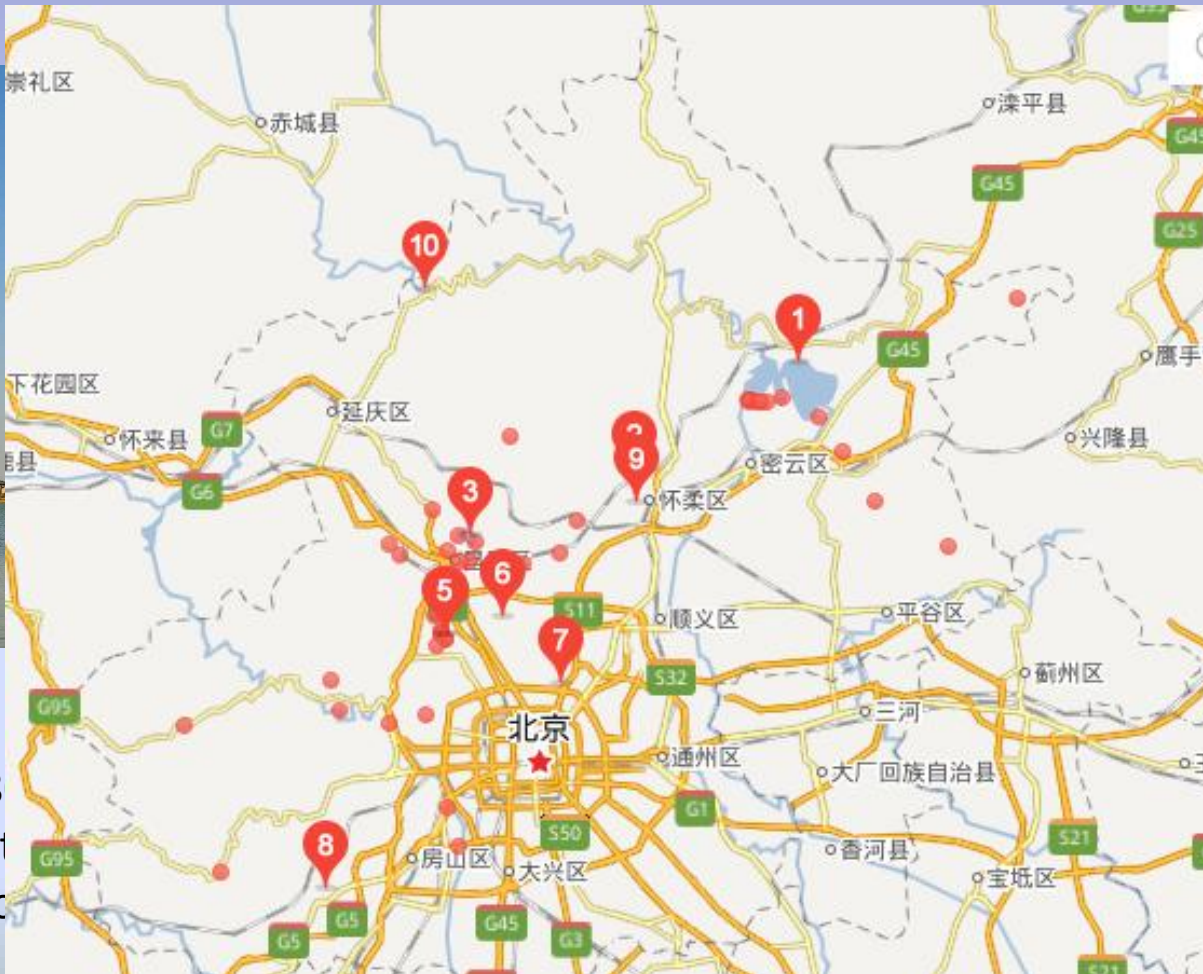


Juma River



Water quality map of river water in Beijing

The reservoir wetland



汇图网 www.huitu.com

Area:28
Water s
Flood co

n reservoir
ometre
billion cube
water source in Beijing

Reservoirs in Beijing

Lake wetlands



The Summer Palace



Wild Duck Lake
Area: 8000 ha



Green Lake
Area: 700 ha

Artificial channels

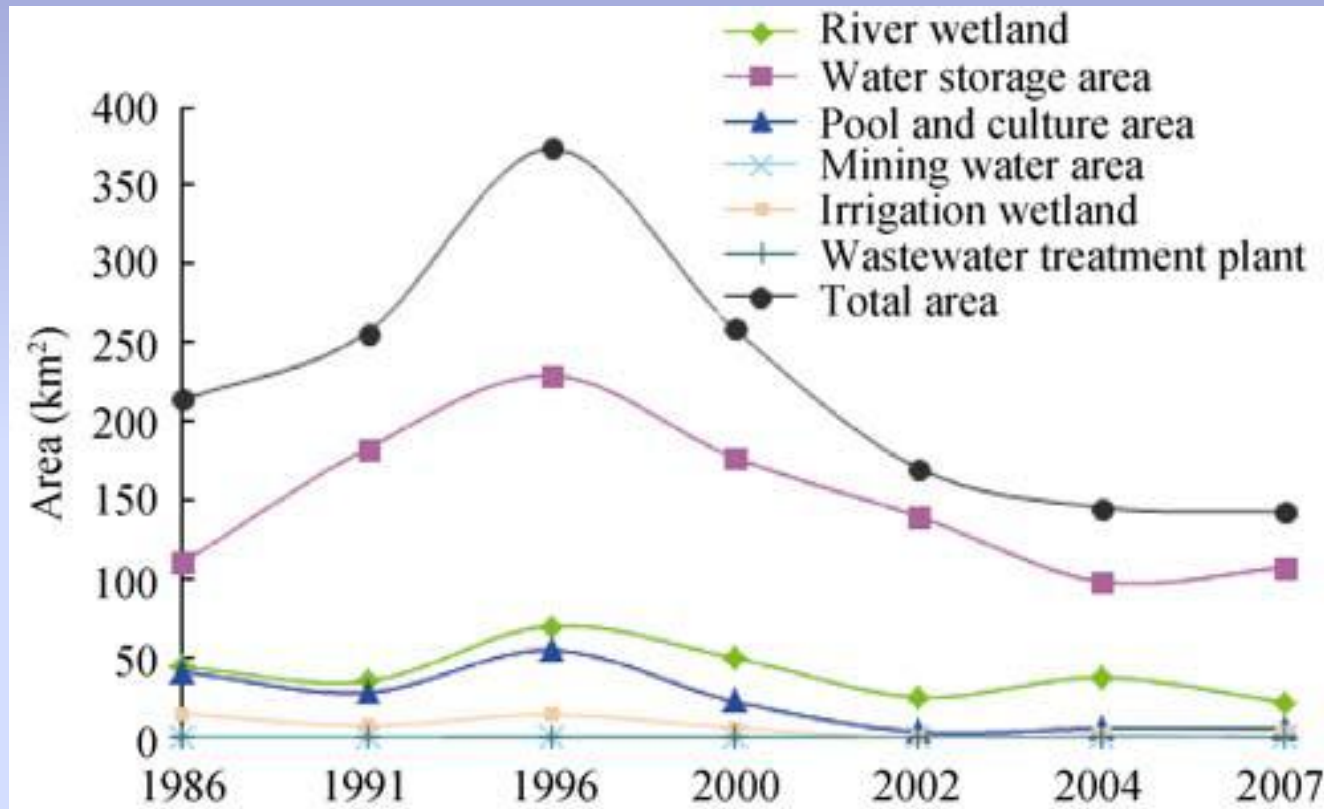


Tongzhou Canal
The longest artificial
river in the world

Beijing moat
Built in Yuan dynasty
Drainage, transportation



The area change of various wetlands in Beijing from 1986 to 2007



Wetland Reserve

- Build nature reserve
- Restoration and constructed wetlands
- Real-time monitoring and adjust protective measures
- Popularization of wetland culture
- Launch wetland conservation activities

Olympic Park

— — The Axis to Nature

Dragon-shaped Water System

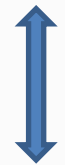
- Olympic Forest Park
- Central Part
- Olympic sports center

地理位置 Location

位置：中国北京市朝阳区
面积：11.59 km²



Nature

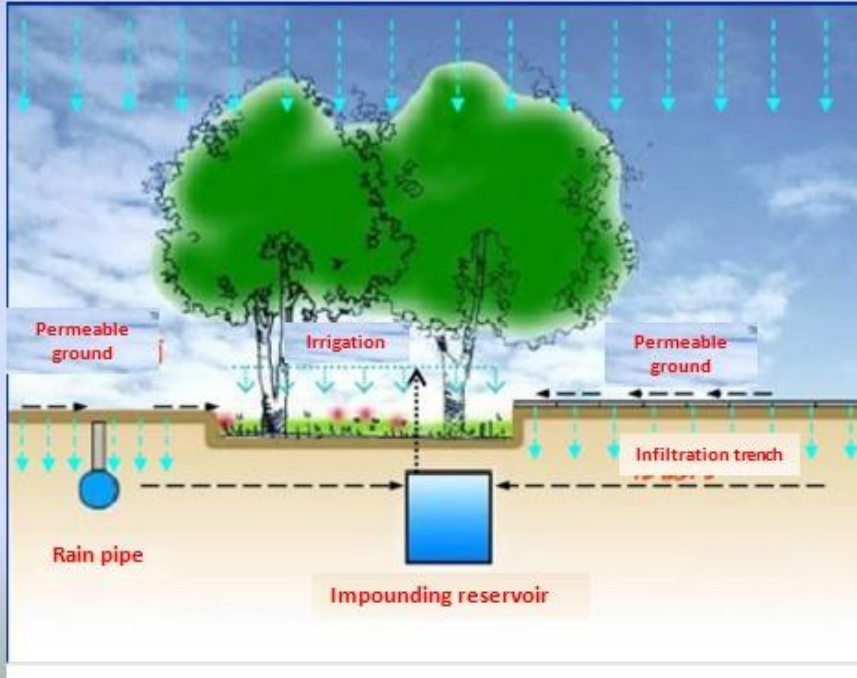
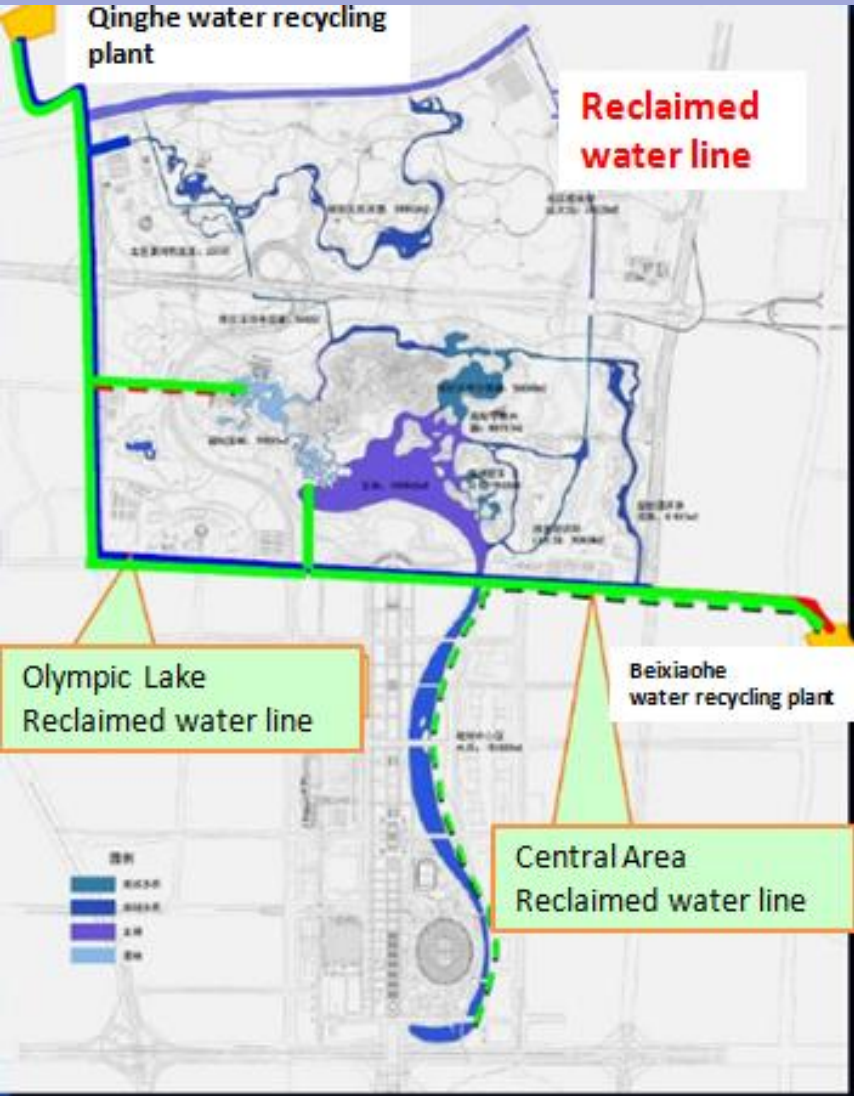


City

奥林匹克公园总体规划图

奥林匹克公园控制性详细规划

Water cycle system of Olympic Park



Circulation of rainwater

Water purification and maintenance in central area



Construction of the sediment microorganism system

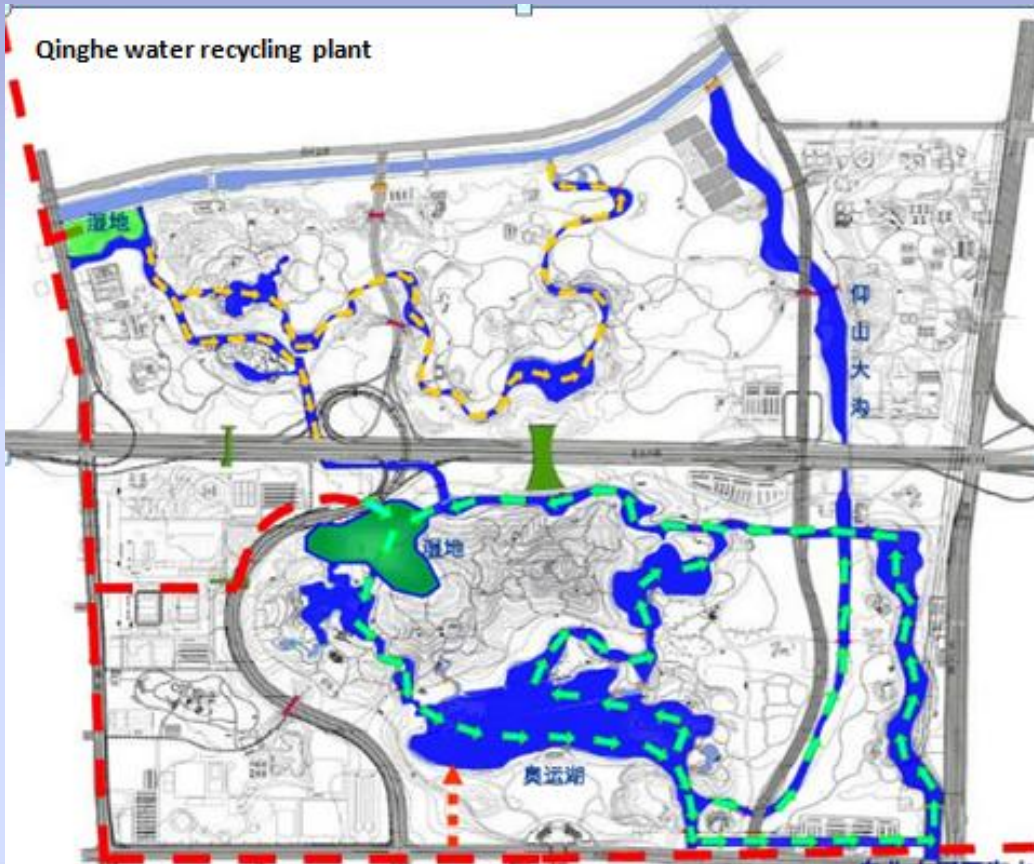


The introduction and solidification of microbiome:

Artificial seaweeds

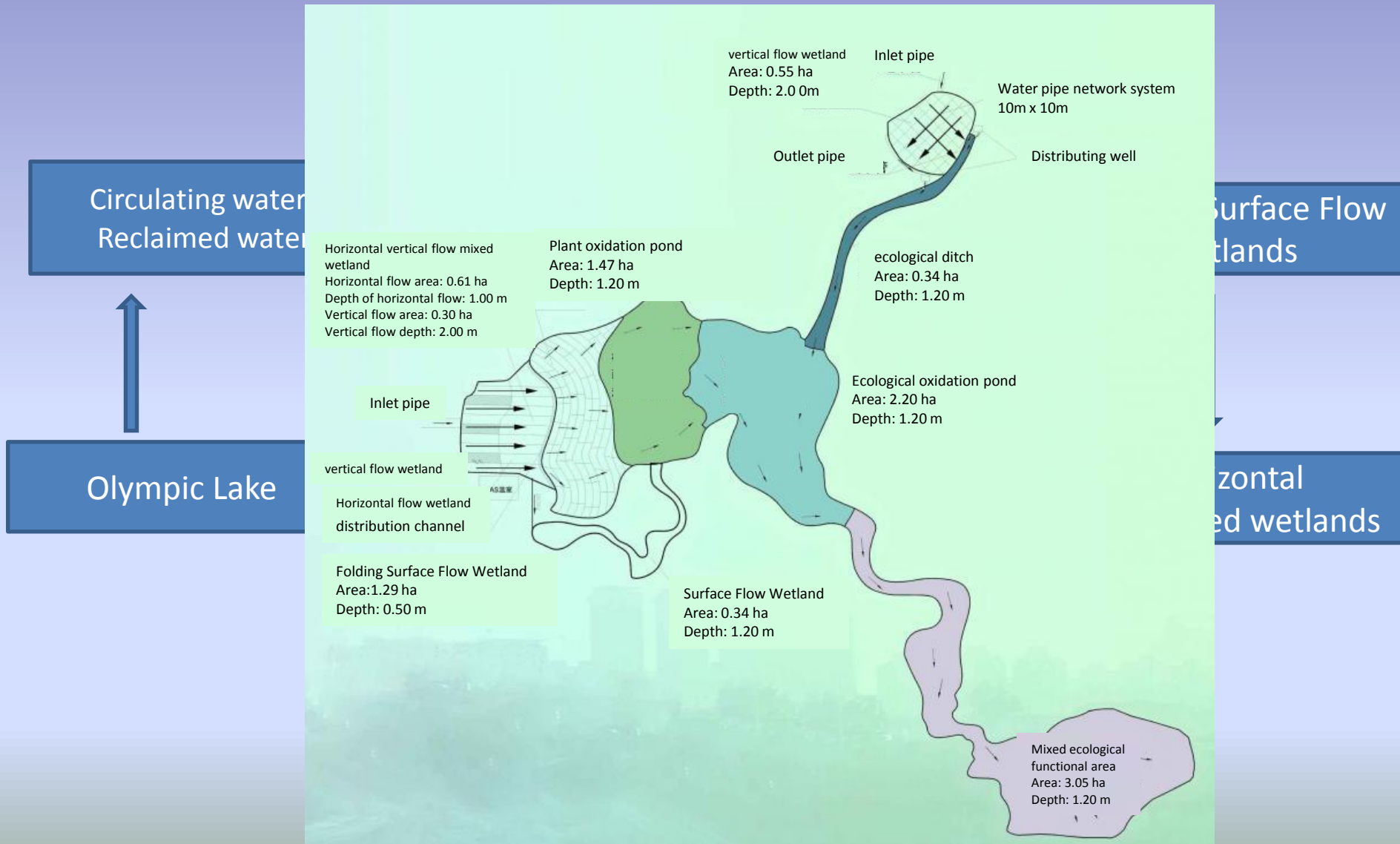
Cellular biological filler

Water purification and maintenance in Olympic Forest Park

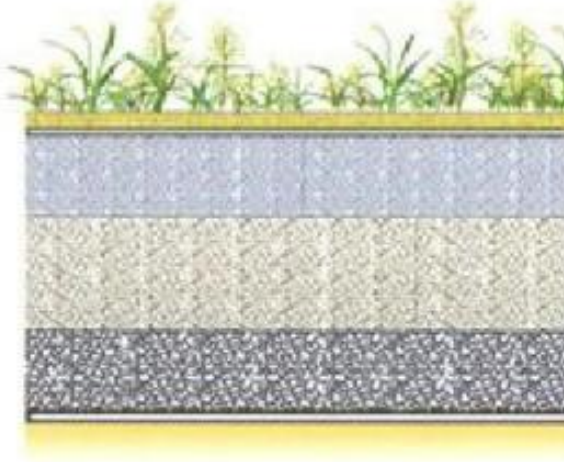
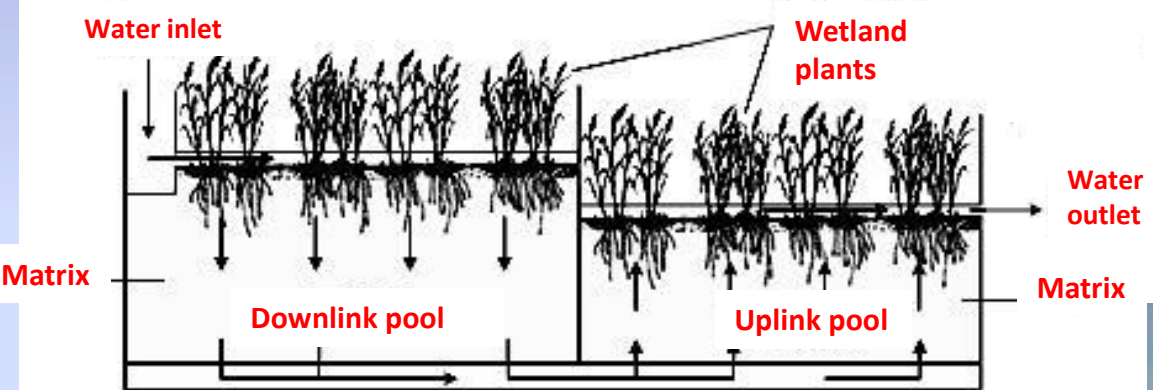


Circulation of water in Olympic Forest Park

Complex ecological water treatment system



Integrated vertical-flow constructed wetland



- Wetland plants
- Gravel: 4-8mm
- Ceramsite: 8-16mm
- Pebble: 8-16mm



Subsurface Flow Constructed Wetland



Olympic Lake



Animals in Olympic park



Aquatic animals through its respiratory tract, digestive tract, skin and other ways to **absorb water pollutants**, the purification of water quality plays an important role.

establish a coordinated "food chain" with protozoa, plankton, zoobenthos, bacteria and algae in the water **to form a complex ecosystem**. Strengthen the water quality, but also can reduce the water algae content

Aquatic plants in Olympic park

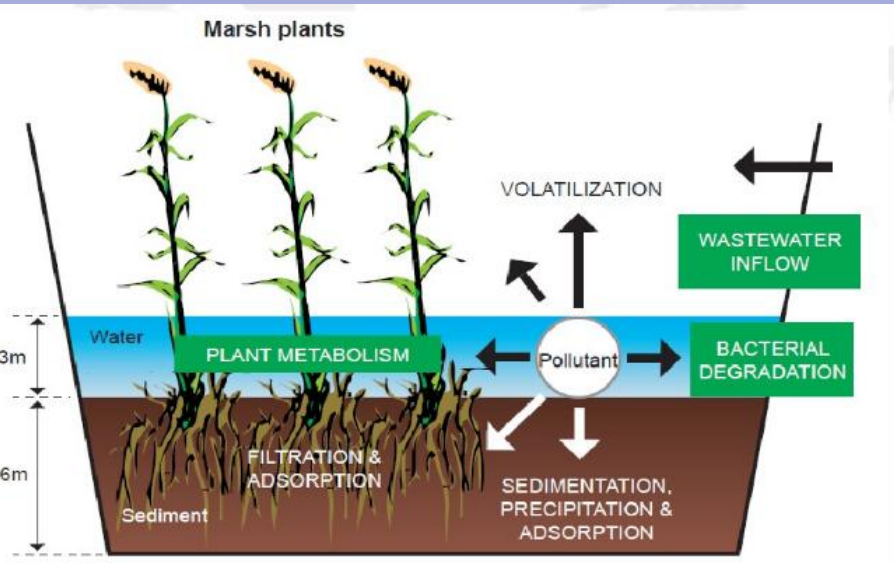


Photo by Tammy | 5Dmark11
<http://zzwn815.blog.sohu.com>

substrate—microorganism—plants system

Precipitation, adsorption, filtering, dissolve, fungal decomposition, biological transformation and metals absorption

Submerged plants



Algae has good effects on the removal of organic pollution and nitrogen.

Hornwort: removal of organics and nitrogen

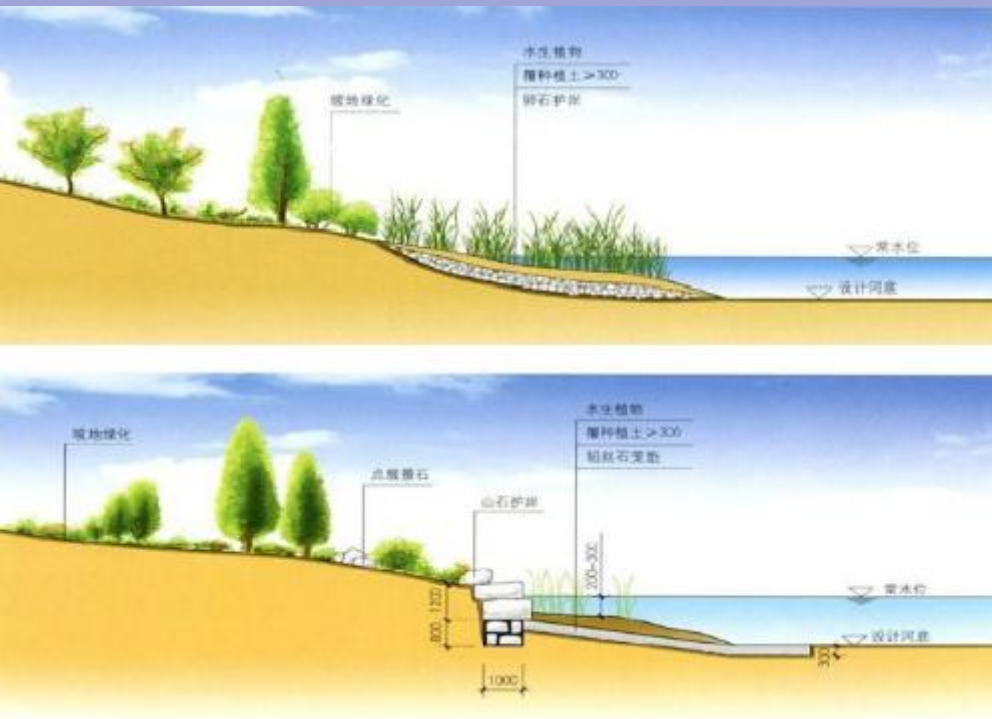
Watermifoil: removal of ammonia and phosphate in water

Hydrilla: use of Rds-p and RSP

The effect of artificial wetland on the removal of pollutants

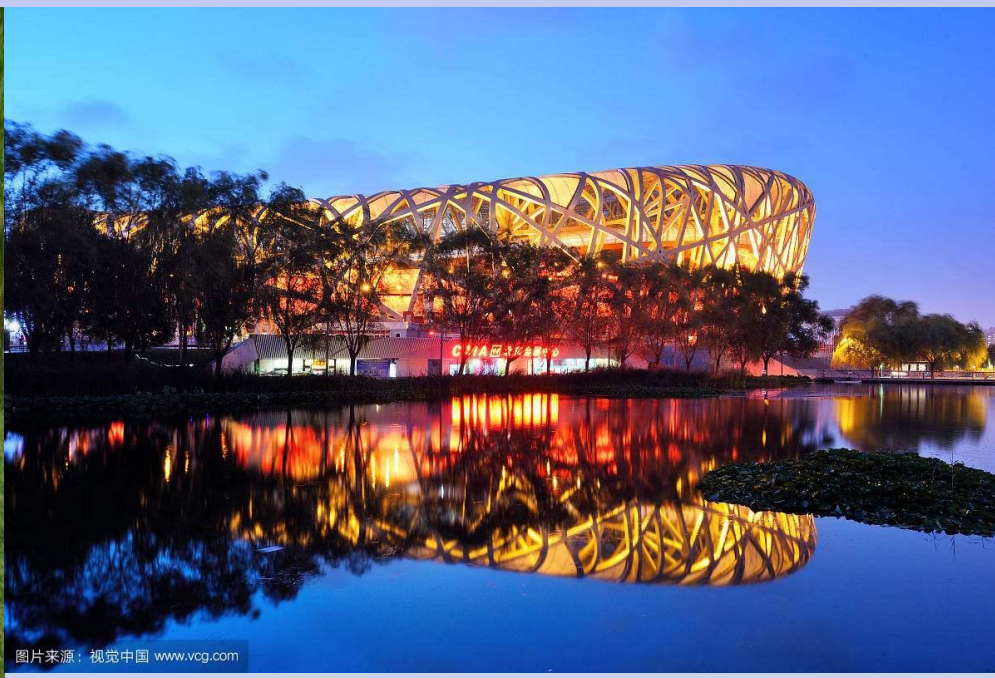
Water quality index	pH	BOD	COD	TN	NH ₃ -N	TP
wetland reclaimed water inflow			30	8.0	1.5	0.3
wetland reclaimed water outflow			20	3.2	0.6	0.12
Wetland cycling water inflow	8.29	3.14	19.91	2.11	0.236	0.13
Wetland cycling water outflow	8.25	<2	14.44	0.45	0.097	0.067
Wetland mixed outflow water			16.46	1.25	0.6	0.08
Designed lake water quality			20	1.5	0.8	0.1
Surface water quality standard(IV)	6-9	≤6	≤30	≤1.5	≤1.5	≤1.0
Surface water quality standard(III)	6-9	≤4	≤20	≤1.0	≤1.0	≤0.05

Ecological embankment



Ecological embankment materials: plants, stone, wood-imitation materials, ecological bricks, polypropylene ecological bags and so on.





Thank you for your attention

Welcome to China

