



清流長良川の鮎

Ayu of the Nagara River System

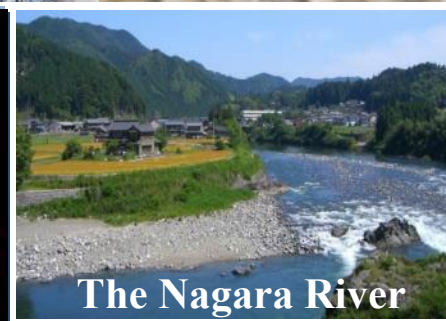
～ Efforts towards preservation, utilization, inheritance of “satokawa “ ～



Ayu
(Sweetfish, *Plecoglossus altivelis*)

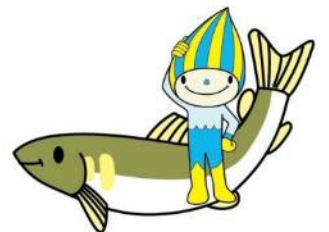


Cormorant fishing



The Nagara River

Satokawa and Aquaculture Promotion Division, Department of Agricultural Policy,
Gifu Prefectural Government



GIAHS “Ayu of the Nagara River System”

The Upper and Middle basin of the Nagara River, Gifu prefecture



The system was designated as Globally Important Agricultural Heritage Systems on December 15, 2015



The Nagara River ~Japan's representative clear waters~



◎Length: 166km

◎Basin population:
About 860,000 people

◎Flow: About 115m³/sec

◎Features:
Maintaining clear waters
even though it is a river
that flows through urban areas

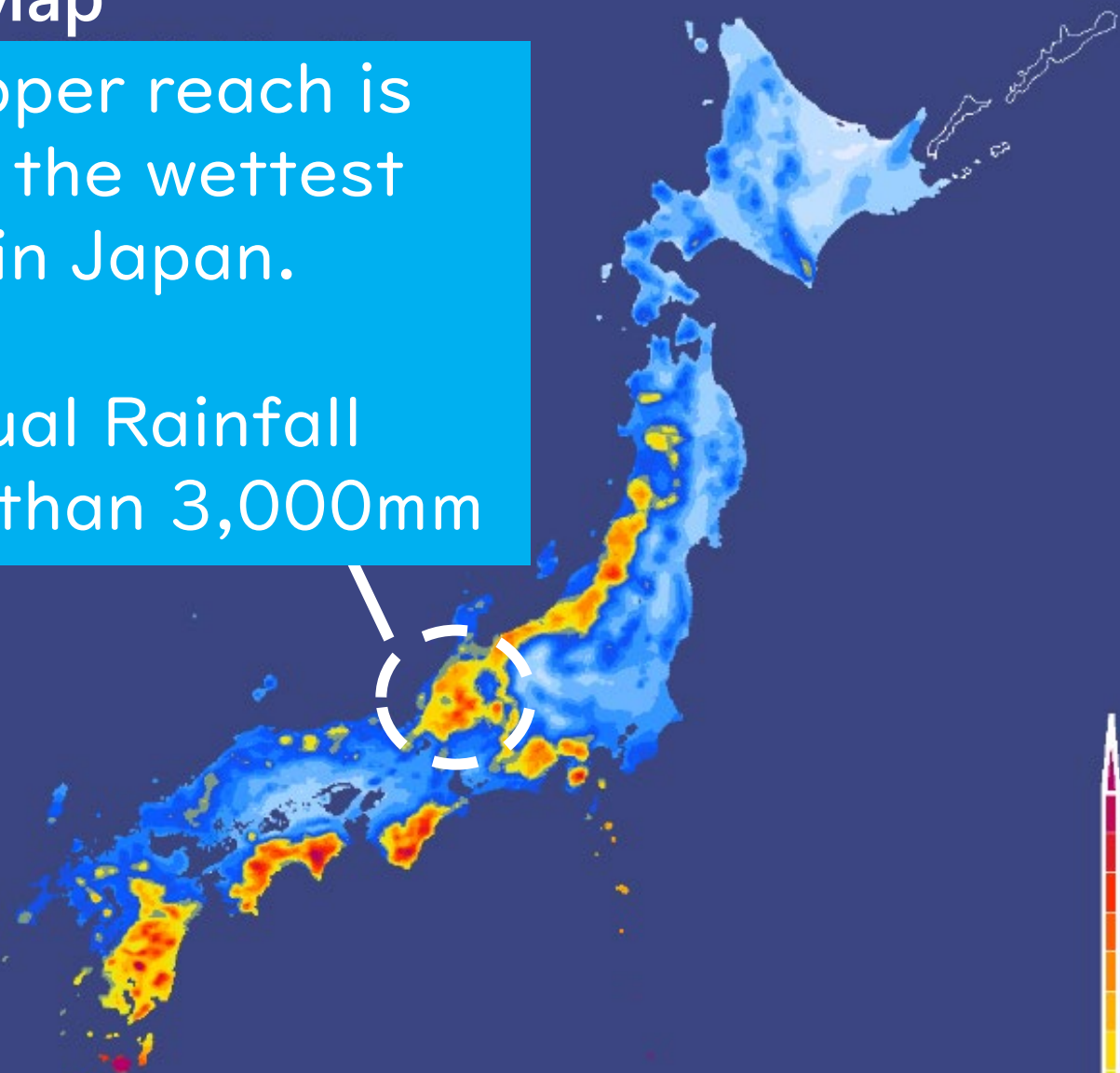


Foundations of the clear waters in Nagara River

Rain Map

The upper reach is one of the wettest areas in Japan.

◎ Annual Rainfall More than 3,000mm



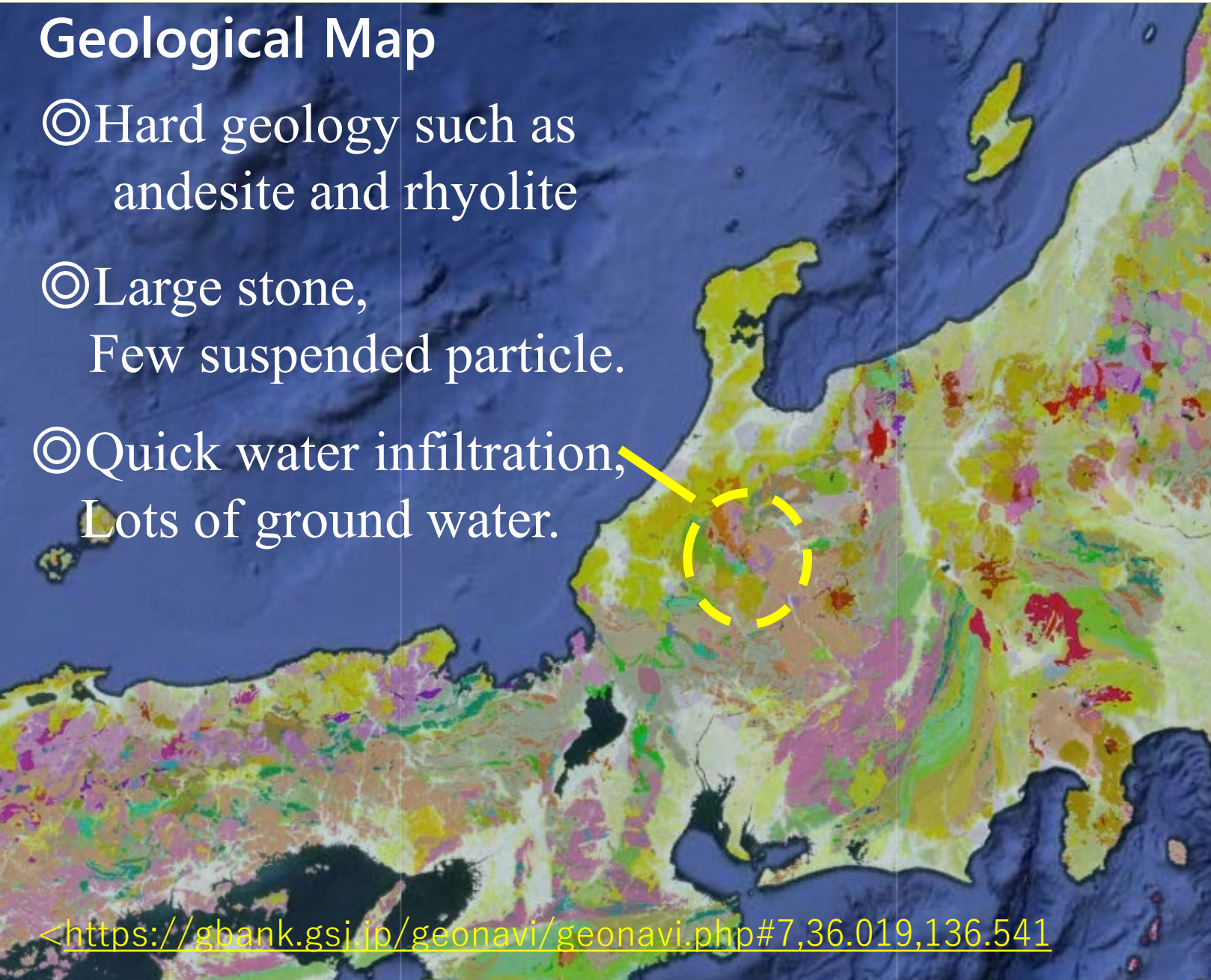
Foundations of the clear waters in Nagara River

Geological Map

◎Hard geology such as andesite and rhyolite

◎Large stone,
Few suspended particle.

◎Quick water infiltration,
Lots of ground water.



The Nagara River System



Forestation Activities

Conservation of forests and water resources



Forests Boasting Clear Waters

One of Japan's three clearest rivers while flowing through urban areas



An Abundance of Ayu

Securing food using traditional fishing methods

The Nagara River System

The cyclical "Satokawa" system links the aquatic environment, fishing resources and daily lives of the people.



Efforts to Conserve the River

Conservation of landscapes and ecosystems



Ayu Nurtured Through the Links Between Forests, Rivers and the Sea



Ayu and Water Culture

A sense of culture and value given to the basin

Biodiversity and adapted technologies

Selected as one of the Green Destinations Top 100 Stories as a sustainable tourist destination in the world

The Nagara River Basin was selected as one of the 100 sustainable tourist destinations in 2021 by the international certification body 'Green Destinations'



Typical issues to be addressed

«Issues related to ayu»

1: Conservation and sustainable use of wild ayu

2: Decrease in the number of anglers and fishery cooperative members

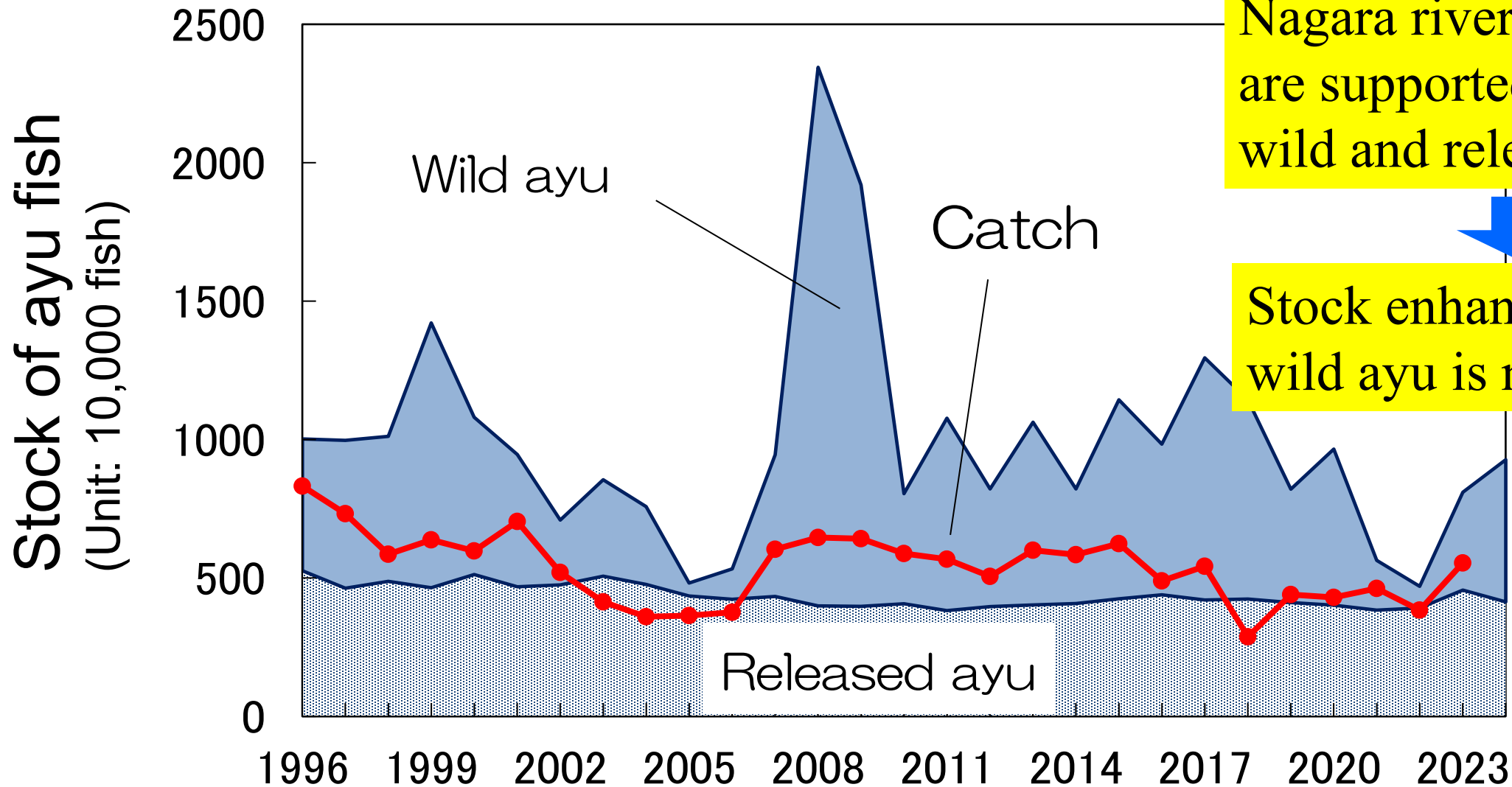
3: Expansion of ayu consumption/value-added

4: Threat of invasive alien species



It is essential to take measures together with the residents of the river basin

Issue 1 : Conservation and sustainable use of wild ayu (Wild, released and catch of ayu in Nagara River)



Nagara river ayu fisheries are supported by wild and release ayu.



Stock enhancement of wild ayu is necessary.

Measures : Establishment of the council for stock enhancement of ayu in Nagara River



Aim:

Increase in ayu stock based on scientific evidence

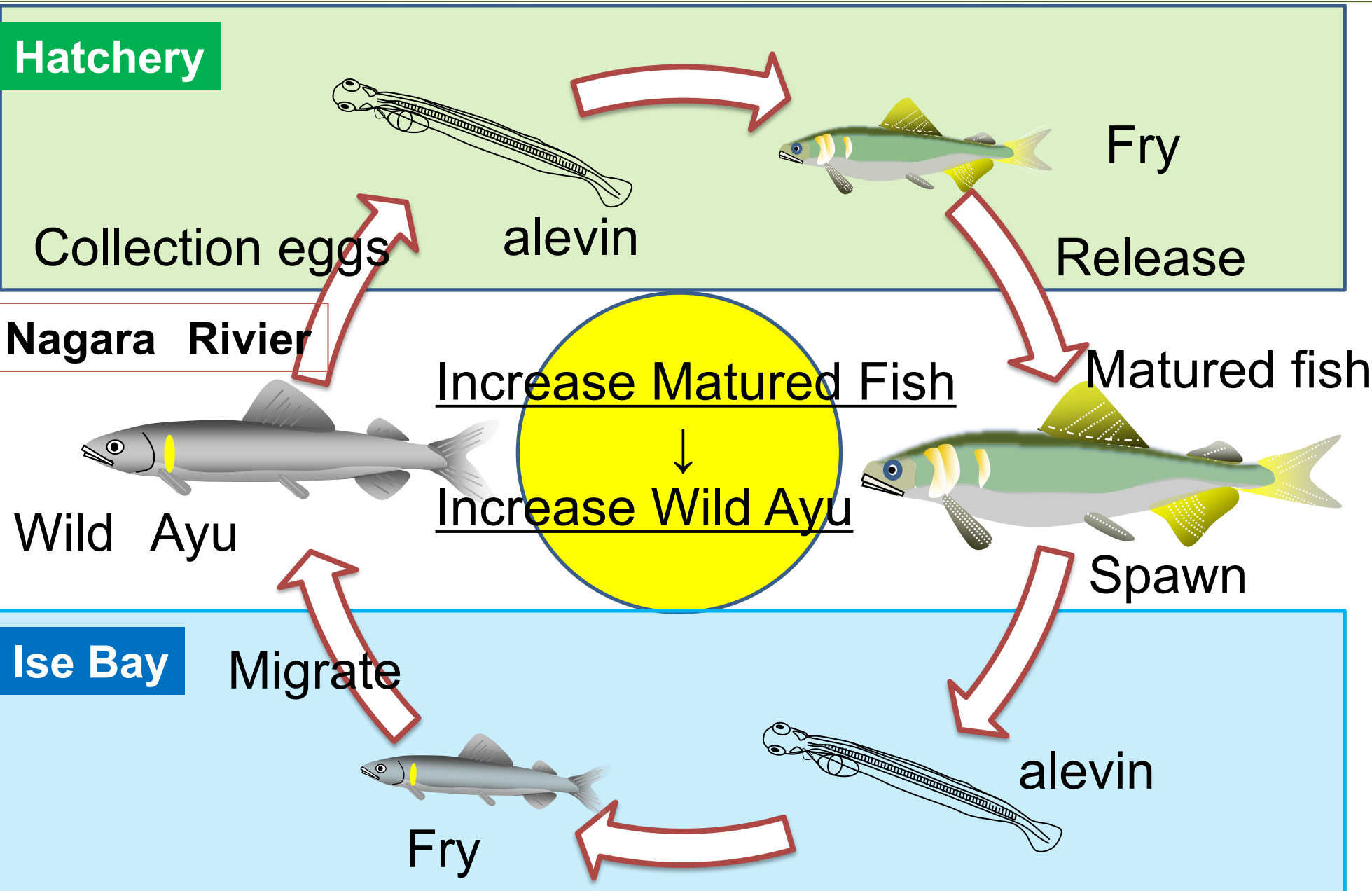
Agenda:

Stock enhancement
Regulations for catch

Members:

Fisheries cooperatives
Local governments
Gifu University

Measures : Increasing in wild ayu stock by releasing hatchery reared fish



Issue 2 : Decrease in the number of anglers and fishery cooperative members

① Fishery cooperative members

Decreased by half in 20 years
(61,000 (1999) → 33,000 (2019))

② Anglers of ayu

Decreased by half in 20 years
(357,000 (1999) → 169,000 (2019))



Measures : Hands-on learning facilities for the development of the next generation

GIAHS Nagara River Ayu Park (Opened on June 2, 2018)

- Dissemination of information on the GIAHS "Ayu of the Nagara River System"
- Providing fish catching and fishing experiences

Visitors: over 900,000



Measures : GIAHS conservation group registration system

~ “Ayu of the Nagara River Systems” Players ~

Conservation groups are working on successor training, tree planting, river cleanups and more.

Number of registrations: 38



Successor training



Tree planting



River cleanups

Issue 3 : Expansion of ayu consumption/value-added Measures : Certification system for GIAHS "Blessings of the Clear Waters of the Nagara River"

Certification of 61 products, including agricultural, forestry, and fishery products, processed foods, and traditional crafts nurtured by the blessings of the Nagara River.



"Ayu of the Clear Waters of the Nagara River"



"Dojo Hachiya" Dried Persimmons



Sun-dried Natural Ayu



Specially cultivated rice



Ayu shaped Sweets "NoboriAyu"



Enku Satoimo (Gifu's brand of premium quality round taro)



Gifu Gujo tomatoes



Disposable chopsticks with natural materials



Gujo Honzome Dyed Table Runners



"Water Fan"



Certification Seal

Issue4 : Threat of invasive alien species

① First confirmed in Nagara river

Confirmed in the middle reach of the Nagara river on May23, 2023.

② Fears of feeding damage to ayu

- Top predator eating ayu.
- Habitat overlapping with ayu.



Smallmouth bass (Micropterus dolomieu)



Need to work towards complete extermination of Smallmouth bass

Comprehensive measures for complete extermination

① Accurate identification of habitat

- Environmental DNA 500 points
- Database (GIS) for capture information

② Extermination in all habitat

- Electric shocker boat 3 boats
- Suppression of reproduction

③ Surveillance illegal release of alien fish

- Raise awareness through posters and signboards
- Surveillance by all relevant agencies.

Electric shocker boat



Poster



Signboard

International contribution on inland fishery

① Technical training for foreign trainees

- Participating nation 43 countries
- Participant 205 persons



② Providing technology by dispatching experts

- Country: Thailand
- Theme: Rainbow trout artificial seedling production
- Results: Ten-fold Increase in productivity
(Seedling production : 10,000→100,000 fish)



Egg collection by compressed air

Ayu of the Nagara River System



Thank you!

