

# Hiroshima Prefectural Farming Fisheries Center

Hiroshima Prefectural Farming Fisheries Association (General Incorporated Association) Handbook



(FY2020 version)

## **Hiroshima Prefectural Farming Fisheries Association**

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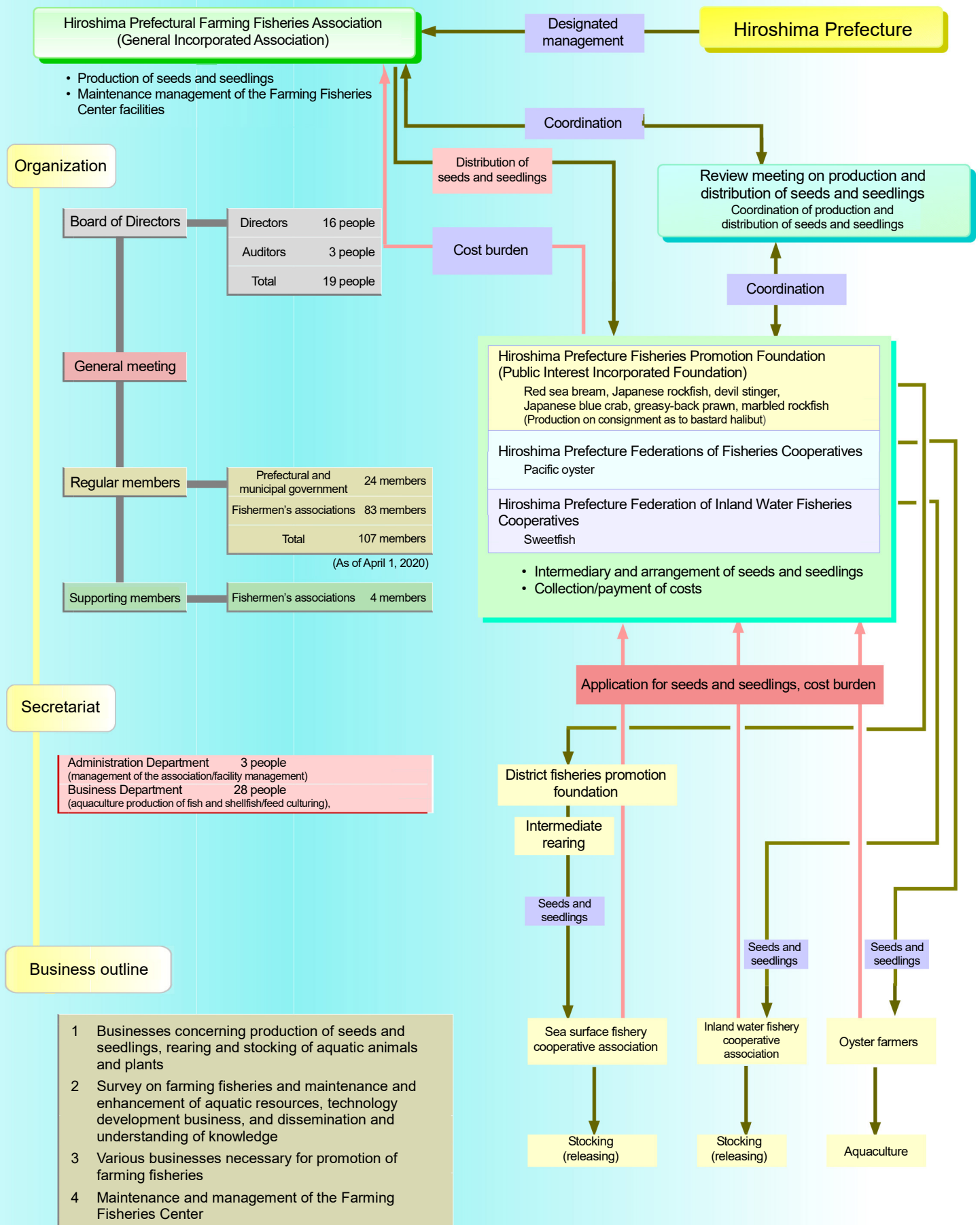


Prefectural fish

## Management principle

– With the aim of  
establishing and  
developing farming  
fisheries –

# Mechanism for promoting farming fisheries



## Aims of establishment of the Farming Fisheries Center

We have enjoyed the bounty of nature from the sea since ancient times. In recent times, the growth of juvenile fish has been hampered by the decreased seaweed beds and tidelands, which makes it difficult to maintain and increase the catches of aquatic animals without resorting to fish stocking (releasing).

In Hiroshima Prefecture, in order to recover rich and bountiful sea, the Farming Fisheries Center was established in 1982 as the facility to ensure large supply of juvenile fish for stocking and make it a base for promoting the farming fisheries that will lead the new period.



Japanese rockfish (*Sebastes inermis*)

## Overview of the business

In accordance with the Hiroshima Prefecture farming fishery basic plan and based on the seedling production and releasing plans that are mainly coordinated and examined by fishery operators, the seedlings of the eight species of fish are produced: red sea bream, Japanese rockfish, marbled rockfish, devil stinger, Japanese blue crab, greasy-back prawn, Pacific oysters, and sweetfish. (As for bastard halibut, consignment production is carried out).

Regarding the intermediary of seeds and seedlings and coordination as to the cost burden, the Hiroshima Prefecture Fisheries Promotion Foundation is responsible for the six species of fish including red sea bream, Japanese rockfish, marbled rockfish, devil stinger, Japanese blue crab, and greasy-back prawn; the Hiroshima Prefecture Federations of Fisheries Cooperatives are in charge of Pacific oysters; and the Hiroshima Prefecture Federation of Inland Water Fisheries Cooperatives is in charge of sweetfish.

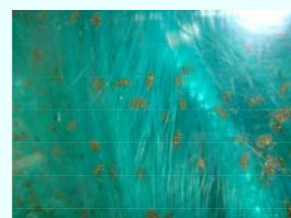
The production of seeds and seedlings of Japanese rockfish is carried out on consignment from the Toyotakehigashi Fisheries Promotion Council.

The seeds and seedling production of redspotted grouper is carried out as part of the "Pilot production for mass production" entrusted by the relevant organizations and funded by the Hiroshima Prefecture Fisheries Promotion Foundation.

In addition, mass production of seeds and seedlings of Japanese blue crab (1.5million pieces), marbled rockfish (300,000 pieces), devil stinger (150,000 pieces), and redspotted grouper (36,000 pieces) are implemented on consignment from Hiroshima Prefecture. Moreover, the Center strives for the establishment and development of the farming fisheries through recognition of the role of seedling production under Prefecture to cities collaboration, examination of equivalent exchange of seedlings with the adjacent prefectures, technology exchange regarding farming fisheries, information exchange, and guidance and education.



Devil stinger  
(*Inimicus japonicus*)



Japanese blue crab  
(*Portunus trituberculatus*)

## Production plan for seeds and seedlings

Species of fish	Size	Production volume	1	2	3	4	5	6	7	8	9	10	11	12	1
Attached juvenile oysters	330 μm collector	1.5 million sheets													
Single-piece oyster	10 mm	800,000 pieces													
Japanese rockfish	25mm	316,000 pieces													
Marbled rockfish	25mm	388,000 pieces													
Redspotted grouper	50mm	73,000 pieces													
Red sea bream	12mm	1.28 million pieces													
Japanese blue crab	10mm	2.072 million pieces													
Greasy-back prawn	12mm 25mm	810,000 pieces 65,000 pieces													
Devil stinger	30mm	49.5,000 pieces													
Sweetfish	0.5g	2.0 million pieces													

## Technology development

- Improvement of the survival rate after settlement of devil stinger
- Examination of production efficiency toward mass production of triploid Japanese oyster
- Technology development/establishment toward seeds and seedling production of redspotted grouper
- Examination of feeding and rearing methods for the early egg collection from the farmed broodstock (adult) devil stinger and establishment of rearing techniques during the floating stage



Triploid Japanese oyster



Single-piece oyster



## Overview of the Center Facilities

### [Facility maintenance and development]

1979	Development of the basic plan for the Farming Fisheries Center
1982	Completion of the Hiroshima Prefectural Farming Fisheries Center (start of production of red seabream, blackhead seabream, Japanese blue crab, and sweetfish)
1988	Completion of the storage shed for the Japanese blue crab tank
1993	Completion of the second rearing building, second machinery building, filtration tank (3 units), and building for rearing shellfish (start of production of oyster and black rock fish)
2000	Completion of the seawater sterilization apparatus, filtration tank (10 units), seawater pumping facility, spawning building, and the rotifer heating culture facility
2006	Completion of the broodstock (adult) fish facility for species of fish for sea frontage settlement (devil stinger, etc.)
2012	Completion of the production enhancement facility for top-quality oyster brand "Kaki-komachi" (extension of the shellfish building, feed culture building, seeds and seedlings collection building, pre-treatment floor, juveniles rearing tank)
2015	Improvement of the production enhancement facility for Japanese blue crab (improvement of the rotifer culture facility within the second rearing building, production facility for Japanese blue crab with two planes of rotifer tanks)
2017	Completion of the elevated water storage alternative facility

### Administration building



#### [Monitoring and control function]

- Monitoring of water temperature, machine abnormality
- Monitoring of electrical substation, electrical abnormality
- Automatic operation program
- Machinery operation time recording
- Demand control and monitoring

### Oyster production facility



Inside of the seedling collection building  
• 200 liter water tank  
×36 units

### Juveniles rearing tank



### Production facilities for marbled rockfish, Japanese rockfish, red sea bream, sweetfish, and devil stinger



- The first rearing building  
50 kilo liter water tank×16 units
- The second rearing building  
50 kilo liter water tank×8 units

### Production facility for Japanese blue crab



• Broodstock (adult)  
Japanese blue crab

- 80 kilo liter water tank×4 units
- Heating apparatus

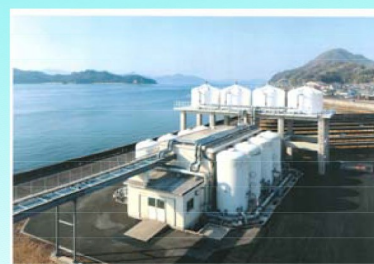
### Ultraviolet sterilization apparatus



- The first rearing building 3 units
- The second rearing building 2 units
- Japanese blue crab building 2 units
- Spawning building 2 units

Processing capacity  
1,150 kilo liter/day

### Elevated water storage tank and seawater filtration apparatus



- Sand filtration method
- With an automatic backwashing apparatus
- Processing capacity  
9,600 kilo liter/day
- Temporary water storage tank  
200 kilo liter