Pub.303 sup.

Sailing Directions for Seto Naikai

Supplement No.4

March 25, 2022



Japan Coast Guard

Explanatory Notes

Sailing Directions for Seto Naikai - Supplement No.4 is issued to correct the outdated information in Publication No.303 Sailing Directions for Seto Naikai which was published in February 2019.

This supplement contains English translation of SETO NAIKAI PILOT Supplement No.5 issued on January 28, 2022 as well as the information which has been gathered through the work of Hydrographic and Oceanographic Department, Japan Coast Guard.

The instructions for amending, deleting or adding of the previous issues are indicated in this supplement. It also contains an index to be referred to the pages on which they are mentioned. The index is listed in ascending numerical order, along with the titles of the ports or articles. Amendments are indicated in red letter on gray background while deletions are marked with strikethrough, in red letter on gray background. Chart images, tables or pictures which are delated, replaced or added are instructed in [square brackets].

Each sheet of the supplements is excerpted from the relevant issue of the Sailing Directions so that the page number printed in the supplement is corresponding the original page number. In case that sheets had spanned multiple pages by adding large volume of text or image, sub-number is inserted after the page number.

March 25, 2022

Hydrographic and Oceanographic Department, Japan Coast Guard

Caution

This Supplement is for use in conjunction with Notices to Mariners, List of Aids to Navigation, and related charts and publications, because no corrections are given thereto except through supplements.

Especially up-to-dated information concerning the safety of navigation instructed by Japan Coast Guard, please refer to Notices to Mariners and related publications.

In the interest of ensuring safety of navigation and protecting the marine environment, the Japan Coast Guard (JCG) publicizes information that could affect safety of navigation and environmental protection by issuing Notices to Mariners (NTMs) and Navigational Warnings (NWs), and publishing such information on the JCG charts and in other nautical publications, based on laws, regulations, proclamations, charts, NTMs, NWs issued by countries concerned as well as reports made by ships.

Sailing Directions published by JCG are intended solely for the purpose of providing information for safe navigation. The contents included in the Sailing Directions does not reflect the Japanese Government's official stance regarding the laws, regulations, and proclamations of other countries.

Sailing Directions for Seto Naikai

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233	Fukuyama Ko - Facilities, Maritime authorities and facilities.			
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254	Niihama Ko - Sea berth, Overhead cables, The largest vessel to enter the port, Maritime authorities and facilities, Tug boat.			
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301	Kanmon Ko - Precautions for navigation, Safety measure against abnormal weather including typhoon and tsunami.			
317	Kanmon Ko, Shin-Moji Ku - Facilities, Maritime traffic.			

Chapter 5 PASSAGES, SIGNALS AND SO ON

Passages

General. The passages covered by this volume are standard routes that were generally used regularly conventionally.
Mariners have to choose an appropriate route and a course in consideration of laws, season, weather, sea area, tidal streams, the distinction of the night and daytime and vessels' capability in reference to these routes. And caution is required to the tidal currents, fishing nets and aquaculture facilities when mariners go in and out of ports and harbors.

Routes for general vessel. In the coast of Seto Naikai, there are large trading ports such as Hanshin Ko in E of Seto Naikai and Kanmon Ko in W of Seto Naikai, and other various large and small ports serviced. Many of them are the distribution bases of coastal industrial zones. Various vessels, small and large, entering or leaving these ports frequently take main passage routes and there are also many small boats servicing between the coastal ports or the islands. Main recommended tracks are described in relevant charts.

Traffic routes and designated routes prescribed by Maritime Traffic Safety Law. 8 traffic routes are regulated by Article 2 of Maritime Traffic Safety Law and 7 designated routes (N of Osaka Wan, Obatake Seto and so on) are regulated by Article 25.

Specific charts. The charts that designated by Maritime Traffic Safety Law describing traffic routes and regulations, are published on the base of Article 40 of the Maritime Traffic Safety Law. Specific charts are described in Pub.901 "Catalogue of Charts and Publications".

Passages prescribed by Port Regulations Law. These passages are used by vessels entering or leaving the ports specified by the same law. Each port of Wakayama-Shimotsu, Tokushima-Komatsushima, Hannan, Hanshin, Higashi-Harima, Himeji, Takamatsu, Niihama, Mizushima, Onomichi-Itozaki, Hiroshima and Kanmon has the passage (Refer to Article 12 of the Port Regulations Law and Article 8 of the Cabinet Order for the Enforcement of the Port Regulation Law).

Routes for regular passenger ships. In view of the characteristic of Seto Naikai with the unique traffic conditions and the tourist area there are maritime networks for regular passenger ship services between the coastal ports or the islands. These routes are along main passage or across the passage.

Signals

Traffic control signals. Traffic control signals based on the Port Regulations Law are in force in the waterway at each port of Hanshin, Mizushima and Kanmon. In the Mizushima Traffic Route, the traffic control signals based on the Maritime Traffic Safety Law are in force.

Private signals. At Wakayama-Shimotsu Ko and Himeji Ko, Sakaide and Fukuyama, private signals concerning the use of mooring facilities are in force by Japan Coast Guard Public Notice No. 34 of 1995.

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Aids to Navigation

Aids to navigation may be temporally installed, moved or removed in order to maintain or repair the facilities of ports and passages. The state of the aids to navigation must be checked by referring to Notices to Mariners, Navigational Warnings, and Safety Information, etc.

Also, caution is needed to aids to navigation in and around ports and harbors, or just off the coasts, as they sometimes becomes difficult to distinguish from background lights and fishing lights.

Buoyage System. In Japan, IALA (International Association of Lighthouse Authorities) Maritime Buoyage System (B-system) is used.

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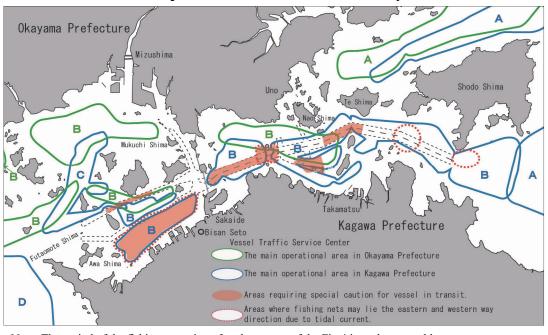


Fig.4 Main fishing operation area in Bisan Seto and adjacent sea of Spanish Mackerel Drift-net Fishery

Note: The period of the fishing operation of each sea area of the Fig.4 is as the next table.						
A (the blue letter)	Apr. 20th ~ Jul. 15th, Sept. 1st ~ Nov. 30th	D (the blue letter)	Apr. 20th ~ June 15th, Sept. 1st ~ Nov. 30th			
B (the blue letter)	Apr. 25th ~ Jul. 20th, Sept. 1st ~ Nov. 30th	A (the green letter)	Apr. 20th ~ Jul. 10th, Sept. 20th ~ Nov. 30th			
C (the blue letter)	Apr. 20th ~ Jul. 20th, Sept. 1st ~ Nov. 30th	B (the green letter)	Apr. 20th ~ June 30th, Sept. 20th ~ Nov. 30th			

- 5 **Boat seine fishery.** In Tomo-ga-Shima Suido, Osaka Wan, Akashi Kaikyo, Harima Nada and Iyo Nada, the boat seine fishery operation to capture a sand eel etc. is done in almost all year around. The peak of fishing season in Tomo-ga-Shima Suido, Osaka-wan, Akashi Kaikyo and Harima Nada is from February to April and the operational time is from the sunrise to around the noon. Especially, Akashi Kaikyo is the best fishery, Often, about 150 pairs fishing boats operate. In the eastern part of Iyo Nada, the area of the western part of Matsuyama Ko is main fishing operation area. The peak
- of fishing season is from June to August and the operational time is from the sunrise to sunset. Often, about 30 pairs fishing boats operate. The boat seine fishery is the fishery operated using boat seines (comprising a cod end, 2 wing nets from both sides of the opening of the cod end and 2 lines) towed by fishing boats at the mid water or the surface keeping off the bottom.

Generally, the fleet of fishing boats consists of 2 net-fishing boats and 1 escort boat. (Refer to Fig.5 on page 17.)

In case of the fishing boat which belongs to Osaka Prefecture, the net-fishing boat in the right is hoisting green white with green horizontal stripe flag and the net-fishing boat in the left is hoisting red white with red horizontal stripe flag, while pulling the nets. The fishing boat from 5 t to 10 t exclusive which belongs to Hyogo Prefecture is painting a bridge to the yellow. In fishing season, Osaka Wan Vessel Traffic Service Center is providing information on the boat seine fishery in Akashi Kaikyo and adjacent sea on the internet etc.

Facsimile +81-799-82-3046 Information No. 3 #: the operational situation. Information No. 7 #: the operational figure of the hour by hour. Telephone +81-799-82-3030	
Information No. 7 #: the operational figure of the hour by hour.Telephone+81-799-82-3030	
+81-799-82-3048	
Radiobroadcast 1,651 kHz (Japanese, at quarter past the hour, at three-quarters past the	hour)
2,019 kHz (English, on the hour, at half past the hour)	

Maritime Search and Rescue Organizations

Japan Coast Guard. The sea adjacent to Japan is divided into 11 regions each of which has its Regional Coast Guard Headquarters. Contact list of the headquarters and subordinate departments is as follows.

Regional Headquarters	Coast Guard Office	Coast Guard Station	Detachment of Coast Guard	Air Station etc.
	Osaka	Sakai TEL: +81-72-244-1771		Kansai Airport Coast Guard
	TEL: +81-6-6571-0221	Kishiwada TEL: +81-72-422-3592		Air Station TEL: +81-72-455-1236
The 5th Regional Coast Guard Headquarters	Kobe TEL: +81-78-331-5611	Nishinomiya TEL: +81-798-22-7070		
1-1 Hatoba, Chuo-ku, Kobe-shi	Himeji TEL: +81-79-231-5063	Kakogawa TEL: +81-79-435-0671		
TEL: +81-78-391-6551	Tokushima TEL: +81-885-33-2246			
	Wakayama TEL: +81-73-402-5850	Kainan TEL: +81-73-492-0134		
	Mizushima TEL: +81-86-444-9701			Hiroshima TEL:+81-848-86-9191
	Tamano TEL: +81-863-31-3423			
	Hiroshima TEL: +81-82-253-3111	Yanai TEL: +81-820-23-2250 Iwakuni TEL: +81-827-21-6118	_	
	Kure TEL: +81-823-21-0123	1EL. +01-027-21-0110	Kinoe TEL: +81-846-62-0807	-
The 6th Regional Coast Guard Headquarters	Onomichi TEL: +81-848-22-2108	Fukuyama TEL: +81-84-943-5950		
3-10-17 Ujinakaigan, Minami-ku, Hiroshima-shi	Tokuyama TEL: +81-834-31-0111		Kudamatsu TEL: +81-833-41-3022 Mitajiri Nakanoseki	_
TEL: +81-82-251-5111		Sakaide	TEL: +81-835-23-9898	_
	Takamatsu TEL: +81-87-821-7013	TEL: +81-877-46-5999 Shodo Shima TEL: +81-879-82-5999	_	
	Matsuyama TEL: +81-89-951-1196	TEL. (01-07/02-3777)		-
	Imabari TEL: +81-898-32-2882	Niihama TEL: +81-897-32-0118	Mishima Kawanoe TEL:+81-896-24-4498	
	Uwajima TEL: +81-895-22-1591			-
The 7th Regional Coast Guard Headquarters	Moji	Shimonoseki TEL: +81-832-67-1711 Ube	Kokura	Kitakyushu TEL: +81-93-474-7006
1-3-10 Nishikaigan, Moji-ku, Kita Kyushu-shi	TEL: +81-93-321-3215	TEL: +81-836-21-2410 Kanda TEL: +81-93-436-3356	TEL: +81-93-571-6091	
TEL: +81-93-321-2931	Wakamatsu TEL: +81-93-761-2497	1111. +01-75- 1 50-5550		-

(3) Method of Notification of traffic routes

Radio communications

Name of coast radio station	Call sign	Call name	Calling frequency	Working frequency	
Kobe JGI		KOBE COAST GUARD RADIO	156.8 MHz (ch16)	156.6 MHz (ch12)	
Hiroshima	JNE	HIROSHIMA COAST GUARD RADIO	2,189.5 kHz	2,177 kHz 2,150 kHz	
BISAN MARTIS		BISAN MARTIS		156.65 MHz (ch13)	
KURUSHIMA MARTIS		KURUSHIMA MARTIS	156.8 MHz (ch16) 156.65 MHz (ch13)	156.7 MHz (ch14) 156.325 MHz/160.925 MHz (ch 66) 161.1 MHz (ch22)	

If it is difficult to make a direct communication with each radio station in the above, following stations in the below

5 may be used.

Name of coastal radio station	Call sign	Call name	Calling frequency	Working frequency
Otaru	JNL	HOKKAIDO COAST GUARD RADIO		
Shiogama	JNN	SHIOGAMA COAST GUARD RADIO		
Nagoya	JNT	NAGOYA COAST GUARD RADIO	156 0 MIL (116)	156.6 MHz (ch12)
Yokohama	JGC	YOKOHAMA COAST GUARD RADIO	156.8 MHz (ch16)	2,177 kHz
Мојі	JNR	MOJI COAST GUARD RADIO	2,189.5 kHz	2,150 kHz
Kagoshima	JNJ	KAGOSHIMA COAST GUARD RADIO		
Naha	JNB	OKINAWA COAST GUARD RADIO		

of vessels.

(3) ADVICE: Advice pursuant to the Provision of Article 31 of Maritime Traffic Safety Law.

(4) INSTRUCTION: Instructions under Article 10-2 and Article 23 of Maritime Traffic Safety Law.

(Note 3): Providing information, etc. by Osaka Wan Vessel Traffic Service Center does not give instructions for maneuvering.

Osaka Wan Vessel Traffic Service Center provides the "OSAKA MARTIS" USER MANUAL on the internet.

URL https://www6.kaiho.mlit.go.jp/osakawan/info/tab/08_users-manual(English).pdf

Guidance for Safety Navigation. The 5th Regional Coast Guard Headquarters makes the following Guidance for Safety Navigation:

10 1. Taking a pilot on board

The following vessels should take a pilot on board.

(1) A vessel of entitled to fly the flag of a foreign country.

(2) A vessel entitled to fly the Japanese flag, commanded by a master who does not have sufficient sea-going service and experience of navigating in Akashi Kaikyo Traffic Route.

15 2. Continuous placement of an escort boat

Huge vessels of 250m or more in length or Huge vessels which is vessels carrying dangerous cargo is A vessel under the legal obligation to place an escort boat for guarding her course should continue to place the escort boat, until she confirms her safe navigation even out off the traffic route.

- 3. Navigation rules for sea areas in the vicinity of the entrance of Akashi Kaikyo Traffic Route
- All vessels, including those whose length is less than 50m, are requested to enter the traffic route at the entrance.
 4. Preparation of emergency fire wire (Refer to Fig.18.)

Vessels carrying dangerous cargo (except amply fortified tankers equipped with SUNKEN BITT) designated by Maritime Traffic Safety Law must prepare an emergency fire wire (FIRE WIRE) both at the bow and the stern respectively for use immediately in case of emergency, in case of navigating Osaka Wan and Harima Nada.

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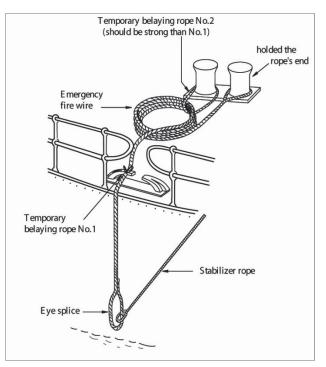


Fig.18 Example figure of emergency fire wire

• Temporary fixing wire must be fixed to prevent a spontaneous running out.

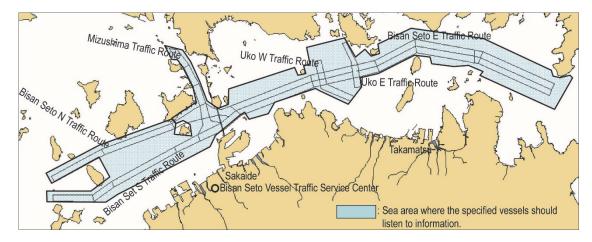
• In this case, temporary belaying rope No.1 is possible to cut down by human power while using, No.2 is possible to cut down by the towing power of tugboat, two conditions must be met.

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vessel traffic that are likely to hinder considerably the safety of the navigation of the specified vessels.

- (3) Information pertaining to the sea areas under construction and other work, sea areas which are extremely shallow and other sea areas difficult to navigate safely for the specified vessels when the specified vessels are found to be at risk from approaching too close to these sea areas.
- (4) Information pertaining to vessels, which are not able to avoid the course of other vessels easily, and whose navigation is likely to hinder considerably the safety of the navigation of the specified vessels.
- (5) Information pertaining to other specified vessels when the specified vessels are found to be approaching too close to the other specified vessels.
- (6) Information considered necessary to be observed by the specified vessels besides from (1) to (5) above.

Fig.22 Bisan Seto Sea area where the specified vessel should listen to the information



- 5. Observance of Navigation and Hazard Prevention Recommendations (Article 31 of Maritime Traffic Safety Law, Article 23-4 of Regulations for the Enforcement of Maritime Traffic Safety Law).
- Bisan Seto Vessel Traffic Service Center may issue recommendations for changing course or taking other necessary measures to specified vessels by the VHF radiotelephone or other appropriate methods when it is found necessary to comply with navigation or to prevent danger.
 - 6. Providing information by Bisan Seto Vessel Traffic Service Center, etc.
- Bisan Seto Vessel Traffic Service Center provides information, etc. by the VHF radiotelephone, etc. with the following codes to start, depending on the contents. Refer to "Notice of Information Provisional Methods, etc. (provided by Aonoyama Vessel Traffic Signal Station Operated by Bisan Seto Vessel Traffic Service Center and by the Center") (Japan Coast Guard Notice No. 168, 2010) for more details:

(1) INFORMATION: Providing information, etc. pursuant to Provisions of Article 30 of Maritime Traffic Safety Law.

- (2) WARNING: Providing information to make notice of any dangerous situation that may impede safe navigation of vessels.
 - (3) ADVICE: Advice pursuant to the Provision of Article 31 of Maritime Traffic Safety Law.
 - (4) INSTRUCTION: Instructions under Article 10-2 and Article 23 of Maritime Traffic Safety Law.
 - (Note3): Providing information, etc. by Bisan Seto Vessel Traffic Service Center does not give instructions for maneuvering. Biasn Seto Vessel Traffic Service Center provides the "BISAN MARTIS USER MANUAL" on the internet:

URL: https://www6.kaiho.mlit.go.jp/bisan/info/tab/tebiki-e.pdf

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Guidance for Safety Navigation. At Bisan Seto East Traffic Route, Bisan Seto North Traffic Route, Bisan Seto South Traffic Route, Uko East Traffic Route, Uko West Traffic Route, Mizushima Traffic Route and the vicinities, the 6th Regional Coast Guard Headquarters makes the following Guidance for Safety Navigation.

- 1. Taking a pilot on board
 - The following vessels flying the flag of a foreign country should take a pilot on board.
 - Vessels carrying dangerous cargo prescribed by Maritime Traffic Safety Law.
 - · Vessels commanded by a master who navigates Seto Naikai for the first time.
- 2. Continuous placement of an escort boat

A vessel under the legal obligation to place an escort boat for guarding her course should continue to place the escort boat, until she confirms her safe navigation even out off the traffic route.

3. Navigation in the vicinity of the gateway of each traffic route

Vessels which enter the traffic route or appeared must not do veering in the sea area near the traffic route doorway. Vessels should avoid crossing near the entrance of each traffic routes and detour round.

4. Restriction on entry time into a traffic route (Directions according to Article 23, Maritime Traffic Safety Law)

- Huge vessels should navigate a traffic route at daytime.
- 5. Preparation of emergency fire wire (Refer to Fig.18 on page 54.)

Vessels carrying dangerous cargo except a tanker equipped with SUNKEN BITT with enough strength, designated by Maritime Traffic Safety Law must prepare emergency fire wires (FIRE WIRE) both at the bow and the stern respectively for immediate use in case of emergency.

20 6. Position Report (Refer to Fig.23.)

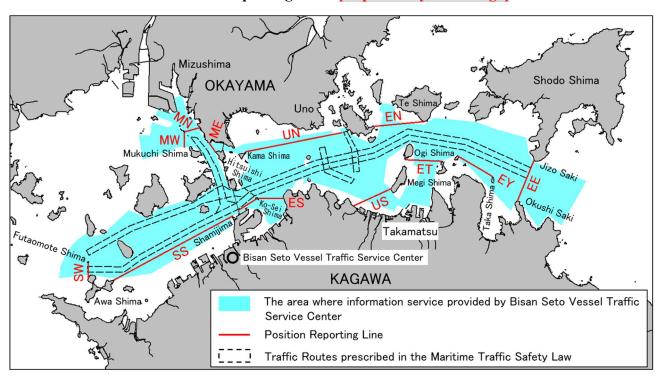
Vessels with a length of 50m or more and vessels towing object, etc. having a length of 100m or more (excluding vessels less than 300t, vessels with Automatic Identification System and operating it appropriately), shall make a position Report to Bisan Seto Vessel Traffic Service Center when they reach the first Position Report Line. [Reporting items]

• Vessel's name and call sign

• Present position or code (abbreviation) of the line crossed and time of crossing (JST)

· Traffic routes and sea area in which the vessel intended to navigate and Destination

Fig.23 The area where information service provided by Bisan Seto Vessel Traffic Service Center and Position Reporting Lines [Replaced by new image]



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Lanumarks.					
Landmark Position		Remarks			
IinoYama 〔Sanuki Fuji〕	34°16.5′N 133°50.7′E	422m high. It is similar to Fuji San, Conspicuous from the distance.			
Yo Shima	34°23.0′N 133°49.0′E	59m high. There is a lighthouse at Nabe Shima (22m high), an islet lies close S of Yo Shima. There is a vessel traffic signal station near the SE end on this island and the SW end.			
Ushi Shima	34°22.0′N 133°47.0′E	There is a tower near the top (95m high) of the northwest.			
Sanagi Shima	34°20.0′N 133°38.0′E	249m high, the S end is a steep cliff.			
Takami Shima	34°19.0′N 133°40.0′E	Ryuo-no-Mori (297m high) of highest peak of this island is in the southern part.			
Awa Shima	34°16.0′N 133°38.0′E	There are 3 peaks of the east, north and south, highest peak (222m high) is Shiro Yama of the southern peak.			

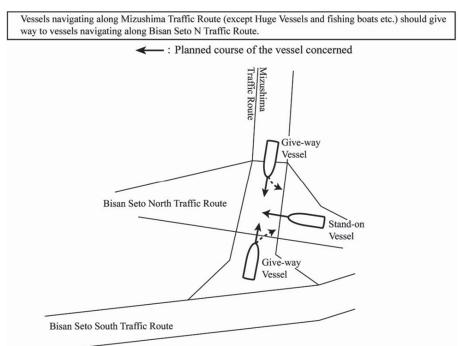
Landmarks.

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Navigation Rules. (Refer to Fig.26 on page 75 and Fig.27 on page 76.) At Bisan Seto North and South Traffic Route, vessels must sail W-ward at the North Traffic Route and E-ward at the South Traffic Route, following the traffic method regulated by Maritime Traffic Safety Law. (As regards navigation near the entrance /exit of the traffic route, see the Article 3 of Guidance for Safety Navigation on page 64.) As the E parts of both traffic routes are crossing or connected with Mizushima Traffic Route (Refer to page 78.) regulated by Maritime Traffic Safety Law. Therefore caution must be paid to an evasive action. (Refer to the examples of the evasive)

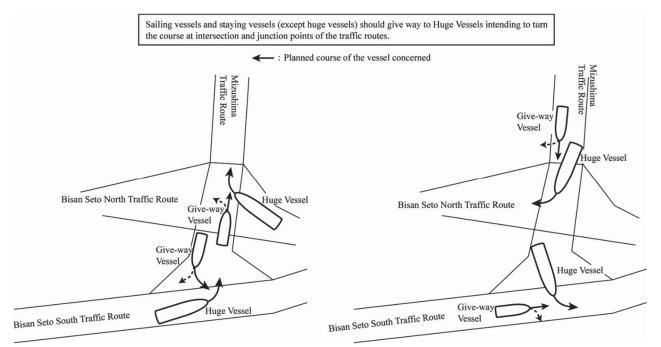
Examples of the avoidance (In those images the arrow of the broken line merely show the give-way vessel. It is not necessarily showing the direction to avoid.)

Navigation rules in the vicinity of intersection and junction of the traffic route (Related to Article 19, Paragraph 1 of the Maritime Traffic Safety Law)



(4) Keeping out of the way of huge vessel intending to enter the other traffic route from a traffic route

(Related to Article 19, Paragraph 4 of the Maritime Traffic Safety Law)



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Note. Yoshima W Vessel Traffic Signal Station, Yoshima E Vessel Traffic Signal Station and Nishi-no-Saki Vessel Traffic Signal Station provide the vessel which is navigating around this water traffic information by the electric bulletin board.

The traffic information which is approaching to an intersection at Bisan Seto N Traffic Route and Mizushima Traffic

10 Route of the huge vessel, the occurrence of accident in the intersection and the matter necessary for the safe navigation and so on.

The traffic information is displayed by a series of sentences.

Fisheries. (Refer to the "Fisheries" in Chapter 7 "NAVIGATIONAL PRECAUTIONS" of Part 1 on page 13.)

1. Main operation areas of Stow-net fishery in the W of Bisan Seto

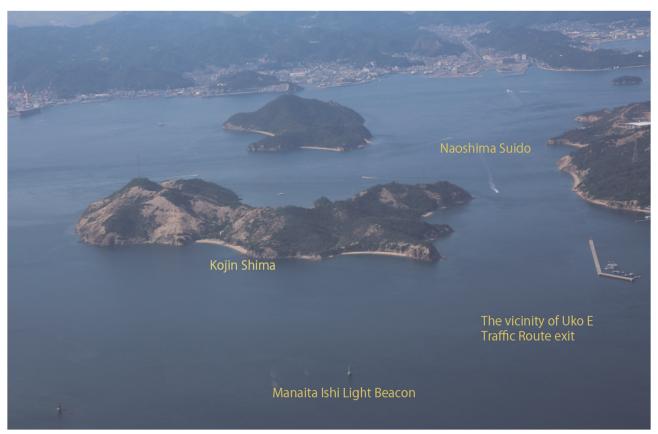
Between Ko-Sei Shima and Ushi Shima	Near the crossing point of Bisan Seto N and S Traffic Route and Mizushima Traffic Route	
Mizushima Traffic Route	Near Mukuchi Shima	
W of Ushi Shima	S sides of Hiro Shima and S and N sides of Takami Shima	

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Caution must be paid to many fishing boats in operation near the traffic routes.

2. From January through November (The peak season is from February through August), numerous fishing boats engaged in drift net fishing congregate in the Bisan Seto South Traffic Route, Bisan Seto North Traffic Route and the adjacent sea areas.

Vessels navigating Bisan Seto should maintain continuous contact with Bisan Seto Vessel Traffic Service Center as drift nets are placed irregularly and they are difficult to be identified by radar.



Uno Ko ~ Takamatsu Ko (Charts W154, JP137A) Naoshima Suido

(Photographed in September 2016)

5 **General information.** Uko East Traffic Route and Uko West Traffic Route, traffic routes designated by Maritime Traffic Safety Law, lie between Uno Ko and Takamatsu Ko, and cross Bisan Seto East Traffic Route.

Rules relating to an evasive at the crossing point with Bisan Seto East Traffic Route are regulated (Refer to the section of Navigation Rules on pages $67 \sim 69$.). In the area from Uno Ko to Bisan Seto East Traffic Route, many small vessels navigate outside of the traffic route and there are many crossing vessels at the area except the crossing point of the traffic route. In each of Uko East and West Traffic Route, there are many ferry boats navigating.

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Landmarks.

Landmark	Position	Remarks
Manaita Ishi	34°27.0′N 133°58.0′E	There is a light beacon.
Tobi Su	34°28.0′N 133°57.0′E	There is a lighthouse.
3 big chimneys	34°27.2′N 133°55.2′E	From E one height is 193m (painted red and white), 170m (painted red and white) and 156m (painted gray). Conspicuous
		from the distance.
A tower	34°27.3′N 133°56.3′E	A radio tower, 85m high.

Navigation Rules. (Refer to Figs.24, 25 on page 70.) At Uko East and West Traffic Route vessels must follow the navigation rule regulated by Maritime Traffic Safety Law.

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Guidance for safety navigation. The 6th Regional Coast Guard Headquarters makes the following Guidance for Safety Navigation. (Refer to Fig.28 on page 78.)

Navigation rules for Naoshima Suido.

Vessels passing between Nao Shima and Kazura Shima are requested to pass Nao Shima NW Light Buoy on their port-side.

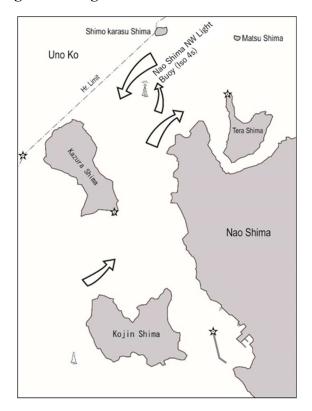
(Remarks)

- 1. Vessels passing E-wards through between Kazura Shima and Kojin Shima should navigate, as far as it is safe and executive, close to the northwestern part of Kojin Shima.
- 2. Vessels should not overtake any other vessels around Nao Shima NW Light Buoy.
- 3. Vessels should pay attention to the movement of vessels passing eastwards from Uno Ko.

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Fig.28 Navigation chart for Naoshima Suido



Fisheries. (Refer to the "Fisheries" in Chapter 7 "NAVIGATIONAL PRECAUTIONS" of Part 1 on page 13.)

1. Near Bisan Seto East Traffic Route there are many fishing boats gathering and blockading the traffic route. And caution must be paid since some boats are hoisting with no lights at night.

2. In the area between the E entrance of Bisan Seto East Traffic Route and Ogi Shima, there are many fishing boats in operation for Spanish mackerel drift net fishery at night (from sunset to sunrise) from April to July when is the peak season.

Overhead cables. There are 2 overhead cables respectively between Nao Shima, Kojin Shima and Inumodori Hana (vertical clearance of about 59m and about 63m).

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Mizushima Traffic Route (Charts JP137B, W1122)

General Information. Mizushima Traffic Route is a route designated by Maritime Traffic Safety Law. Vessels enter the cross point and connection part of Mizushima Traffic Route from Bisan Seto North Traffic Route and the east part of Bisan Seto South Traffic Route. Vessels navigate the route toward north threading their way through Shiwaku Shoto chain reaching Mizushima Ko in the NNW direction.

This route is a route for large tankers entering and leaving Mizushima Ko.

At Mizushima Traffic Route, vessels must follow the navigation method regulated by Maritime Traffic Safety Law.

As the area near Seto O-hashi Bridge is crowded with navigating vessels and operating fishing boats as well as vessels entering Bisan Seto N and S Traffic Route from Mizushima Traffic Route.

5

Vessels approach close to other vessels navigating at Bisan Seto Traffic Route under the bridge. Caution must be paid to the 3rd and 4th vessels heading and crossing.

In the NE side of Mukuchi Shima vessels is affected by strong current flows E and W. And many small vessels navigating Shimotsui Seto cross Mizushima Traffic Route. The N entrance to Mizushima Traffic Route is connected to the Inner Harbor Passage (legal passage) of Mizushima Ko. As this connecting part is curved and narrow, caution must

10

be paid to operation. There are many heading-on and crossing vessels and also many casualties such as collision occurring. **Tidal currents.** The maximum tidal current flows with a velocity of 3.5kn where Mizushima Traffic Route and Bisan Seto South Traffic Route cross, 2.8kn at the Shimotsui Seto, and 1.8kn at near the entrance of Mizushima Ko.

Landmark		Position	Remarks		
Nishi-no-Saki	E side of the Traffic Route	34°26′N 133°47′E	53m high. There is Mizushima Traffic Route Nishi-no-Saki Traffic Control Signal Station. (Refer on Pages 74 and 82.)		
Ikuro Shima		34°24′N 133°48′E	E 26m high.		
Hitsuishi Shima		34°25′N 133°48′E	E There is a cliff which quarried stone in the west coast.		
Hon Shima	W side of the Traffic Route	34°23′N 133°46′E	Kameyama Hana at the east end is the cliff that trees grew thick, there is a temple in the W of this cape.		
Mukuchi Shima		34°25′N 133°46′E	There is an island top (140m high) in the southern part and light beacon in the N end.		
Noji Shoto		34°27′N 133°45′E	E 4 islands to line up the NW from the SE.		

15 Navigation Rules. There is a navigation rule for the crossing part of Bisan Seto North Traffic Route and the connecting part of Bisan Seto South Traffic Route (Refer to the section of Navigation Rules on pages 72 ~ 74). Guidance for safety navigation. Refer to the section of Guidance for safety Navigation on page 64. Signals. The controlled signals designated by Maritime Traffic Safety Law are done in the following.

1. Traffic Control Signals at Mizushima Traffic Route (Refer to pages 227~228)

Name of Signal Station	Position		
Mizushima Traffic Route Nishi-no-Saki	N		
Traffic Control Signal Station	N corner at the W entrance of Shimotsui Seto (34°26'09"N 133°47'12"E).		
Minut in Turffie Dante Miterra China	Situated on the W and E of the abutment between Minami-Bisan Seto O-hashi		
Mizushima Traffic Route Mitsugo Shima	Bridge and Kita-Bisan Seto O-hashi Bridge. (34°22'19"N 133°49'23"E and		
Traffic Control Signal Station	34°22′18″N 133°49′21″E)		

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2. Method of Control Signals

	Signal Type	Meaning		Meaning	
Ν	Flashing letter "N"	N-boundS-bound vessels of 70m or more in length (except huge vessels) ssignalwait outside the traffic route.			
s	Flashing letter "S"	S-bound signal	N-bound vessels of 70m or more in length (except huge vessels) should wait outside the traffic route.		

When this method of signaling cannot be utilized due to the trouble of signal equipment, the vessel of the Japan Coast Guard does controlled signals by international code flag (day) and flashing signal (night) near the N entrance and S entrance to Mizushima Traffic Route. (For the details see Article 10-2 of Maritime Traffic Safety Law) Part 2 OFFSHORE AND THROUGH ROUTE

Overhead bridges. 6 bridges, such as Shimotsuiseto O-hashi Bridge (vertical clearance of 31m) and Hitsuishijima Bridge (vertical clearance of 32m) and so on. They are collectively called Seto O-hashi Bridge span from Shimotsui (Kurashiki City) to Sakaide City.

5

Fisheries. (Refer to the "Fisheries" in Chapter 7 "NAVIGATIONAL PRECAUTIONS" of Part 1 on page 13.)

Near the S entrance of Mizushima Traffic Route (near the area between Mitsugo Shima and Ushi Shima) and N entrance of Mizushima Traffic Route (around Mukuchi Shima), There are many fishing boats operating for stow-nets fishery (from January to November, the peak of fishing season from February to August).

Ushimado Ko ~ Uno Ko (Charts JP153, W1144, JP137A)

10 **General information.** This route is used regularly not only by small vessels coming and going among nearby islands but by large vessels entering and leaving Uno Ko. Generally vessels proceed toward Shimotsui Seto navigating between I Shima and Ikada Shima {Ohiru Shima}, between Tsubone Shima and Kyo-no-Joro Shima and Nao Shima and Kazura Shima. There are many dangerous sunken reefs around Inujima Shoto.

Landmarks.			
Landmark	Position	Remarks	
Inujima Shoto	34°34′N 134°06′E	Inu Shima (There are 6 red brick chimneys which are prominent from the distance in the E part), and Inu-no Shima (4 white colored chimneys are prominent from the distance).	
De Saki	34°31′N 134°00′E	Small trapezoid peninsula tip projecting to SE. There are 2 radio towers and beacons.	
Ikada Shima [Ohiru Shima]	34°31′N 134°01′E	There is a lighthouse on the W end. A pointed rock, 12m high, lies close N.	
Chiburi Shima	34°32′N 134°10′E	There is a lighthouse on the E end. A good mark in the S of the route.	
I Shima	34°30'N 134°01'E	There is a lighthouse on the S end. There is Dango Yama in the center (157m high).	
Kyo-no-Joro Shima	34°29′N 133°59′E	Both sides of the top (84m high) are entirely collapsed and turn vague brown. There is a lighthouse on the SE end.	
Tsubone Shima	34°29′N 134°00′E	57m high and a low isthmus linked with a small island in the SW. There are several high rocks in the E side.	

15

Okayama Suido (Chart W155)

General Information. This is a channel with about 5M length and about 0.5M width, reaching Okayama Ko coming from the NE part of Kojima Hanto. There are some navigable places the width (depth in 5m or more) is less than 150m. Landmarks.

Landmark	Position	Remarks
Kome Saki		A cape with a lighthouse.
Kiriishi Hana (Tateishi)	34°35′N 134°03′E	Entrance of Channel and there is an overhead cable.
4 chimneys	34°36′N 134°03′E	Within a factory near Sotoba Saki and each 38m high.

20

Overhead bridge. There is Kojimawan O-hashi Bridge (vertical clearance of about 17~30m) within Okayama Ko area between Okayama City Naka Ku and the same Minami Ku.

Overhead cable. There is an overhead cable (vertical clearance of 42m) between Kiriishi Hana and Takouda Hana. **Reference.** In case of the rise of a river caused by a dam drainage or rainfall, there is a possibility that vessels receives $f_{max} = \frac{1}{2} \int_{-\infty}^{\infty} \frac{1}{2}$

25 strong pressure flows and are difficult to navigate near the mouth of Asahi Kawa or Yoshii Kawa.

L'anumarks.			
Landmark	Position	Remarks	
Kusumi-no-Hana	34°26′N 133°49′E	There is a light beacon.	
Washu Zan	34°26′N 133°49′E	113m high. There is an observatory and a hotel.	
Nishi-no-Saki	34°26′N 133°47′E	53m high. There is Mizushima Traffic Route Nishi-no-Saki Traffic Control Signal Station. (Refer on Pages 74 and 79.)	

Landmarks.

Overhead bridge. There is Shimotsuiseto O-hashi Bridge (vertical clearance of 31m) between Shimotsui (Kurashiki City) and Hitsuishi Shima (Sakaide City).

5

Shimotsui Seto ~ Shiraishi Seto (Chart JP137B)

General Information. In 14M W of Shimotsui Seto there are **Kurotsuchi Seto**, **Shiraishi Seto** and **Kitagi Seto**. W entrance to these straits is connected to Fukuyama Ko and Bingo Nada. Small vessels sail Shimotsui Seto, the S of Ajiro Shoto and Shiraishi Seto. In S of Ajiro Shoto, there are Oki-no-Ishi (rock, 4.1m in depth) and Tokudakino Ishi (rock, 4.1m in depth) and Tokudakino Ishi (rock, 4.1m in depth).

10 4.1m in depth, with light buoy).

According to Traffic Control Signals, some of large vessels entering and leaving Mizushima Ko sail between Noji Shoto and Mukuchi Shima (34°25′N 133°46′E), between Gantsuga Se N Light Buoy and Tokudakino Ishi Light Buoy, and between **Manabe Shima** (34°21′N 133°25′E) and **Sanagi Shima** (34°20′N 133°38′E), passing through the N area of Te Shima.

15

At about 1M N of the W entrance of Shimotsui Seto there is Mizushima Ko, and **Kasaoka Ko** (Port designated by Port Regulations Law) is located on 3M N of the E entrance to Kurotsuchi Seto.

Anchorage. In the W area of Te Shima, the depth is about 20m and the bottom material is mud.

Landmark	Position	Remarks		
Te Shima	34°24′N 133°40′E	The top (217m high) is conic. Near Taka no koshi Hana at the NW end land is low looking like a solitary island.		
Ote Shima	34°23′N 133° 39′E	The top (95m high) is at the N end and most of the land is cultivated land.		
Aosa Hana	34°28′N 133°35′E	Isolated hill. Same as Aosa Yama (249m high, conic) in the NW prominent from the distance.		
Tsuganomaru Yama	34°28′N 133°30′E	The top (306m high, there is a TV tower (372m high) is a good mark.		
Taka Shima	34°26′N 133°30′E	On the top (84m high) there is a stone gateway to shrine. Between Taka Shima and Kotaka Shima, power transmission lines (25m high) exist.		
Kitagi Shima	34°23′N 133°32′E	The top (226m high), comparatively big.		

Landmarks.

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Takamatsu Ko ~ Tonosho Ko ~ Okayama Suido (Charts JP137A, JP153)

General Information. This is a route crossing Bisan Seto East Traffic Route starting at Takamatsu Ko and reaching Okayama Ko passing Shodo Shima W side channel. There is a commonly used track for regular passenger vessels between Takamatsu Ko and Tonosho Ko (west coast of Shodo Shima). The depths within the track are more than 10m, but near the center of the track in the W of O Shima, there are shallows in depth less than 10m are extend. There is a car ferry service between Megi Ko (near the center of the E coast of Megi Shima), Ogi Ko (in the W coast of Ogi Shima) and Takamatsu Ko.

25

Tidal currents. The spring rate offshore Takamatsu is about 2kn and the current is especially strong along the S coast of Megi Shima.

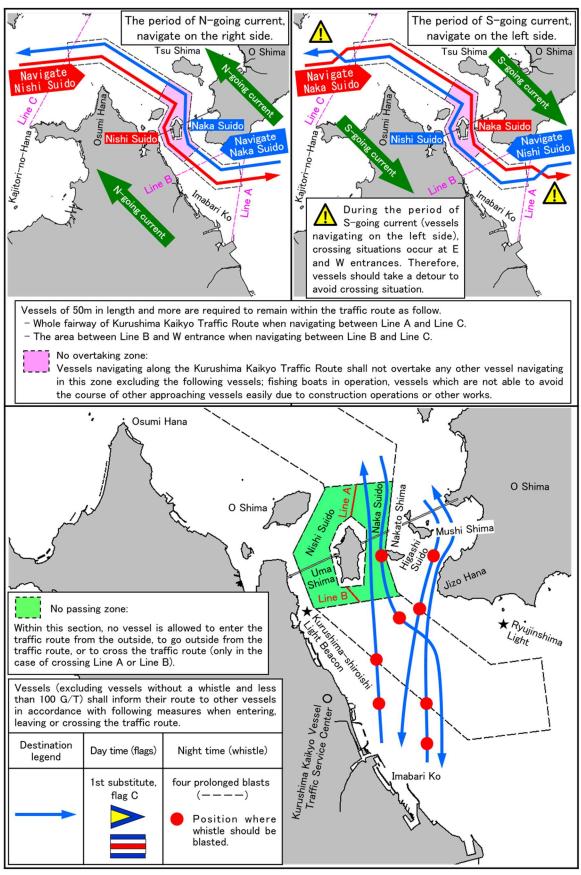


Fig.32 Reference chart for Kurushima Kaikyo Traffic Route (Maritime Traffic Safety Law) [Replaced by new image]

Akashi Seto (Charts JP104, W1448)

General information. This channel lies between Osaki-Kami Shima and **Okamura Shima** (34°11'N 132°53'E) in the S. The navigable width (10m or more in depth) of the narrowest channel is about 600m. The depth of the channel (in the center) is deep enough.

5 The Kinoe Office, MGC Terminal Company Inc., situated in the SW end of Osaki-Kami Shima where is fronted N side of the W entrance of the channel. There are two piers within the company's facility for large vessels navigating Akashi Seto and Oge Seto.

There is a narrow channel between Ko-Oge Shima in the S of the channel and Okamura Shima. The depth of the channel (in the center) is about 20m.

- 10
- **Tidal currents.** In Akashi Seto the tidal current flows E or W and the maximum current velocity are 2.3kn for the Egoing current and 1.5kn for the W-going current, the turn of tide is about 1 hour earlier than in Kurushima Kaikyo.

Mitarai Seto (Charts JP104, JP141)

- General information. This channel lies between Osaki-Shimo Shima (34°10'N 132°50'E) and Okamura Shima.
 15 There are Heira Shima (34°12'N 132°51'E, 77m high), Naka-no-Shima [O Shima] (91m high, there is a lighthouse in the N end) and Ko Shima (78m high) in the N entrance of this channel, and Oki-no-Su (3.3m in depth, the bottom material of rocks, steep topography in the outer) in the S entrance of this channel. The channel diverges into two sides putting between Naka-no-Shima and Ko Shima. One is the side of Okamura Shima and the other is Osaki-Shimo Shima. The depth of the side of Okamura Shima is more than 10m. There are sunken reefs and shoals around Ko Shima and Naka-
- 20 no-Shima. There are small vessels servicing regularly between Takehara and Ocho (Osaki-Shimo Shima), between Akashi (Osaki-Kami Shima) and Kocho (Osaki-Shimo Shima), but vessels unfamiliar with this area should not navigate this channel.

Tidal currents. In Mitarai Seto the tidal current flows SE or NW and the maximum current velocity are 1.5kn for the NW-going current and 1.2kn for the SE-going.

The turn of tide is about 45 minutes later than in Kurushima Kaikyo.

Overhead bridges. There is Nakanoseto O-hashi Bridge (vertical clearance of 21m) between Hera Shima and Nakano-Shima and Okamura O-hashi Bridge (vertical clearance of 21m) between Naka-no-Shima and Okamura Shima.

Overhead cables. There are overhead cables (vertical clearance of 41m and 38m, respectively) among Okamura Shima to Ko Shima to Osaki-Shimo Shima.

30

25

Osaki-Shimo Shima [Mitarai Shima] ~ Kami-Kamagari Shima (Chart JP141)

General information. There are 2 channels in the W and E of **Toyo Shima** between Osaki-Shimo Shima and Kami-Kamagari Shima (34°11′N 132°44′E). At the S entrance of these channels, there are many dangerous reefs, and vessels unfamiliar with this area should not navigate this channel.

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The channel between Osaki-Shimo Shima and Toyo Shima has a navigable width of around 150m at its narrowest point (20m or more in depth).

Tidal currents. In the channel between Osaki-Shimo Shima and Toyo Shima, the current flows S or N and the maximum current velocity are 4.4kn for the N-going current and 4.9kn for the S-going current.

The turn of tide is about 45 minutes earlier than in Kurushima Kaikyo. In the channel between Toyo Shima and Kami-

Kamagari Shima, the current flows S or N and the maximum current velocity are 4.4kn for the N-going current and 3.9kn for the S-going current at the narrowest point.

The turn of tide is about 40 minutes earlier than in Kurushima Kaikyo.

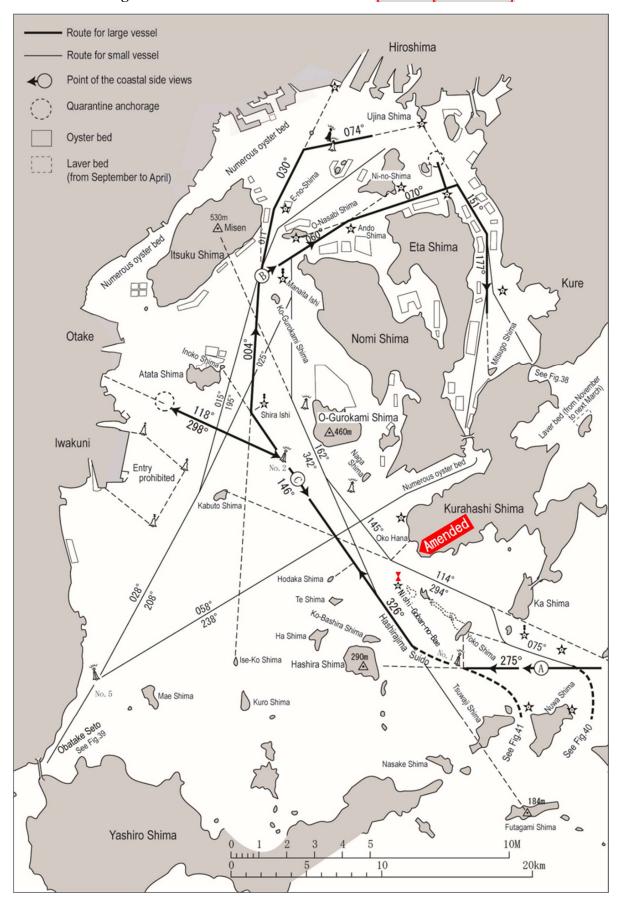
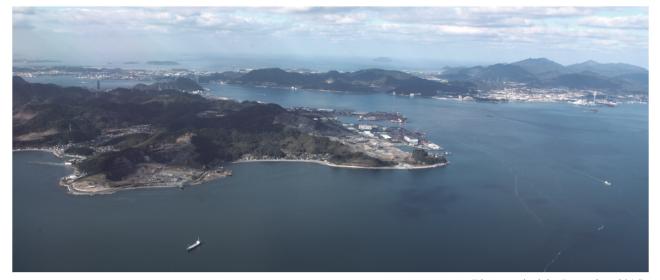


Fig.37 Directions for Hiroshima Wan [Partially Amended]

Kanmon Kaikyo (Chart JP135) E entrance to Kanmon Kaikyo



(Photographed in December 2016)

General information. Kanmon Kaikyo is a channel with about 15M in length lying from He Saki {Kyushu} (33°58'N 131°01'E) in the W end of Seto Naikai to Mutsure Shima (33°58'N 130°52'E). The channel is an important route working as the W entrance to Seto Naikai. In the E entrance there is Kanmon Passage in the N side of He Saki on the harbour limit. In the W entrance, the channel is divided to Kanmon Passage and Kanmon Passage 2 by Mutsure Shima, Uma Shima and Kata Shima. Most part of the channel belongs to the harbor area of Kanmon Ko and Port Regulations

Law designates Kanmon Passage. The average daily vessel traffic quantity in this channel is about 470 vessels.

This channel has many curved points. The navigable width is around 1M at the widest channel and about 500m at the narrowest channel. The tidal current is rapid and vessel traffic is extremely busy. At the channel and the vicinities there are 10 harbour areas and 8 passages, and further more than 2 hundreds berths. It is congested with vessels going in and out each passage and berth, fishing boats in addition to many vessels navigating the channel.

Kanmon Kaikyo is one of the most difficult navigating spots in Japan and full caution must be paid since casualties like collision often occur.

Within Kanmon Kaikyo vessels must navigate following the traffic method regulated by Port Regulations Law and other relevant law and regulation (Refer to "Notes in navigation" on page 144.).

This chapter also describes about the vicinities of the N of the W entrance to Murasaki-no-Hana (34°01.5'N 130°54.2'E) and the vicinities of the W of the W entrance to Myouken Saki (33°56.2'N 130°41.0'E).

Wind. As regards the wind direction, E winds are the most throughout the year affected by geographical element and ENE, then WNW.

From the ending of spring to summer, within a day on a fine day, breezes surpassed with E winds (so-called 'Sekino-Asagochi') from night to around 0900 next day and then W winds. The change is well- regulated. In winter time due to the great affect of NW seasonal winds, average monthly wind speed is around 5m/s in December to next February and strong winds blow 5 to 6 days a month.

Fog. Fog often occurs accompanied by a low pressure, front and foul of the low pressure from the beginning of spring to the rainy season with around 20 foggy days a year. It often occurs from before dawn to sunrise.

30 But it rarely occurs on a windy day with more than 5m/s wind speed. And the fog begins to lift as the sun rises and

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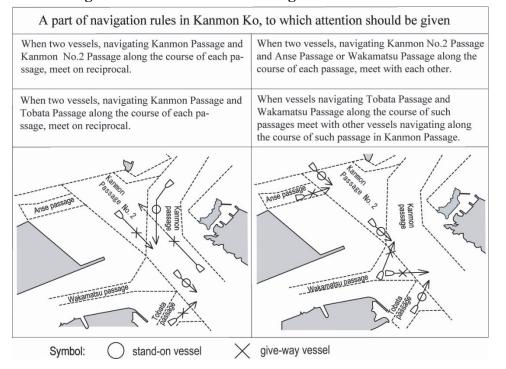
English version (currently being revised): URL https://www6.kaiho.mlit.go.jp/kanmon/info/tab/user_guide/en.pdf Japanese version: URL https://www6.kaiho.mlit.go.jp/kanmon/info/tab/user guide/ja.pdf

6. Special Rules (Article 38-1-5, Article 38-1-7 \sim 10 and Article 38-2 of Regulations for the Enforcement of Port Regulations Law).

5

- (1) Vessels navigating through Hayatomo Seto against the tidal current must maintain a speed of more than 4 knots in excess of tidal current velocity.
 - (2) When 2 vessels proceeding in Kanmon Passage and Sunatsu Passage, Tobata Passage, Wakamatsu Passage or Kanmon Passage No.2 (hereafter referred to as "Sunatsu Passage etc.") have a possible meeting situation, the vessel in Sunatsu Passage etc. shall keep out of the way of the vessel in Kanmon Passage (Refer to Fig.47.).

Fig.47 Reference chart of navigation rules at Kanmon Ko

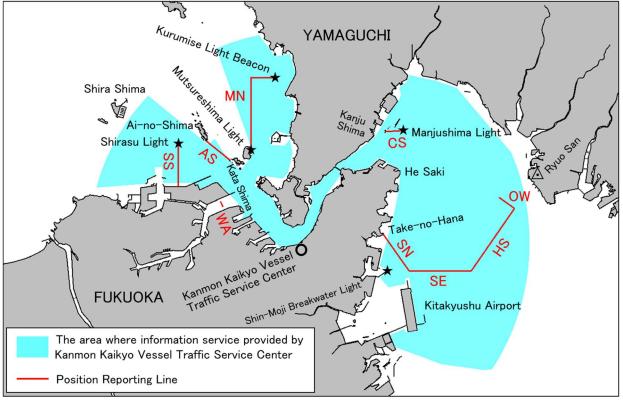


- (3) When the vessel corresponds to all of the following cases in consideration of a surrounding in Kanmon Passage (excluding Kanmon Passage between the western line of Kanmon Bridge and the line drawing to 130° from Hinoyamashita Tidal Current Signal Station (33°58'06" N 130°57'41" E) (hereafter referred to as "Hayatomo Seto Fairway")), the vessel can overtake another vessel (Refer to Fig.48 on page 146.).
 - In the case that is not necessary to take the movement for another ships concerned to pass a ship safely.
 - In the case that the courses of the vessel except the own vessel intending to overtake is avoided safely.

By the above-mentioned rule, steam vessels overtaking another vessel will sound 1 prolonged blast followed by 1 short blast when intending to pass on overtaken vessels starboard and 1 prolonged blast followed by 2 short blasts if intention is to pass on overtaken vessels portside.

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2. Reports to Wakamatsu Port Control Office, etc.

- (1) Methods of Report in Advance and Report of Change under Port Regulations Law, etc.
- Vessels shall make a report according to the following instructions:

Form of report

Advance	e report
To Captain of the Kanmon Port (Via Chief, Wakamatsu Port Control Office)	
Report	date
Report	er name
Telepho	one number
1. Name of Vessel	
2. Gross tonnage and Length	G/T meters
3. Estimated date and time of entry Wakamatsu Waterway	Date Time :
4. Estimated date and time of leaving the berth	Date Time :
5. Method of communication	VHF, Tel(-)
6. Berth name	
7. Shift within Wakamatsu Waterway	Berth change from(Berth change to(
8. Flag/Kind of Vessel	
9. Maximum draft at the time of entry Wakamatsu Fairway	
10. Last port	
11. Nest port	
12. Kinds of dangerous cargo and amount of each type	kind() amount()
13. Arrangement of pilot	Yes / No
14. Remarks	

Port designated by Port Regulations Law	Open port	Quarantine port	Immigration port	Domestic animal quarantine port	Plant protection port
0			0		

General information.

 It is located about 5M NNE of Hi-no-Misaki and is indented toward NE for about 2M. W winds are blocked by Ari Shima (at the port entrance), Ichi-no-Hai (33°56.1'N 135°03.7'E, the SW of Ari Shima) and the breakwater

(extending toward the N from Ichi-no-Hai).

2. The depth is 5~25m in the port, the bottom materials is good for anchoring, and the vessels less than 3,000t navigating between Tanabe Ko and Wakayama-Shimotsu Ko are using for shelters except for SW winds.

There are many sheltering vessels at the typhoon season and in November and December.

Landmark	Position	Remarks		
Ari Shima	33°57.0′N 135°04.0′E	70m high, the W side is a steep cliff.		
Kasane Yama	33°57.7′N 135°05.6′E	263m high round mountain with a radio tower on it. It could be a good mark in low visibility.		
Leading light	33°56.5′N 135°04.9′E			

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Anchorage. Good anchorage for large vessels is available at the N side (the depth of about $15\sim16m$) of the port entrance on a straight line from **Tobi Shima** (33°57.4′N 135°05.8′E, 7m high) and the N end of Ari Shima, and at the bottom (the depth of about 11m, the bottom materials of mud) of the bay seeing **Nagai-no-Hana** (33°57.8′N 135°06.1′ E) at 336°.

15

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Wakayama Kihoku Chiku typhoon and tsunami etc. Countermeasure Committee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Wakayama Coast Guard Office)

Faci	lities
1 act	ii ti to 5

Repairs.

Name	Position	Length (m)	Depth (m)	Capacity (D/W×vessel)	Remarks
Mooring Quay	33°57.6′N 135°06.8′E	145	3~5	700×2	
Sakurajima Quay	33°57.4′N 135°06.4′E	245	3.5~8	2,000×1	Exclusively utilized for Cement Company and could be used for general vessels only in emergency.

Name	Telephone	Remarks
MES Yura Dockyard Co., Ltd.	+81-738-65-1112	

3. The area (Section 1) within S and N breakwater (Section 1) is generally called Wakayama Honko, which is located the S side of the estuary of **Ki-no-Kawa** (34°13′N 135°08′E).

4. Kita-Ku (exclusive used for the metal company) in the N of the estuary of Ki-no-Kawa is called Wakayama-Hokko.

5. Timber port (Minami-Ku) between S breakwater of Wakayama-Honko and Daiba-no-Hana (34°12'N 135°08'E)

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in the S is called Wakayama-Nanko.

6. There are factories of oil refinery and steel production, and a large leisure centre in Kainan Ku, SE area of Wakaura Wan. At Shimotsu Ku and Arida Ku in the S of the Harbour area, there is a group of oil refineries.

7. In Outer Harbour, Wakaura Gyoko is located in the N side of Wakaura Wan. **Wakaura Gyoko** is around 5m in depth and there is a berth (the depth of 4.5m) for vessels less than 200t.

10 Weather.

1. Swells enter each harbor area at the time of strong seasonal winds in winter. Shimotsu Ku is safe against S winds but tanker mooring at **ENEOS** Wakayama Oil Refinery E-1 pier must be careful for the SE gust of wind blowing down the mountains at the back.

2. At Wakayama-Honko, SW~WNW winds and waves largely affects and strong waves entering into the entrance of the port sometimes makes it difficult to moor vessels.

Precautions for typhoon.

1. When the center of typhoon passes the W side of this port, S~SW winds are strong and W winds get stronger after passing.

2. The following areas are locally advisable shelters, Wakaura Wan or Osaka Wan for large vessels in each harbor area

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15

of Arida Ku, Shimotsu Ku and Kainan Ku, Osaka Wan for large vessels in Wakayama Ku and each harbor area or the offing of Shiotsu (34°08'N 135°10'E) at Wakaura Wan for small vessels.

Fog information. When visibility at Wakayama-Shimotsu Ko is less than 2,000m, less than 1,000m, less than 500m and recover to more than 2,000m, the 5th Regional Coast Guard Headquarters (KOBE COAST GUARD RADIO) broadcast fog information both Japanese and English by VHF (ch16/12).

Landma	arks.

Landmark	Pos	ition	Remarks
Oki-no-Shima	34°06.8′N	135°04.7′E	92m high, there is a lighthouse in the W side.
Ji-no-Shima (Hatsu Shima)	34°06.8′N	135°06.0′E	The top (115m high) is located near the SW end.
Oil tanks	34°06.2′N	135°06.7′E	Painted silver, located within the premises of the oil company.
Chimney	34°06.7′N	135°07.0′E	It is 161m high, painted red and white, and prominent with a flame burning.
Aoishi Hana [Tsubune Hana]	34°07.8′N	135°07.3′E	There is a lighthouse on the point and 5 oil tanks (painted white) in the E side of the point.
Sea berth	34°08.0′N	135°07.2′E	There are 3 sea berth lights.
Chimneys	34°09.1′N	135°11.2′E	184m high each, painted blue and white, 2 unite type, within the premises of the power station.
Bridge pier	34°09.6′N	135°10.9′E	$8 \sim 13$ m high, sun bridge.
Chimneys and gas tank	34°14.0′N	135°08.1′E	124m high and painted red and white. Gas tank about 600m NNW (100m high painted white) is also prominent.
Tank	34°14.3′N	135°08.0′E	100m high and painted white.

Directions.

1. Wakayama Ku Kita Ku: For entering from the S, take the course to the N toward Takura Saki Light (34° 15.9'N 135°03.7'E) and change the course appropriately in the W of Kitaku Passage and enter the passage.

Caution must be paid in entering or leaving since there are many fishing boats in operation within the port.

5 2. Shimotsu Ku: Take the course to 100° toward the entrance to Shimotsu Passage from the point about 1M N of Shimotsu Oki no Shima Light (34°06.8'N 135°04.6'E). Change the course to 123° toward the top of Ushi-ga-Kubi (34°06.7' N 135°08.4' E, 47m high) when entering the passage and enter the port.

Caution must be paid to vessels anchoring since there is quarantine anchorage near 0.5M W of the entrance to the passage.

10 3. Arida Ku: At the S side of Ji-no-Shima, there is a fairway with 10m or more in depth, and the minimum navigable width is about 250m. Caution must be paid to Nabe Iso in the S of Ji-no-Shima.

Prescribed passages.

1. Kitaku Passage is about 0.8M in long reaching Wakayama Ku and Kita Ku, about 300m in wide and the depth of 14 to 20m. The passage is indicated by lighthouses and light buoys.

15 2. Shimotsu Passage is about 1.1M long reaching Shimotsu Ku from about 750m SSW of Aoishi Hana, about 200m in wide (partly about 100m) and the depth of 12~16m.

Private signals. At Kita Ku of Wakayama Ku, following signal station and signal mast are situated respectively: 1. Nippon Steel Signal Station which instruct the vessels berthing at Nippon Steel berthing facilities.

2. Nippon Steel Signal Mast which instruct the vessels berthing at Nippon Steel No 2 Inner Harbour berthing facilities.

20 They were installed for the purpose of providing navigation control for vessels intend to berth at private facilities. (Japan Coast Guard Public Notice No. 34, in 1995)

Entry restricted. In order of the Captain of the Port to prevent fire hazard, no general vessel is allowed to enter the area within 30m from the tanker carrying flammable dangerous cargo at berth or anchor in the port.

Anchorage. Quarantine anchorage is located in the S of the outer harbor and in the W of the entrance to Shimotsu Ku.

- 1. Wakaura Wan in the outer harbor: Good anchorage with the depth of 5 to 20m and the bottom materials of ooze. Although high waves enter the port when the SW winds blow strong, good anchorage could be obtained at E winds.
 - 2. Kainan Ku: There is Shiozu Gyoko in the S of Section 2. This fishing port is a small harbor with about 550m in width and around 7m in depth, and there is a small pier in the W of the entrance.
- 30 3. Shimotsu Ku: In the N, there is Osaki Ura (34°08'N 135°08'E, 5 to 13m in depth) indenting toward N for about 0.5M. There is a basin of small vessels (5 to 9m in depth) at the SW of Ushi-ga-Kubi in the E bottom.

4. Arida Ku: The point with the depth of 10 to 15m and the bottom materials of mud in the E of Ji-no-Shima could be a shelter when W winds blow strong, but swells enter with the rapid current.

Pilotage. Pilotage is available on request to Wakayama-Shimotsu Pilot Association. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

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Name		Position		Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Arida Ku	Hatsushima Quay	34°05.5′N 135°	06.1′E	90	4~5.5	2,000×1	
	Shinden Landing Place	34°06.6′N 135°	08.5′E	90	3.5	700×2	
Shimotsu Ku	Shimotsu Pier	34°06.7′N 135°	08.6′E	120	4.5~5.5	500×3	
Kainan Ku	Hikata Quay	34°09.1′N 135°	12.3′E	180	4~5	1,000×2	
XX7.1 XZ	Nishihama Wharf No.4 Quay			90	5	2,000×1	
Wakayama Ku Minami Ku	Nishihama Wharf No.3 Quay	34°12.4′N 135°	135°08.5′E	240	12	35,000×1	
	Nishihama Wharf No.5 Quay			260	13	40,000×1	

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Facilities. There are log ponds in Wakamatsu Minami Ku.

	Nishihama Wharf No.6 Quay			300	4.5~5.5	2,000×3	
	Saikasaki Wharf No.1 Quay	24012 101	135°08.3′E	130	7.5	5,000×1	
	Saikasaki Wharf No.2 • 3 Quay	34°12.1′N		200	5.5	2,000×2	
	Naka Wharf No.3 Quay			185	10	15,000×1	
	Naka Wharf No.4 Quay	34°12.8′N	135°08.5′E	185	10	15,000×1	
	Naka Wharf No.5 Quay			180	4.5~5	700×3	
	Naka Wharf No.1 Quay	34°12.9′N	135°08.6′E	185	9	15,000×1	
	Naka Wharf No.2 Quay			185	9	15,000×1	
	Yakushubata Pier	34°13.0′N	135°08.7′E	45	6	5,000×1	
Wakayama Ku	Chikko No.1 Quay	24012 201	135°09.0′E	200	6	3,000×2	
Section 1	Chikko No.2 Pier	34°13.3′N		120	3.5	500×2	
	Aogishi No.1 Quay		3.2'N 135°08.3'E 180	190	1.5	7002	
	Aogishi No.2 Quay	34°13.2′N		180	4.5	700×3	
	Aogishi No.3 Quay			180	5.5	2,000×1	
Kita Ku	Hokko Oki No.1 Quay	34°14.2′N	135°06.4′E	170	10	10,000×1	

Overhead bridge. There is Aogishi Bridge (vertical clearance of 19m) reaching Yakushubata from the SE of Aogishi at Wakayama Ku Section 1.

Overhead cables. There is an overhead cable (vertical clearance of 47m) between near the base of N breakwater (near the entrance of Kainan Ku Section 1) and the shore in the SSW. There is another overhead cable (34°09.0'N 135°12.3'E, vertical clearance of 28m) crossing over the roadstead with the depth of 5.5m at the inner of the harbor.

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc. The Wakayama Kihoku Chiku typhoon and tsunami Countermeasure Committee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Wakayama Coast Guard Office)

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Maritime authorities and facilities.

Section	Name	Telephone
	Kainan Coast Guard Station (Captain of the port)	+81-73-492-0134
	Shimotsu Sub-Branch Customs, Wakayama Branch Customs of Osaka Customs	+81-73-492-0280
Shimotsu Ku	Weberry this to be to the Control Organities Station	+81-6-6571-3521
	Wakayamashimotsu detached office, Osaka Quarantine Station	(Via Osaka Quarantine Station)
	Kainan City Port and Disaster Protection Control Office	+81-73-492-0565
	Wakayama Coast Guard Office (Captain of the Port)	+81-73-402-5850
	Wakayama Transport Branch Office, Kinki District Transport Bureau	+81-73-422-0606
Waltavama Ku	Wakayama Branch Customs	+81-73-428-3882
Wakayama Ku	Wakayama Branch Office, Osaka Regional Immigration Bureau	+81-73-422-8778
	Wakayama-Shimotsu Port Authority Office, Wakayama Prefectural Government	+81-73-431-7266

Tugboats. Tugboats for mother vessels are available.

Ferryboats. Ferryboats are available at Shimotsu Ku and Wakayama Ku. Ferryboats sail from/to Tsukiji landing place at Shimotsu Ku and from/to Chikko at Wakayama Ku.

Supplies. There is fuel supply vessels at Shimotsu Ku and Wakayama Ku.

Repairs.

Name	Telephone No.
Shimotsu Dockyard Co., Ltd.	+81-73-492-1245

Name	Telephone	Name	Telephone
Tokushima Coast Guard Office (Captain of the Port)	+81-885-32-0431	Komatsushima Office, Sakaide Branch Office of Kobe Plant Protection Station	+81-885-32-1227
Komatsushima Branch Customs, Kobe Customs	+81-885-32-0326	Tokushima Transport Branch Office, Shikoku District Transport Bureau	+81-88-622-7622
Komatsujima Port Branch Office, Takamatsu Regional Immigration Services Bureau	+81-885-32-1530	Tokushimakomatsushima detached office, Hiroshima Quarantine Station	+81-877-46-4279 (Via Sakaide detached office)
Komatsushima Office, Shikoku Sub-branch, Kobe Branch, Animal Quarantine Service	+81-885-32-2422		

Maritime authorities and facilities.

Maritime traffic. Car ferries are operated between Tokushima Ku and Wakayama-Shimotsu Ko (Wakayama Ku), Kanmon Ko and Keihin Ko.

1. Komatsushima Ku



(Photographed in July 2016)

General information. Komatsushima Ku started as the river port of Kandase Kawa in the past and then has been developed as major connecting port between Honshu and Shikoku. Large vessels which coming in and out have increased by the improvement of harbor facilities as the result of the development of the coastal industrial zone.

Precaution for typhoon. The berth inside the breakwater is comparatively safe except for NE winds and waves. But it is dangerous especially when SE winds and waves of the typhoons are strong or this harbor is situated on the right semicircle of the typhoon. In such cases it is advisable to shelter at the SW of Wada-no-Hana in Section 3, good anchorage

15 is comparatively obtainable at the point as the depth is 7~8m and the bottom material is mud. However caution must be taken to aquaculture facilities for seaweed (laver and wakame) nearby.

2. Tokushima Ku



(Photographed in July 2016)

General information. Tokushima Ku is a river port at the estuary of Shinmachi Kawa and since there are Tsuda wood industrial estate and a log pond in the S side of the estuary, there are many timber carriers coming in and out. And there are many car ferryboats coming in and out too.

Landmarks.

Landmark	Position	Remarks
2 chimneys	34°02.7′N 134°35.5′E	Within Tsuda wood estate.
Tsuda Yama	34°03.0′N 134°34.0′E	78m in high.
Shinmachigawa Bridge	34°03.2′N 134°35.2′E	About 28m in height, box girder bridge.
Suehiro O-hashi Bridge	34°03.5′N 134°34.4′E	About 21m in height, cable stayed bridge, main towers are painted red and white.

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Fairway. The fairway from the estuary of Shinmachi Kawa to the bottom is dredged down to 50~200m in width and 4~6m in depth up to the elbow of the upper stream of Suehiro O-hashi Bridge. Near the estuary, the drifting sand is remarkable and there is a case of shifting the fairway.

Facilities.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
-5.5m Quay	24002 401 124026 0/5	540	5.5	2,000×6	
-7.5m Quay	34°03.4′N 134°36.0′E	130	7.5	5,000×1	
Okinosu (Soto) Chiku -8.5m Quay	34°03.2′N 134°35.8′E	270	8.5	15,000×1	
Okinosu Quay	24002 5DL 124024 0/F	90	5	2,000×1	
Okinosu Landing Place	34°03.5′N 134°34.8′E	240	3.5~4	500×4	
Suehiro Landing Place	34°03.5′N 134°34.6′E	200	4~4.5	500×4	
Suehiro Quay	34°03.3°N 134°34.0'E	300	4.5~5.5	1,000×4	
Tsuda Quay	34°03.1′N 134°35.2′E	270	3	2,000×3	
Tsuda Bussen Quay	34°02.9′N 134°35.8′E	185	10	15,000×1	
Tsuda mooring Pile	34°02.5′N 134°35.7′E	610	10	10,000×3	

(Note) There is a construction area at the W of Tsuda Quay.

Medical facility.

Name	Telephone
Anan Medical Center	+81-884-28-7777

Maritime traffic. Regular passenger boats are operated between this port and I Shima.

Tsubakidomari Ura (33°50'N 134°43'E) (Chart W1104)



⁽Photographed in July 2016)

General information. Tsubakidomari Ura is a long and narrow inlet about 1.3M WNW of Kamoda Misaki, and is indented toward W for about 3M. The inner of the bay is 10m or more in depth and good holding ground with a muddy bottom. **Tsubakidomari Gyoko** is located in the middle of N side of the bay.

Landmark	Position	Remarks
Radar tower	34°38.6′N 135°22.7′E	Painted white, there is a lighthouse on the top.
Tanks	34°39.0′N 135°25.0′E	Painted white, there are a lot of tanks.
Conspicuous house	34°38.3′N 135°24.9′E	260m high. Osaka Prefectural Government Sakishima Building.
Bridge	34°38.7′N 135°26.3′E	Minato O-hashi Bridge. About 49m high. Painted red, Gerber truss bridge.
ci.	34°37.0′N 135°24.3′E	205m high, painted pale sky-blue, light up the W side at the night, within the premises of power station.
Chimney 34°39.9'N 135°24.4'E		127m high, There is a huge ellipse painted gold structure on the top, painted red and white.

Landmarks.

Prescribed passages. Osaka Passage lies S of Yumeshima with a length of about 1,600m, a width of about 400m and a depth of about 15m.

Fairways. Nanko Fairway is located to the area about 0.6M SE from Osaka Nanko S Breakwater Light (34°37.7′N 135°23.4′E) with about 300m in width and 12m in depth.

Caution. Vessels proceeding toward near Osaka Ko Silo Quay at Section 2, should pay caution at near Ajikawa Quay to barges or small vessels sailing out from the SE of Tenpozan O-hashi Bridge.

Advance Reporting. (Refer to "Navigational Precautions" of Port regulations on page 191.)

Send the Advance Reporting to the Traffic Control Room, Osaka Coast Guard Office. Also, confirm the Traffic Control Signals Information at the above section.

The information addressee.

1. Telephone

2. VHF

Nanko Fairway and Waters of Kizugawa Unga TEL +81-6-6599-0175

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Call name	Frequency	
OSAKA HARBOR RADAR	ch16/14, 66	

The signal indicating that tide gate of each river is closed at storm surge coming is hanged on a signal pole near the estuary of each river, Kizu Kawa, Shirinashi Kawa.

Navigation adjustment. The Osaka Ports and Harbors Bureau is making operational adjustment in order to prevent vessels of 500t or more from meeting in the sea area near the entrance of Osaka Passage in Section 6. If there is a possibility that vessels may meet each other, it is necessary for subject vessels to adjust the time of operation, etc.

Entry Prohibited. Together with the execution of New island construction work, entry prohibited area was established in the north of offing Osaka Reclaimed Land in Section 6, New island district, and navigation and anchoring of vessels are prohibited. However, vessels engaged in New island construction work and vessels permitted by the Captain of the Port shall be excluded.

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Entry restricted. Along with the execution of New Island construction work, navigation restricted area was established in the southwest area of Osaka Passage for the purpose of organizing the flow in the vicinity of the junction of the vessels entering and leaving the same Passage with the vessels entering and leaving the South Port and ensuring the safety of vessel traffic and vessel navigation is restricted.

- Restriction matters are as follows:
 - 1 Vessels entering or leaving navigation restricted area shall avoid the course of vessels of more than 500t in the navigation restricted area in the same direction.

Bridge		Position		Vertical clearance (m)	Remarks
Konohana O-hashi		34°40.0′N	135°24.8′E	33	
Yumemai O-hashi	Section 1	34°39.5′N	135°24.0′E	About 24	Movable floating bridge with a floating system keeps 24m in vertical space.
Tenpozan O-hashi	Section 2	34°39.6′N	135°26.0′E	About 45	Painted white, Cable stayed bridge.
Minato O-hashi		34°38.7′N	135°26.3′E	About 49	Painted red, Gerber truss bridge.
Namihaya O-hashi		34°38.7′N	135°27.0′E	About 45	
Chisai Hashi	Section 3	34°38.8′N	135°27.5′E	26	Taisho Inner Harbour.
Senbonmatsu O-hashi		34°38.0′N	135°28.6′E	33	Plate box girder, both ends are loop style.
Shinkizu Kawa O- hashi		34°37.5′N	135°27.8′E	44	Arch bridge, about 1M S of Taisho Inner Harbour.
Kamome O-hashi	Section 4 and 5	34°36.7′N	135°25.3′E	10	Cable stayed bridge.
Kanzaki Kawa Hashi		34°41.0′N	135°24.9′E	20	
Nakajima Kawa Hashi	Section 6	34°41.6′N	135°24.4′E	29	
Tsuneyoshi O-hashi		34°40.2′N	135°24.5′E	10	

Overhead bridges.

Overhead cables. There are 2 overhead cables (vertical clearance of 53m, each) crossing over Kizu Kawa from near the estuary of the river and also one (vertical clearance of 41m) in the E of Nanko O-hashi Bridge in the SW of Section 3.

The largest vessel to enter the port. On June 28 in 2016, Passenger vessel "QUANTUM OF THE SEAS" (168,666t) berthed at Tenpozan wharf in Section 2.

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Osaka Ko Maritime perils Prevention Countermeasure Committee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Osaka Coast Guard Office)

Telephone Name Telephone Name Osaka Coast Guard Office Osaka Branch, Kobe Plant Protection +81-6-6571-0223 +81-6-6571-0801 Station (Captain of the Port) +81-6-6949-6404 Kinki District Transport Bureau Osaka Quarantine Station +81-6-6571-3521 Osaka Sub-branch, Kobe Branch, Osaka Customs +81-6-6576-3001 +81-6-6575-3466 Animal Quarantine Service Osaka Regional Immigration Nanko Sub-Branch, Osaka Customs +81-6-6614-5304 +81-6-4703-2100 Services Bureau Osaka District Meteorological +81-6-6615-7704 +81-6-6949-6300 Osaka Ports and Harbors Bureau Observatory

Maritime authorities and facilities.

Tug boats. Many tugboats are available.

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Ferry boats. Many ferry boats are available.

Supplies. Water and fuel could be supplied in full. Water supply boats are available.

Repairs.

Name	Telephone	Remarks
Osaka Shipyard, Shin Kurushima Sanoyasu Shipbuilding Co., Ltd.	+81-6-6661-1221	
Daizo Co., Ltd. Kizugawa yard	+81-6-6561-0353	
Daizo Co., Ltd.	+81-6-6577-2509	

Medical facilities.

Name	Telephone	
National Hospital Organization, Osaka National Center	+81-6-6942-1331	
Osaka Red Cross Hospital	+81-6-6774-5111	
Osaka General Medical Center	+81-6-6692-1201	

5 **Maritime traffic.** A number of car ferries and regular passenger vessels are operated between this port and Shikoku, Kyushu and also to Busan (Korea) and Shanghai (China).

3. Amagasaki-Nishinomiya-Ashiya Ku (34°41′N 135°21′E) (Chart JP1107) (JP AMX) **Section 1** (formerly Amagasaki Ko)



(Photographed in January 2017)

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Hanshin Ko Kobe Ku and Amagasaki-Nishinomiya-Ashiya Ku Typhoon Countermeasure Committee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Kobe Coast Guard Office)

Maritime authorities and facilities.

Name	Telephone	
Nishinomiya Coast Guard Station (Captain of the Port)	+81-798-22-7070	
Amagasaki Branch, Kobe Customs	+81-6-6481-6196	
Amagasaki Ko Control Office, Hyogo Prefectural Government	+81-6-6412-1362	

Tug boats. It is a usual way to call more than 2 tugboats from Kobe or Osaka in vessels of 5,000t or more entering and berthing.

Ferry boats. There is a ferry boat coming in/out Marushima lock gate.

Supplies. Water supply is available at Nishinomiya No.4 public Quay.

Waste oil disposal facility.

N			Waste oil to be disposed	
Name	Application	Hours of operation	Waste heavy oil	Waste light oil
Kinki Oil System	+81-6-6413-2722	From sunrise to sunset	All kinds	All kinds
			(excluding sludge)	(excluding sludge)

Medical facilities.

Name	Telephone	
Hyogo prefectural Amagasaki General Medical Center	+81-6-6480-7000	
Hyogo prefectural Nishinomiya hospital	+81-798-34-5151	

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4. Kobe Ku (34°41′N 135°15′E) (Charts JP101A, JP101B) (JP UKB) **Section 1**



(Photographed in January 2017)

4. Since the N side is surrounded by mountains, NW seasonal winds in winter are blocked. The anchorage is deep enough.

Weather. Throughout the year N winds are the most, followed by W~NW winds. But average wind velocity is not so high.

5 Precaution for typhoon.

1. Abnormal sea level sometimes occurs, especially combined with high waters while a typhoon are passing the W of Kobe, Typhoon No.21 on September 4, 2018 recorded the maximum SSW, wind speed 45.3 m/s and the maximum tide level of 3.07m.

2. Since the geography of the NW part is mountains and the port is open to the SE ward, strong SE winds blow while

a typhoon are passing the W side.

3. While a typhoon are proceeding E (especially from Shiono Misaki to Kumano Nada), wind velocity gets larger due to the wind blowing down from Rokko mountains, in spite of Kobe Ku being in a left half circle of the typhoon.

4. When the wind velocity of 15m/s begins to blow in the port, it is difficult to maneuver large vessels or to utilize tugboats.

15 Landmarks

Landmark	Position	Remarks
Rokko San	34°47.0′N 135°16.0′E	The highest of mountains is Rokko San (931m high with a radio tower on the top) and in its SW, Maya San (699m high) lies.
2 piers of Higashi Kobe O- hashi	34°42.6′N 135°17.4′E	34m high, each painted grey, H frame steel pole.
3 chimneys	34°42.3′N 135°14.5′E	152m high, painted grey, 102m and 100m high, each painted red and white, within the premises of steelworks. Several more chimneys within the premises.
Conspicuous house	34°39.9′N 135°12.8′E	123m high hotel shaped with vessel funnel (ellipse).
Conspicuous house	34°40.8′N 135°11.3′E	The hotel, lighthouse is located.
Port Tower	34°41.0′N 135°11.2′E	101m high, painted red, lighting on.
Ikari Yama	34°42.0′N 135°11.0′E	292m high, lighting illumination of Kobe-shi emblem and the anchor-shaped at night. About 0.6M E of this point lighting illumination of ship-shaped and characters.
Chimney	34°38.9′N 135°09.7′E	103m high, painted white, within the premises of garbage plant.

Prescribed passages. In Kobe Ku there are 3 passages, Kobe-Chuo Passage, Kobe-Nishi Passage and Shinko Passage. There is a fairway from the N entrance of Kobe-Chuo Passage to the berthing facilities of steelworks in Fairway.

the N, which is marked Kobe Nadahama-Higashi Direction Light (34°42.0'N 135°14.6'E) and light buoys.

2. To enter Hirohata Ku Section 1, vessels navigate Hirohata Passage. After passing the passage, vessels proceed on the leading line (2 lights one line at 000°) of Hirohata Leading Light (34°47.1'N 134°37.8'E) and enter into the inner harbor.

Prescribed passages.

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1. East Passage is about 1,800m in length, about 300m in width and about 14m in depth, from the S direction to Higashi Ku Section 1.

2. Shikama Passage is about 1,600m in length, about 240m in width and about 11~12m in depth, from the S direction to Shikama Ku Section 1.

3. Hirohata Passage is about 4,000m in length, about 350m in width and 14~17m in depth, from the S direction to

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Hirohata Ku Section 1.

Precautions for navigation. At all the 3 passages in the above, vessels are pressed heavily away E-ward, when strong seasonal W winds blow in winter under the ebb tide near the entrance to the breakwater, also affected by the E current. And caution must be paid to the case that under such conditions the bow suddenly turns left and the stern presses away to the right after the fore is inside the breakwater while entering the port.

15 **Private signal.** At Hirohata Ku, Nippon Steel Hirohata Signal Station display signals for vessels intend to berth at Nippon Steel berthing facilities and Hirohata Quay. The signal was installed for the purpose of providing navigation control for vessels intend to berth at private facilities. (Japan Coast Guard Public Notice No. 34, in 1995)

Entry restricted. In order of the Captain of the Port to prevent fire hazard, no general vessel is allowed to enter the area within 30m from the tanker carrying flammable dangerous cargo at berth or anchor in the port. However, in case of the upper stream of some rivers like Noda Kawa, don't enter the area within 15 m from the tanker carrying flammable dangerous cargo at berth or anchor and don't enter the area within 50m from loading LNG tanker.

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Anchorage. There are nominated anchorage for vessels carrying dangerous cargo in each harbor area.

Pilotage. Pilotage is available on request to Naikai Pilot Association. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

Facilities.

Name		Position		Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
	Nakashima Public Quay	34°46.5′N	134°39.6′E	390	5.5~7	2,000×4	
	Nakashima No.1 • 2 Quay	24046 201	124020 (JE	260	7.5	5,000×2	
	Nakashima No.3 • 4 Quay	34°46.2′N	134°39.6′E	480	12	30,000×2	
	Shikama No.1 Quay			80	5	1,000×1	
01.'I V	Shikama No.2 Quay	34°46.6′N	124020 4/5	135	7.5	5,000×1	
Shikama Ku	Shikama Ku Shikama No.3~6 Quay		134°39.4′E	680	10	12,000×4	
	Shikama No.7~9 Quay			720	12	30,000×3	
	Senbakawa No.1~4 Quay	24046 CDI	5'N 134°39.2'E	360	3~4.5	2,000×4	
	Senbakawa No.5~12 Quay	34°46.6′N		1,040	5.5~7.5	5,000×8	
	Irifune Quay	34°46.8′N	134°39.1′E	180	4~4.5	2,000×2	
	Hirohata No.1 Quay	34°46.9′N	134°37.4′E	130	7.5	5,000×1	
Hirohata Ku	Hirohata No.3 Quay	34°46.8′N	134°37.6′E	280	14	50,000×1	
A h1-: V	Kibi No.1 • 2 Quay	24946 (1)	124026 4/15	180	3~5	2,000×2	
Aboshi Ku	Kibi No.3 Quay	34°46.6′N	134°36.4′E	130	7.5	5,000×1	

Facilities.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Nose Quay	24047 101 124020 4/E	270	4.5~ 5		
Nose Landing Place	34°47.1′N 134°28.4′E	150	3.5		

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Typhoon, etc.is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Tamano Coast Guard Office)

Maritime authorities and facility.

Name	Telephone		
Himeji Branch Customs, Kobe Customs	+81-79-235-4571		

Tug boat. There are several tug boats (max 2,400PS) belonging to shipyard and general vessels could utilize them on request.

Repairs.

Name	Telephone		
JMU AMTEC Co., Ltd.	+81-791-24-2499		

Medical facility.

Name	Telephone
Aioi City Hospital	+81-791-22-7126

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Okayama Ko (34°36'N 133°58'E) (Chart W155) (JP OKP)



(Photographed in February 2017)

Port designated by Port Regulations Law	Open port	Quarantine port	Immigration port	Domestic animal quarantine port	Plant protection port	Major port
0						0

General information. Okayama Ko lies in about 10M WNW of Shodo Shima at the bottom of Okayama Suido. The area of Okayama Ko on Harbors Law includes **Saidaiji Ko** (34°36′N 134°02′E) (JP SDZ) and **Kogushi Ko** (JP KOG) on Port Regulations Law. (For Okayama Suido, See page 80)

Landmarks.

Landmark	Position	Remark
Taka Shima	34°36.2′N 133°59.4′E	27m high, flat top wooded with trees.
Kojimawan O-hashi Bridge	34°35.8′N 133°58.7′E	About 17~30m high up to the girder.
2 steel towers for overhead cable	34°36.3′N 133°58.1′E	W shore 83m high and E shore 80m high, red and
2 steel towers for overhead cable	54 50.5 N 155 56.1 E	white color painted.

Directions.

- 1. Vessels proceed toward the center of the entrance from the E side of Okayama No.1 Light Buoy (34°34.2'N 134°03.6'E) at the entrance to Okayama Suido and navigate on the W side of the middle of the fairway (the depth of 5m or more).
- 2. Vessels change the course to W at Ogushi Ko, navigate between Tsubushi Sho Light Beacon and **Hanazura Saki** (34°35.9′N 134°00.7′E) in the SW and navigate the fairway indicated by light buoy and buoy toward the entrance.
- 3. Since the fairway is narrow and in both sides the depth is shallow almost less than 5m, caution must be paid not to deviate from the fairway.

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Facilities.

Name		Position		Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
	-7.5m Quay			225	7.5	5,000×2	
Takashima	-5.5m Quay	34°36.2′N	133°59.0′E	470	5.5	2,000×5	
	-4m Landing Place			1,520	4	500×24	
	-6m Quay			105	6	3,000×1	
Fukushima	-5.5m Quay	34°36.0′N	122957 0/E	90	5.5	2,000×1	
Fukusnima	-4m Landing Place	34°30.0'N	0'N 133°57.0'E	360	4	500×5	
	-5.5m Earthquake-proof Quay			109	5.5	1,300×1	

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Typhoon, etc.is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Tamano Coast Guard Office)

Bridge building. There is Kojimawan O-hashi Bridge near the center of the port.

Supplies. There are no water supply boats and fuel supply boats.

Medical facilities.

Name	Telephone	Name	Telephone
Okayama Rosai Hospital	+81-86-262-0131	Okayama Red Cross Hospital	+81-86-222-8811

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Maritime traffic. Car ferry services to and from Tonosho Ko in Shodo Shima. There is a pier for car ferries in Takashima district of Okayama Ko.

Uno Ko (34°29'N 133°57'E) (Chart W154) (JP UNO)



(Photographed in December 2016)

Specified port	Open port	Quarantine port	Immigration port	Domestic animal quarantine port	Plant protection port	Major port
0	0		0		0	0

5 General information. Uno Ko lies in the N of the middle of Bisan Seto. There are various regular vessel services from/to Takamatsu Ko and islands in the vicinity of Uno Ko. There are many small vessels W-ward or E-ward passing near the harbor limit.

Fog. The visibility sometimes goes down under 300m from April to July. But it recovers several hours after sunrise. Pilotage. Pilotage is available on request to Naikai Pilot association. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

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Landmark Position Remarks Tera Shima 34°28.6′N 133°58.4′E 84m high, There is a lighthouse on the N end. In entering 236m high, red and white color painted each, 3-stack composite from the E Chimney 34°28.3′N 133°58.8′E chimney. 90m high, with few low trees and there is a steel tower for Kojin Shima 34°27.4'N 133°57.7'E overhead cable (painted red and white) in the W side. In entering Kazura Shima 34°28.4′N 133°57.3′E 105m high, there is a lighthouse on the SE end. from the S Wooded with few trees and there are a light beacon near the point Inumodori Hana 34°27.3'N 133°56.6'E and a steel tower for overhead cable (painted red and white) on the point.

Landmarks.

Precautions for navigation. There are many small vessels E-ward or W-ward passing near the harbour limit. And their routes are crossing the route of car ferries frequently going and coming between Uno Ko and Takamatsu-Ko, Miyanoura Ko in Nao Shima, there are many casualties like collisions. On holidays, there are many pleasure boats sailing.

Medical facility.

Name	Telephone
Tamano Civic Hospital	+81-863-31-2101

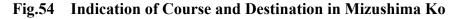
Maritime traffic. Regular passenger boat and the car ferry services to and from Takamatsu Ko, Nao Shima, Te Shima and Shodo Shima.

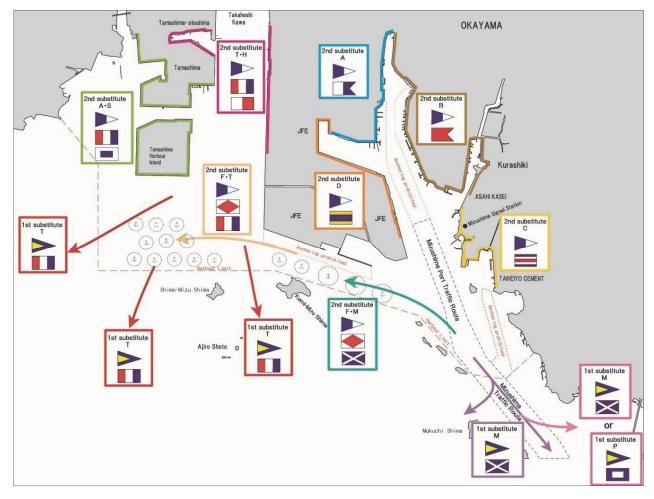
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\mathbf{N}	lizushima	Ko	(34°29'	N 133°43'	E) (Cha	arts W1116,	JP1127	7A, JP1127B) (JP	MIZ)

Specified	Open port	Quarantine port	Immigration	Domestic animal	Plant protection	Central
port			port	quarantine port	port	International port
0	0	0	0	0	0	0

General information. Mizushima Ko lies in about 10M W of Uno Ko in the N side of the center of Seto Naikai. It is an industrial and commercial port consisting of Mizushima Chiku in the E side of the estuary of **Takahashi Kawa** and Tamashima Chiku in the W side. Large tanker, etc. come in and out navigating Mizushima Traffic Route. (Refer to "Western part of Bisan Seto" of Chapter 2 of Part 2 on page 71.)





1. Mizushima Chiku (Charts JP1127A, JP1127B)



(Photographed in January 2017)

General information. Mizushima Chiku lies in the E side of Takahashi Kawa and works as an industrial port. It is one of the leading petrochemical industry zones. Within the harbor there is Inner Harbor Passage.

It is a rapidly developed industrial port following the construction of heavy industrial zone at the reclaimed yard in the front.

Landmark	Position	Remarks
Noji Shoto	34°27.0′N 133°45.0′E	Consisting of 4 islands, Kami-Noji Shima (29m high), Futo- Noji Shima (44m high), Hoso-Noji Shima (29m high), Izaro- Noji Shima (28m high).
Katsura Shima	34°27.8′N 133°45.7′E	35m high.
Mizushima Signal Station	34°28.7′N 133°45.5′E	Painted white, on the top of Taka Shima (59m high).
Group of big chimneys	34°29.0′N 133°44.0′E	90~136m high, painted red and white each, within a steelworks.
Chimney	34°29.5′N 133°43.5′E	204m high, painted red and white, within a steelworks
Kami-Mizu Shima	34°27.8′N 133°42.8′E	51m high.
Shimo-Mizu Shima	34°27.8′N 133°41.5′E	60m high.

Landmarks.

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10 Cautions.

1. At Mizushima Traffic Route connecting with the S entrance to the Inner Harbour Passage, Vessels of 50m or more in length are regulated the duty of sailing the traffic route by Maritime Traffic Safety Law.

2. Large vessels must keep clear of the shoals with a depth of some 10m which extends near the buoy with a white light (34°26.6'N 133°46.3'E). A number of fishing boats may congregate in this area.

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3. Inner Harbour Passage and the fairway are dredged down; therefore they suddenly get shallow while running off from the passage or the fairway.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Takashima Public Quay	34°28.4′N 133°45.5′E	130	5	2,000×2	
W Public Wharf No.1 Quay	34°30.6′N 133°44.2′E	185	10	15,000×1	
W Public Wharf No.2 Quay	34°30.0'N 133°44.2'E	130	9	10,000×1	
E Public Quay	34°31.2′N 133°44.4′E	360	5.5	2,000×4	
E Public Landing Place	34°31.2'N 133°44.4'E	230	4	500t class	
W Public Landing Place	34°31.2′N 133°44.2′E	305	4	500t class	

Facilities.

Overhead bridge. There is a pipe bridge (vertical clearance of 23m) reaching the opposite shore from Tenjin-ga-Hana at about 0.8M N of Takashima.

The largest vessel to enter the port. In 2002, tanker "NEW CIRCASSIA" (163,346t, draft 16m) berthed at Crude Oil No.2 Pier of **ENEOS**.

Tug boat etc. Many tug boats are available. Ferryboats and mooring boats are also available. **Supplies.** Water supply vessels and fuel supply vessels are available.

2. Tamashima Chiku (Chart JP1127B)



(Photographed in January 2017)

General information. Tamashima Chiku lies in the W side of Takahashi Kawa and works as a commercial port. This harbor area is shallow except the dredged fairway.

Landmarks.

Landmark	Position	Remarks
2 chimneys	34°30.9'N 133°41.2'E	233m and 173m high, painted grey each, within the premises of a power station.
4 steel towers	34°31.2′N 133°40.0′E	For overhead cable, about 102m, 70m, 127m, 82m, high each, 3 out of them are painted red and white.

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Cautions.

1. Since the passage is a dredged passage, the passage is steep shallows while running off from the passage.

2. Near the fork of the passage, marine traffic is congested.

application of the usage of Shin-Kasaoka Ko Ouav.

Entry restricted. In order of the Captain of the Port to prevent fire hazard, no general vessel is allowed to enter the area within 30m from the tanker carrying flammable dangerous cargo at berth or anchor in the port.

Anchorage. Quarantine anchorage is located near 1.5M E of Sensui Shima in the S of the harbor. Anchorage for vessels carrying dangerous cargo is nominated in the W of Kami Shima.

Port communication. Port communication could be made among the vessel and the Port Authority by the radio telephone.

Call name	Frequency	Hours of operation	Remarks
FUKUYAMA PORT RADIO	ch16/11, 12, 14	24 hours	Within the premises of JFE Steel Co., Ltd.

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Pilotage. Pilotage is available on request to Naikai Pilot Associations. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

Facilities. Contact to Fukuyama Business Office, Hiroshima Port & Harbor Administrating Center Co., Ltd. (Telephone: +81-84-981-5760) for the application of the usage of the following mentioned port facilities.

But, contact to Ikasa Regional Office, Okayama Prefectural Government (Telephone: +81-865-69-1634) for the

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Name		Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
		24027 001 122020 0/7	180	5.5	2,000×2	
Shin-Kasaoka	i Ko Quay	34°27.8′N 133°29.0′E	180	4.5	700×3	
Okiura East Quay		34°28.7′N 133°24.7′E	120	3~4.5	500×2	
Okiura West Quay			300	1~4	500×5	
Ichimonji Qu	ay	34°28.1′N 133°24.6′E	450	4~5.5	1,000×5	
Min - 1 in -	No.1 Quay	34°27.2′N 133°24.9′E	450	2.5~3.5	1,500×5	Ruins lie in front.
Minoshima	No.2 and 3 Quays	34°27.1′N 133°25.1′E	520	6.5~7.5	5,000×4	Ruins lie in front.
Minooki No.1	and 2 Quays	34°26.1′N 133°26.4′E	340	10	12,000×2	

Overhead cables. There are 2 overhead cables (vertical clearance of 68m and 55m) near Okiura Quay at the bottom of the harbor.

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The largest vessel to enter the port. On September 11 in 1992, ore carrier "GRAND • PHOENIX" (154,098t, draft 15.2m) berthed at JFE Steel Raw Materials Quay M Berth.

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Fukuyama Ko Typhoon, etc. measures Committee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Fukuyama Coast Guard Station)

Name	Telephone Name		Telephone
Fukuyama Coast Guard Station (Captain of the Port)	+81-84-943-5950	Fukuyama Branch, Hiroshima Regional Immigration Bureau	+81-84-973-8090
Fukuyama detached office, Hiroshima Quarantine Station	+81-84-941-2497	Tobu Construction Office, Hiroshima Prefectural Government	+81-84-921-1311
Fukuyama Branch Customs, Kobe Customs	+81-84-941-4506		

Maritime authorities and facilities.

Facilities.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Sotobori Quay	34°17.8′N 133°47.5′E	460	2~3	_	Ferry quay is neighbor on the N
Hourai-cho Public Quay		540	3~5	1,000×6	
Showa-cho E Quay	34°17.9′N 133°46.3′E	196	9~10	10,000×1	Obstructions in the front
Showa-cho Quay	34°17.5′N 133°46.5′E	240	2~4	1,000×3	

Cautions. Since there are many dangers within the berth area at the NNE of Showa-cho E Quay, in the front of the shipyard, caution must be paid for anchorage.

Maritime authorities and facility.

Name	Telephone
Sakaide Branch Customs, Kobe Customs	+81-877-44-9210

Supplies. A fuel supply boat is available.

Repairs.

Name	Telephone
Marugame Headquarters, Imabari Shipbuilding Co., Ltd.	+81-877-25-5000
Osaki Shipbuilding and Iron Works	+81-877-23-0191

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Medical facilities.

Name	Telephone	Name	Telephone
Marugame Medical Center	+81-877-23-5555	Kagawa Rosai Hospital	+81-877-23-3111

Maritime traffic. Car ferries and express passenger boats are operated between this port and various islands near Hon Shima and Hiro Shima.

Maritime authorities and facilities.

Name	Telephone	Name	Telephone		
Sakaide Coast Guard Station (Captain of the Port)	+81-877-46-5999	Sakaide Branch, Kobe Plant Protection Station	+81-877-46-4108		
Sakaide Branch Customs, Kobe Customs	+81-877-44-9210	Port Office, Sakaide City Government	+81-877-46-2518		
Sakaide detached office, Hiroshima Quarantine Station	+81-877-46-4279				

Tug boat. Private tug boats are available.

Ferry boats. Several boats are available.

Supplies. Water and fuel oil could be supplied. Several fuel supply boats are available.

Repairs.

Name	Telephone		
Kawasaki Heavy Industries Co., Ltd. Sakaide	+81-877-46-1111		

Medical facility.

Name	Telephone	
Sakaide City Hospital	+81-877-46-5131	

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Takamatsu Ko (34°21'N 134°03'E) (Charts JP137A, W1125) (JP TAP)



(Photographed in January 2017)

Specified port	Open port	Quarantine port	Immigration port	Domestic animal quarantine port	Plant protection port	Major port
0	0		0	0	0	0

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General information. Takamatsu Ko lies in the S side of the E part of Bisan Seto and there is a passage regulated by Port Regulations Law. There is **Takamatsu Gyoko** in the W part of the harbor. The harbor area as an Important Port includes **Kozai Ko** (34°22.'N 134°00'E, designated by Port Regulations Law) (JP KZJ) in the W.

There are many regular passenger vessels for various ports in Hanshin and Shodo Shima district, and for various islands nearby. Therefore vessels often congest near the entrance to the breakwater.

Asahi-machi	-5.5m Quay	34°21.2′N 134°04.2′E	488	5	2,000×4	
F Chiku	-5.5m Quay	34°21.5′N 134°04.2′E	240	5.5	2,000×2	
Central Wharf -	4.5m No.1 Quay	34°21.2′N 134°03.3′E	76	4.5	594t×1	
F Chiku	-7.5m Quay	34°21.7′N 134°04.2′E	390	7.5	5,000×3	
F Chiku	-10m Quay	34°21.7′N 134°03.8′E	370	9.5~10	15,000×2	
Asahi Chiku -12 resistance Quay	-	34°21.8′N 134°04.2′E	240	12	30,000×1	
	No.1 Oil Pier		360	5~5.5	2,000×4	
Asahi-machi	No 2 Oil Dise	24021 EDI 124002 EVE	214	5.5	2,000×3	
Asam-macm	No.2 Oil Pier	34°21.5′N 134°03.5′E	214	6.5~7.5	5,000×1	
	No.3 Oil Pier		180	5.5	2,000×2	
Oil Base -4.5m	Quay	34°21.5′E 134°03.9′E	229	4.5	700×2	
Central Wharf -	7.5m Quay	24021 201 124002 2/E	130	7.5	5,000×1	
Central Wharf -5m Quay		34°21.2′N 134°03.2′E	112	5	—	
<u></u>	-6m Quay	24021 201 124002 0/5	150	6	3,000t×1	
Tamamo	-7.5m Quay	34°21.3′N 134°02.9′E	172	7.5	5,000t×1	
Chiku	-10m Quay	34°21.4′E 134°02.9′E	310	9~10	50,000t×1	

The largest vessel to enter the port. On August 25, 2019, a passenger vessel "DIAMOND PRINCESS" (115,875t, draft 8.6m) birthed at F chiku -10m Quay.

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Takamatsu Ko Typhoon and Tsunami etc. Calamity prevention measures Committee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Takamatsu Coast Guard Office)

Maritime authorities and facilities.

Name	Telephone	Name	Telephone
Takamatsu Coast Guard Office (Captain of the Port)	+81-87-821-7008	Takamatsu Sub-Branch, Sakaide Branch Customs, Kobe Customs	+81-87-851-2874
Shikoku District Transport Bureau	+81-87-802-6715	Takamatsu Regional Immigration Services Bureau	+81-87-822-5851
Sakaide Branch, Kobe Plant Protection Station	+81-877-46-4108	Takamatsu Port Authority, Kagawa Prefectural Government	+81-87-851-3442

10 **Supplies.** There are water supply valves at each Quay of F Chiku, Asahi Chiku, Tamamo Chiku, Central Wharf and Prefectural No.1, No.2 Floating Pier. There is a fuel supply boat.

Repairs.

Name	Telephone		
Shikoku Dockyard Co., Ltd.	+81-87-851-9021		

Medical facilities

Name	Telephone	Name	Telephone
Kagawa Prefectural Central Hospital	+81-87-811-3333	Takamatsu Red Cross Hospital	+81-87-831-7101
KKR Takamatsu Hospital	+81-87-861-3261		

Maritime traffic. Regular passenger vessels, car ferries and express passenger boats are operated between this port and Uno Ko, Hanshin, Shodo Shima, Nao Shima, Megi Shima and Ogi Shima, etc.

Shido Wan (34°22′N 134°11′E) (Chart JP137A)

General information. Shido Wan is a bay opening to the N between Okushi Saki (34°22'N 134°13'E) and Gokenzan Hanto at about 6M E of Takamatsu Ko. It is about 3M inside the bay and the inner part is divided into 2 small bays. At the back of the W one of these small bays is **Shido Ko** (34°20'N 134°10'E; designated by Port Regulations Law) (JP SID) and **Mure Ko**. The E bay is called **Kamosho Wan (Nagahama Ura)**. All over the bay, there are aquaculture facilities except for the passage reaching Shido Ko and Mure Ko, which is not suitable for anchorage.

Tsuda Wan (34°18'N 134°16'E) (Chart JP137A)

General information. Tsuda Wan is a bay opening to the NE at about 5M SE of Shido Wan. Most of the bay is the port area of **Tsuda Ko** (designated by Port Regulations Law) (JP TUD).

Anchorage. The depth within the bay is $6 \sim 12m$ and the bay can be a good anchorage when W winds blow.

Large vessels can obtain an anchorage with the depth of $10 \sim 12m$ and the bottom material of mud in the N of Nako Shima in the E of the bay. However, vessels should be cautious of aquaculture facilities.

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Hiketa Wan (34°13′N 134°27′E) (Chart JP106)

General information. Hiketa Wan lies between Tokushima Ken and Kagawa Ken at about 10M E of Tsuda Wan, the bay opens to the N. The coast of the bay is sandy shore. There is **Orino Ko** in the E of the bay and **Hiketa Ko** (34°14′N 134°24′E, designated by Port Regulations Law) (JP HEA) in the W.

There is **Sanbonmatsu Ko** (34°15′N 134°20′E; designated by Port Regulations Law) (JP SAN) at about 4M NW of Hiketa Ko, and 1,000t class vessels such as those carrying cement sail in and out the port. In case of rough weather, many small vessels of less than 50t refuge in the port from the Hiketa Ko side.

Anchorage. As the bay is 9~16m in depth and the bottom material of mud, it is a good anchorage. But vessels should be cautious of stationary nets and aquaculture facilities.

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Ieshima Shoto (34°40′N 134°32′E) (Chart W1113)

General information. Ieshima Shoto lies in the center of the N part of Harima Nada. It consists of 4 major islands and more than 10 small islands scattered within the area of about 15M E to W and 6M S to N.

Harimanada Kita Koro is in the N and Harimanada Koro is about 10M in the S. In the area between Ieshima Shoto and Shodo Shima, The large vessel sail to enter and leave Himeji Ko and Aioi Ko.

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Caution. There are many dangerous reefs nearby, in the N of Ike Shima, caution must especially be paid to **Kami-Shizumo** (34°41.8′N 134°30.1′E, sunken rocks, depth of 1.4m) and **Shimo-Shizumo** (sunken rocks, depth of 4.6m).

Fishery. Gill net and crab basket fishery is carried out lively in the coastal area of Ieshima Shoto.

Landmarks.		
Landmark Position		Remarks
O Shima	34°00.0′N 133°22.0	'E 146m high.
Habu Yama	33°59.0′N 133°20.0	'E 101m high, the N part is sticking out whereas the S is stretching to a large flat land, which could be seen as an island from the distance.
2 chimneys	33°58.7′N 133°16.6	'E 105m and 125m high from the N, both red and white color painted, within the premises of a chemical factory.
C1 .	22050 101 122015 5	134m high, red and white color painted, 3-stackcomposite chimney, within

the premises of the chemical factory.

74m high, island connected by reclaiming.

Landmai

Chimney

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Miyo Shima

Prescribed passages.

1. Passage 1 is 180~310m in width and 4~15m in depth, reaching the floating pier in the S of Niihama Ku Section 1 from the N.

2. Passage 2 is 120m in width and 3~7m in depth of the center, reaching Nishimachi Hakuchi in the E from around the central of Section 1, after diverging from Passage 1.

Entry restricted. In order of the Captain of the Port to prevent fire hazard, no general vessel is allowed to enter the area within 30m from the tanker carrying flammable dangerous cargo at berth or anchor in the port. The W side of Niihama Ku Section 3 is prohibited to anchor as underwater cable are laid.

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33°58.1′N 133°15.5′E

133°15.0'E

33°59.0′N

Anchorage. Since the point which surrounded by O Shima and the shore at Takihama Ku, is the depth of 5~20m and the bottom material of mud, the point is a good anchorage being safe against S~W winds. However, you must be cautioned at the time of strong S winds called "Yamaji".

Quarantine anchorage is in about 0.7M NNE of E Breakwater Light at Niihama Ku Section 2.

15 Anchorage of vessels carrying dangerous cargo is nominated at Niihama Ku Section 3.

Port communication. Port communications by a VHF radiotelephone system between a vessel and Captain of the Port is available through the HIROSHIMA COAST GUARD RADIO.

Call name	Frequency	Hours of operation	Contact address
HIROSHIMA COAST GUARD RADIO	ch16/12	24hours	Niihama Coast Guard Station

Pilotage is available on request to Naikai Pilot Associations. (Refer to Chapter 6 "PILOTAGE" of Part 1 Pilotage. on page 8.)

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Facilities.

Name		Position		Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
	Nishihara Quay	33°58.1′N	133°16.1′E	175	4	300 GT	
Niihama Ku	Isoura -4.5m Quay			120	4.5	700×2	
Niinama Ku	Isoura -5.5m Quay	33°57.2′N 133°14	133°14.1′E	180	5.5	2,000×2 5,000×1	
	Isoura -7.5m Quay			130	7.5	5,000×1	
	Mikihama Quay	33°59.0′N	133°20.9′E	120	4.5	700×2	
	Takihama No.1 Quay			90	5.5 2,000×1		
Takihama ku	Takihama No.2 Quay	33°58.8′N	133°20.3′E	90	5.5	2,000×1	
Takinama ku	Takihama No.3 Quay			90	5.5	2,000×1	
	Habu No.1 Quay	33°59.2′N	133°20.0′E	193	7.5	5,000×1	
	Habu No.2 Quay	55 39.2 N	155 20.0 E	130	7.5	5,000×1	

Habu No.3 Quay		90	5.5	2,000×1	
Habu No.4 Quay		90	5.5	2,000×1	
Kuroshima No.1 Quay	22050 ADJ 122020 2/F	130	7.5	5,000×1	
Kuroshima No.2 Quay	33°59.0′N 133°20.3′E	100	5.5	2,000×1	

Sea berth. There is a LNG sea berth (33°58.7′N 133°14.8′E), about 0.5M W of the Miyo Shima.

Overhead cables. One overhead cable (vertical clearance of 46m), spans Passage 1. Four overhead cables (vertical clearance of from 26m to 35m), span Niihama Ku Section 1. One overhead cable (vertical clearance of 72m), spans Niihama Ku Section 4. One overhead cable (vertical clearance of 51m), spans between O Shima and Kuro Shima in

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Takihama Ku.

The largest vessel to enter the port. On June 3, 2020, cargo vessel "DYNA CAMELLIA" (52,957t, draft 9.4m) berthed at Kikumoto No.6 Quay of Sumitomo Chemical.

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami 10 etc., The Niihama Ko Typhoon Tsunami Measures Conference is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Niihama Coast Guard Office)

Name	Telephone	Name	Telephone
Niihama Coast Guard Station (Captain of the Port)	+81-897-32-0118	Niihama detached office, Hiroshima Quarantine Station	+81-89-951-0068 (Via Matsuyama detached office)
Niihama Branch Customs, Kobe Customs	+81-897-32-3405	Nakasuka Office, Secretariat of the Port Authority, Niihama City Government	+81-897-32-2015

Maritime authorities and facilities.

15 **Tug boat.** 1 tug boat (4,400PS) is available.

Ferry boat. 2 boats are available.

Supplies. Fuel supply boat is available.

Medical facility.

Name	Telephone
Ehime Rosai Hospital	+81-897-33-6191

20 Maritime traffic. Car ferries are operated for O Shima (Niihama), Hanshin Ko Kobe Ku, Osaka Ku.

Name	Position	Length	Depth	Capacity	Remarks
Inallie	POSITION	(m)	(Approx. m)	(D/W×vessel)	Kelliarks
Kawanoe No.1 Quay		210	3.5~5	1,000×3	
Kawanoe No.2 Quay	34°01.3′N 133°34.4′E	70	—	1,000×1	
Kawanoe No.3 Quay		180	—	700×3	
Kawanoe No.4 Quay	34°00.7′N 133°33.6′E	180	5.5	2,000×2	
Shin Oe No1 Quay	34°00.6′N 133°33.5′E	130	7.5	5,000×1	
Shin Oe No.2 Quay	34 00.0 N 133 33.3 E	260	12	30,000×1	
Oe No.5~7 Quay	34°00.3′N 133°33.4′E	240	3~4	700×4	
Oe No.8 · 9 Quay		180	5	2,000×2	
Oe No.10 Quay	34°00.4′N 133°33.2′E	90	5	2,000×1	
Oe No.11 Quay		130	7.5	5,000×1	
Muramatsu No.1 Quay		260	7.5	5,000×2	
Muramatsu No.2 Quay	34°00.0′N 133°32.8′E	350	15	70,000×1	
Muramatsu No.5 Quay	54 00.0 N 155 52.8 E	240	15	70,000×1	
Muramatsu No.6 Quay		350	15~15.5	70,000×1	
Muramatsu No.3 Quay		90	5.5	2,000×1	
Muramatsu No.4 Quay	34°00.3′N 133°33.0′E	260	7.5	5,000×2	
Muramatsu No.7 Quay	54 00.5 N 155 55.0 E	260	7~7.5	5,000×2	
Muramatsu No.8 Quay		240	12~13	30,000×1	
E Wharf No.4 Landing Place	33°59.6′N 133°33.1′E	160	4	700×2	
Muramatsu E Wharf	33°59.4′N 133°32.9′E	140	_	1,000×2	
Kaneko Miyagawa Quay	33°59.2′N 133°32.7′E	300	—	700×5	
Kaneko No.1 Quay	33°59.6′N 133°32.4′E	280	14	50,000×1	

Facilities.

The largest vessel to enter the port. On July 1 in 2018, lime carrier "LM VICTORIA" (51,255t, draft 13.25m) berthed at the Muramatsu No.6 Quay.

Maritime authorities and facilities.

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Name	Name Telephone		Telephone
Mishima Kawanoe Detachment of Imabari Coast Guard Office	+81-896-24-4498	Mishima Sub-Branch, Niihama Branch Customs, Kobe Customs	+81-896-23-8826
Mishimakawanoe detached office, Hiroshima Quarantine Station	+81-89-951-0068 (Via Matsuyama detached office)	Port Authority, Shikokuchuo City Government	+81-896-28-6077

Tug boat. Several tug boats are available.

Ferry boat. Many ferry boats are available.

Supplies. Supply of fresh water and fuel oil is available. There is a fuel oil supply boat.

Repairs. There is a dockyard where can repair the vessel of 500t class.

Medical facility.

Name	Telephone
Shikoku Central Hospital	+81-896-58-3515

Anchorage. Mitsunosho Wan in the NE of the port is open E with the shallow depth of mostly less than 10m. Since the bay is surrounded by **Jizo-ga-Hana** (34°17.9′N 133°12.6′E) sticking to the S and **Shirataki Hana** in the N side, the weather is comparatively calm except for E winds.

Overhead bridges. There is Ikuchi Bridge (vertical clearance of about 26m) between In-no-Shima and Ikuchi Shima and Yuge O-hashi Bridge (vertical clearance of 21m) between the W coast of Yuge Shima and the NE coast of Sa Shima and Ikuna Bridge (vertical clearance of about 24m) between Sa Shima and the SE coast of Ikuna Shima.

Overhead cable. There is an overhead cable (vertical clearance of 30m) in the S of **Tsuru Shima** (34°17.3′N 133° 10.3′E, 24m high) and some in the neighboring straits.

The largest vessel to enter the port. On March 11 in 1992, cargo vessel "YASHIRO KAWA" (74,000t, draft 7.5m)
berthed at Quay of Innoshima Shipyard, JAPAN MARINE UNITED.

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Onomichi Chiku Typhoon, etc. Measures Committee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Onomichi Coast Guard Office)

15 Maritime authorities and facilities.

Name	Telephone	Name	Telephone
Innoshima Maritime Office, Chugoku	+81-845-22-2298	Innoshima Sub-Branch, Fukuyama	+81-845-22-2807
District Transport Bureau	+81-845-22-2298	Branch Customs of Kobe Customs	+81-845-22-2807

Tug boat. Tug boats are available.

Supplies. There are various facilities at the dockyard.

Repairs.

Name	Telephone	Name	Telephone
Ishida Shipbuilding and Construction Co., Ltd.	+81-845-22-0482	Naikai Zosen Co., Takuma Works	+81-845-22-1411
Sanwa Dock Co., Ltd.	+81-845-26-1111	Innoshima Shipyard, Japan Marine United Corporation	+81-845-22-1220

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Medical facility.

Name	Telephone
Innoshima General Hospital, Hitachi Zosen Health Insurance Society	+81-845-22-2552

Maritime traffic. Many regular boats or ferries are operated between this port and Onomichi-Itozaki Ko, Imabari Ko and the islands in the vicinities.

Pilotage. Pilotage is available on request to Naikai Pilot Associations. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

Fa	sili	ties	
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	Name	Pos	ition	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
	Kaita -5.5m Quay	24021 401	122021 0/5	720	5	2,000×8	
	Kaita -7.5m Quay	34°21.4′N	132°31.0′E	650	7.5	5,000×5	
Section 1	Ujina Foreign Trade Wharf No.1~5 Quay	34°21.3′N	132°28.5′E	955	8~9.5	15,000×5	Obstructions in the front
	Ujina Foreign Trade Wharf Dolphin	34°21.1′N	132°28.2′E	95	9.5	—	
	Civic Pier	34°21.2′N	132°27.8′E	180	3~4	500×2	
	Dejima E No.1 Quay	34°21.0′N	132°27.0′E	160	3~7.5	5,000×1	Obstructions
	Dejima E No.2 Quay	34°21.0°N	132°27.0°E	180	3.5~4.5	700×3	in the front
	Dejima W No.1 Quay	34°21.4′N	132°26.8′E	480	2.5~4.5	700×8	Obstructions
	Dejima W No.2 Quay	34 21.4 N	132 20.8 E	685	4~6	2,000×7	in the front
	Dejima -14m Quay	34°21.0'N		330	14	50,000×1	For container ship
	Dejima -7.5m Quay		132°26.4′E	150×2	7.5	5,000×2	For container ship and PCC Obstructions in the front
Section 3	Dejima -5.5m Quay			110	5.5	2,000×1	Obstructions in the front
	Hatsukaichi Mokuzaiko No.1 Mooring Pile	34°20.6′N	132°21.4′E	240	12	30,000×1	
	Shonan Quay	34°20.4′N	132°20.7′E	371	9~9.5	15,000×2	
	Hatsukaichi Quay	34°21.0′N	132°21.3′E	190	6.5	5,000t×1	
	Itsukaichi No.1 Quay			390	7.5	5,000t×3	
	Itsukaichi No.2 Quay	34°21.0′N	132°21.8′E	450	5.5	2,000t×5	
	Itsukaichi No.3 Quay			70	4.5~5.5	1,000t×1	
	Itsukaichi No.4 Quay	34°20.9′N	132°22.0′E	190	11	18,000×1	
	Itsukaichi -12m Quay	34°20.9′N	132°22.0′E	270	12	30,000×1	

Fairway.

Facilities.

1. The fairway reaching Heiwa Wharf in the inner port from about 0.4M WNW of Ryu-ga-Saki at Mitajiri Chiku, is about 110m in width and 6.5~7.5 in depth.

2. The fairway reaching Nakanoseki Quay in the inner port from the entrance to the port in Nakanose Chiku, is about

230m in width and $12 \sim 12.5$ m in depth.

Although both fairways are indicated by light buoys, vessels should be cautions of the shallow parts on both sides of the fairways since it is a dredged fairway.

Entry restricted. In order of the Captain of the Port to prevent fire hazard, no general vessel is allowed to enter the area within 30m from the tanker carrying flammable dangerous cargo at berth or anchor in the port.

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Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Tsukiji No.4 Quay		260	7.5	5,000×2	
Tsukiji No.3 Quay	34°02.2′N 131°35.5′E	180	5.5	2,000×2	
Tsukiji No.4 Landing Place		600	4	500t class	
Tsukiji No.3 Landing Place		120	4	500t class	
Tsukiji No.1 Quay	34°02.0′N 131°35.3′E	240	5.5	2,000×3	
Tsukiji No.2 Quay		130	7	5,000×1	
Nakanoseki No.1 Quay		360	5.5	2000×4	
Nakanoseki No.2 Quay	34°00.5′N 131°33.7′E	520	7.5	5,000×4	
Nakanoseki No.3 Quay		480	12	30,000×2	

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Typhoon and Tsunami etc. vessel Calamity Prevention measures examination Committee, Mitajiri-Nakanoseki Ko Subcommittee is established to issue information on typhoon and tsunami to vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Tokuyama Coast Guard Office)

Maritime authorities and facilities.

Name	Telephone	Name	Telephone
Mitajiri Nakanoseki Detachment of Tokuyama Coast Guard	+81-835-23-9898	Hofu Sub-Branch, Tokuyama Branch, Moji Customs	+81-835-22-2385
Port Authority	+81-835-22-6209		

Tug boat • Ferry boat. Tugboats and ferry boats staying at Tokuyama-Kudamatsu Ko can be arranged.

Supplies. At Tsukiji Quay (Heiwa wharf), there is a valve for supplying fuel.

Repairs. There are several small dockyards.

Medical facility.

Name	Telephone
Yamaguchi Grand Medical Central	+81-835-22-4411

Maritime traffic. Regular passenger boats are operated between this port and Mitajiri Chiku and No Shima.

4. The fairway reaching the exclusive-use Oil Jetty of Seibu Oil and W Okinoyama Jetty is about 140m in navigable width and 7.5m in depth. All the fairways are indicated by several light buoys. In the winter season, there are many aquaculture facilities set outside the fairway.

Precautions for navigation. In the E and W area of Yamagichi Ube Airport, An aircraft approach surface area based on the Civil Aeronautics Act is set. For particulars, apply to Yamaguchi Ube Airport Office (TEL; +81-836-21-5841).

Anchorage. Quarantine anchorage is near 1.6M WNW of Motoyama Light Beacon at the S end of the harbor limit. Vessels carrying dangerous cargo less than 1,000t are nominated to anchor near 1M SW of Ube Ko W Breakwater Light.

Pilotage. Pilotage is available on request to Naikai Pilot Associations. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

Pilot boarding positions for vessel entering the Ubekosan No.6 Quay are as follows.

1. Vessel entering from the E ward: 33°51.2'N 131°15.2'E (approx.).

2. Vessel anchoring off Ube Ko or vessel entering from the S ward: 33°50.5'N 131°13.8'E (approx.).

3. Vessel entering from the W ward: 33°53.1'N 131°08.8'E (approx.).

Facilities.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Shibanaka E Quay	33°56.1′N 131°14.9′E	162	6~8	10,000×1	
Shibanaka W No.1 Quay	33°55.9′N 131°13.9′E	270	13	50,000×1	
Shibanaka W No.2 Quay	33°56.0′N 131°14.0′E	240	12	30,000×1	
Shibanaka No.1 Quay	33°56.3′N 131°14.2′E	185	8.5	15,000×1	
Shibanaka No.2 • 3 Quay	33°56.3′N 131°14.3′E	260	6~8	3,000×2	
Onda Quay	33°56.4′N 131°14.7′E	240	4~5	700×4	
Minatomachi Landing Place	33°56.6′N 131°14.6′E	240	3~4	500×4	
Shinmachi No.1 • 2 Quay	33°56.9′N 131°14.4′E	260	5~5.5	5,000×2	
Shinmachi No.3 Quay	33°56.8′N 131°14.5′E	90	3~4	2,000×1	
Okinoyama No.1 Quay	2205(7DI 121014 1/F	185	8~9.5	15,000×1	
Okinoyama No.2 Quay	33°56.7′N 131°14.1′E	185	8~9	15,000×1	

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Overhead bridge. There is Kosan O-hashi Bridge (vertical clearance of about 25m) at the entrance of Nishi-Ko. Overhead cables. There is an overhead cable (vertical clearance of 32m) at the S entrance to Sakaekawa Unga. There are 2 more (vertical clearance of 52m and 28m) at the central part of the Sakaekawa Unga. There is an overhead cable (vertical clearance of 44m) in the Kogyo Unga.

The largest vessel to enter the port. On July in 2017, cargo vessel (73,583t) berthed at the No.6 Quay of Ube Kosan Co., Ltd.

Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, Abnormal Weather Safety Measures Council of Ube and Sanyo Onoda district communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and restrictions in the event of abnormal weather. (Inquiry: Ube Coast Guard Station)

Maritime authorities and facilities.

Name	Telephone	Name	Telephone
		Ube Branch Customs, Moji Customs	+81-836-21-7391
Ube Coast Guard Station (Port of the Captain)	+81-836-21-2410	Ube Ko Port and Harbor Management Office	+81-836-31-3311

Tug boat • Ferry boat. Many tug boats (maximum 3,400PS) and ferry boats are available. **Supplies.** A small fuel oil supply boat is available.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Public Quay No.1		90	3~ 4	1,000×1	
Public Quay No.2	33°58.4′N 131°10.2′E	130	4~5	5,000×1	
Public Quay No.3		180	4	2,000×2	
landing place	33°58.4′N 131°10.5′E	340	3.5~4	500t class	
E Oki Quay	33°58.5′N 131°09.7′E	185	8	10,000×1	

Facilities.

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Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, Abnormal Weather Safety Measures Council of Ube and Sanyo Onoda district communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and

restrictions in the event of abnormal weather. (Inquiry: Ube Coast Guard Station)

Supplies. A small fuel oil supply boat is available.

Kepairs.	
Name	Telephone
Taiyo Dockyard Co., Ltd.	+81-836-83-2362

10 Waste oil disposal facility.

N	A 1' 4'		Kind of waste oil disposed		
Name Application		Hours of operation	Heavy waste oil	Light waste oil	
Toshi Sangyo Co., Ltd.	TEL: +81-836-83-2830	0800~1700	All kinds	All kinds	

Medical facility.

Name	Telephone		
Yamaguchi Rosai Hospital	+81-836-83-2881		

Kanda Ko (33°48'N 131°01'E) (Chart JP129) (JP KND)



(Photographed in December 2016)

Port designa Regulati	2	Open port	Quarantine port	Immigration port	Domestic animal quarantine port	Plant protection port	Major port
()	0		0		0	0

Overhead cable. There is an overhead cable (vertical clearance of 49m) between Hon-ko Quay in the N of Hon-ko and the vicinity of Timber Quay in the N of the Hon-ko Quay.

The largest vessel to enter the port. A foreign vessel of 71,178t has berthed at the port since 2010.

Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, the Kanda Ko Natural Disaster Safety Measures Committee communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and restrictions in the event of abnormal weather. (Inquiry: Kanda Coast Guard Station)

Precaution for stormy weather. Moji Coast Guard Office gives the following instructions of voluntary anchoring restrictions in order to prevent marine accidents caused by anchor dragging during stormy weather in the sea area around Kita Kyushu Airport.

Subject vessels: Vessels with gross tonnage of 100t or more.

Voluntary anchoring restricted area: The sea area within 3M from the edge of Kita Kyushu Airport Approach Light Bridge (33°51.9'N 131°01.9'E) and Shin Kita Kyushu Airport connecting bridge light (C2 light) (33°49.4'N 131°01.3'E).

15 Voluntary anchoring restricted period: From the time when the blizzard or snowstorm warning is issued to the time when the warning is cancelled in Kanda-town, Kyoto district, Fukuoka Prefecture.

Maritime authorities and facilities.

Name	Telephone	Name	Telephone
Kanda Coast Guard Station	+81-93-436-3356	Kanda Sub-Branch Customs, Moji Customs	+81-93-436-1458
Kanda Port Authority	+81-93-434-0585		

Tug boat. 8 tugboats $(35 \sim 760 \text{PS})$ are available.

Supplies. Water supply boats and fuel oil supply boats are available.

Nakatsu Ko(33°37'N 131°15'E) (Charts JP1101, W1246) (JP NAT)



(Photographed in December 2016)

Port designated by Port Regulations Law	Open port	Quarantin e port	Immigration port	Domestic animal quarantine port	Plant protection port	Major port
0	0					0

General Information. Nakatsu Ko lies in the SW of Suo Nada, about 15M SE of Kanda Ko, and extend two prefecture Oita and Fukuoka. Within 1 to 2.5M around this port is shallow less than 5m and around the coast is to dry. Landmarks.

Landmark	Position	Remarks
Cement silo	33°36.6′N 131°14.7′E	

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Fairway. There is a fairway (about 2,000m in length, 230m in width, 9m in depth) from about 1M NE of Nakatsu Ko N Breakwater Light to Public Quay in the anchorage, and both is shallow.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Tajiri Chiku -5.5m Quay	33°36.6′N 131°14.7′E	270	3.5~4	2,000×3	
Tajiri Chiku -7.5m Quay	33°36.6′N 131°14.8′E	260	6.5~7.5	5,000×2	
Tajiri Chiku -11m Quay	33°36.6′N 131°15.2′E	260	10~11	25,000×1	
Tajiri Chiku -8m Quay		200	8	6,000×1	

Facilities.

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Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, Abnormal Weather Safety Measures Committee of Oita Ko and its neighboring ports communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and restrictions in the event of abnormal weather. (Inquiry: Oita Coast Guard Office)

Supplies. Fresh water is available. There are no oil supply facilities.

Medical facility.

Name	Telephone		
Nakatsu Municipal Hospital	+81-979-22-2480		

Kitsuki Wan (33°24′N 131°39′E) (Charts W1219, JP1102)



(Photographed in December 2016)

15 General Information. Kitsuki Wan is a bay opening to the SE and located at the SE part of Kunisaki Hanto. Most part of the bay is the port area of Morie Ko (33°24'N 131°39'E, port designated by port regulations law) (JP MOO). There is a -5.5m Quay (180m long, about 5.5m in depth) in Naya Chiku.

Beppu Wan (33°18′N 131°35′E) (Charts W1219, JP1102)

20 **General Information.** The depth at the central part is around 60m. There are many fishing nets within 400~600m offshore from the coast. Especially there are many nets in the area between Beppu Hakuchi at the inner bay and Hiji passing Kamegawa in the N. Cautious should be paid when navigating near the coast during the night. There are scattered

Landmark	Position	Remarks
Takasaki Yama	33°15.0′N 131°31.0′E	628m high.
Beppu Tower	33°16.9′N 131°30.4′E	100m high, silver colored television tower lighting red. Prominent.
Tsurumi Dake 33°17.0'N 131°26.0'E		1,375m high, there is a conspicuous house (lighting) on the top.
		Prominent, there is a ropeway.
Jishoji Yama	33°18.0′N 131°29.0′E	169m high, there is a memorial monument.

Landmarks.

Roadstead.

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- **1. Beppu Hakuchi** (33°17′N 131°31′E, Chart W1219) Beppu Hakuchi is located on the S of Beppu Ko. There is a basin in front of the center of the city area, and there is a yacht harbor on the N of the basin.
- **2. Beppu-Kokusaikanko Hakuchi** (33°18′N 131°31′E, Chart W1219) Beppu-Kokusaikannko Hakuchi is a roadstead surrounded by E Breakwater and Offing Breakwater nearly in the center of the port. There are many liners coming /going this port from/to ports on the coast of Seto Naikai.
- **3. Kamegawa Hakuchi** (33°20'N 131°30'E) Kamegawa Hakuchi is on the N end of Beppu City and the area around 400m from the coast is good for anchoring. There is **Kamegawa Gyoko** in front of the central part of the city.

4. Hiji Hakuchi (33°21'N 131°32'E) Hiji Hakuchi is on the N end of Beppu Ko and the coast of Hiji-Cho is 10~40m in depth with the bottom material of mud. It is a good shelter point for small vessels, without dangers except for Ikari Se and Oki-no-Se.

Name	Position	Length (m)	Depth (Approx. m)	Capacity (DW×vessel)	Remarks
No.1 Wharf -4.5m Quay	33°17.9′N 131°30.3′E	130	3~4	500×2	
No.2 Wharf S -5.5m Quay	33°18.0′N 131°30.3′E	100	5.5	2,000×1	For passenger vessel
No.2 Wharf N -5.5m Quay	35-18.0'N 151-50.3'E	130	5~5.5	2,000×1	For ferry
No.3 Wharf -5.5m Quay		190	5.5	2,000×2	For ferry
No.3 Wharf -7.5m Quay	33°18.3′N 131°30.3′E	135	7.5	5,000×1	For passenger vessel
No.3 Wharf -12m Quay		275	12	50,000×1	For passenger vessel
No.4 Wharf -10m Quay	33°18.5′N 131°30.3′E	280	10	30,000×1	

Facilities.

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Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, Abnormal Weather Safety Measures Committee of Oita Ko and its neighboring ports communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and restrictions in the event of abnormal weather. (Inquiry: Oita Coast Guard Office)

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Medical facilities.

Name	Telephone		
National Hospital Organization, Beppu Medical Center	+81-977-67-1111		
National Hospital Organization, Nishibeppu National Hospital	+81-977-24-1221		

Maritime traffic. Car ferries are operated for Yawatahama Ko, Matsuyama Ko and Hanshin district.

Supplies. Fresh water supply is available at Beppu Hakuchi and Beppu-Kokusikanko Hakuchi.



Oita Ko (33°16′N 131°41′E) (Charts W1218, W1219, JP1247A, JP1247B) (JP OIP)

(Photographed in January 2017)

Specified port	Open port	Quarantine port	Immigration port	Domestic animal quarantine port	Plant protection port	Major port
0	0	0	0	0	0	0

5 General Information. Oita Ko is located about 9M ESE of Beppu Ko and consists of Nishi-Oita Hakuchi of former Oita Ko, Sumiyoshi Hakuchi, Otozu Hakuchi, Tsurusaki Hakuchi, Ozai Hakuchi and Hiyoshibaru Hakuchi in the E. All coastal areas form the Oita Coastal Industrial Zone.

Weather.

1. S winds are the most followed by NW throughout the year. NW winds in winter are generally strong and at that time high waves occur in the inner harbor.

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2. At the rough weather like typhoons, as no shelter port is available in the vicinity, some of large vessels shelter Chugoku district (Tokuyama) and Shikoku, although it depends on the size and direction of the typhoon.

Land	mar	ks.

Landmark	Position	Remarks
Radio tower	33°14.9′N 131°34.5′E	127m high, painted silver.
Chimney	33°16.2'N 131°40.3'E	203m high, painted red and white, within the premises of a chemical factory.
Chimneys	33°16.1'N 131°42.4'E	Both 203m high, painted grey, within the premises of a power station.

15 **Anchoring prohibited.** The fairway in the middle of Tsurusaki Hakuchi is designated as an area prohibited for anchoring.

Anchorage. Anchorages No.1 to 7 and Oitako Shin-Byochi lie within the port. There is quarantine anchorage on the N of Oita Ko Hiyoshibaru Hakuchi N breakwater N lighthouse (33°15.7′ N 131°46.0′ E) in the E of the port.

Port communications. Port communications could be made among the vessel, the Captain of the Port and the Port Authority by the radio telephone.

Call name	Frequency	Hours of operation	Contact address	Remarks
MOJI COAST GUARD RADIO	ch16/12	24 hours	Oita Coast Guard Office	
OITA PORT RADIO	ch16/12, 14	24 hours		+81-97-504-3161

Pilotage. Pilotage is available on request to Naikai Pilot Associations. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

Facilities.

Name	Point	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Ikushi Wharf No.1~5 Quay		295	2~4	700×5	
Ikushi Wharf No.6•7 Quay	22014 OBL 121025 4/5	245	7	5,000×2	
Ikushi Wharf No.8 Quay	33°14.8′N 131°35.4′E	45	6	700×1	
Ikushi Wharf No.9 • 10 Quay		160	6	3,000×2	
Sumiyoshi Wharf No.1 • 2 Quay		370	9~9.5	15,000×2	
Sumiyoshi Wharf No.3~7 Quay	33°15.2′N 131°36.2′E	469	4~5.5	3,000×5	
Sumiyoshi Wharf No.8 Quay		100	3.5~4	700×2	
Sumiyoshi Wharf No.9~15 Quay		570	3~5	700×7	
Sumiyoshi Wharf No.16 Quay	33°15.1′N 131°36.4′E	105	5	3,000×1	
Otozu Public Quay No.1~3		390	5~6.5	5,000×3	
Otozu Public Quay No.4.5	33°15.7′N 131°40.3′E	180	3.5~5	2,000×2	
Tsurusaki E Quay		480	3.5~4.5	700×8	
Tsurusaki W Quay	33°15.5′N 131°41.4′E	420	2.5~5.5	700×4 2,000×2	
Tsurusaki Waste Oil					
Disposal Place Quay A		60	3.5	1,000×1	
Tsurusaki Waste Oil	33°16.0′N 131°41.1′E				
Disposal Place Quay B		100	4.5	2,000×1	
Ozai Public Quay No.1		120	4.5	700×2	
Ozai Public Quay No.2		230	3.5	500t class	
Ozai Public Quay No.3~8		540	5~5.5	2,000×6	
Ozai Public Quay No.9		160	7.5	5,000×1	
Ozai Public Quay No.11		150	4	500×1	
Ozai Public Quay No.12~15	33°14.9′N 131°44.7′E	520	7~7.5	5,000×4	
Ozai Public Quay No.16 • 17		425	9.5~12	15,000×1 30,000×1	
Ozai Public Quay No.18		150	3.5~4	500t class	
Ozai Public Quay No.19		170	10	10,000×1	
Ozai Public Quay No.20		280	14	50,000×1	
Public Quay No.1 · 2		260	7.5	5,000×2	
Public Quay No.3~5	33°14.9′N 131°46.5′E	270	5~5.5	2,000×3	

5 **Overhead cables.** Overhead cables (vertical clearance of 49m and 63m) are respectively crossing the estuary of Onakajima Kawa and the estuary of Otozu Kawa in the bottom of Otozu Hakuchi.

Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, Abnormal Weather Safety Measures Committee of Oita Ko and its neighboring ports communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and restrictions in the event of abnormal weather. (Inquiry: Oita Coast Guard Office)

General Information. Saganoseki Ko is in about 9M E of Oita Ko, in the N side of isthmus of the peninsula sticking in Hayasui Seto. There is **Saganoseki Gyoko** at so-called **Shita Ura** in the S side of isthmus. This was developed as a port for the import of raw materials for the metal refinery and the export of the products.

Landmarks.

Landmark	Position	Remarks		
Chimneys	33°15.5′N 131°52.6′E	325m high, painted red and white.		

Directions. After approaching Saganoseki Hoppo Koro Light Buoy (33°16.2'N 131°51.6'E), vessels alter the course to W Breakwater Light in the SW side of the port, proceed to 165° and enter the harbour carefully after passing Wakamiko Hana (33°15.1'N 131°52.0'E).

Anchorage. Within the port the depth is 10~17m with the bottom material of mud and a good holding ground except for the time of NW winds. Quarantine anchorage is the NW offing of port entrance.

10 **Pilotage.** Pilotage is available on request to Naikai Pilot Associations. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

Overhead cable. There is an overhead cable (vertical clearance of 46m) in the inner port.

Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, Abnormal Weather Safety Measures Committee of Oita Ko and its neighboring ports communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and restrictions in the event of abnormal weather. (Inquiry: Oita Coast Guard Office)

Tug boat. There are tugboats coming from Oita Ko on request.

Supplies. There are a water supply boat and a fuel oil supply boat coming from Oita Ko on request.

Medical facility.

Name	Telephone		
Saganoseki Hospital, Medical Institution SEKIAIKAI	+81-97-575-1172		

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Maritime traffic. Car ferries are operated for Misaki Ko {near Sada Misaki}.

Matsuyama Ko (33°52′N 132°42′E) (Charts W164, W1124) (JP MYJ)



(Photographed in October 2016)

Port communication. Port communications could be made between vessels and the Captain of the Port by the radio telephone.

Call name	Frequency	Hours of operation	Contact address
HIROSHIMA COAST GUARD RADIO	ch16/12	24 hours	Matsuyama Coast Guard Office

Facilities. Including Nishi-Habu Hakuchi.

Facilities.	Including Nishi-Habu H		Length	Depth	Capacity	Remarks
Name		Position	(m)	(Approx. m)	(D/W×vessel)	reemands
Section 1	Kanko Ko No.1 Ferry Quay	22052 401 122042 2/5	160	5.5~6	3,000×1	
	Kanko Ko No.2 Ferry Quay	33°53.4′N 132°42.3′E	238	7.5	10,000×1	
	Kanko Ko No.1 Pier	33°53.3′N 132°42.2′E	199	6.5	3,000×2	
	Kanko Ko No.2 Pier	55 55.5 N 152 42.2 E	169	6.5	3,000×2	
	Gaiko No.1 Wharf No.1 Quay		220	5	3,000×2	
	Gaiko No.1 Wharf No.2 Quay	33°51.5′N 132°42.5′E	370	10	10,000×2	
	Gaiko No.1 Wharf No.3 Quay		315	4.5	700×6	
	Gaiko No.2 Wharf No.1 Quay		300	3~4	700×5	
	Gaiko No.2 Wharf No.2 Quay	33°51.8′N 132°42.5′E	180	5~5.5	2,000×2	
	Gaiko No.2 Wharf No.3 Quay		390	6.5~7	5,000×3	
	Okaga Wharf No.1 Quay		180	1~3	700×2	
Section 2	Okaga Wharf No.2 Quay	33°51.3′N 132°42.5′E	200	2~3	700×3	
	Okaga Wharf No.3 Quay		90	4.5	2,000×1	
	Yoshida Hama No.1 Quay	33°50.4′N 132°41.8′E	270	4~5.5	2,000×3	
	Yoshida Hama No.2 Quay	33 ⁻ 30.4 N 132 ⁻ 41.8 E	180	5	2,000×2	
	Gaiko New Wharf No.1 Quay	33°50.8′N 132°41.9′E	170	10	10,000×1	
	Gaiko New Wharf No.2 Quay	33°50.8′N 132°41.8′E	260	13	40,000×1	
	Gaiko New Wharf No.3 Quay	22051 101 122041 0m	130	7~7.5	5,000×1	
	Gaiko New Wharf No.4 Quay	33°51.1′N 132°41.9′E	130	7.5	5,000×1	
Nishi-Habu	Habu No.3 Quay	33°48.9′N 132°41.6′E	272	4.5	2,000×3	
Hakuchi	Habu No.4 Quay	33°48.8′N 132°41.2′E	370	9.5	10,000×2	

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The largest vessel to enter the port. On May 30 in 2013, passenger vessel "SUN PRINCESS" (77,499t, draft 8.1m) berthed at Gaiko No.1 Wharf No.2 Quay.

Safeguards against Typhoon and Tsunami. In order to prevent marine casualties caused by Typhoon and Tsunami etc., The Matsuyama Ko Natural Calamity Prevention measures Committee is established to issue information on typhoon and tsunami to Vessel and Concerned parties in port and give countermeasures to taken including relevant warnings, evacuation from berths and cancellation thereof. (Contact inquiry: Matsuyama Coast Guard Office)

Entry restricted. In order of the Captain of the Port to prevent fire hazard, no general vessel is allowed to enter the area within 30m from the tanker carrying flammable dangerous cargo (50m in case of LNG tanker) at berth or anchor in the port.

Anchorage. Quarantine anchorages are in 2 points, the SE side of He Saki and the E of Mutsure Shima.

Precautions for navigation. In entering to Kanmon Ko at night, refer to "Guide for Entering the Kanmon Port during Nighttime and Safe Passage of Vessels through the strait".

URL http://www.kaiho.mlit.go.jp/07kanku/gyoumu/kaiho/koukouanzen/yakannyuukou/e.pdf

Port communications. Port communications could be made among the vessel, the Captain of the Port and the Port Authority by the radio telephone.

	Call name	Frequency	Hours of operation	Contact address	Remarks
Captain of the Port KANMON MARITIS WAKAMATSU HARBOR COAST GUARD RADIO				Moji Coast Guard Office	Matters relating to Kanmon Ko. (Excluding Hibiki Passage, Tobata Passage, Wakamatsu Passage, Okudokai Passage, Anse Passage, Wakamatsu Ku and Hibiki-Shinko Ku)
	ch16/12 24 hours		Wakamatsu Coast Guard Office Navigation Safety Division	Matters relating to Hibiki Passage, Tobata Passage, Wakamatsu Passage, Okudokai Passage, Anse Passage, Wakamatsu Ku and Hibiki-Shinko Ku of Kanmon Ko. (Excluding matters relating to traffic control report)	
		ch16/13, 14, 66		Kanmon Kaikyo Vessel Traffic Service Center	Matters relating to Hayatomo Seto of Kanmon Ko. (Relating only to traffic control report)
	HARBOR COAST	ch16/12, 14, 66		Wakamatsu Port Control Office	Matters relating to Wakamatsu Fairway, Okudokai Passage and Wakamatsu Ku of Kanmon Ko. (Excluding Section 5 and 6) (Relating only to traffic control report)
Port Authority	SHIMONOSEKI PORT RADIO	ch16/12, 14,	24 hours		
	KITA-KYUSHU PORT RADIO	20, 66		+81-93-321-6518	

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Pilotage. Pilotage is available on request to Kanmon Pilot Associations. (Refer to Chapter 6 "PILOTAGE" of Part 1 on page 8.)

Pilotage is compulsory for vessel of 10,000GT or more transiting Kanmon Kaikyo; local knowledge is necessary if not embarking a pilot.

Safety measure against abnormal weather including typhoon and tsunami. In order to prevent accidents due to abnormal weather including typhoon and tsunami, the Kanmon Ko Natural Disaster Safety Measures Committee communicates with the vessels mooring in the port and gives instructions regarding warnings, evacuations, and restrictions in the event of abnormal weather. (Inquiry: Moji Coast Guard Office)



10. Shin-Moji Ku (33°52′N 130°59′E) (Chart W1238) (JP SMJ)

(Photographed in December 2016)

General information. The harbor area of Shin-Moji Ku is located in the center of Shinmoji coastal industrial zone established in all over the area between Hishakuda and Tsunemi at Moji Ku of Kitakyushu-shi. It is the detached area of Kanmon Ko which is very rare at the domestic port.

Precaution for navigation. In the N and S of Kitakyushu Airport, an aircraft approach surface area based on the Civil Aeronautics Act is set. Caution should be exercised with the safety vertical clearance of the vessel's mast, etc., as shown in the diagram of Chart W1238 and JP 129.

10 **Precaution for stormy weather.** Moji Coast Guard Office gives the following instructions of voluntary anchoring restrictions in order to prevent marine accidents caused by anchor dragging during stormy weather in the sea area around Kita Kyushu Airport.

Subject vessels: Vessels with gross tonnage of 100t or more.

Voluntary anchoring restricted area: The sea area within 3M from the edge of Kita Kyushu Airport Approach Light Bridge (33°51.9'N 131°01.9'E) and Shin Kita Kyushu Airport connecting bridge light (C2 light) (33°49.4'N 131°01.3'E).

Voluntary anchoring restricted period: From the time when the blizzard or snowstorm warning is issued to the time when the warning is cancelled in Kanda-town, Kyoto district, Fukuoka Prefecture.

20 Landmarks.

Facilities.

Landmark	Position	Remarks		
Tobigasu Yama	33°51.0′N 130°59.0′E	226m high.		

Fairway. There is a dredged fairway (about 200m in width, about 8m in depth) extending to the NE from the entrance of Shin-Moji Ku and it is indicated by light buoys. Since there is no specific navigation or traffic control signals set in this fairway, caution must be paid when a vessel with little under keel clearance meets with the vessel outside the fairway. **Anchoring restricted.** Vessels carrying dangerous cargo are not allowed to anchor at Shin-Moji Ku.

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Name	Position	Length (m)	Depth (Approx. m)	Capacity (D/W×vessel)	Remarks
Shin-Moji No.1 and 2 Quays	33°52.0′N 130°59.0′E	182	2.5~4	1,000×2	
Shin-Moji No.3~5 Quays	33°52.1′N 130°59.0′E	390	7~7.5	3,500×3	
Shin-Moji Ferry Quay	33°53.0′N 130°59.4′E	410	8	10,000×2	For car ferry
Shin-Moji North No.1 and 2 Quays		120	2~3	700×2	
Shin-Moji North No.3~5 Quays	33°53.1′N 130°59.7′E	270	2.5~3.5	2,000×3	
Shin-Moji North No.6 and 7 Quays	55 55.1 N 150 59.7 E	260	5~7	5,000×2	
Shin-Moji North No.8 and 9 Quays		370	8	10,000×2	
Shin-Moji North No.10 Quay	33°52.6′N 130°59.6′E	230	8	10,000×1	For car ferry
Shin-Moji North No.11 Quay	33°52.5′N 130°59.7′E	190	5.5	6,000×1	

Maritime traffic. Car ferries are operated for Keihin Ko (Tokyo Ku), Yokosuka Ko, Tokushima-Komatsushima Ko (Tokushima Ku) and Hanshin Ko (Kobe Ku, Osaka Ku, Sakai-Senboku Ku).