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International Water Resources Association (IWRA)

The River and Lake Chief System and Its Practice in China

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XVIII WORLD WATER CONGRESS Water for All Harmony between Humans and Nature
第18届 世界水资源大会 水与万物：人与自然和谐共生

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- Induction to The River and Lake Chief System (RLCS)
- Case Study: The Xiao'anxi River in Chongqing
  - River and Lake Chief Organization System
  - River Health Evaluation
- Conclusions

Induction to The River and Lake Chief System

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Development

October 11, 2016, The General Office of the Communist Party of China (CPC) Central Committee
The Opinions on the Comprehensive Implementation of the River Chief System.

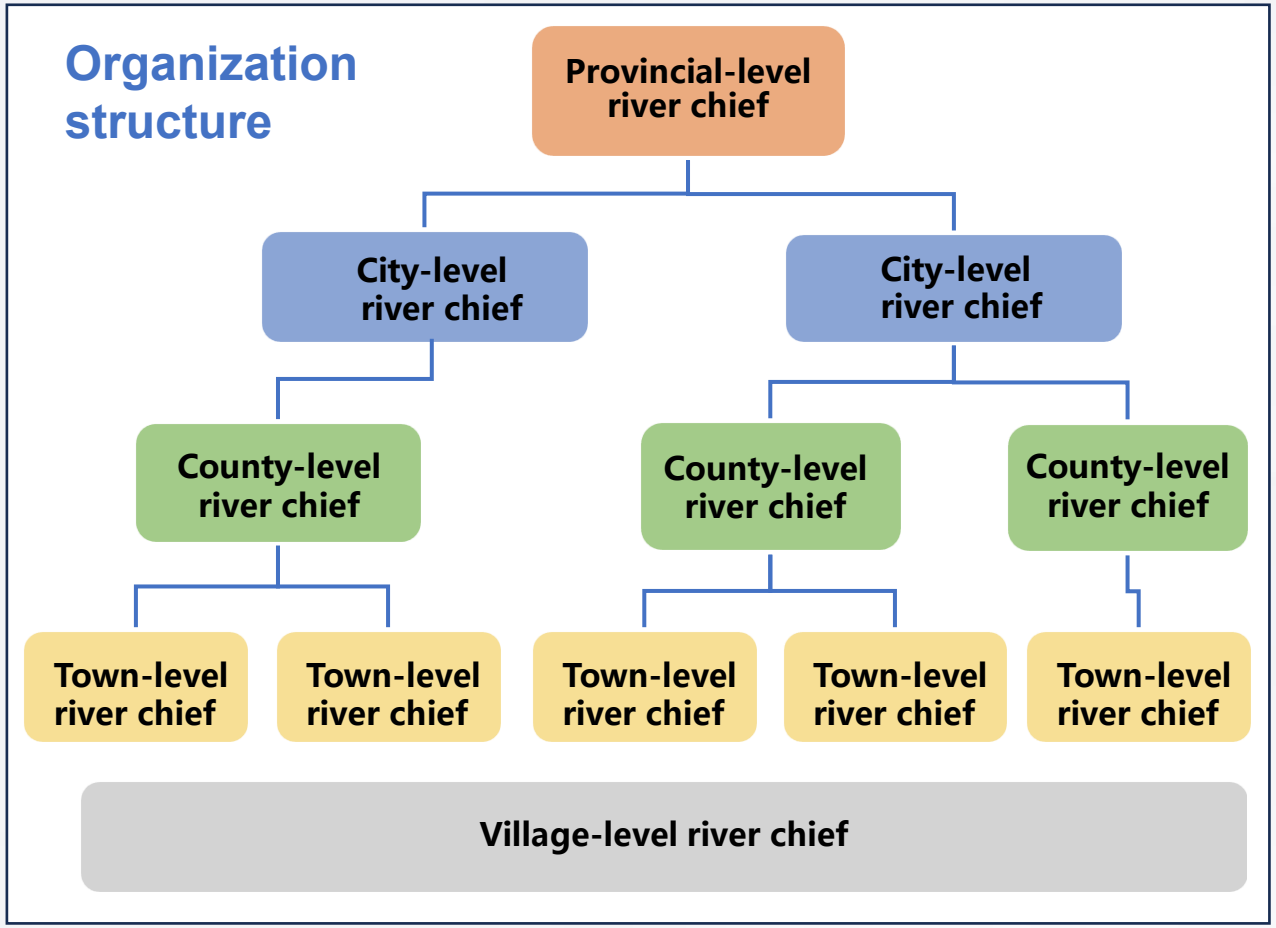
November 20, 2017, The General Office of the State Council
The Guiding Opinions on the Implementation of the Lake Chief System at Lakes.

By December, 2018, fully establishment of the RLCS in China
300,000+ Party and government leaders were assigned as river and lake chiefs across the country.

November, 2021, The Sixth Plenary Session of the 19th Central Committee
RLCS was included in *the Resolution of the Central Committee of the Communist Party of China on the Major Achievements and Historical Experience of the Party's Centennial Struggle*.

Definition

Party and government leaders were appointed as river (lake) chiefs to solve the prominent problems in river and lake management and protection.



Induction to The River and Lake Chief System

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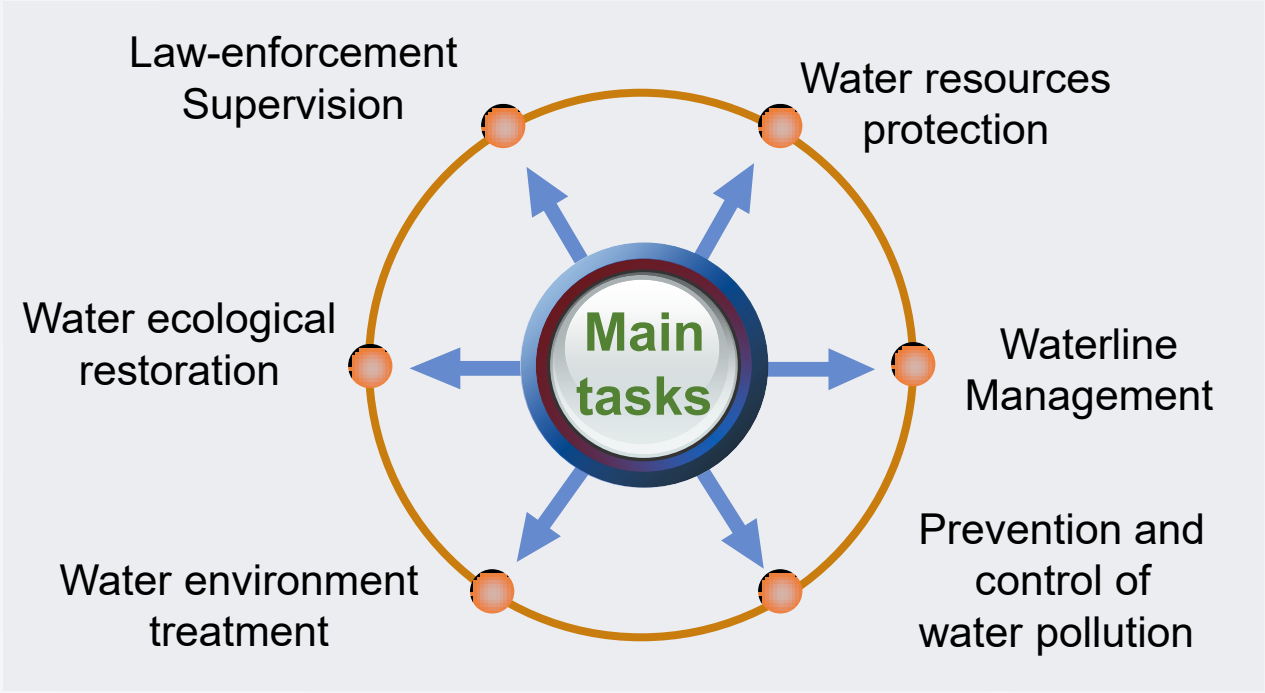
Main tasks

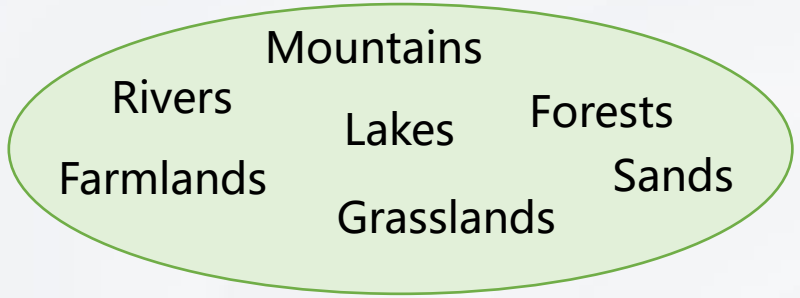


Achievements

- River and lake appearance continues to improve.
- The proportion of water quality monitoring sections rated as Class I-III reached 84.9%, increased by 17.1% compared to 2016.

Substantial characteristic
—— Systematism

- **Integrated management & protection system of natural elements:**



- **A unity of the Party and government leadership**

Vertical mechanism	Prime river (lake) chief
	Hierarchical and segmented river (lake) chiefs
Horizontal mechanism	River and Lake Chief System Office

Case study: The Xiao'anxi River in Chongqing

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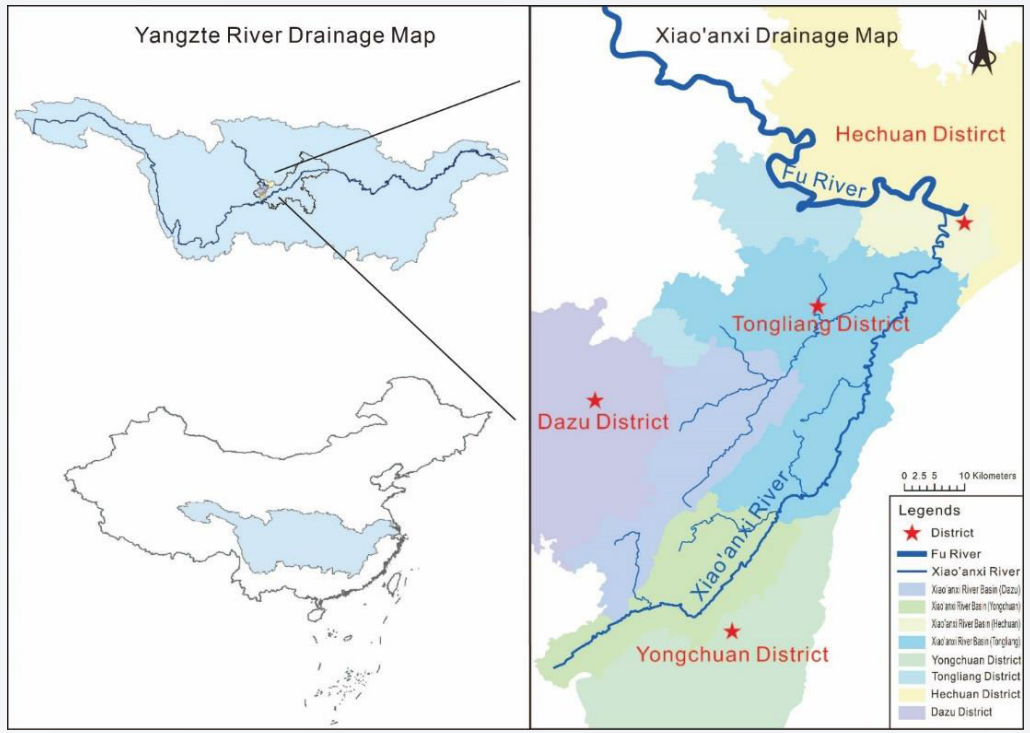
Overview of the Xiao'anxi River



- A tertiary tributary of the Yangtze River.
- Length: 161km; Drainage area: 1691km².
- Average annual precipitation: 953.5~1394.1mm
- Mean annual temperature: 16.4 ℃.
- Runs through the Yongchuan, Dazu, Tongliang and Hechuan Districts

River and Lake Chief Organization System

" Work Plan of the Comprehensive Implementation of the River and Lake Chief System in Chongqing "
(March 2017, Municipal Party Committee and government of Chongqing)

A Four-level River Chief Organization System

City-level river chief	1
County-level river chiefs	8
Town-level river chiefs	36
Village-level river chiefs	169

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Water environment treatment —— Responsibilities, Mechanisms, Measures and achievements

Responsibi-lities

- City-level River Chiefs → Conducted multiple river surveys and deployments to promote pollution control
- County-level River Chiefs → Conducted supervision
- Competent departments → Further clarified their responsibilities

Management mechanisms

- Basin coordination
- Region collaboration

→ Cooperation among the water conservancy departments, ecological environment departments, urban and rural construction committees, etc.

Measures

- Strict prevention at the source
- Strict management in the process
- Severe punishment of consequences

→ **Achievements**

- Water quality in Hechuan District : Class V (2017)→ Class III (2020)
- Water quality in Tongliang District : Class IV (2018)→ Class II (2020)
- Water quality of centralized drinking water sources: 100% qualified.

Case study: The Xiao'anxi River in Chongqing

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River health evaluation

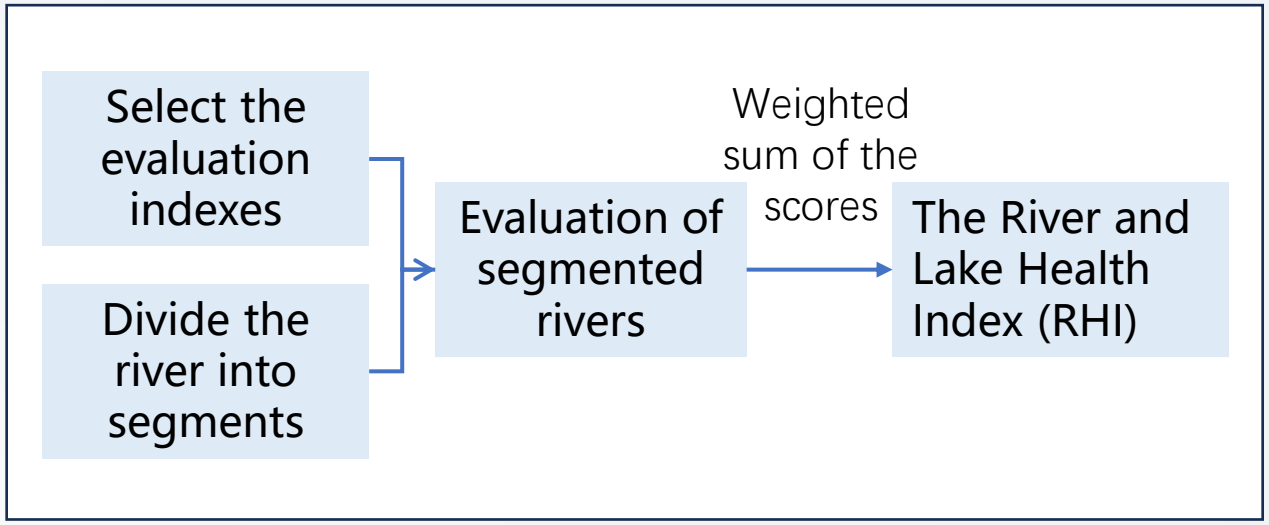
Background

The Ministry of Water Resources requires conducting River (Lake) health evaluation on a nation wide scale to test the effectiveness of the River and Lake Chief System.

Basis

Guidelines for Health Assessment of Rivers and Lakes (Trial edition)

Process



Results

Classification	Status	Score
Class I	Very healthy	90≤RHI≤100
Class II	Healthy	75≤RHI<90
Class III	Sub-healthy	60≤RHI<75
Class IV	Unhealthy	40≤RHI<60
Class V	bad	RHI<40

Case study: The Xiao'anxi River in Chongqing

Health Evaluation Index System of the Xiao'anxi River

Target layer	Criterion layer		Weight	Index layer	Weight
River health	Space		0.2	River longitudinal connectivity index	0.2
				Natural conditions of the shoreline	0.4
				Degree of illegal development and utilization of water and shoreline	0.4
	Water	Water volume	0.3	Ecological flow (or water level) satisfaction degree	0.4
		Water quality		Water quality	0.4
				Self-purification capacity of water	0.2
	Creatures		0.2	Fish retention index	0.6
				Aquatic birds' condition	0.4
	Social service function		0.3	Flood control compliance rate	0.4
				Water quality compliance rate of centralized drinking water source areas	0.2
				Shoreline utilization management index	0.2
				Public satisfaction	0.2

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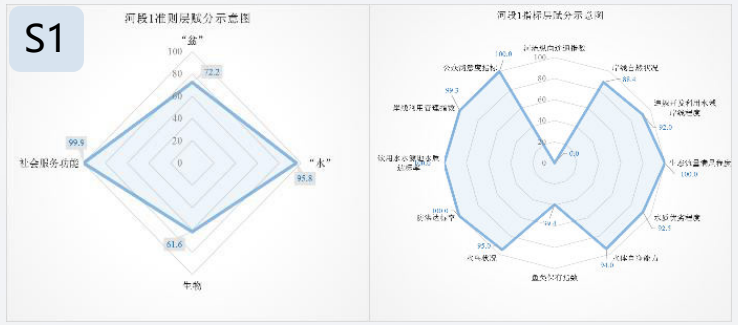
Health evaluation results of the Xiao'anxi River

S1



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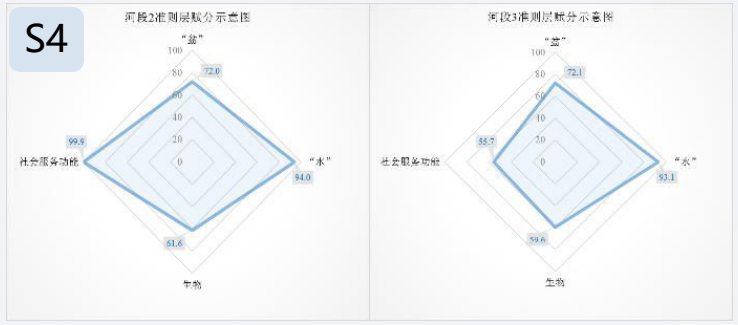

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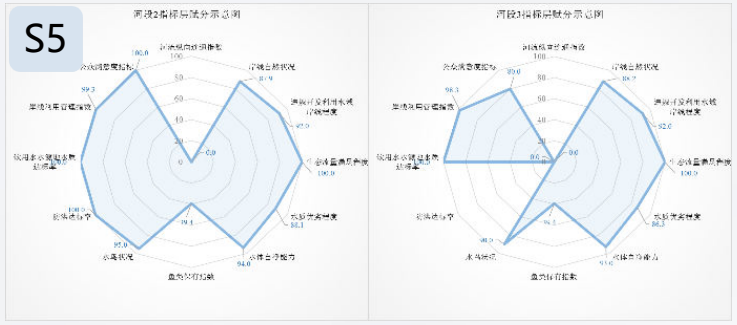
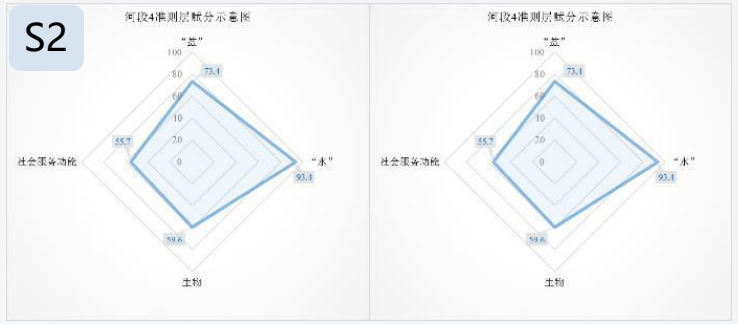
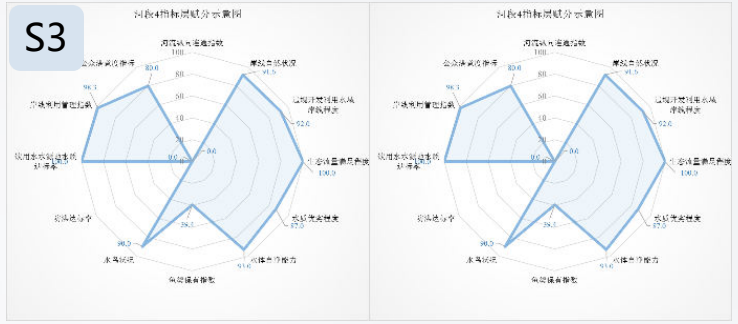


S2



S3



Health evaluation score of river segments

Section	Length	Score
1	31 km	85.5
2	34 km	84.9
3	29 km	71.0
4	47 km	71.3
5	20 km	80.7
Total	161 km	78.0

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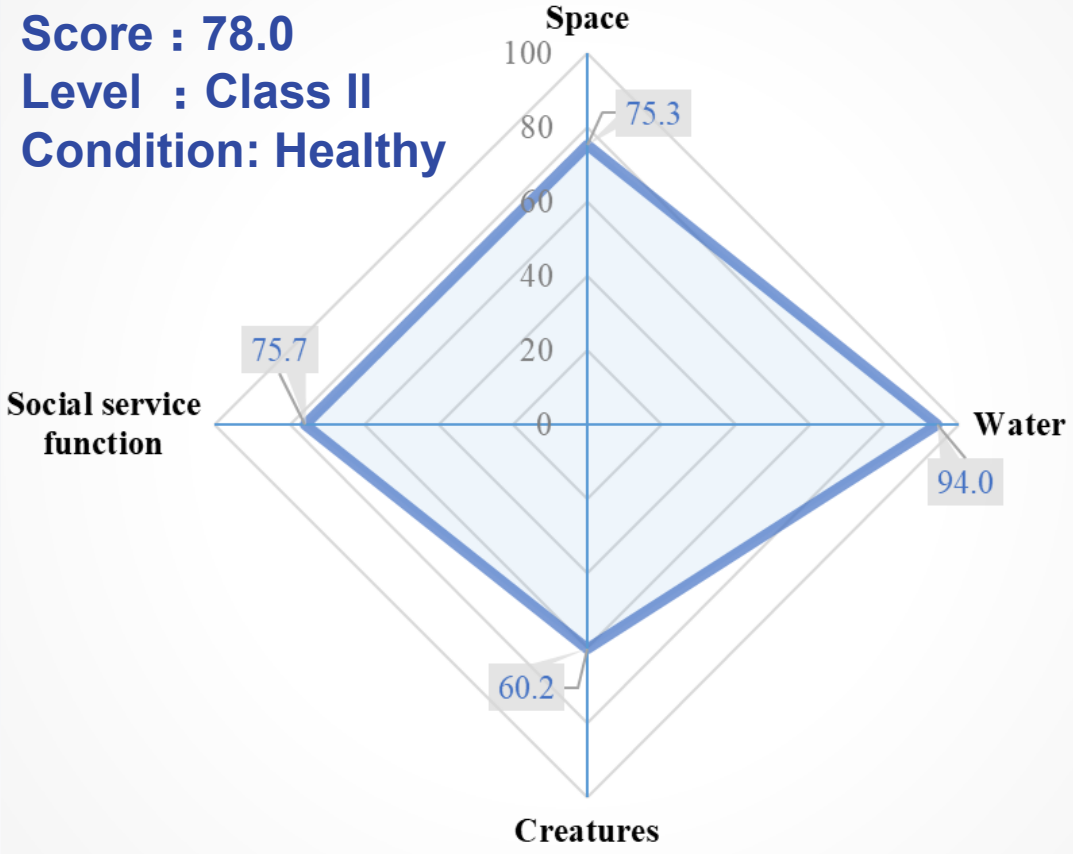
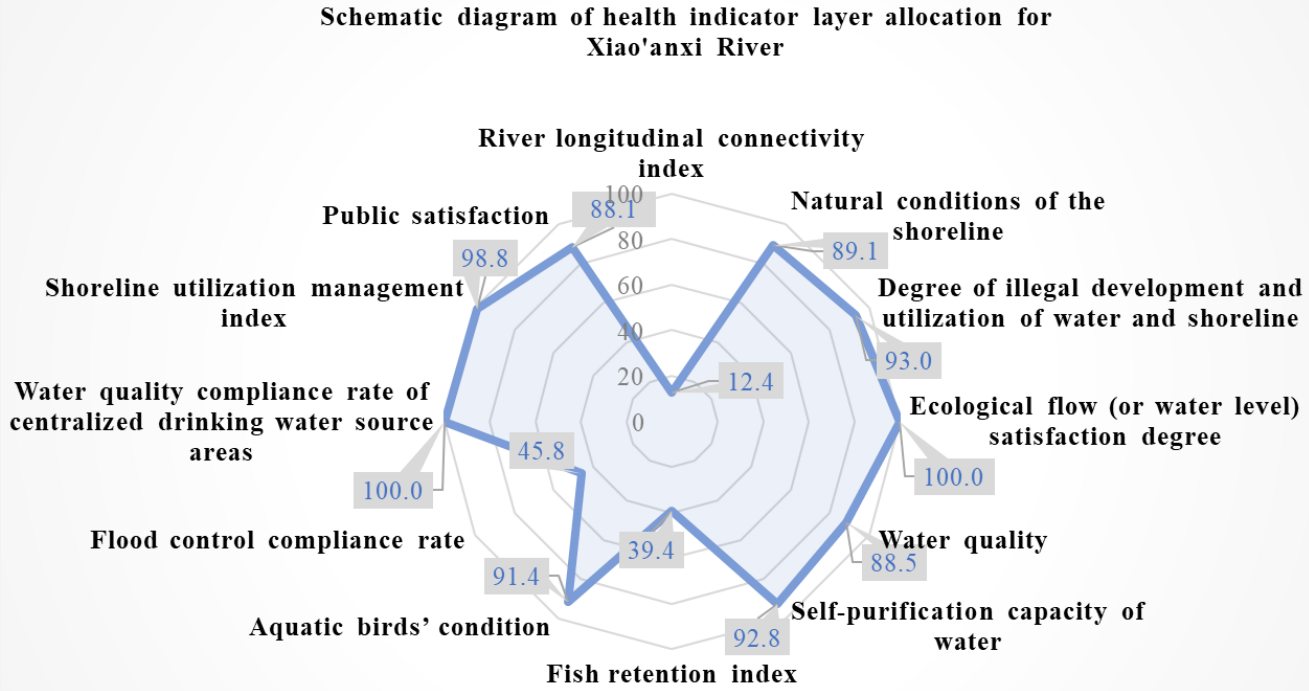
Health evaluation results of the Xiao'anxi River

Score : 78.0
Level : Class II
Condition: Healthy





- **High-scoring indexes:**
  - Ecological flow satisfaction degree
  - Water quality compliance rate of centralized drinking water source areas
- **Low-scoring indexes:**
  - Longitudinal connectivity
  - Fish retention index
  - flood control compliance rate

Conclusions

Experience

1. Strengthening the organization system of river and lake chiefs, and clarify and intensify the responsibility of river and lake management and protection.
2. Implementing systematic measures in river environment treatment.
3. Strengthening basin coordination and region collaboration to form joint power for river management and protection.

Future works

1. Conducting joint law-enforcing actions combining different departments to effectively investigate and penalize illegal behaviors that cause damage to the environment.
2. Implementing “Intelligent River Chief Program” to provide credible information for decision support.

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Thanks for listening!