

Primary fish inhabiting the Chikugo Barrage area



▲ **Ayu** (15-30 centimeters, Osmeridae family)

Called the queen of freshwater fish, their life span is just one year.



▲ **Etsu** (20-40 centimeters, Engraulidae family)

This is a rare species in Japan native to the downstream area of the Chikugo River. They swim upstream to spawn from June to August.



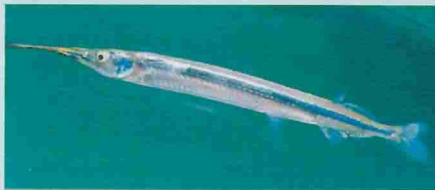
▲ **Yamanokami** (10-16 centimeters, Cottidae family)

In Japan, these sculpins inhabit the mid-stream and downstream areas of the Chikugo, Kase, Suminoe, Rokkaku, and Hama Rivers, which empty into the Ariake Sea. They spawn from January to March in the estuaries or tidal areas of the sea.



▲ **Oikawa** (8-18 centimeters, Cyprinidae family)

This variety of carp is called yamabe in the Kanto region and hasu in the Kansai region. They prefer to live in rocky riverbeds.



▲ **Kurume sayori**

(10-18 centimeters, Hemiramphidae family)

Sometimes known as the halfbeak, these fish have elongated bodies and swim in schools close to the surface.



▲ **Tairiku shima dojo**

(6-13 centimeters, Cobitidae family)

This loach has six barbels around the mouth. They feed on moss, scooping it up with the sand from the bottoms of rapids.



▲ **Nigoi** (10-50 centimeters, Cyprinidae family)

This carp variety is dark gray as an adult, but has brown speckles on the sides when young. They are common in rivers, ponds, and lakes throughout Japan, except for Hokkaido.



▲ **Kamatsuka**

(10-20 centimeters, Cyprinidae family)

These carp live on sandy river bottoms and feed on aquatic insects and worms.



▲ **Catfish** (10-60 centimeters, Ictaluridae family)

These fish, known as namazu in Japanese, have four whisker-like barbels extending from the jaw. They inhabit the sandy bottoms of calm areas. They hide behind rocks in the daylight and attack frogs or young fish at night.



▲ **Ariake hime shirauo**

(5-6 centimeters)

This fish, found only in Japan, inhabits only the tidal areas of the Chikugo River and the Midori River.

The eggs are laid on the rough sand of the riverbed in spring. Their life span is just one year.



▲ **Ginbuna** (10-30 centimeters, Cyprinidae family)

These carp are known for the fewer numbers of males compared to females.



▲ **Mokuzu crab**

(6 centimeter shell span, Rock crab family)

These crabs have soft furry tufts on their claws. They swim downstream in the fall to lay their eggs in the sea. In early spring, the young crabs (1-2.5 centimeters) swim upstream past the barrage.



▲ **Gengorobuna**

(25-40 centimeters, Cyprinidae family)

These fish are natural inhabitants of Lake Biwa. The Chikugo River was stocked with these fish after World War II for breeding.

Efforts for the environment 3

The amount of refuse from our daily lives is sharply increasing, contributing to environmental damage. Refuse collection facilities have been built enabling the refuse to be efficiently removed.

Refuse impairs barrage functions

When the river water rises, large amounts of refuse flow to the Chikugo Barrage and get stuck there. This refuse interferes with barrage operations in several ways.



Interfering with gate operations



Refuse collected at the gates



The refuse clogging the locks interferes with the passage of ships and the movement of fish



Interference with downstream fishing (gill nets, laver cultivation)

Building refuse collection facilities

Refuse collection facilities were completed at the Chikugo Barrage in June 2002 to facilitate the removal of refuse. These facilities supplement preliminary operations and remove rubbish which may interfere with the gate operation and fishway function, and to improve the environment in the downstream area of the Chikugo River and the Ariake Sea. The facilities are submerged when the gates are fully open during floods, at times preventing their function.



Refuse easily accumulates at: Large upstream bends in the river, at ①, and locations ② and ③ when northeasterly winds dominate. Utilizing these characteristics, the refuse collection facilities were located at ③ for the collection of refuse.

Refuse collection facility mechanisms



Collection equipment (Refuse is collected)

Equipment at net areas (Enhances the supplementary effect of rubbish collection)

Refuse collection at the refuse collection facility

The work flow for removing rubbish from the Chikugo Barrage



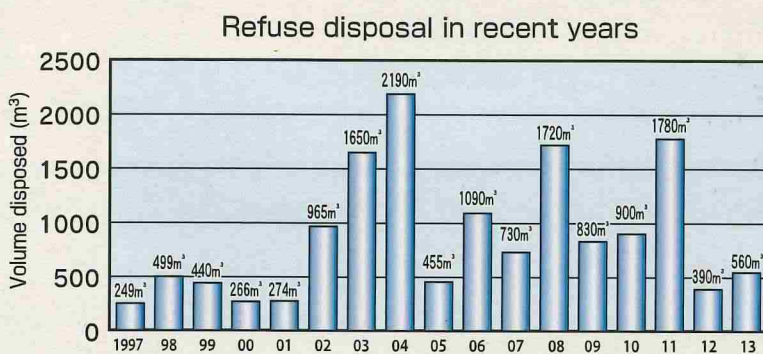
1 Refuse collection by ship



2 Unloading refuse with back-hoe



3 Drying refuse



4 Separating into non-burnable and burnable refuse

Beautiful rivers
protect our way of life.
Let's stop littering.



5 Transport to disposal site

Cooperating on refuse measures throughout the river area

Chikugo River cleanup (Anti-littering campaign)



The Chikugo River Cleanup is an anti-littering campaign begun in 1986. The fourth Sunday of every month is a no-littering day, to prevent trash from being thrown in the river. Residents of municipalities in the Chikugo and Yabe River areas and humane associations cooperate to clean up the river.

The Ariake Sea Cleanup Strategy



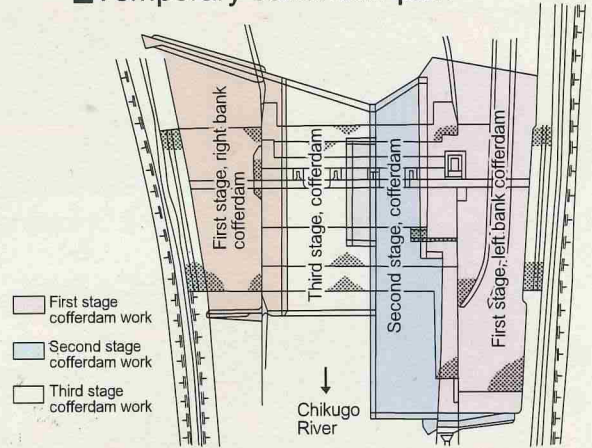
The Ariake Sea Cleanup Strategy was launched in 1989. This is an activity to clean up the shore of the Ariake Sea through the united efforts of Fukuoka, Saga, Nagasaki and Kumamoto Prefectures, the four prefectures fronting the sea. Many people, primarily those in the fishing industry, participate every year in an effort to return the Ariake Sea to its beautiful state before it was soiled by factories and households indiscriminately dumping refuse and releasing waste water.

Changes in the Chikugo Barrage

Construction

Construction began in January 1977 and was completed in March 1985. The barrage was built across the river, so construction work was done in three stages to avoid possible high water discharge.

■ Temporary cofferdam plan



First stage construction work
(December 1980 to September 1981)



Work was started simultaneously on both banks. A minimum construction area was established on the right bank, with the cofferdam removed by May.

Second stage construction work
(October 1981 to May 1982)



The remainder of the first stage construction work was completed. Two barrage columns were set in the left bank, two abutment sections were mounted on both banks, and two gates were installed.

Third stage construction work
(October 1982 to May 1983)



Two barrage columns were set in the right bank, three gates were installed, and five spans were mounted to complete the supervisory bridge. In addition, equipment and facilities were installed on both banks and the stream channels were dredged. The main structures were completed.

Operation

Operation began in April 1985 and has been conducted very conscientiously. There was a record water shortages in northern Kyushu in 1994. There was also a large typhoon in September 1991 that felled many trees in the mountainous areas upstream. Wood from these trees was washed into the river and caused many problems.



The water shortages in 1994 (Terauchi Dam)



Yamaguni River basin

Amagase-machi,
Oita Prefecture

Damage from the felled trees in the 1991 typhoon

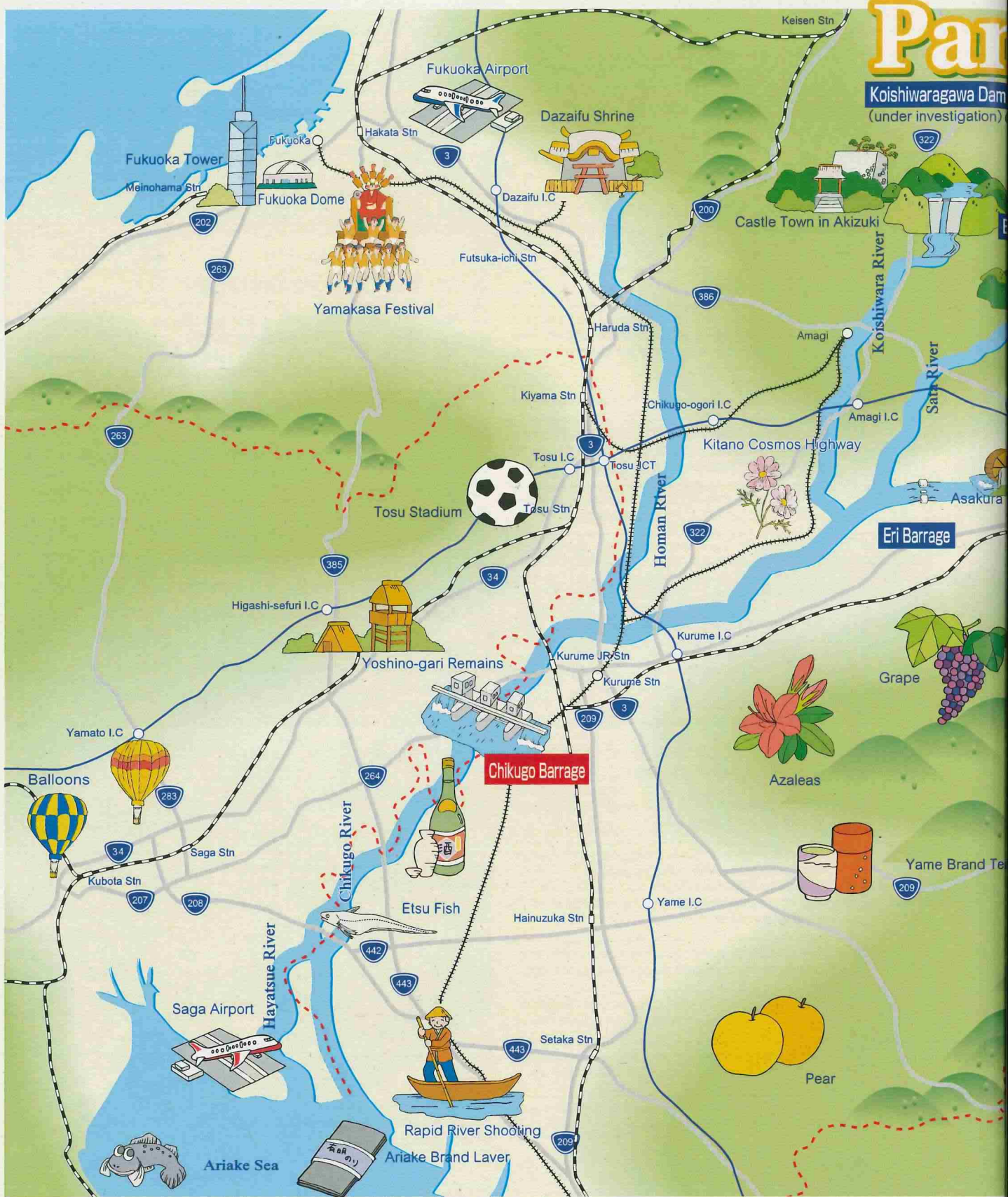


Construction timeline for the Chikugo Barrage

- Jul. 26, 1974:** A Cabinet decision to partially modify the basic plan for water resource development of the Chikugo River system resulted in additions to the Chikugo Barrage construction project.
- Aug. 1, 1974:** The Chikugo Barrage Survey Office was established.
- Nov. 24, 1976:** The Second Chikugo River System Water Resources Development Scheme was adopted by the Council for North Kyushu Water Resources Development.
- Jan. 28, 1977:** Policies for the Chikugo Barrage construction project were issued by the Construction Minister.
- Feb. 16, 1977:** The Chikugo Barrage Construction Office was established.
- Nov. 28, 1977:** The construction plan for the Chikugo Barrage was authorized.
- Mar. 31, 1978:** Barrage construction work was let to contractors.
- Sep. 2, 1978:** A provisional injunction to suspend construction was issued.
- Sep. 12, 1978:** A lawsuit was brought to stop construction.
- Apr. 18, 1979:** Barrage construction began, but was halted the following day.
- Dec. 25, 1980:** Barrage construction began again.
- Sep. 30, 1983:** The Construction Minister announced that the barrage passed a test for partial use.
- Jan. 9, 1984:** Temporary operation of the barrage began concurrent with the removal of the Kamizuru bed sill.
- Oct. 31, 1984:** A ceremony was held to mark the completion of construction work.
- Mar. 9, 1985:** The Construction Minister announced a revision of policies for the Chikugo Barrage Construction Project.
- Mar. 20, 1985:** The Construction Minister authorized the revision of policies for the Chikugo Barrage Construction Project.
- Mar. 29, 1985:** The Construction Minister issued the basic policies for operation and maintenance of the Chikugo Barrage.
- Mar. 30, 1985:** The Construction Minister authorized the basic policies for operation and maintenance of the Chikugo Barrage.

Operation timeline for the Chikugo Barrage

- Apr. 1, 1985:** The Chikugo Barrage Operation and Maintenance Office was established.
- Feb. 5, 1990:** The revision of the policies for operation and maintenance of the Chikugo Barrage were authorized.
- Aug. 6, 1990:** A partial revision of the policies for operation and maintenance of the Chikugo Barrage was authorized.
- Oct. 1, 2003:** Incorporated administrative agency, Japan Water Agency was established.
- Apr. 1, 2011:** Some organizations about The Chikugo Barrage were integrated with The Chikugo Barrage Operation and Maintenance Office.
- Mar. 22, 2013:** A partial revision of the policies for operation and maintenance of the Chikugo Barrage was authorized.



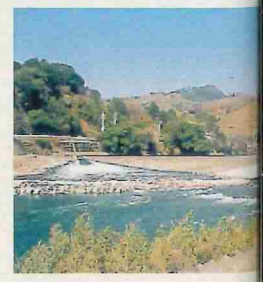
The Chikugo River area is rich in poetic sentiment



■ Water transmission embankment near river mouth

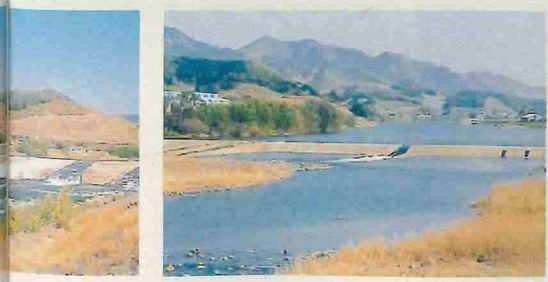
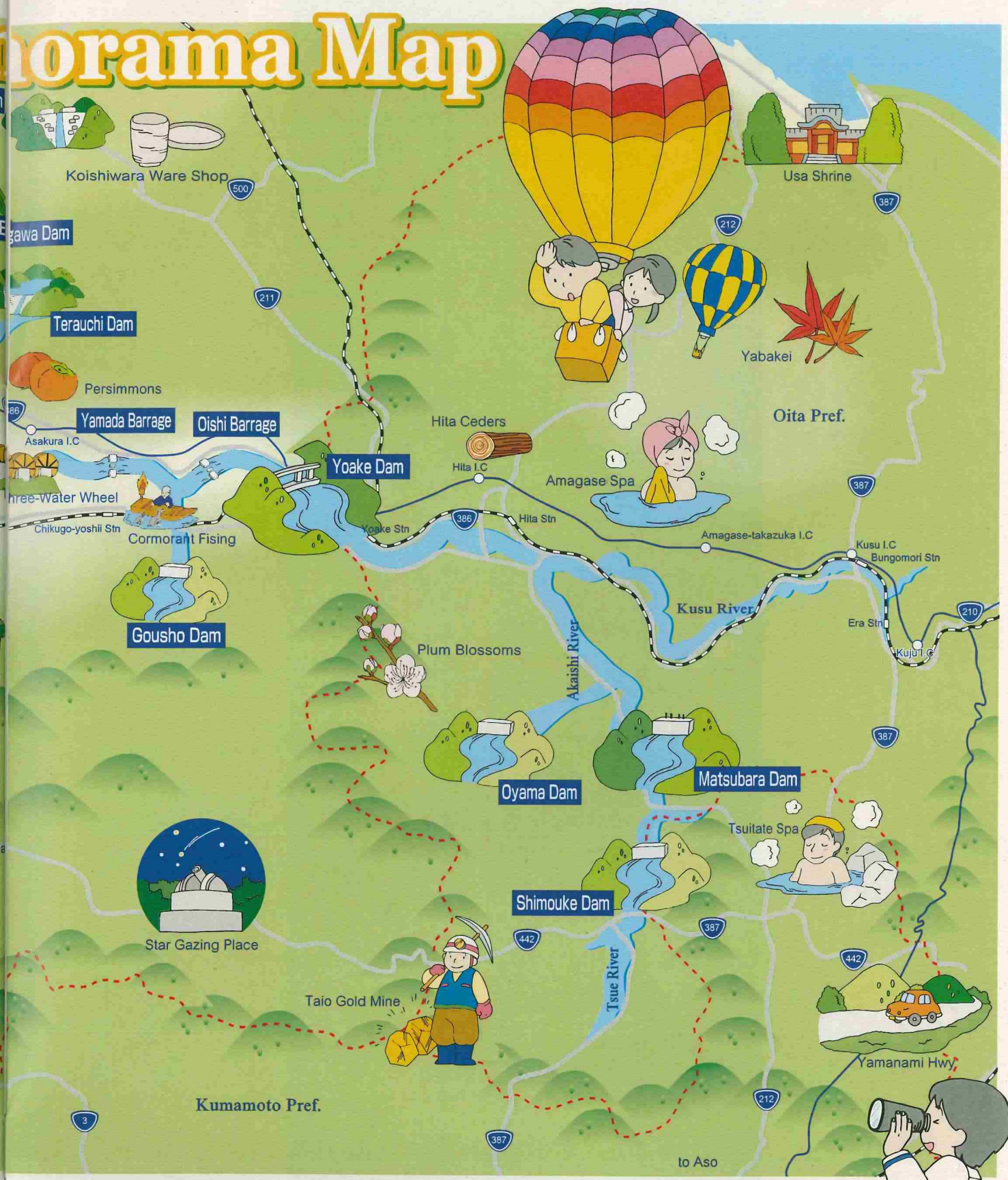


■ Eri Barrage



■ Yamada Barrage

Horama Map



■ Oishi Barrage

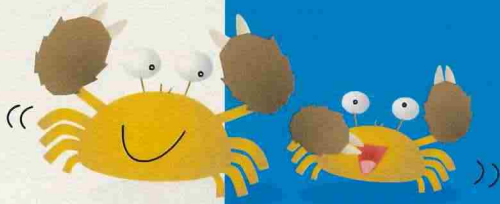


■ The bank of the Chikugo River in Spring



■ The triple waterwheel at Asakura





Life with "Chiggo"



Learn at the Chikugo Barrage, and develop ties with the Chikugo River

Water supports wealthy society

For inquiries about the Chikugo Barrage:

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You can see the Chikugo Barrage in real time on our website

Website: <http://www.water.go.jp/chikugo/coozeki>

i-Mode/Softbank/au(Ezweb):<http://ckgcoozeki.jp>