

THE BLUE PRAY of EXPO 2024

From Jiangxi River comprehensive management to water landscape system construction of International Horticultural Exhibition 2024 Chengdu

Jiangxi River Basin

The EXPO SITE

Tian Fu
International Airport

Sancha Lake

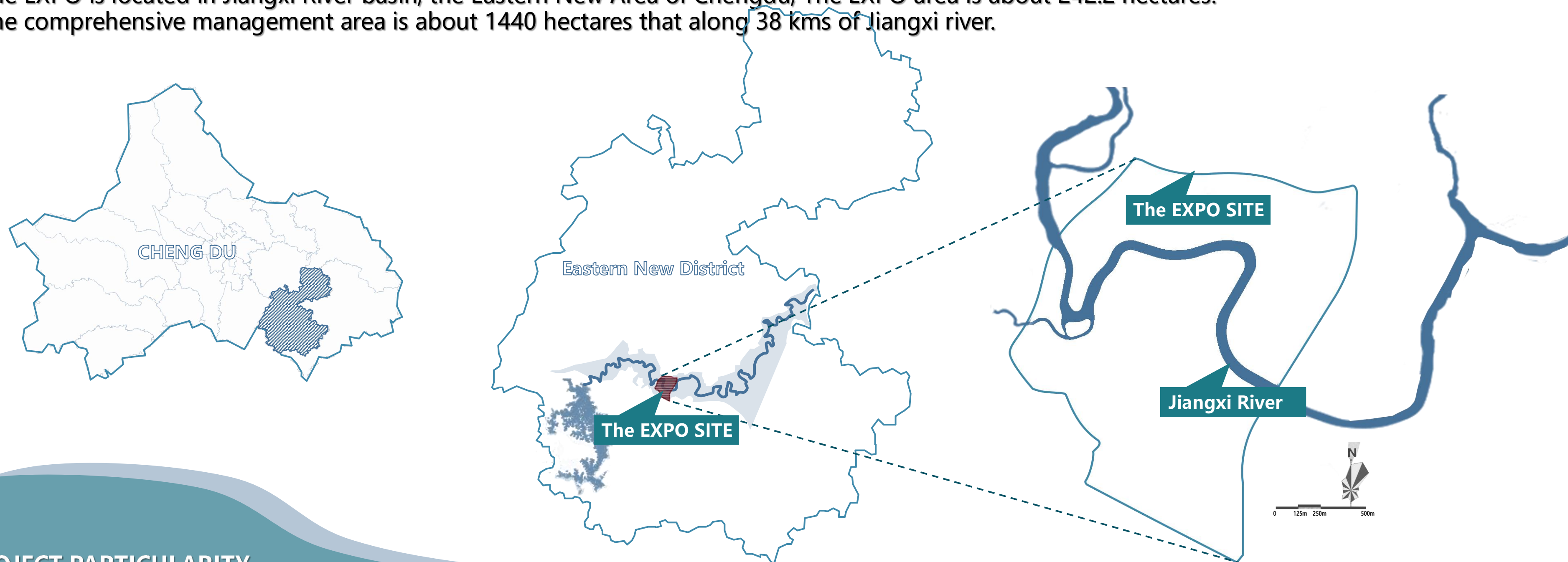
EXPO CHENGDU 2024





BACKGROUND

The EXPO is located in Jiangxi River basin, the Eastern New Area of Chengdu, The EXPO area is about 242.2 hectares. The comprehensive management area is about 1440 hectares that along 38 kms of Jiangxi river.



PROJECT PARTICULARITY

- ◎ The only Expo to be held along the both sides of a river.
- ◎ The Expo that can witness the growth of a new urban area of Chengdu.
- ◎ The Expo that can set high-quality of construction standard of blue and green cultural space of the Park city.



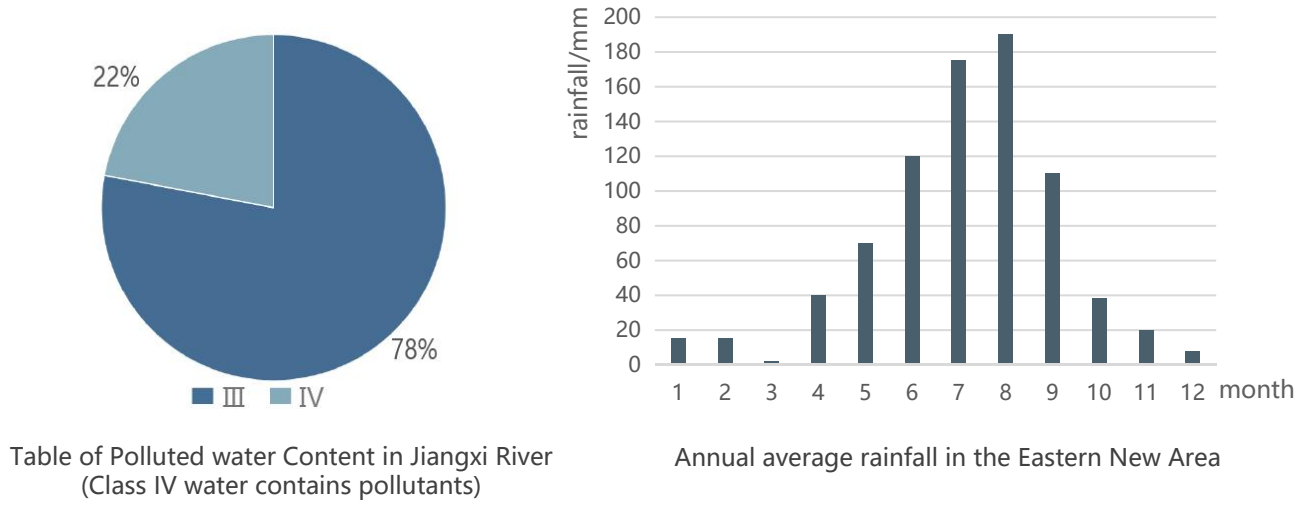
CURRENT SITUATION

Q1: Poorly managed water environment

- Flood Hazard**
The flood control standard of Jiangxi River is about once every 5 to 20 years, which is far from the standard of once every 100 years.
- Water Pollution**
Because of poor managed non-point pollution from surrounding towns and villages, The current water quality of Jiangxi River is poor. The turbidity of the River is high because of its high sediment content
- Water-level Fluctuation**
The seasonal variation of regional rainfall is obvious, so it is difficult to guarantee the water consumption of the EXPO except in rainy season.

Q2: Unfulfilled ecological potential

- Soil erosion problems exists along the river because of poorly regulated forest and farmland.
- The concrete revetment of the river blocks biological migration between aquatic and terrestrial habitats and is not conducive to biodiversity.



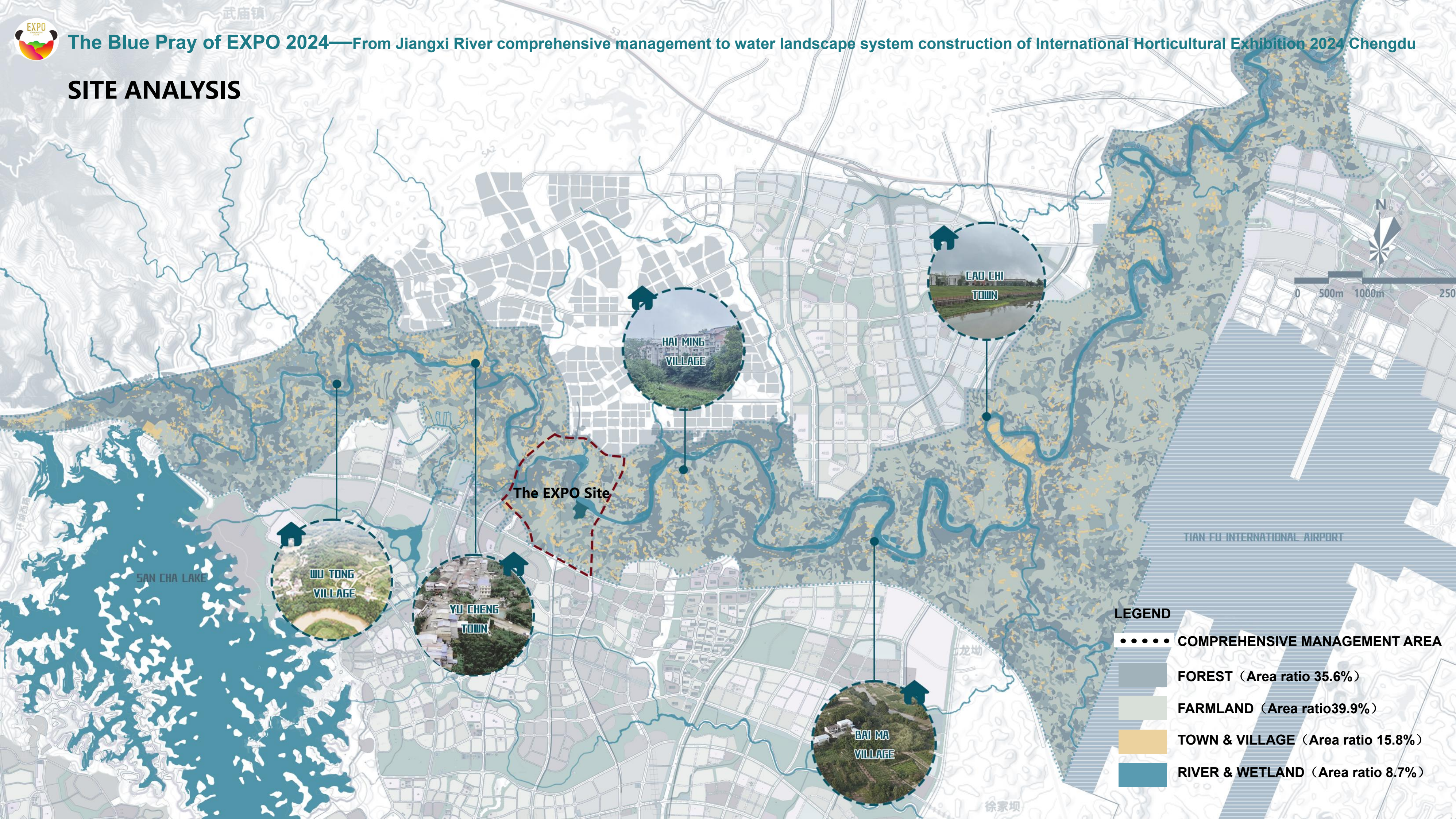
Q3: Unactivated socioeconomic values

- The humanistic value of the river has not been reflected due to low social attention.
- The long-term management measures for the whole river basin have not been formed.
- The development of the river is not closely related to the urban development of Chengdu Eastern New Area.





SITE ANALYSIS



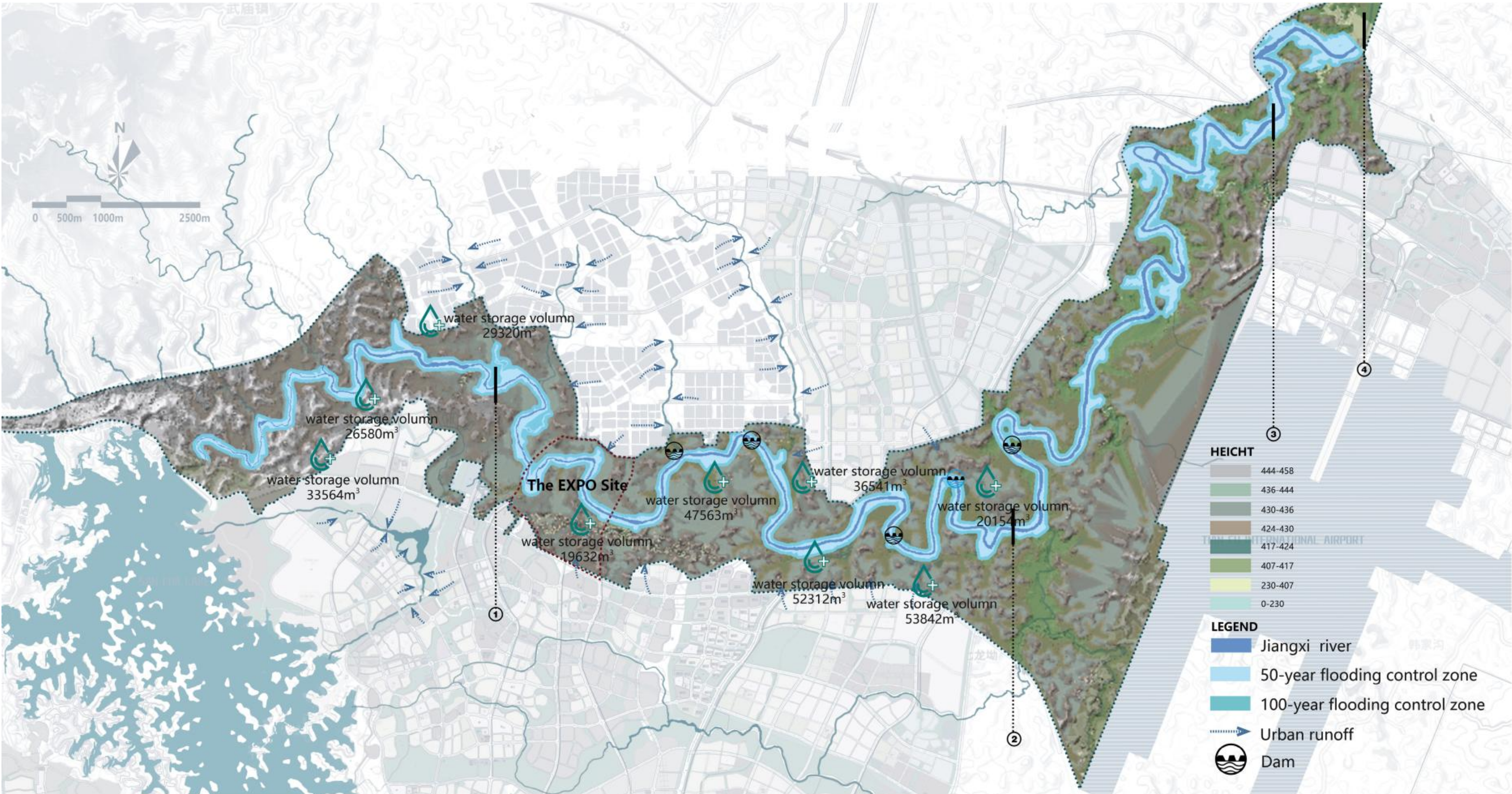
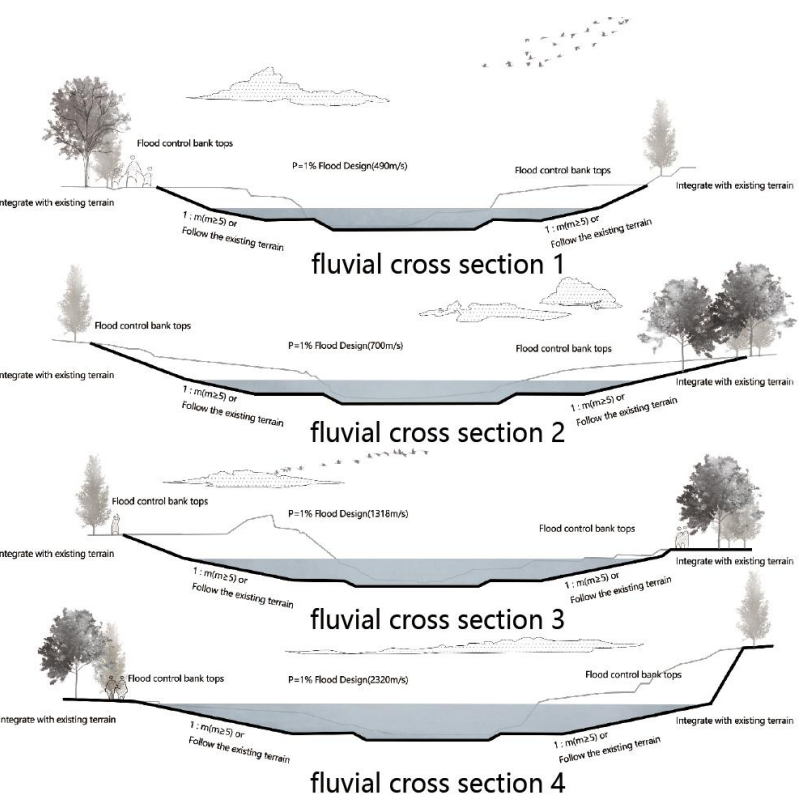


STRATEGY 1: ECOLOGICAL GOVERNANCE OF JIANGXI RIVER BASIN

ENSURE WATER SECURITY

Flood management

Divide the flood control area and ensure that the daily activity area is set outside the flood area; Instead of hardening the river course, the ecological section of flood control is adopted. The green partition controlled by planning is used to reserve a large flood space to form a natural flood buffer.



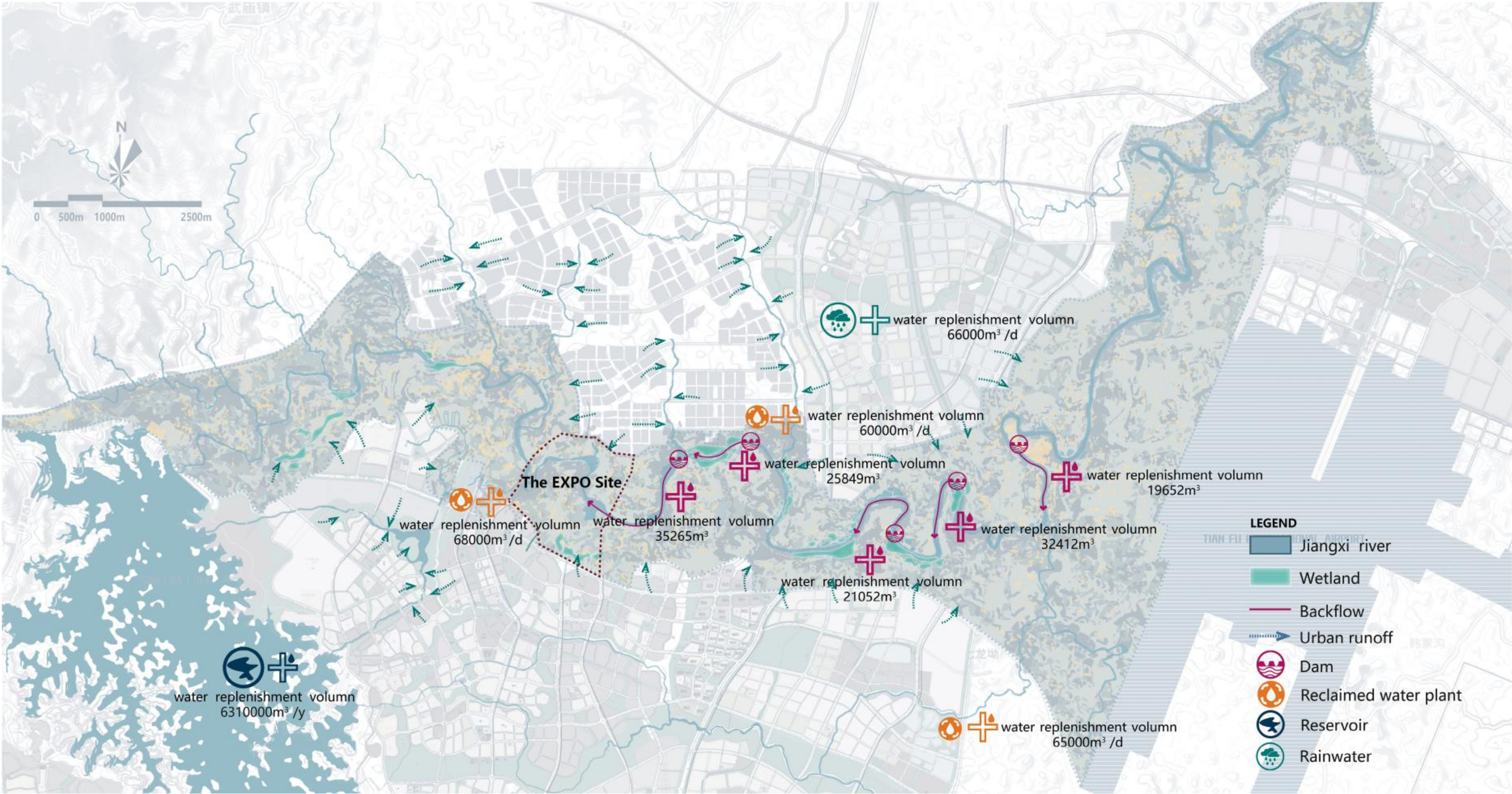
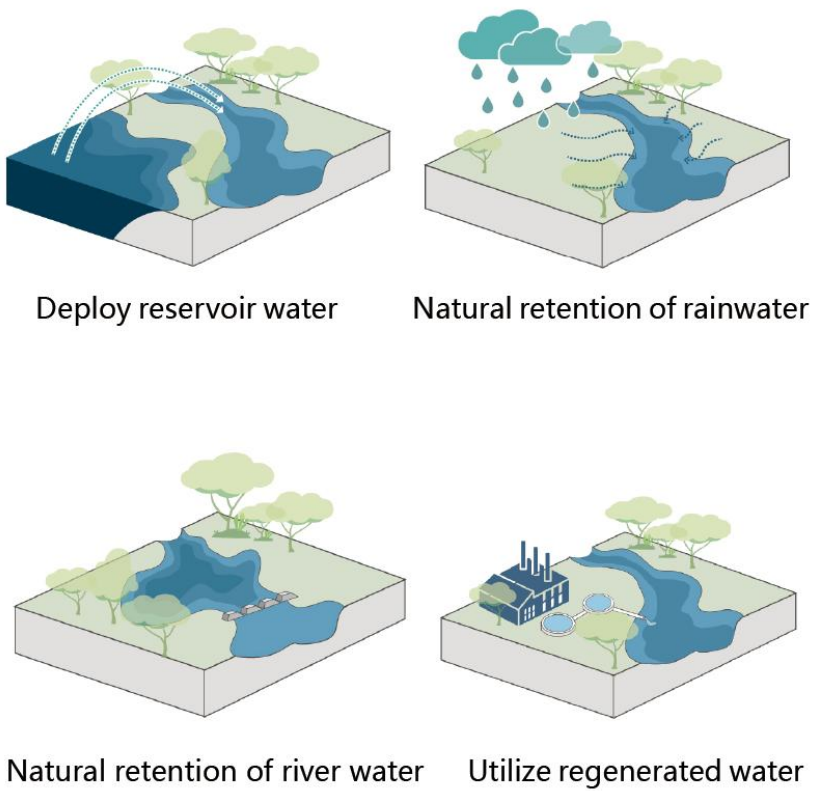


STRATEGY 1: ECOLOGICAL GOVERNANCE OF JIANGXI RIVER BASIN

ENSURE WATER SECURITY

Water resources allocation

Through different strategies to utilize different kinds of water resources to guarantee the irrigation and landscape water for the Expo.





STRATEGY 1: ECOLOGICAL GOVERNANCE OF JIANGXI RIVER BASIN

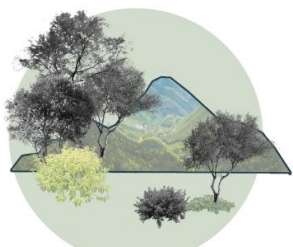
◎IMPROVE WATER ENVIRONMENT

● Environmental management

For the surrounding towns and villages, different environmental management measures shall be implemented according to the different ecological impacts and development modes.



•Strengthen soil erosion control
•Afforestation of barren beaches



Cultivate forests to strengthen natural resilience



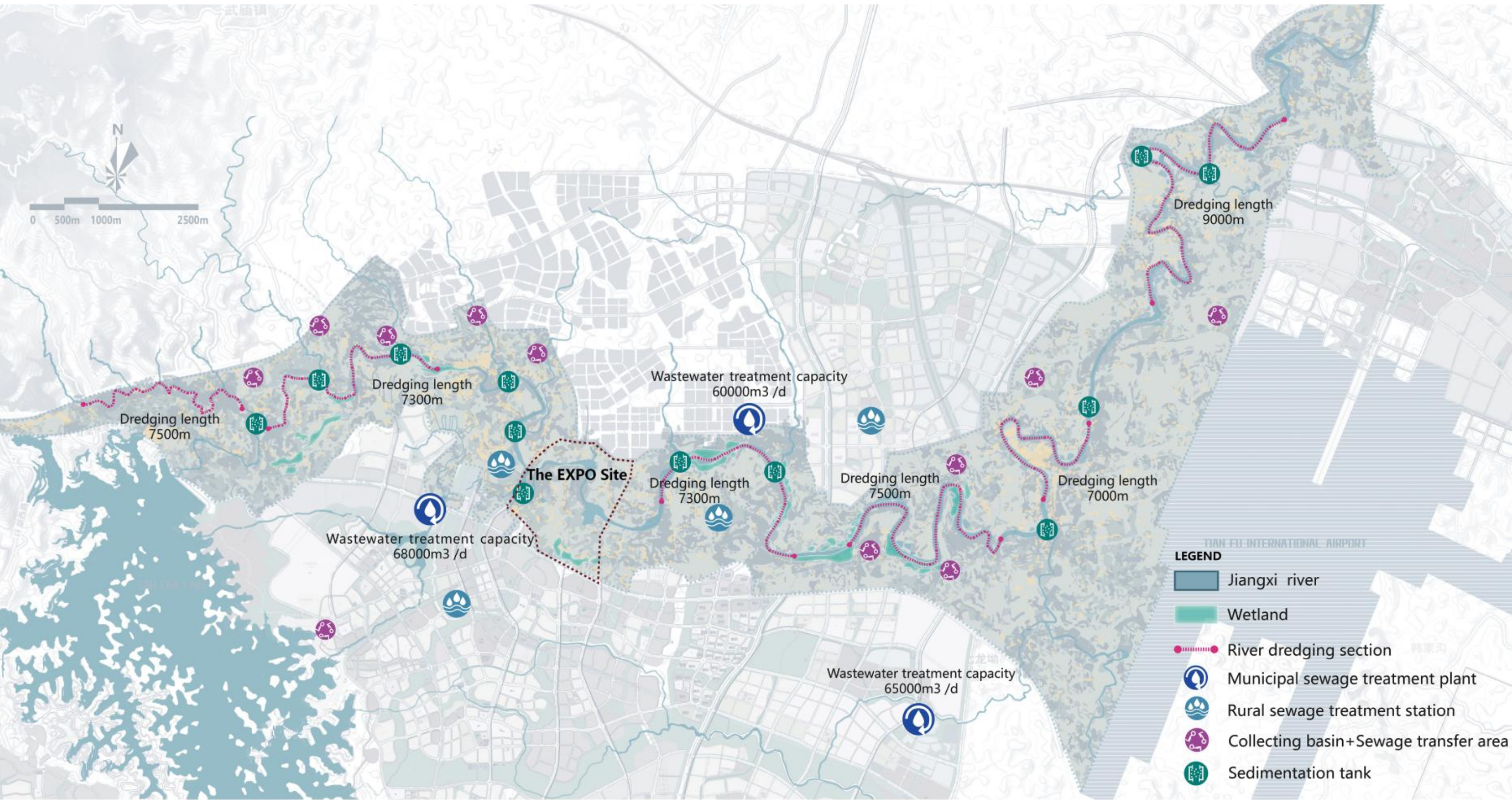
Unauthorized reclamation, logging and other acts that destroy the ecological environment are strictly prohibited



Necessary construction activities should be strictly regulated to avoid ecological damage.

● Non-point source pollution cont

Utilize sewerage network systems and sewage treatment plants,wetlands,rainwater gardens and other facilities to solve non-point sources pollution from urban , towns and villages along the riverside.



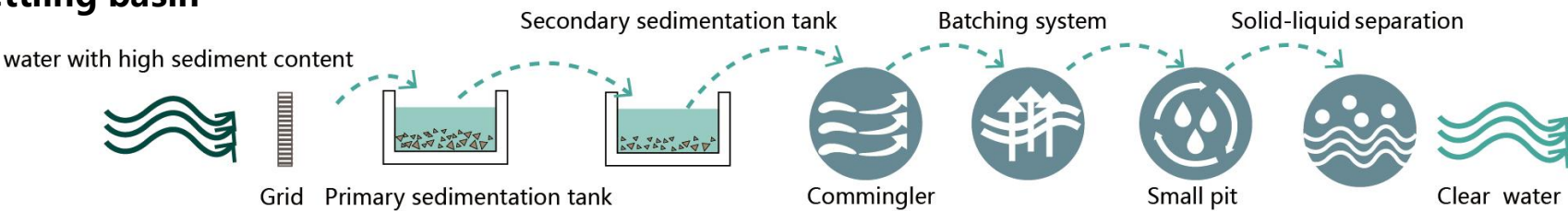


STRATEGY 1: ECOLOGICAL GOVERNANCE OF JIANGXI RIVER BASIN

IMPROVE WATER ENVIRONMENT

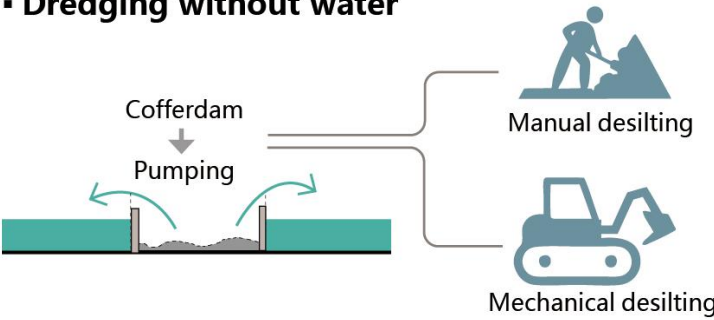
Water turbidity control

Settling basin

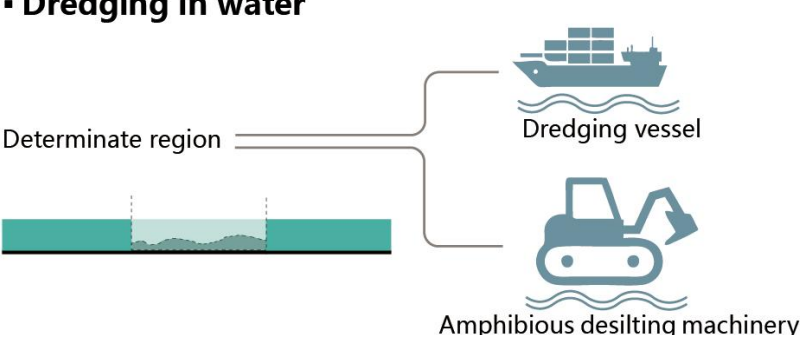


Regular desilting

Dredging without water



Dredging in water

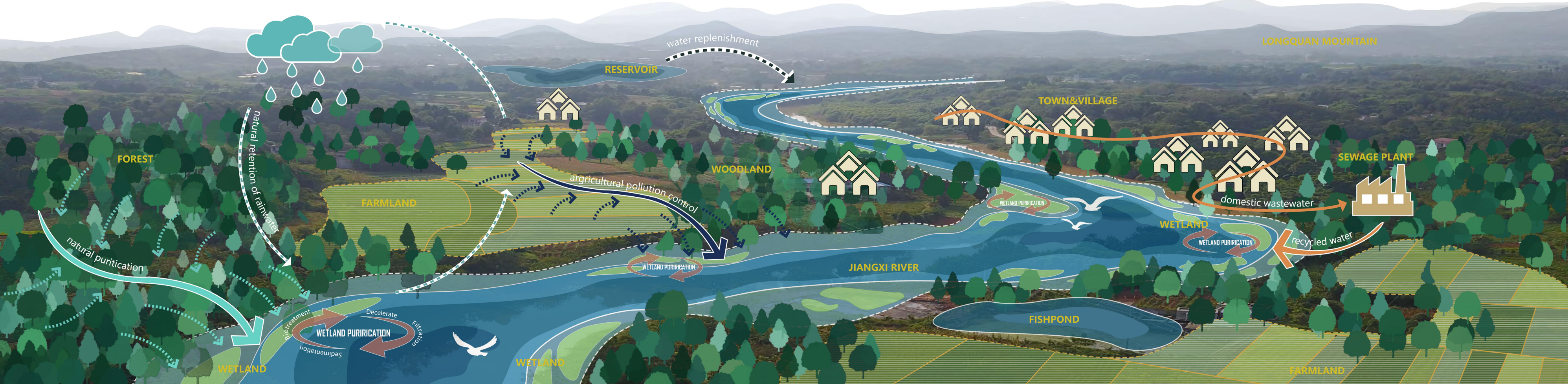


BEFORE

- About 78% of the water quality of the basin can reach Class III
- High turbidity

AFTER

- 100% of the water quality of the basin can reach Class III
- Low turbidity

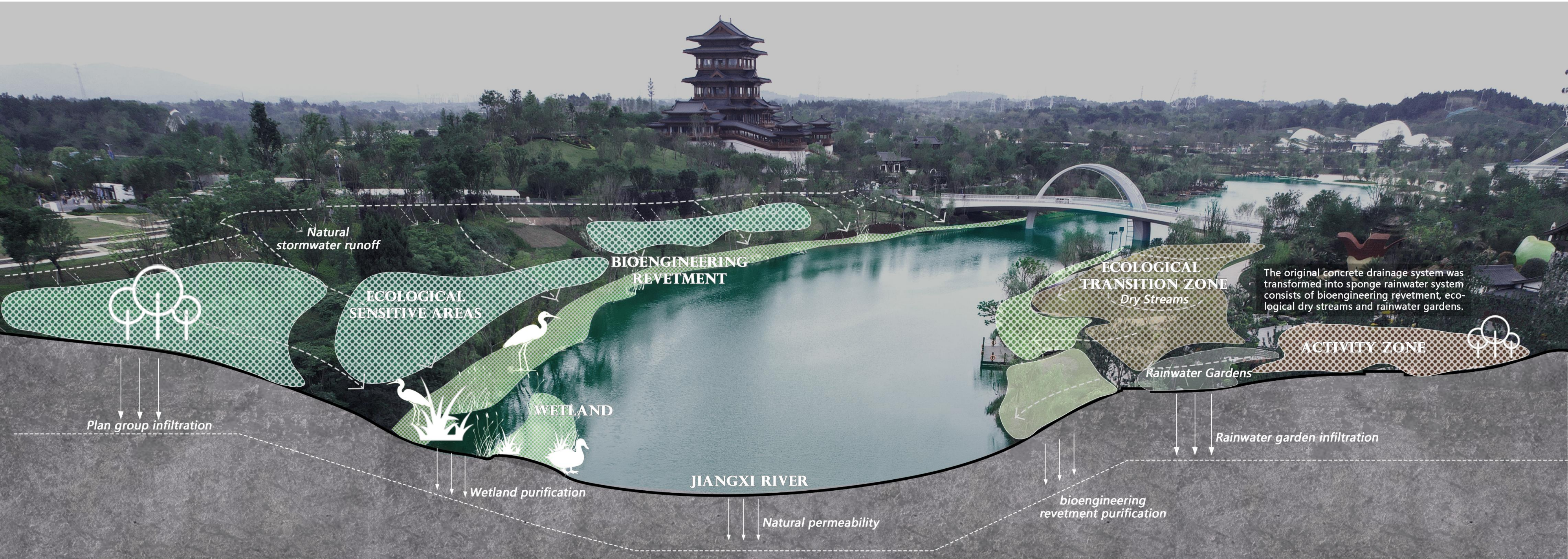




STRATEGY 2: BIOHABITAT ENVIRONMENT RESTORATION

◎ PRESERVE ECOLOGICALLY SENSITIVE AREAS

The original concrete drainage system was transformed into sponge rainwater system consists of bioengineering revetment, ecological dry streams and rainwater gardens.



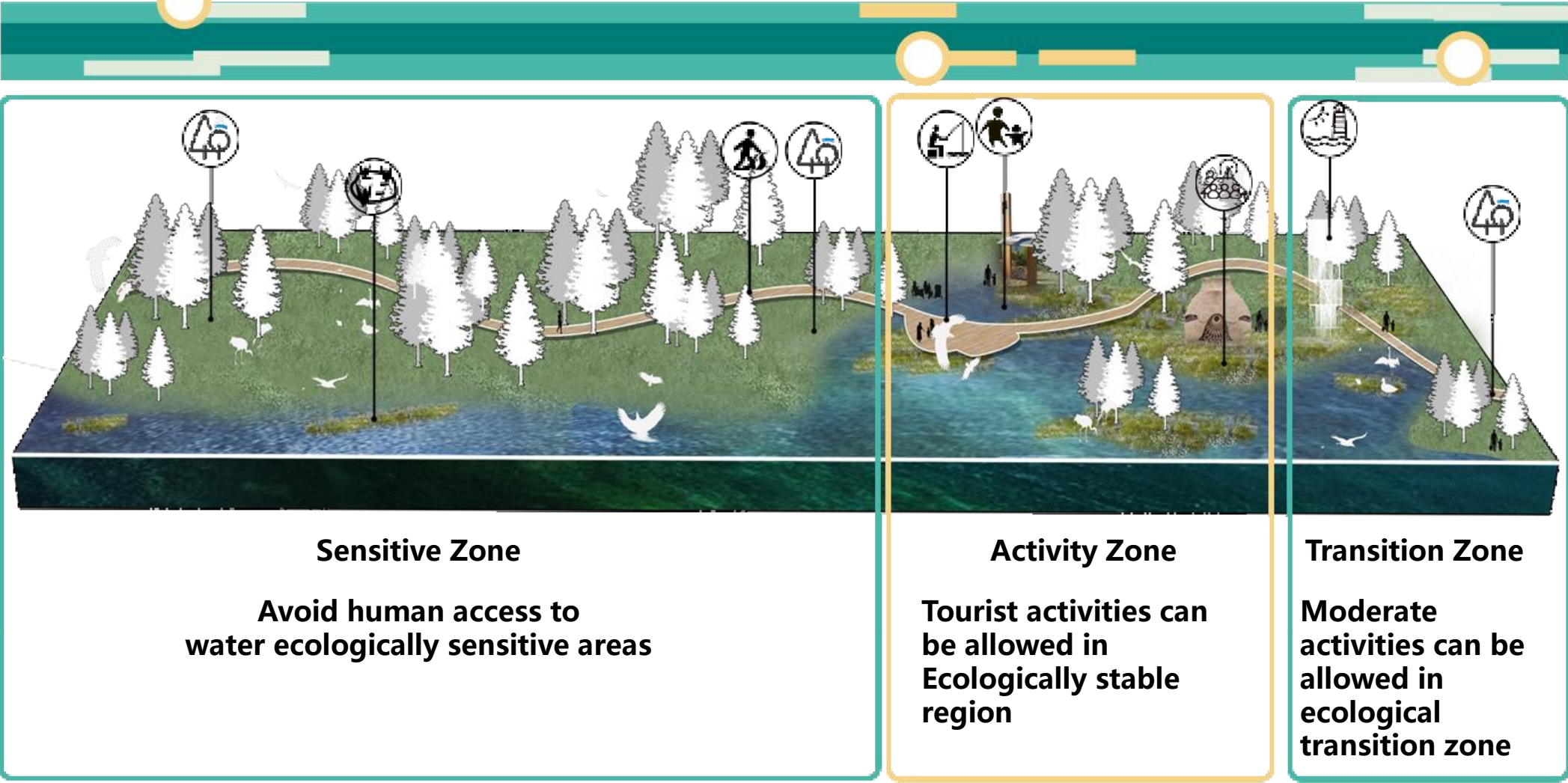


STRATEGY 2: BIOHABITAT ENVIRONMENT RESTORATION

◎ PRESERVE ECOLOGICALLY SENSITIVE AREAS

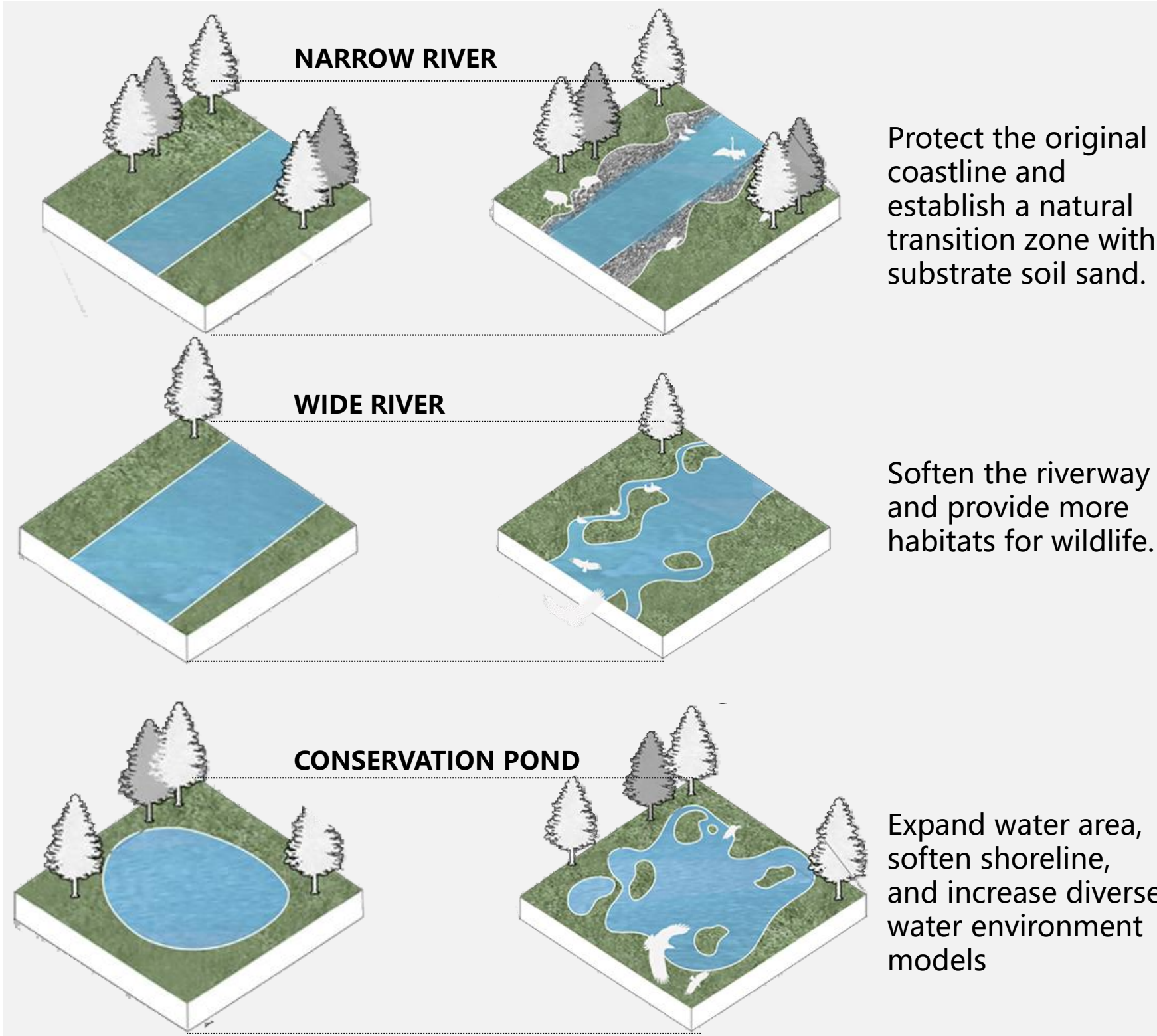
Distinguish the ecologically sensitive areas to avoid the impact of human activities on plant and animal habitats in order to strengthen the self-healing capacity of the river ecosystem.

60% biological corridor space
40% open activity area



◎ SHAPE THE ECOLOGICAL SHORELINE

Restore river shorelines according to different spatial conditions



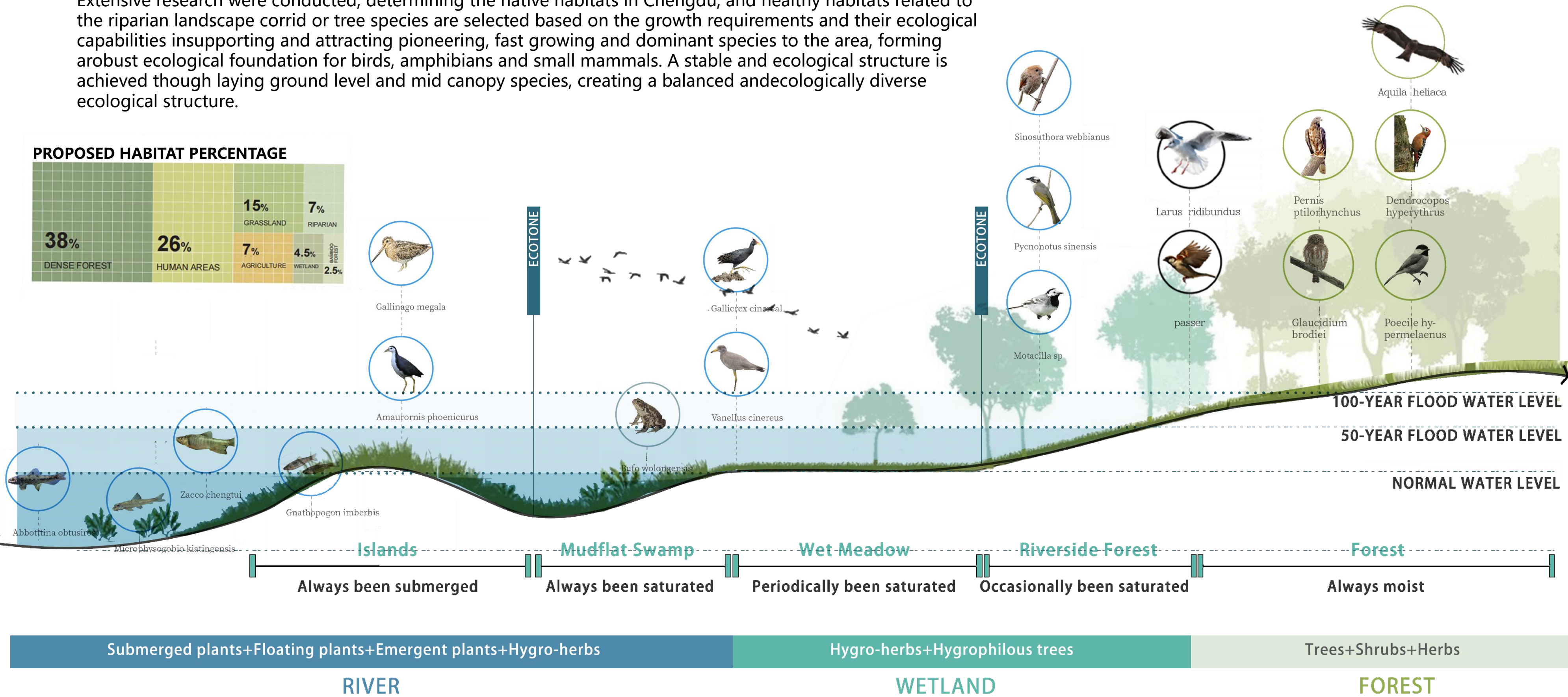
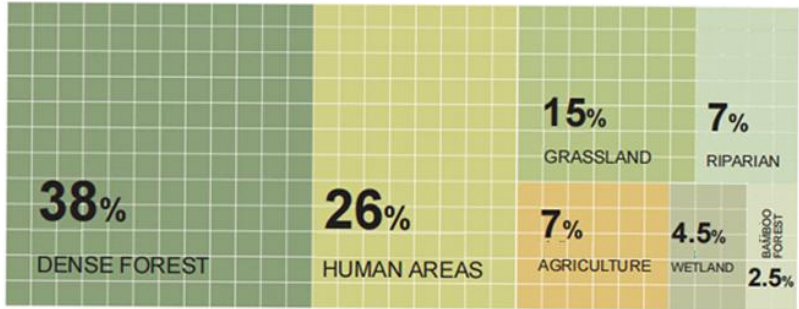


STRATEGY 2: BIOHABITAT ENVIRONMENT RESTORATION

◎ RESHAPE ANIMAL AND PLANT ECOSYSYTEMS

Extensive research were conducted, determining the native habitats in Chengdu, and healthy habitats related to the riparian landscape corrid or tree species are selected based on the growth requirements and their ecological capabilities insupporting and attracting pioneering, fast growing and dominant species to the area, forming arobust ecological foundation for birds, amphibians and small mammals. A stable and ecological structure is achieved though laying ground level and mid canopy species, creating a balanced andecologically diverse ecological structure.

PROPOSED HABITAT PERCENTAGE





STRATEGY 2: BIOHABITAT ENVIRONMENT RESTORATION

GREENIZATION OF GRAY FACILITIES

BEFORE

Concrete river revetment

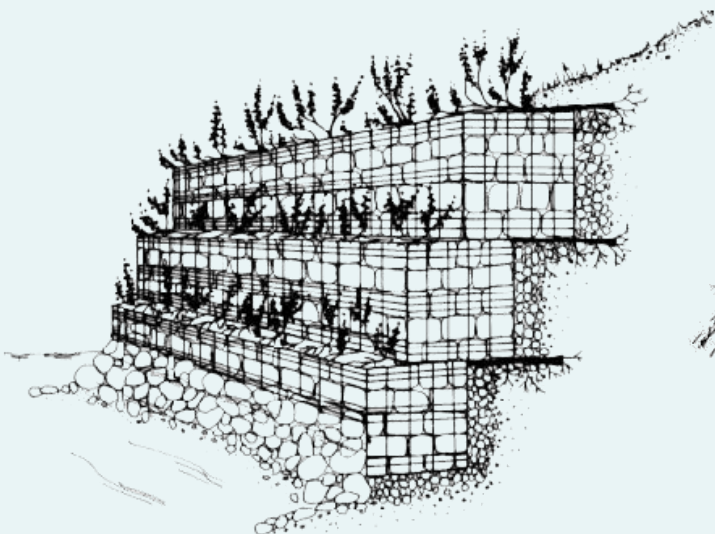


Concrete gutterway

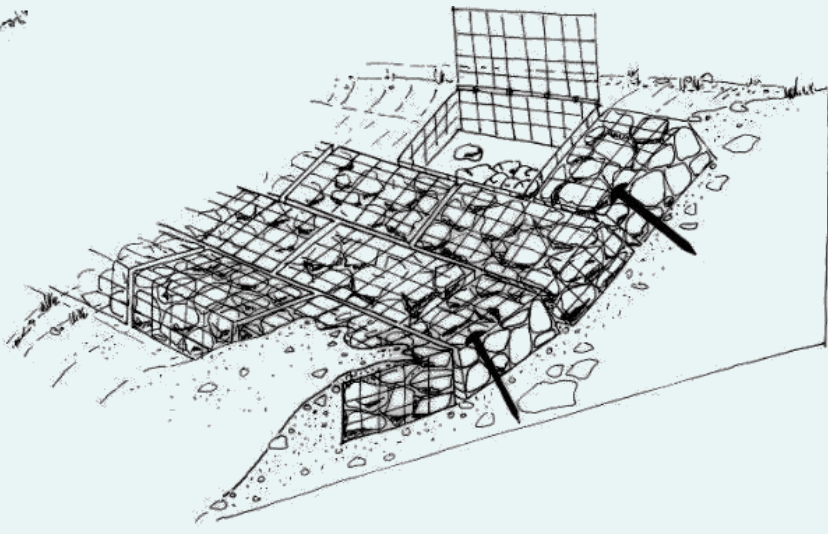


AFTER

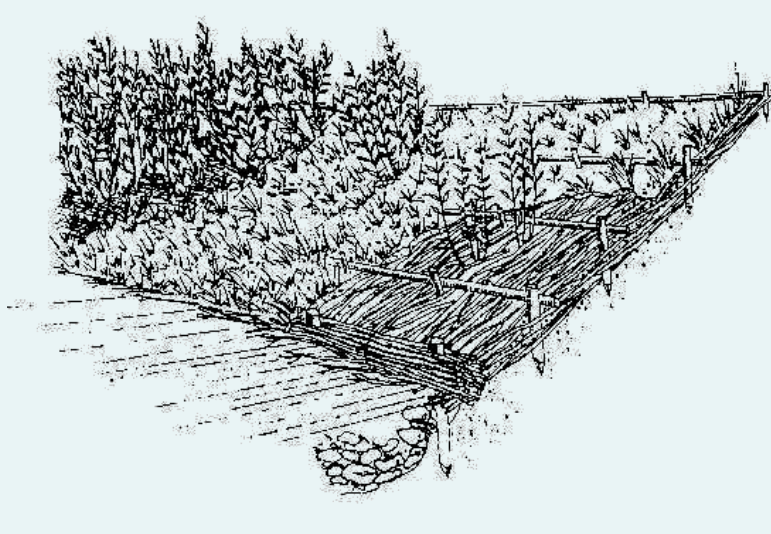
Utilize bioengineering to make river revetment more ecological.



GABIONS WITH BRUSH LAYERS



ROCK GABION MAT



BRUSH MATTRESS WITH LIVE FASCINE

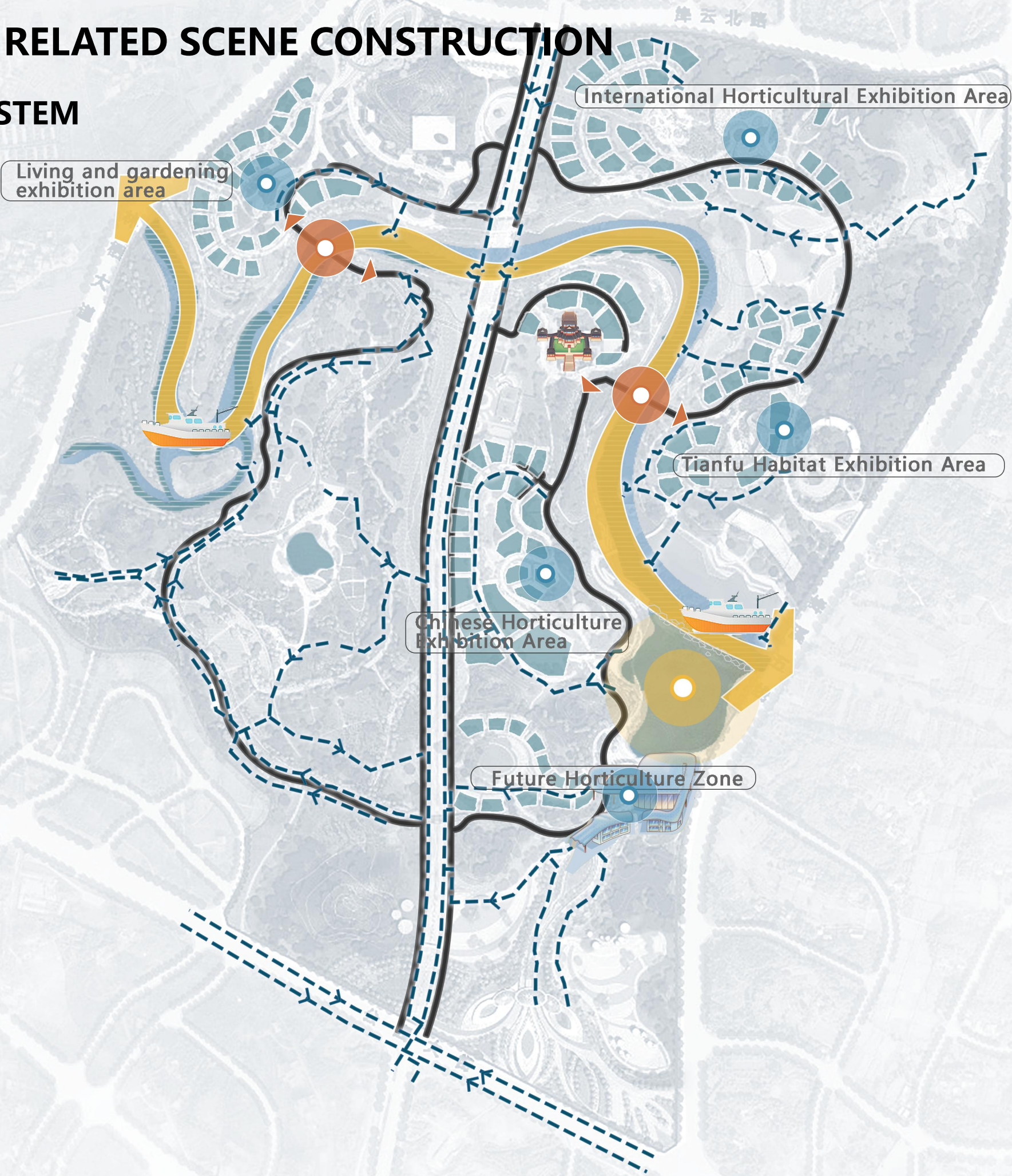
Transform the concrete gutterway to ecological dry stream





STRATEGY 3: WATER RELATED SCENE CONSTRUCTION

WATER LANDSCAPE SYSTEM



LEGEND

- Water Landscape Axis
- Water Landscape Core (River, Lake, Waterfall)
- Exhibition Area
- Water Intake Point
- Water Landscape Supply System (Landscape Use, Irrigation)
- Landscape Drainage System



STRATEGY 3: WATER RELATED SCENE CONSTRUCTION

◎ WATER LANDSCAPE

Create the water landscape system of one river, one lake and one waterfall accordng to site topography.

- Jiangxi River
- Xuanhu Waterfall
- Jiangxia Lake



◎ MAIN EXHIBITION HALL

◎ JIANGXIA LAKE

The artificial lake was created in order to eliminate the difference in topographic height between Jiangxi river and the unper main exhibition hall. Recreation facilities, exhibitions and activities of the EXPO are centered around this lake.

◎ XUANHU WATERFALL

JIANGXI RIVER ◎

The Jiang Xi River runs through the Expo about 3km. The five main exhibition areas of the Expo are arranged along both sides of the river.



STRATEGY 3: WATER RELATED SCENE CONSTRUCTION




WATER LANDSCAPE

The Architecture and Trail in the Waterfall

The topographic height difference between the lake and the river creates the largest scenic waterfall in Southwest China. Use classical garden design concept to create the mountain and water of the waterfall, a walking trail was set up in the mountains along with a group of classical buildings for the tourists to stop and rest.

INSPIRATION FROM ANCIENT CHINESE PAINTING

Autumn Scenery of Rivers and Mountains, Song Dynasty



Springhead

Brook

Pond

Bamboo dock

Pool

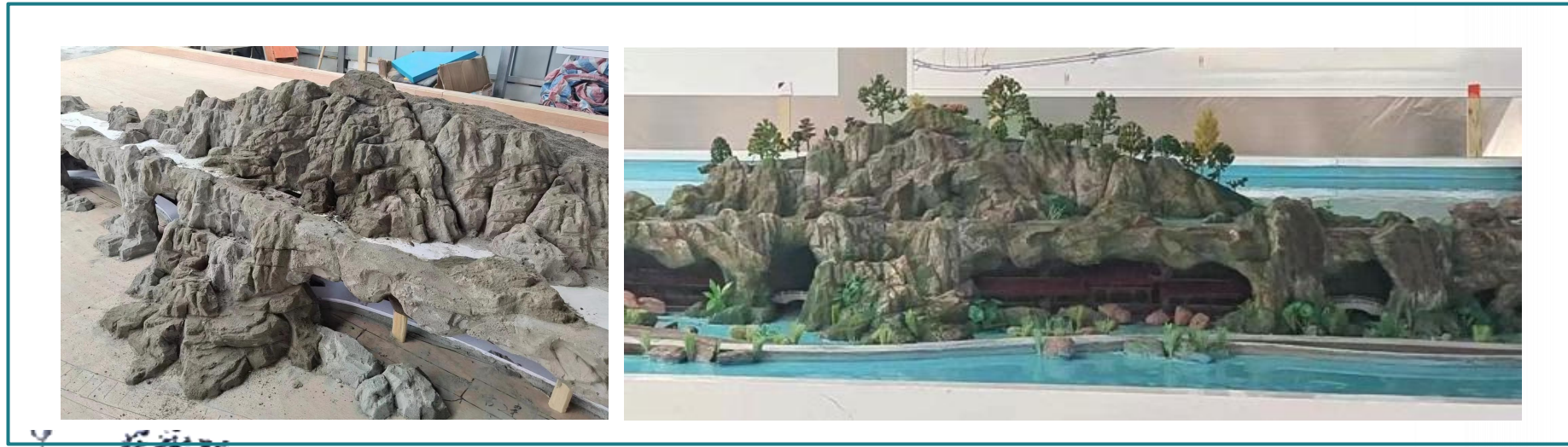
Waterfall

Flashy flow

Stream

Mist

USE CLAY MODELS TO EXPLORE THE ACTUAL SPACE



The flow of waterfall is varied with weather and the dynamic change of water level of the upper lake



STRATEGY 3: WATER RELATED SCENE CONSTRUCTION

WATER LANDSCAPE

- Water landscape in other exhibition gardens (The landscape water supply is controlled by the smart water system of the EXPO)



Mirror pool



Imitated wetland



Water mist



Imitation seawater



Fountain



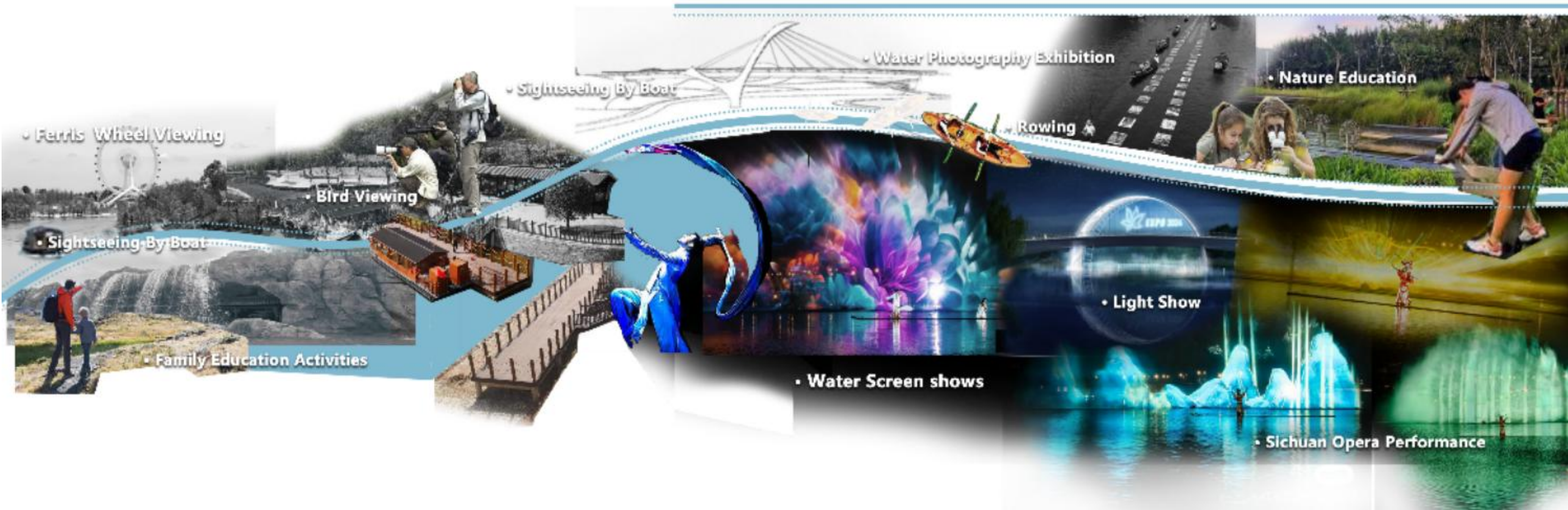
Lotus pond



STRATEGY 3: WATER RELATED SCENE CONSTRUCTION

◎ WATER CULTURE RECREATION AND EXHIBITION ACTIVITIES

Arrange activities related to water culture based on different water landscape space.





STRATEGY 3: WATER RELATED SCENE CONSTRUCTION

◎ SMART WATER SYSTEM

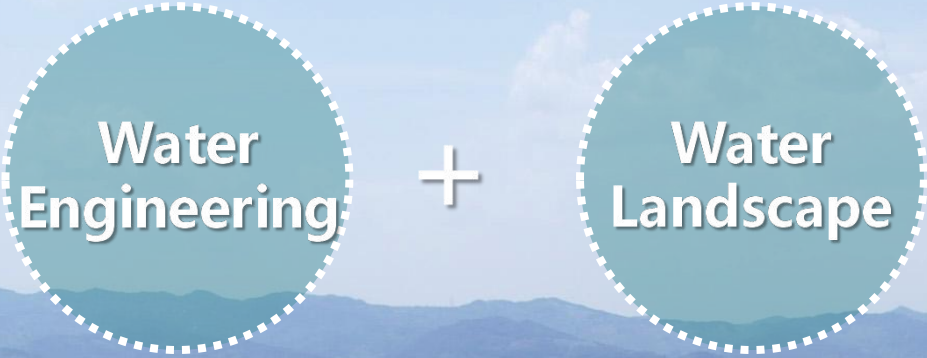
Utilize Water Systems to Monitor the EXPO’ s hydrological Information and Master Supply and Drainage Systems.





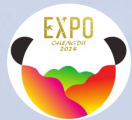
PROSPECT

Ensure the **Water Security** of the river
Improve the **Water Quality** of the basin
Reshape the **Water Ecology** of the region



Create **Multi-Dimensional Water Scene**
Carry out **Diversified Water Cultural Communications**
Enhance **Various Water Recreation Activities**

- Demonstrate the efforts to ensure the ecological and cultural value of the Expo along the riverside to the world ,
- Set high construction standard of blue & green eco-space for the future development of the Eastern New District of Chengdu.



The Blue Pray of EXPO 2024—From Jiangxi River comprehensive management to water landscape system construction of International Horticultural Exhibition 2024 Chengdu

BUILT SCENE

The aerial view of the water landscape core.
(The Jiangxia lake, waterfall and the Jiangxi river)





BUILT SCENE

The largest artificial waterfall in Southwest China.



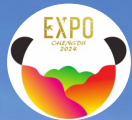
The Chinese Classical architecture and tourist trails in the waterfall.



BUILT SCENE

The view in the waterfall.





The Blue Pray of EXPO 2024—From Jiangxi River comprehensive management to water landscape system construction of International Horticultural Exhibition 2024 Chengdu

BUILT SCENE

Use ecological engineering method to treat river revetment.

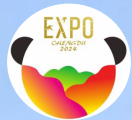




BUILT SCENE

Relying on the natural gentle slope to create a landscape shoal at the river bend, provide a public open space where visitors can enjoy the beach.





The Blue Pray of EXPO 2024—From Jiangxi River comprehensive management to water landscape system construction of International Horticultural Exhibition 2024 Chengdu

BUILT SCENE

The boat trip on the Jiangxi river.





BUILT SCENE

The boat pier by the river.

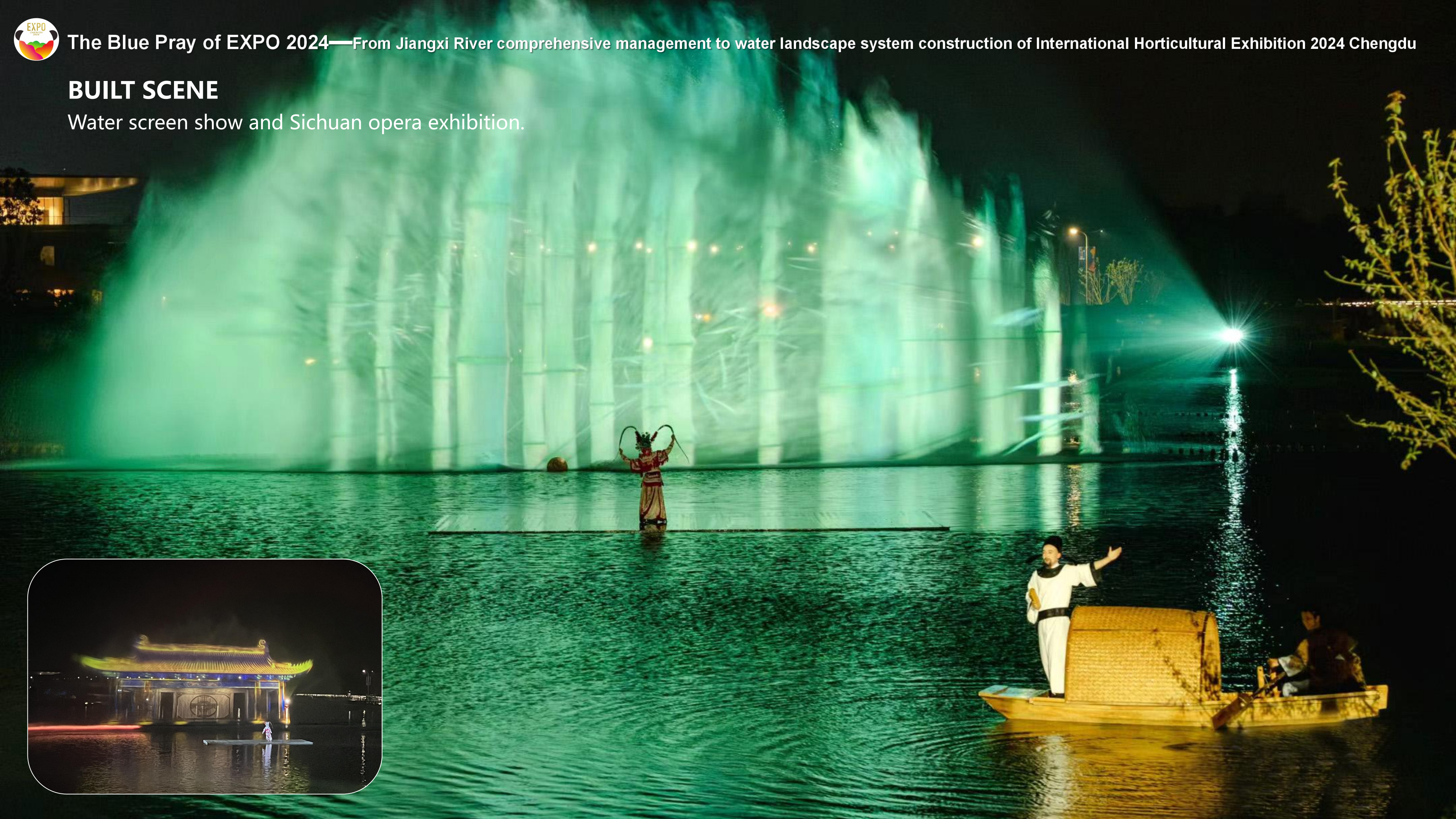




The Blue Pray of EXPO 2024—From Jiangxi River comprehensive management to water landscape system construction of International Horticultural Exhibition 2024 Chengdu

BUILT SCENE

Water screen show and Sichuan opera exhibition.





The Blue Pray of EXPO 2024—From Jiangxi River comprehensive management to water landscape system construction of International Horticultural Exhibition 2024 Chengdu

BUILT SCENE

The Moon Bridge on the river.

Water screen show on the bridge.





The Blue Pray of EXPO 2024—From Jiangxi River comprehensive management to water landscape system construction of International Horticultural Exhibition 2024 Chengdu

BUILT SCENE

The Ecological dry stream(sponge grass ditch) in rainy day.

The dry stream in Clear weather.

