

# **Study on Countermeasures System of Ecological Flow Guarantee in Weihe River Basin**

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**May, 2020**

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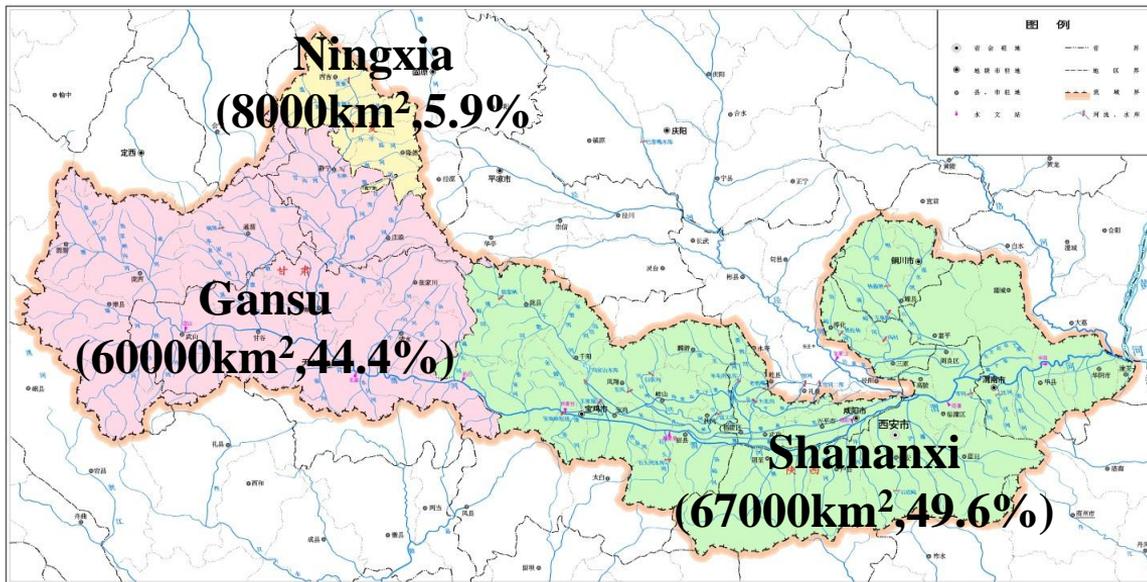
Countermeasures of Ecological Flow Guarantee  
in Weihe River Basin

**01**

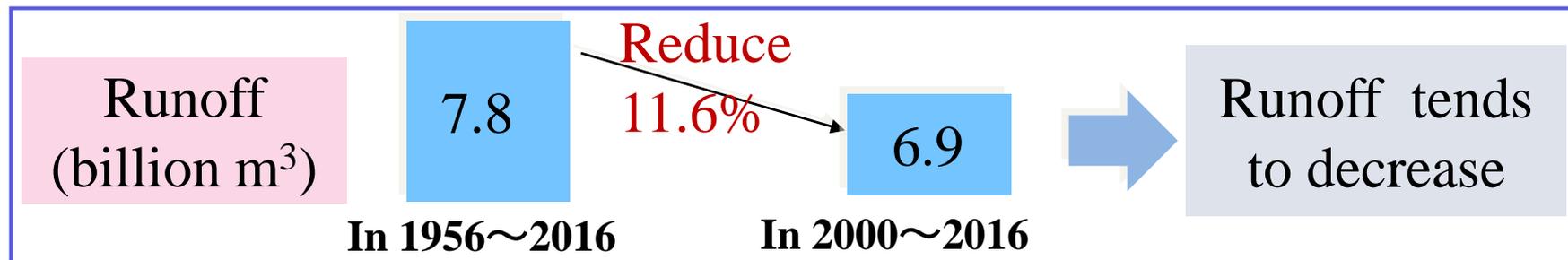
# Overview of Weihe River Basin

# Basic Situation

Administrative division and Drainage system diagram in Weihe River Basin



**The Weihe River flows through Gansu, Ningxia and Shaanxi provinces. Basin area is 135000km<sup>2</sup>. The main stream is 818km long.**



## Economic and social situation

### Urbanization rate

51.8%

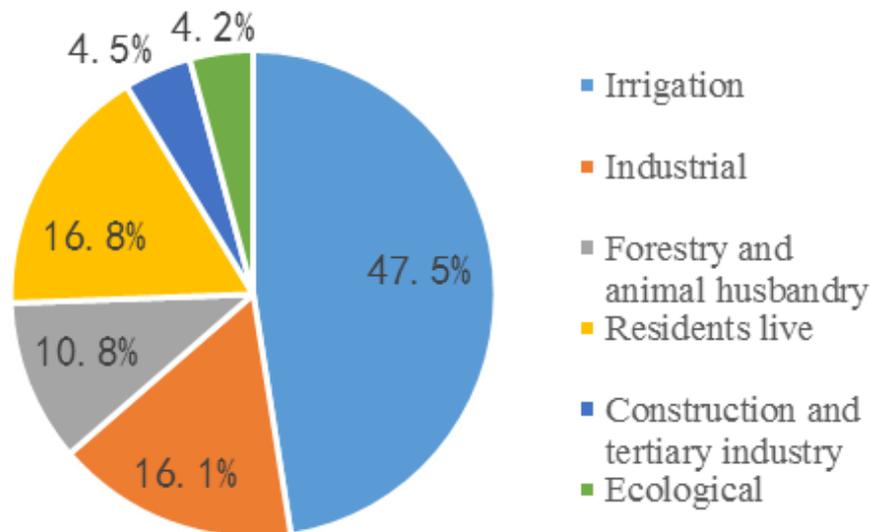
**Population**  
33.43  
million



**GDP**  
143.68  
million yuan



## Water resources development and utilization

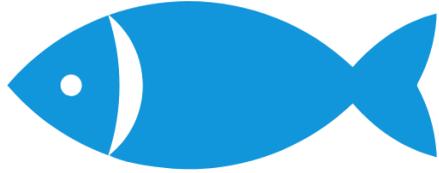


Analysis of Water consumption

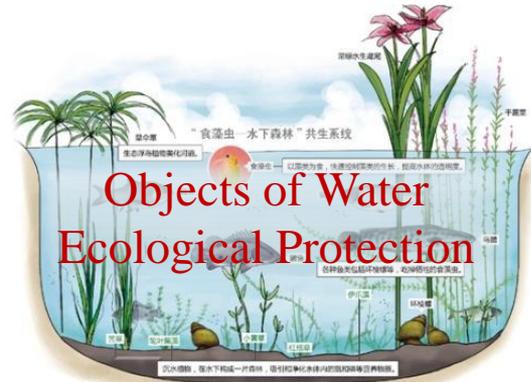
**02**

## **Target of Ecological Flow in Weihe River Basin**

# Object of Ecological Protection



- ❑ Fish species are abundant. Cyprinidae is the dominant group in weihe river basin.
- ❑ The density of benthic animals is low.



The important native fishes such as the Yellow River carp and their habitats, as well as the basic morphology, ecological corridor and self-purification ability of the river.

# Analysis of Ecological Flow Index

## Method

Ecological flow  
Is calculated by  
Tennant method,  
QP method and  
Flow duration  
curve method.

## Ecological Base Flow Targets

Considering the change of runoff, the situation of water inflow, the development and utilization of water resources and the scheme of water resources allocation in Weihe River Basin, the indexes of ecological base flow are determined.

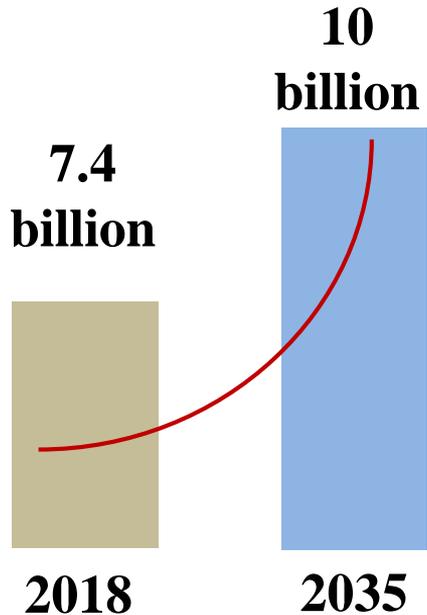
Hydrology section	ecological base flow (m <sup>3</sup> /s)
Beidao	2
Linjiacun	5
Huaxian	12

**03**

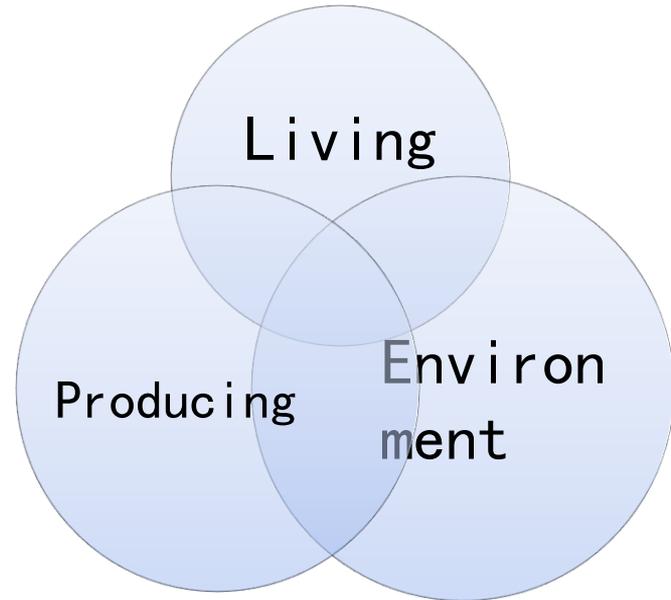
**Analysis of Ecological Flow Guarantee  
Problem in Weihe River Basin**

# Strong rigid demand, tremendous pressure of water use coordination among producing, living and environment during dry year

Water resources demands remain on the rigid increase

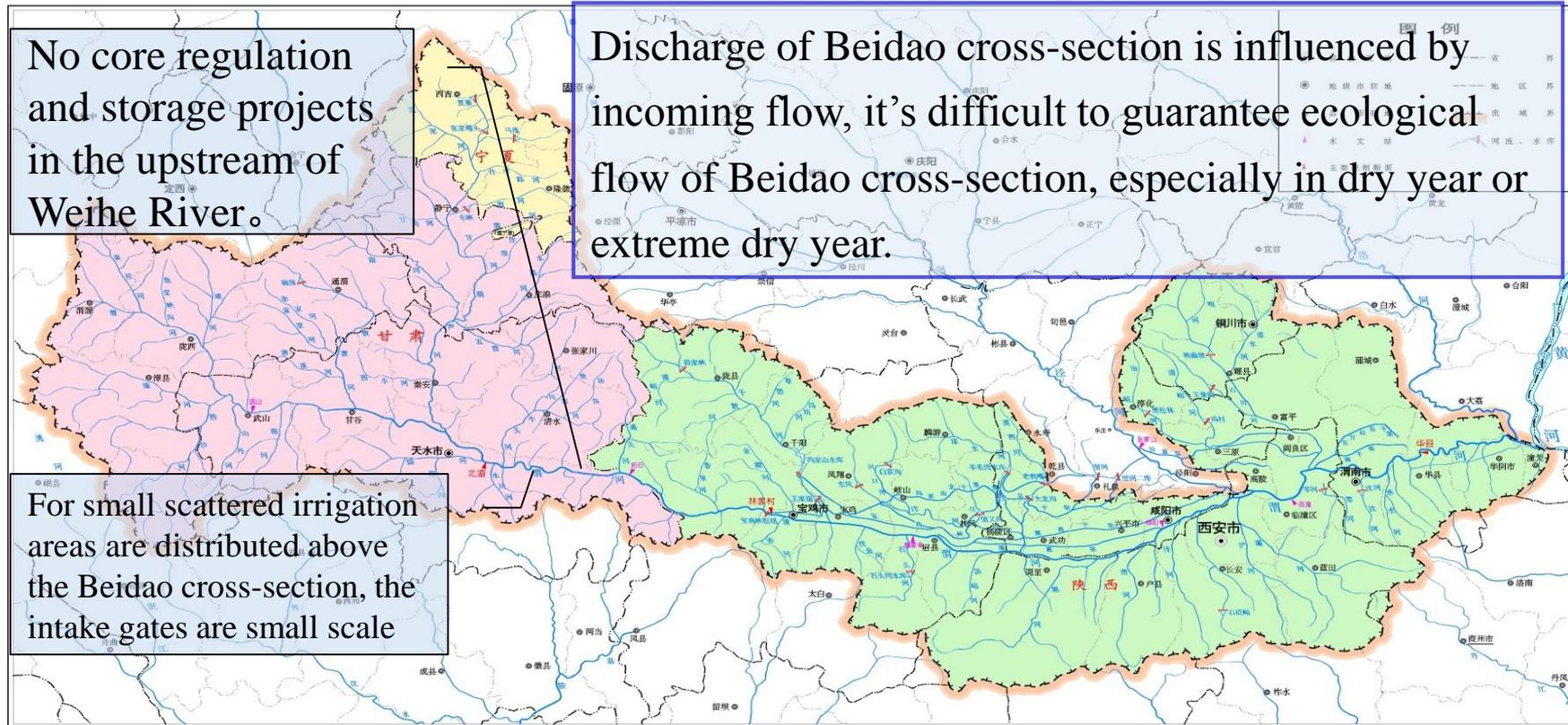


In dry years, especially extreme dry year, the contradiction of water use between social economy and environment becomes sharp, the guarantee of ecological flow face the great challenge.



Difficulty in coordinate of water use

# Lack of backbone regulation and storage projects in mainstream of Weihe River, significant difficulty in ecological flow guarantee



# The mechanism of ecological flow guarantee remains defective

The guarantee work of ecological flow includes ecological flow regulating, monitoring, early warning, and assessment.

Water regulation in Weihe River obtained the significant socio-economic-ecological benefits, but parts of cross-section ecological flow can't reach the requirement.

There exists the unclear duty of supervising subjects, imperfect management system, unstandardized assessment, and other problems.

**04**

**Countermeasures of Ecological Flow  
Guarantee in Weihe River Basin**

## Enhance leading, identify responsibility.

- ❑ Regard ecological flow guarantee as a significant measure to implement the strictest water resources management system, river chief system, and promote the construction of ecological civilization.
- ❑ Fulfill the main leader responsibility regime, define the division of labor, guarantee the fundamental ecological flow of Weihe River to reach the standard.
- ❑ Improve long-term mechanism of ecological flow guarantee in Weihe River

## Unify regulation, strength supervising.

- ❑ Implement the unified regulation and management of water volume in Weihe River.
- ❑ Enhance management and control of water withdraw, strict plan on water use, carry out the control of total water consumption.
- ❑ Strength supervision and inspection on whether ecological flow reaches the standards, carry out scheduled and non-scheduled live supervision and inspection every year.

## Enhance monitoring, improve the prediction ability.

- ❑ Enhance the real time monitoring, realize real time transmission of monitoring pictures and data.
- ❑ Combine flood protection operation system, water recession monitoring system of user water withdraw, and other systems, improve the control of off-stream water use.
- ❑ Promote the hydrologic forecasting, improve the precision of tests and prediction, realize the real time transmission of monitoring data of water regimen.

## Establish assessment, implement strict supervision and accountability.

- ❑ Assess the guarantee of ecological flow, set the results as the basis for work of the strictest water resources management system and river chief system.
- ❑ Establish the assessment system of ecological flow guarantee.
- ❑ Strictly assess and supervise, urge to fulfill duty, insure the work of ecological flow guarantee complete.

An aerial photograph showing a wide, muddy river on the left. To the right of the river is a lush green area with a paved path, followed by a residential town with red-tiled roofs. In the background, there are hills and a tall power line tower. The text 'THANK YOU!' is overlaid in the center in a large, red, serif font.

**THANK YOU!**