# Lake Biwa System, connecting to the future Sustainable Livelihood System by Fishery and Agriculture

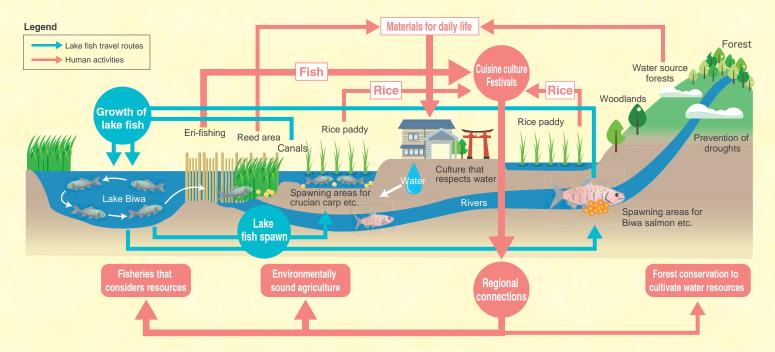


- Lake fish (like carp and crucian carp) that have lived in Biwa since antiquity come and spawn in the rice paddies
- Traditional Eri-fishing, where men and women work together, among other styles of fishing around Lake Biwa
- Traditional Nare-zushi and funa-zushi, are made and presented as offerings at the shrines
- The intersection of humans, and various living creatures in rice paddies and Lake Biwa
- Lake to land focused environmentally sound agriculture, and water source forest conservation that conserves the spawning grounds

# **Biwa Lake to Land Integrated System**

### The system of Lake Biwa, weaved together with fishery and agriculture industries that have been raised in the forests, villages, and lakes

The rice paddies around Lake Biwa have provided the breeding ground for lake fish such as the crucian carp, which is endemic to Lake Biwa. Eri-fishing, which skillfully utilizes the ecology of the lake fish that come to the rice paddies and lakeside reed area, is the representative traditional resource-friendly wait-style fishing method. Additionally, connections between forests, rivers, rice paddies and lakes and the conservation efforts such as lake to land focused environmentally sound agriculture and water source forest conservation that contribute to the protecting of the spawning ground for the fish of Lake Biwa are important worldwide. The agriculture, forestry and fishery of the Lake Biwa System have coexisted with the lake for more than 1,000 years, and was certified as a Globally Important Agricultural Heritage System in July 2022.



### icepaddies where lake fish come to spawn (fish cradle rice paddies)

Crucian carp is an endemic species of Lake Biwa and the rice paddies on the shore of the lake have a major role in their spawning and growth. Around May, when breeding season begins, these lake fish arrive at the rice paddies after



- traveling through the lakeside reeds and waterways to spawn.
- Rice paddies during this period are suitable for young fish growth because the water is warm, there are few predators and food such as plankton is abundant
- In rice paddies where there is a difference in water level with the waterways, special fishways have been installed to continue the

traditional fish cradle rice paddy system where fish swim up-river to spawn.



These rice paddies also contribute to the conservation of biodiversity by protecting the water resources and nurturing an abundant array of life.

### esource conservation through **Internal Wait-style fishing**

- Eri-fishing, which is the representative fishing style of Lake Biwa, is a traditional method with a history of more than 1,000 years. This method was celebrated in Japanese poems written during the Heian period.
- Eri-fishing is a wait-style fishing method that skillfully utilizes the ecology of the migrating lake fish in Lake Biwa to guide the fish into tsubo, or collection areas. This method allows the fisherman to catch as much as they need with the limited resources in mind.
- The idea of resource conservation, that has been in place since the Edo period, includes restrictions of the installation of Eri-fishing and the creation of prohibited fishing areas, continues to persist in present day.





To conserve the water quality and ecosystem of Lake Biwa, many farmers are implementing environmentally friendly agriculture and measures to protect and

improve the entire rural area that will be used for Organic cultivation (mechanical weed control generations to come. As a result of these efforts, agricultural land has also become rife with various lifeforms

Lake to land focused environmentally sound agricultural products are produced with less than half the number of pesticides and chemical fertilizers, and the cultivation area for these products is expanding yearly. Additionally, the amount of chemically synthesized pesticides has decreased roughly 40% since the beginning of these initiatives.



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### onservation of water source forests

- In the mountains surrounding Lake Biwa, forest greening has been promoted since the Meiji Era. This helps prevent floods and droughts in the rivers and contributes to preserving the breeding ground for lake fish that spawn in the rivers.
- The conservation of these water source forests has been promoted through the creation of corporation-led forests and "Fisherman's Forest," where fishermen, foresters and citizens of the prefecture collaborate to plant trees around Lake Biwa.



## 📪 raditional cultural cuisine, such as Funa-zushi, and festivals

- Nare-zushi, which is at the heart of the cultural cuisine, is a preserved food made by fermenting lake fish and rice. In recent years, it has become popular as a healthy food.
- Within Nare-zushi, Funa-zushi has been used as gifts and offerings at festivals and has contributed to fostering connections between people.
- In modern times, this expansion of connections between people has led to the continued succession of the Lake Biwa System through participation of various groups.



