

# Resource Management of Japanese Eels Under Strict Regulations

In Japan, adult eel fishers, glass eel capturers, and eel farmers collaboratively work on resource management.

## Shortening the fishing season for glass eels

Glass eel fishing is subject to licenses to be issued by prefectural governments.

Also, fishing season is shortened in many fishing grounds to secure that more glass eels can run upstream to rivers.



## Implementing licensing system of eel farming

In 2015, licensing system by the Ministry of Agriculture, Forestry and Fisheries was introduced to eel aquaculture farming.

To comply with the upper limit of the amount of eel seeds being put into farming ponds, the allowable amount of eel seeds is allocated to each eel farmer under the licensing system.

## Prohibition of matured eel fishing

In order to secure that more adult eels migrate to the spawning ground in the sea, eel fishing in the migrating season (October-December) is prohibited in many fishing grounds.



A poster made by Kumamoto prefecture to save the eel resources

# Japan's Initiative in the East Asian region

Japan, the largest eel consuming country, takes a lead in resource management of eels in the East Asian region.

## Restrict the Number of Japanese Eels in Farming Ponds

Japan, China, Korea, Chinese Taipei, have had international consultation with the initiative of Japan. In 2014, they released the joint statement described below and are engaging in restricting the amount on eels being put into farming ponds.

○For Japanese eel, the amount of initial input of eel seeds for the 2014-2015 input season (November 2014-October 2015) will be no more than 80% of that of the 2013-2014 input season.

○For other eel species, every possible measure not to increase the amount of initial input of eel seeds from the recent level (the last three years) will be taken.

The above mentioned regulations are being carried out in the 2016 input season, as well.

## Preserve the Food Culture of Unagi, Japanese Eels

The eel aquaculture industry organizations from four East Asian members established an international organization called "Alliance for Sustainable Eel Aquaculture (ASEA)".

### Alliance for Sustainable Eel Aquaculture (ASEA)

- Japan All Japan Association for Sustainable Eel Aquaculture Incorporated
- China China Fisheries Association Eel Industry Work Committee
- Korea Eel Farming Fisheries Cooperative Association
- Chinese Taipei Taiwan Eel Farming Industry Development Foundation

Governments and industry keep their cooperation to promote the sustainable use of eels to preserve the Japanese food culture.



ASEA The First Meeting (in June 2015)

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The 100 Best Eels

# Unagi

[Japanese Eel / *Anguilla japonica*]

## Japanese Eel— For its Sustainable Use

The relationship between Japanese and *Unagi* is long-standing and inseparable. When and how was the unique Japanese food culture of *Kabayaki*, an eel grilled with sweetened soy sauce, born and how does it continue to today?

This brochure introduces our efforts that we try to pass down Japanese food culture to the future generation while achieving sustainable use of Japanese eel.

## A Long-Standing Relationship Between Japanese and Eels

**The relationship between Japanese and eels started in the Jomon Period, 5000+ years ago.**

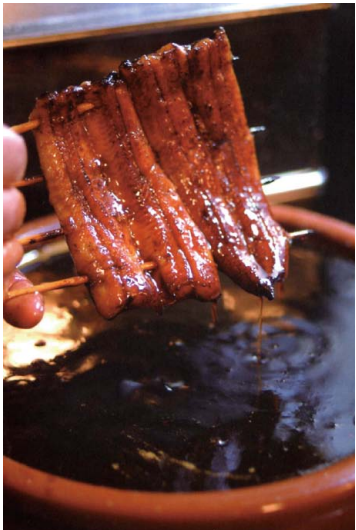
The bones of eels were found from shell mounds of the Jomon Period, more than 5000 years ago. It was assumed that Japanese have utilized eels since then.

**"Kabayaki" was born about 200 years ago.**

Initially, eels were eaten as roasted whole with *Miso* spread (fermented soy bean paste).

*Kabayaki* is a unique Japanese cuisine in which the eel is opened and boned. Then it is dipped into sweetened sauce made from soy sauce and Mirin (rice wine) and char-grilled.

It is said that current style of *Kabayaki* was established in the Edo Period, about 200 years ago when all the necessary items to make *Kabayaki* such as a blade (kitchen knife), charcoal, soy sauce, and Mirin became available.



"No.32 Arai, Kabayaki, the local specialty: from Tokaido Gojusan-tsugi, (53 stages on the Tokai-do Road)" By Hiroshige UTAGAWA 1847-1852



## Eel Farming is essential for *Kabayaki* Culture

**Eel farming began approximately 150 years ago and currently 99% of eel production is coming from farm-cultured eels.**

There are 19 species of eels in the world. The *Kabayaki* that we, Japanese, mostly eat is the Japanese eel (*Anguilla japonica*). 99% of eels is raised in farms.

Japanese eel aquaculture started in Fukagawa, Tokyo, in 1879 by Kurajiro Hattori. Later, from around 1897, it was first introduced to Lake Hamana and then spread from the Tokai region to across the country. In around 1960s, eel farming was introduced to temperate regions, Shikoku and Kyushu.

**It takes 6 to 8 months to raise eels, when they are carefully raised.**

Japanese eel babies, known as glass eels, are carried by the Kuroshio Current to the Japanese coast during the winter and spring, and are captured around estuaries.

They are put into heated ponds and raised for the period of 6 to 18 months until they become weight about 200g.

Due to development of farming technologies and the farmers' efforts in the daily management, nowadays almost all glass eels in aquaculture ponds survive to be sold.



Glass eel



Eel Farm

## The Need for Management of Japanese Eels

**A concern about decreasing trend of eel resources.**

Since 1975, the amount of glass eel capture in Japan has been declining.

It is pointed out that changes of marine environment, degradation of their habitat and overfishing can be reasons for this declining trend.

However, it is not revealed how much each factor contribute to it, because the ecology of Japanese eel is not extensively elucidated.

**One resource is shared with four East Asian members.**

Recent research revealed that after staying in rivers or estuaries for 5 to 15 years, Japanese eels swim out to the sea and spawn in areas located to the west of the Mariana Ridge that is far away from Japan.



Hatched eel babies are carried by the *Kuroshio* Current and reach Japan, Chinese Taipei, China, and South Korea, where they are utilized for eel farming, around November to April in the following year.

It is necessary for these four East Asian members to cooperate on conservation and management of Japanese eel for its sustainable usage.