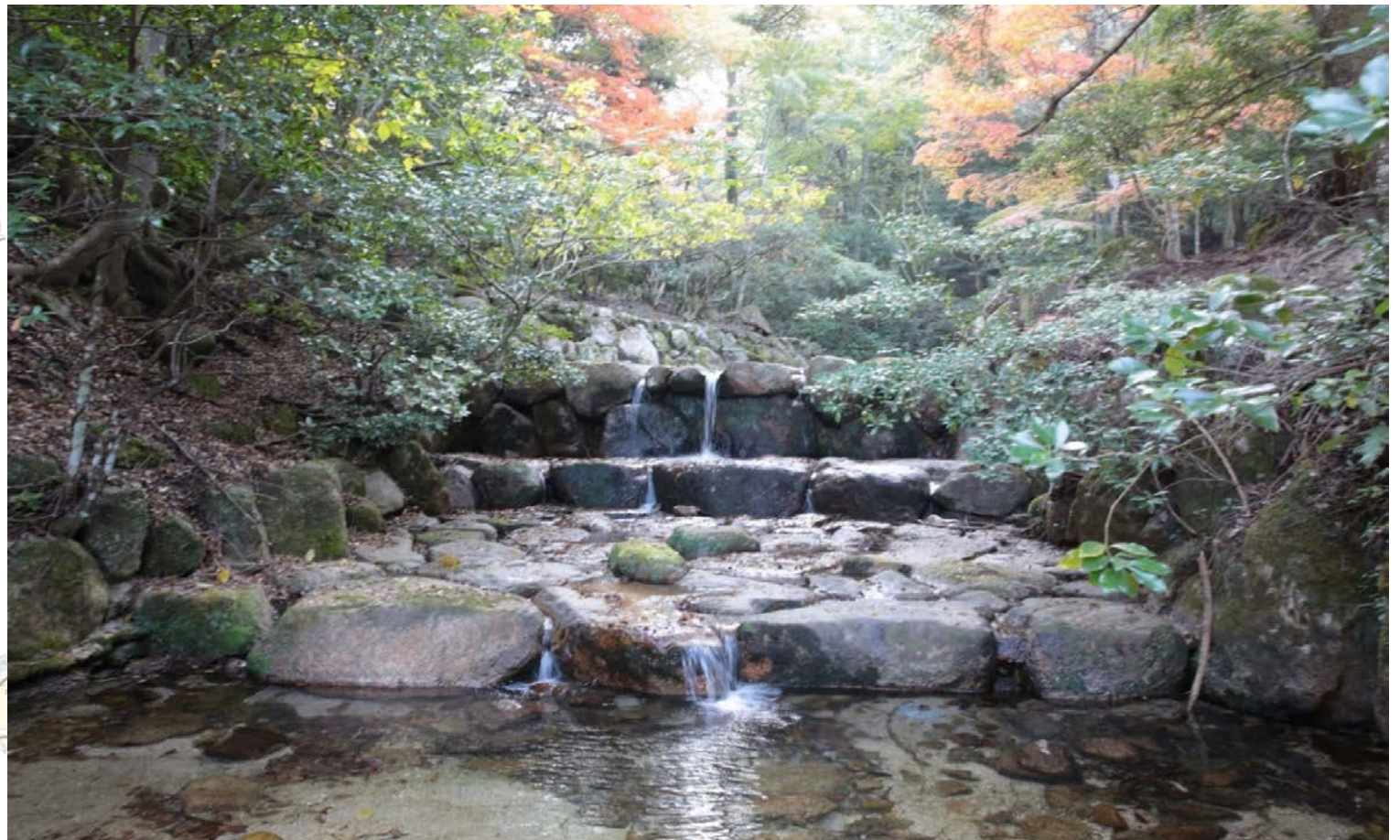
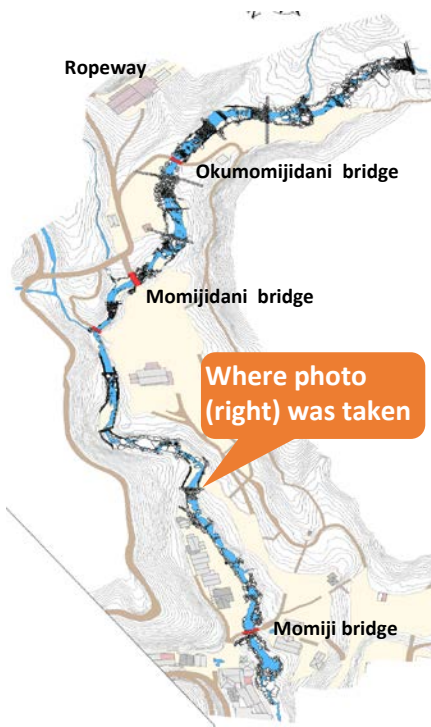


Important Cultural Property / Erosion and Sediment Control Work for the Momijidani River Park



NO.1 Sediment Control Dam

*The first civil engineering
facility which was
constructed after WWII, to
be designated as an
"Important Cultural
Property" in Japan*

The erosion and sediment control work for the Momijidani River Park is a 688m-length channel works which was constructed in 1948-1950. It was the first civil engineering work which was constructed after WWII, to be designated as an "Important Cultural Property" in Japan. If you take a walk along the channel works, you can see the groundsels and sediment control dams. A total of 6 types of "Sabo Cards," commemorating the facility's designation as an important cultural property, and showing highlights of the project, are distributed free of charge at the Mt. Misen Observatory.



Sabo Cards

Distributed from January to February



Distributed from March to April



Distributed from May to June



Distributed from July to August



Distributed from September to October



Distributed from November to December



Commemorative sabo cards of Important Cultural Property designation (normal version)

Distributed from January to February



Distributed from March to April



Distributed from May to June



Distributed from July to August



Distributed from September to October



Distributed from November to December



Commemorative sabo cards of Important Cultural Property designation (limited edition)

6 types of sabo cards that describe the highlights of important cultural properties

A total of 6 types of "Sabo Cards" commemorating the facility's designation as an important cultural property, and showing highlights of the project, are distributed free of charge at Mt. Misen Observatory.

In addition, to commemorate it's designation as an important cultural property, we will distribute the limited edition Sabo Cards to the first 1,000 visitors.

As soon as the limited edition cards run out, only the normal edition ones will be available, so please come as soon as possible.

There is a one sabo card per two months limit per person, and you can receive up to six cards in total.

Erosion and Sediment Control Project in Harmony with the Historical Scenery of Itsukushima



Downstream from Momiji Bridge

The erosion and sediment control work was carried out under the post-WWII turmoil, through collaboration between national and local governments and GHQ

The Momijidani River, which flows from Mt. Misen down to behind Itsukushima Shrine, was damaged by debris flows in the 1945 Makurazaki Typhoon. Resultantly, a disaster rehabilitation project of the river began in 1948 and was completed in 1950 at the "historic site and place of scenic beauty of Itsukushima". This erosion and sediment control work was created through the collaboration of erosion control and gardening experts. The result is a project which skillfully utilizes boulders deposited by debris flow, and which is in harmony with the scenery of Momijidani Park, a famous viewing spot for autumn leaves, and the historical scenery of Itsukushima. This was an important disaster rehabilitation project, carried out through collaboration between the national and local governments and GHQ under the turmoil just after the WWII.

Damage Caused by the 1945 Makurazaki Typhoon



Damage downstream from Momiji Bridge (※1)

A typhoon with incredibly force hit through Japan just after WWII

The Makurazaki Typhoon made landfall near Makurazaki City, Kagoshima Prefecture, around 14:00 on September 17, 1945.

After making landfall the typhoon moved northeast. As a result, Hiroshima experienced fierce wind with a maximum speed of 30.2m/s, and a total rainfall of 218.7mm, with a maximum hourly rainfall of 57.1mm. Shortly after the end of WWII, there was little weather information and disaster prevention systems were inadequate, causing great damage in various places, especially in Hiroshima Prefecture, where more than 2,000 people were killed or went missing.

On Itsukushima, debris flow disasters occurred at the Momijidani, Shiraito, and Omoto Rivers.

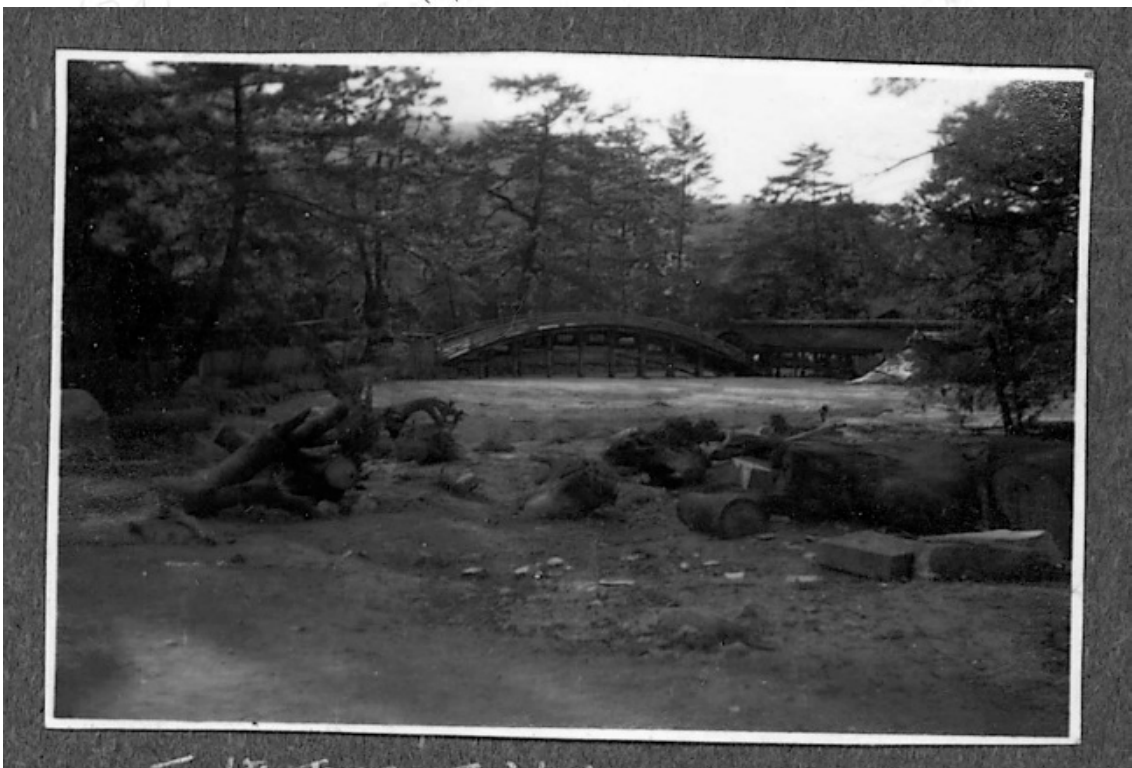
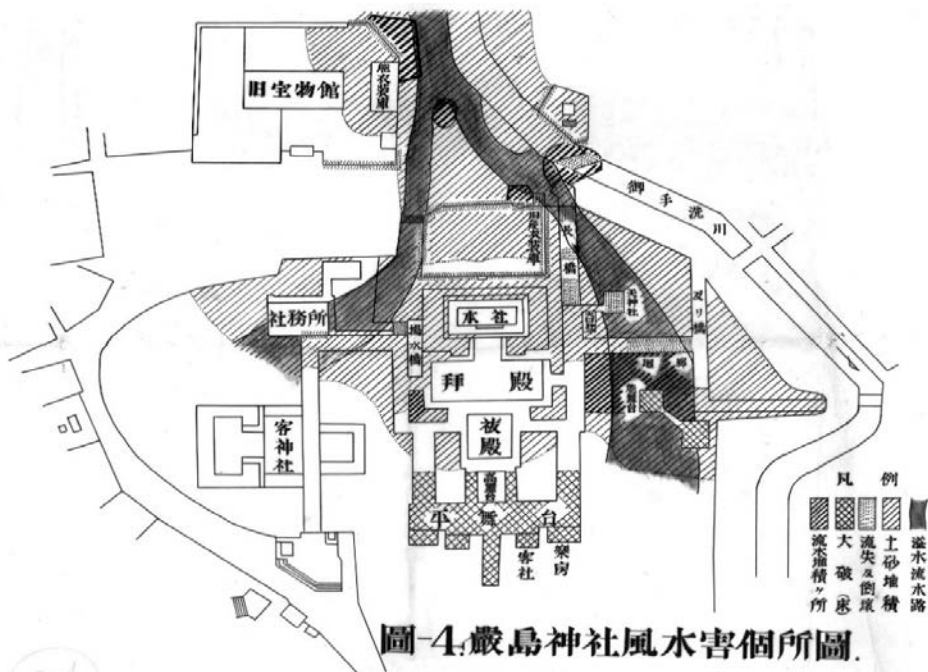
Damage to Itsukushima Shrine



Near Sorihashi Bridge, Tenjin Shrine, and Oguni Shrine [September 1945] (※1)

Itsukushima Shrine was covered by sediment and driftwood

The area around the Momijidani River was registered as a designated sediment control area on March 13, 1934. After that sediment control dams were built, but they were insufficient to stop the debris flow generated by the Makurazaki Typhoon. Huge stones and driftwood flushed through the middle and lower stream and reached grounds of Itsukushima Shrine. During the disaster rehabilitation project, 16,000m³ had to be dredged.

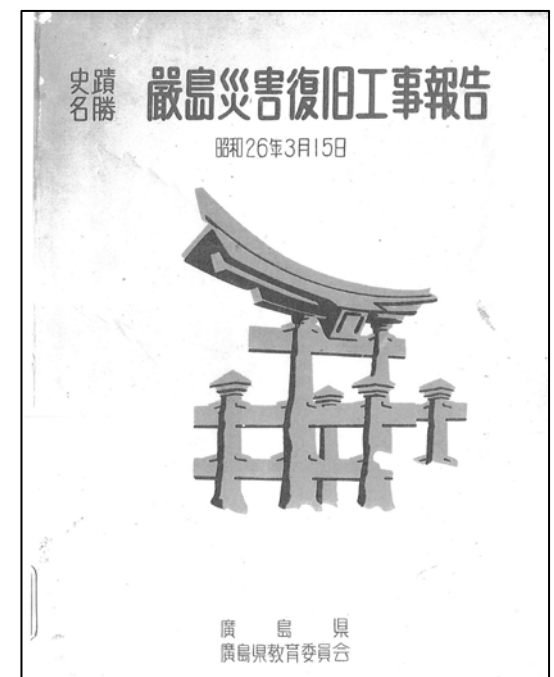


Near Tenjinsha on the east side of Sorihashi Bridge [January 1946] (※1)

Rehabilitation Plan From the Debris Flow Disaster



(left) Member of the Itsukushima Disaster Rehabilitation Committee, taken on 12th Aug 1948(※2)



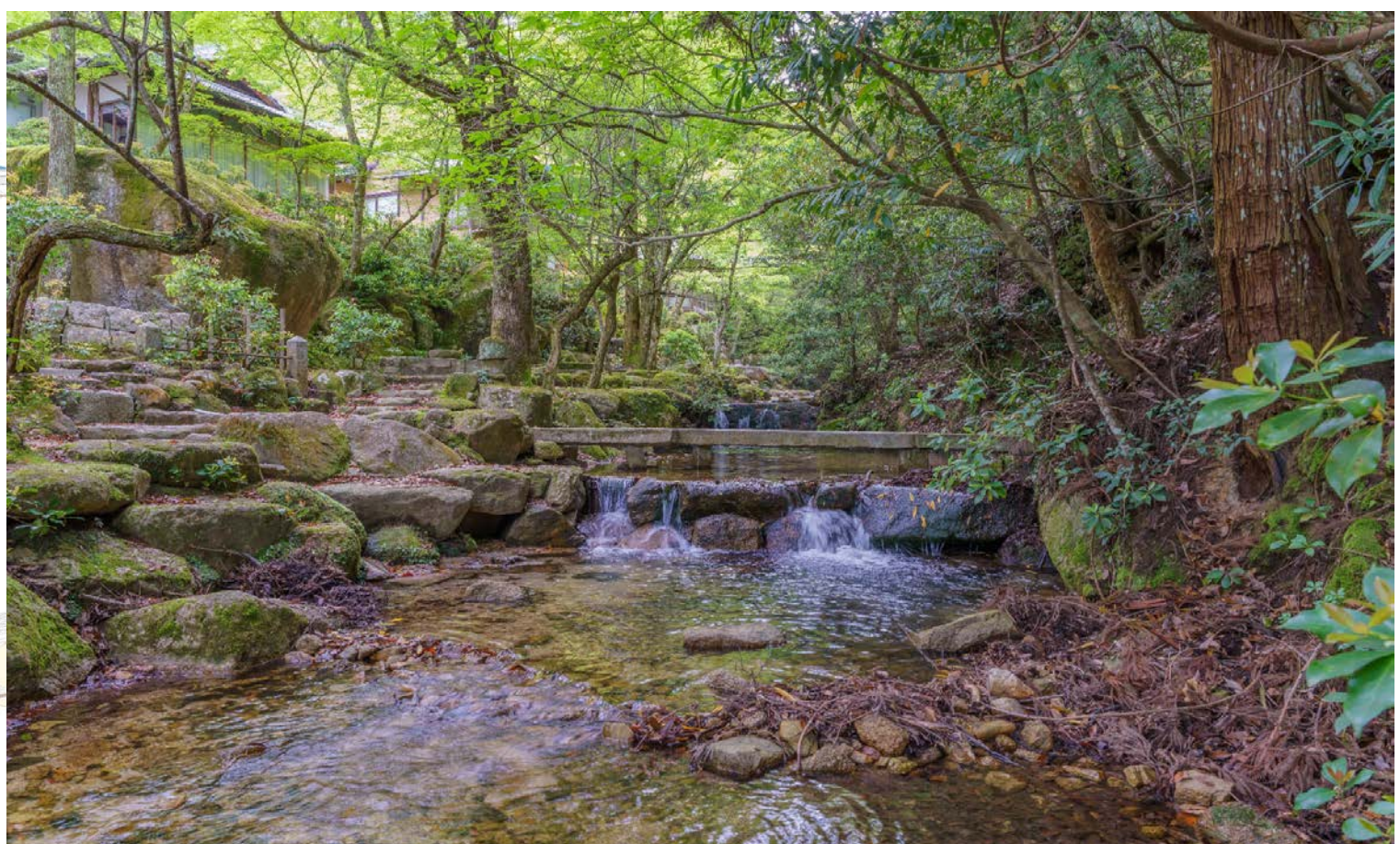
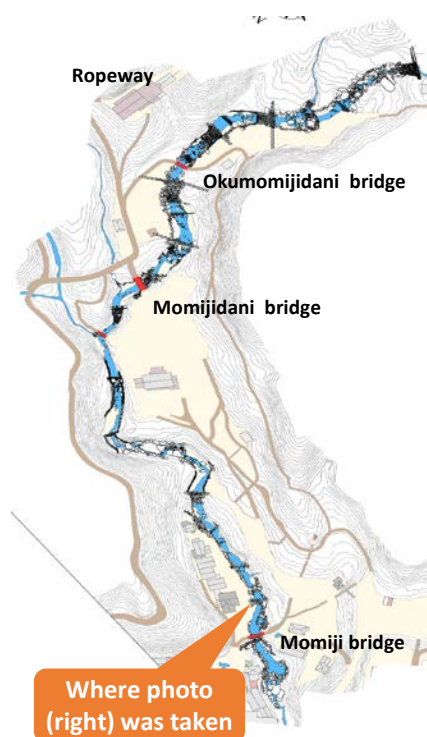
(right) The report of disaster rehabilitation projects at the historical site and scenic beauty of Itsukushima, 15th Mar 1951(※2)

Establishment of the Disaster Rehabilitation Committee to plan countermeasures and details of Rehabilitation Project

The "Itsukushima Disaster Rehabilitation Committee" was established on Aug 1948, during the rehabilitation work of Momijidani River and Shiraito River, using construction methods suitable for the historical site and scenic beauty spot.

In the rehabilitation work, it was decided that the stones at the site would be moved without using heavy machinery. In addition, without any prior manufacturing or processing, the stones would be used to cover the concrete surface of the structure, and gardeners would be worked for the construction.

Erosion and Sediment Control Works at the Momijidani River



Upstream from the Momiji Bridge

Erosion and Sediment Control Works in Momijidani River were constructed by using the boulders and outcrops of the bedrock which were carried down by the debris flow to create steps and slow down the flow.

These steps reduce the momentum of the river when it rains heavily, and suppresses erosion of the riverbed and riverbanks.

In the rehabilitation work carried out from 1948 to 1950, a 820m-length channel works and 7 sediment control dams and 4 groundseils were constructed.

Currently, the 688m-length channel works and 5 sediment control dams are remaining and working same as before. Therefore, the historical site and the scenic beauty of Itsukushima is still being protected from sediment-related disasters.

Protecting Itsukushima from debris flow disasters

Transportation of Stones



Construction status of the channel works upstream from Momiji Bridge (※1)

Carrying stones using the "kagurasan (wooden tripod)" method

The method called "kagurasan", wooden tripod with a chain block, was used to move the boulders. The gardeners move the already present megaliths and gravel, without prior processing, a stone stealer, or mallet.

Placement of Concrete



Construction status of the No.5 dam in 1949 (※1)



Current No.5 dam

Construction of sediment control dam using concrete (under the stones)

Wooden rulers as the marks were placed, concrete was mixed at the field to construct dam, and the dam surface was covered with local quarry stone. So that concrete is not exposed.

Designed related 86 Documents



Part of the attachment (※3)

Foundation for Important Cultural Properties

The dimensions of the sediment control dams are confirmed in the "Design of Disaster Rehabilitation Project at the historic site and place of scenic beauty of Itsukushima (Hiroshima Pref, 1949) and the attached figures".

Related precious 86 documents (reports, figures) which have been owned by Hiroshima Prefecture are designated※3 to understand Erosion and Sediment Control Works for the Momijidani River Park.

【References】

- ※1 Photobook of Erosion Control Disaster in 1945 (Hiroshima Prefecture, Civil Engineering Department, Sabo Division, March 1998)
- ※2 The report of disaster rehabilitation projects at the historical site and scenic beauty of Itsukushima (Hiroshima Prefecture, March 1951)
- ※3 Designated documents for certify the value of important cultural properties and the foundations for them by agency for Cultural Affairs.