

# Appendices



## Appendices Contents

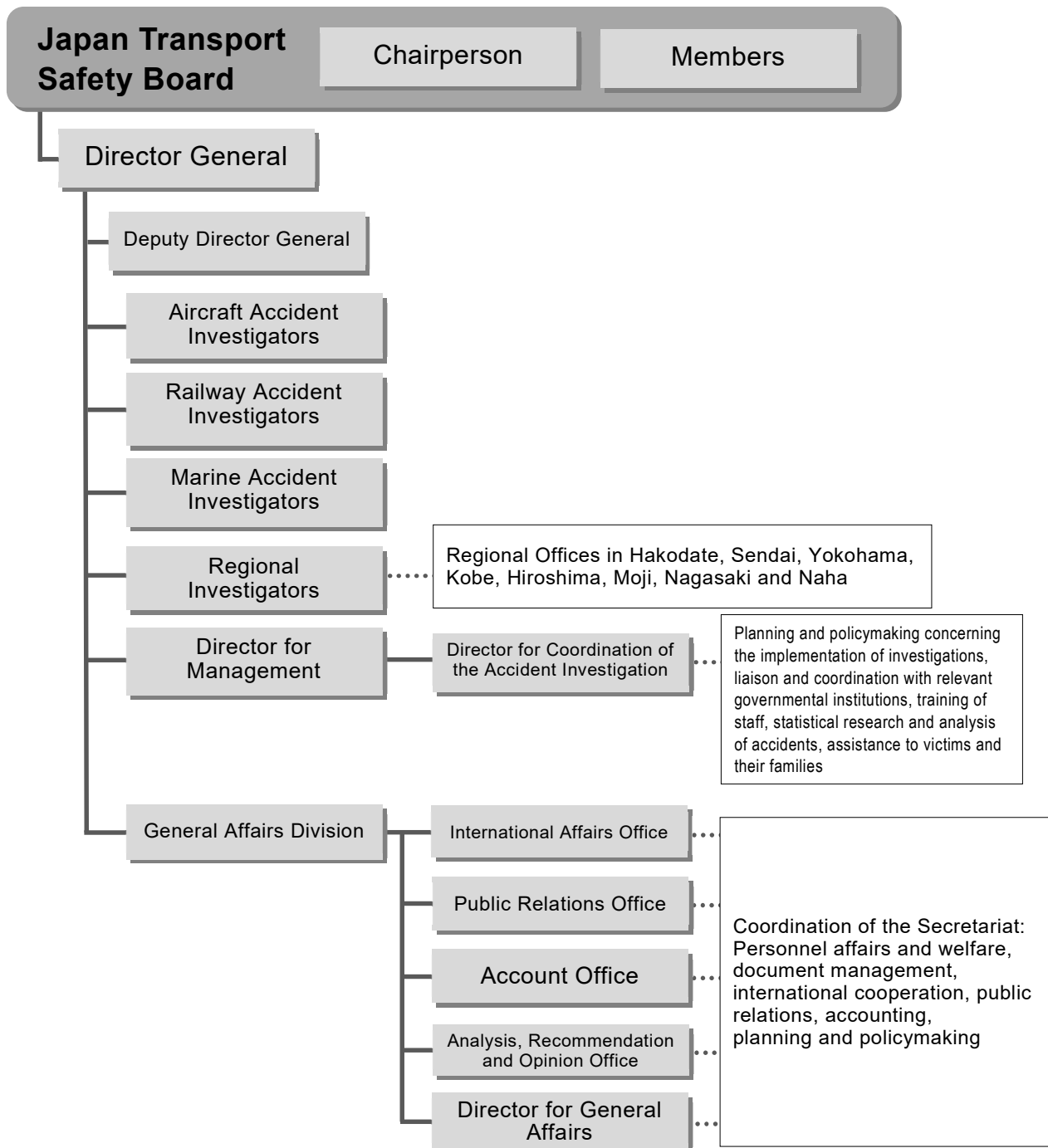
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# 1 Outline of the organization

The Japan Transport Safety Board consists of the Chairperson, 12 members, and 182 secretariat staff (as of April 1, 2022). The staff in the secretariat consist of investigators who conduct investigations of aircraft, railway and marine accidents; the General Affairs Division that performs coordination-related jobs for the secretariat; and the Director for Management who is dedicated to the support and statistical analysis of accident investigations, and international cooperation. In addition, special support staff and local investigators are stationed at eight regional offices around the country (Hakodate, Sendai, Yokohama, Kobe, Hiroshima, Moji, Nagasaki and Naha). These local investigators investigate marine accidents (excluding serious ones) and support staff provide initial support for aircraft, railway and marine accidents.

March 1, 2023

**Organization Chart**



## 2 Board Members

As of March 1, 2023

### **TAKEDA Nobuo, Chairperson (Full-time), Director of Aircraft Committee**

TAKEDA Nobuo was appointed as Chairperson of the Japan Transport Safety Board on April 1, 2019; belongs to the Aircraft Committee, the Railway Committee and the Marine Committee with special expertise in aerospace engineering, strength of materials and composite materials engineering.

Career summary: PhD, University of Florida and Graduate School of Engineering, the University of Tokyo (doctor of engineering), Emeritus Professor, Former Vice President, the University of Tokyo

Former Technical Advisor in Structures and Advanced Composite Research Unit, Aeronautical Technology Directorate of the Japan Aerospace Exploration Agency (JAXA)

### **SODA Hisako, Member (Full-time)**

SODA Hisako was appointed as a member on April 1, 2022; belongs to the Aircraft Committee, the Railway Committee and the Marine Committee with special expertise in legislation.

Career summary: Graduated from Faculty of Law, the University of Tokyo, Former Judge, Tokyo District Court

### **SHIMAMURA Atsushi, Member (Full-time), Vice-Chairperson, Deputy Director of Aircraft Committee**

SHIMAMURA Atsushi was appointed as a member on February 27, 2022; belongs to the Aircraft Committee, with special expertise in operation and maintenance of aircraft and air navigation services engineering.

Career summary: Master of Engineering, Graduate School of Engineering, Yokohama National University

Former Fellow of Corporate Safety & Security of Japan Airlines Co., Ltd.

### **MARUI Yuichi, Member (Full-time)**

MARUI Yuichi was appointed as a member on December 6, 2016; belongs to the Aircraft Committee, with special expertise in maneuvering of aircraft.

Career summary: Graduated from Civil Aviation College

Former D. Senior Vice President, Corporate Safety and Security, All Nippon Airways Co., Ltd.

### **OKUMURA Fuminao, Member (Full-time), Director of Railway Committee**

OKUMURA Fuminao was appointed as a member on December 6, 2016; belongs to the Railway Committee, with special expertise in railway engineering and geotechnical engineering.

Career summary: Doctor of Engineering, graduated from the Department of Civil Engineering, Faculty of Engineering, Tokyo Institute of Technology

Former Executive Director of the Railway Technical Research Institute

### **ISHIDA Hiroaki, Member (Full-time), Deputy Director of Railway Committee**

ISHIDA Hiroaki was appointed as a member on December 26, 2016; belongs to the Railway Committee, with special expertise in dynamics of machinery, vehicle dynamics and railway vehicle engineering.

Career summary: Doctor of Engineering, graduated from the Department of Industrial Mechanical Engineering, Faculty of Engineering, the University of Tokyo

Former Professor in the Program in Mechanical Engineering, Department of Interdisciplinary Science and Engineering, School of Science and Engineering, Meisei University

### **SATO Yuji, Member (Full-time), Director of Marine Committee**

SATO Yuji was appointed as a member on October 1, 2017; belongs to the Marine Committee and the Marine Special Committee, with special expertise in ship operation and maritime traffic safety.

Career summary: Graduated from Japan Coast Guard Academy

Former Commandant of Japan Coast Guard

Former President of Japan Coast Guard Foundation

**TAMURA Kenkichi, Member (Full-time), Deputy Director of Marine Committee**

TAMURA Kenkichi was appointed as a member on October 1, 2017; belongs to the Marine Committee and the Marine Special Committee, with special expertise in naval architect.  
 Career summary: Doctor of Engineering, Graduate School of Engineering, the University of Tokyo  
 Former Senior Director for Research of National Maritime Research Institute, National Institute of Maritime, Port and Aviation Technology

**NAKANISHI Miwa, Member (Part-time)**

NAKANISHI Miwa was appointed as a member on February 27, 2016; belongs to the Aircraft Committee, with special expertise in ergonomics (human factors).  
 Career summary: Doctor of Engineering, School of Science for Open and Environmental Systems, Graduate School of Science and Technology, Keio University  
 Associate Professor in the Department of Administration Engineering, Faculty of Science and Technology, Keio University (current post)

**TSUDA Hiroka, Member (Part-time)**

TSUDA Hiroka was appointed as a member on October 1, 2020; belongs to the Aircraft Committee, with special expertise in flight dynamics and control of aircraft, flight simulation and flight test.  
 Career summary: Completion of the doctoral first course for Department of Human Media Systems, Graduate School of Information Systems, The University of Electro-Communications  
 Senior R&D Fellow, Aviation Use Expansion Innovation Hub, Aeronautical Technology Directorate, Japan Aerospace Exploration Agency (current post)

**SUZUKI Mio, Member (Part-time)**

SUZUKI Mio was appointed as a member on December 6, 2019; belongs to the Railway Committee, with special expertise in traffic engineering and human factors.  
 Career summary: Doctor of Engineering, Department of Built Environment, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology  
 Associate Professor in the Department of Civil Engineering, Tokai University (current post)

**NIITSUMA Mihoko, Member (Part-time)**

NIITSUMA Miho was appointed as a member on December 6, 2019; belongs to the Railway Committee, with special expertise in electrical engineering.  
 Career summary: Doctor of Engineering, Department of Electrical Engineering and Information Systems, Graduate School of Engineering, The University of Tokyo  
 Professor in the Department of Precision Mechanics, Faculty of Science and Engineering, Chuo University (current post)

**OKAMOTO Makiko, Member (Part-time)**

OKAMOTO Makiko was appointed as a member on October 1, 2017; belongs to the Marine Committee and the Marine Special Committee, with special expertise in safety ergonomics.  
 Career Summary: Doctor of Human Sciences, Graduate School of Human Sciences, Waseda University, Lawyer, Associate Professor in Faculty of Social Security Science, Kansai University (current post)

**The chairperson and members of the Board shall be appointed by the Minister of Land, Infrastructure, Transport and Tourism with the consent of both houses of Representatives and Councilors.**

**3 Number of occurrences by aircraft category (aircraft accidents)**

(Cases)

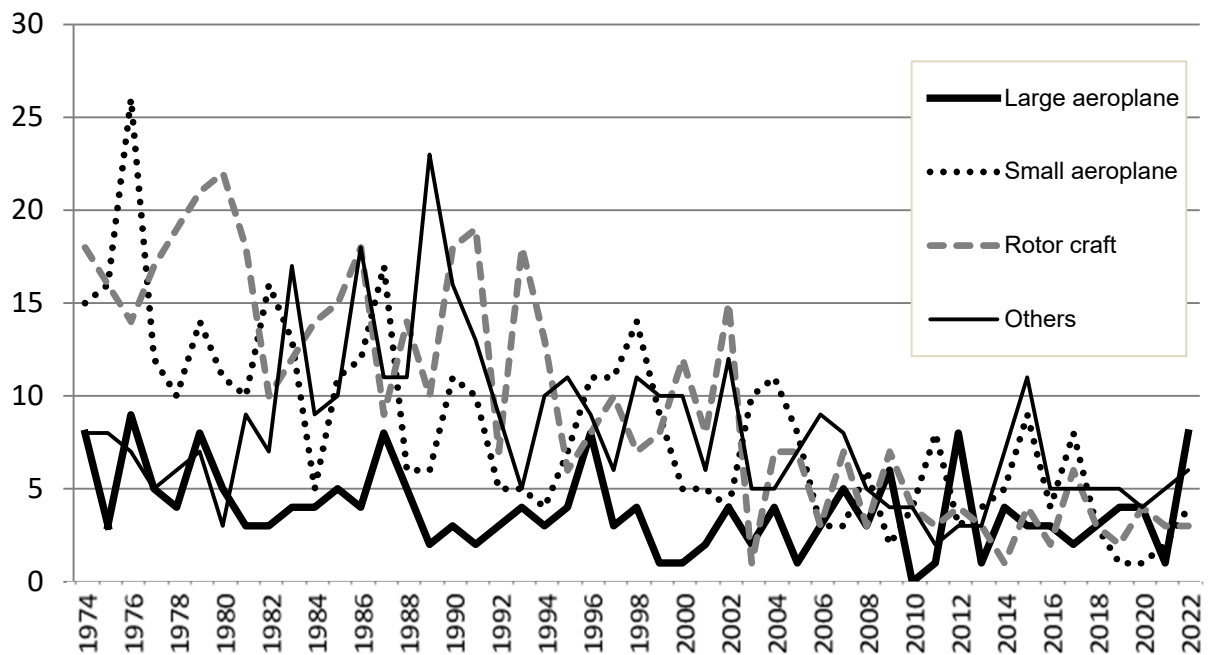
Category Year of occurrence	Aircraft			Rotorcraft		Glider	Airship	Unmanned aircraft	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane				
1974	8	15	0	17	1	8	0	-	49
1975	3	16	0	16	0	8	0	-	43
1976	9	26	0	14	0	7	0	-	56
1977	5	12	0	16	1	5	0	-	39
1978	4	10	0	18	1	6	0	-	39
1979	8	14	0	20	1	6	1	-	50
1980	5	11	0	22	0	3	0	-	41
1981	3	10	1	18	0	8	0	-	40
1982	3	16	0	9	1	7	0	-	36
1983	4	13	10	12	0	7	0	-	46
1984	4	5	6	13	1	3	0	-	32
1985	5	11	6	15	0	4	0	-	41
1986	4	12	14	15	3	4	0	-	52
1987	8	17	8	8	1	3	0	-	45
1988	5	6	7	12	2	3	1	-	36
1989	2	6	11	9	1	12	0	-	41
1990	3	11	9	16	2	7	0	-	48
1991	2	10	6	19	0	7	0	-	44
1992	3	5	5	7	0	4	0	-	24
1993	4	5	3	17	1	2	0	-	32
1994	3	4	8	13	0	2	0	-	30
1995	4	7	10	6	0	1	0	-	28
1996	8	11	5	8	0	4	0	-	36
1997	3	11	3	8	2	3	0	-	30
1998	4	14	5	6	1	6	0	-	36
1999	1	9	5	7	1	5	0	-	28
2000	1	5	5	11	1	5	0	-	28
2001	2	5	2	8	0	4	0	-	21
2002	4	4	5	15	0	7	0	-	35
2003	2	10	3	1	0	2	0	-	18
2004	4	11	2	6	1	3	0	-	27
2005	1	8	0	7	0	7	0	-	23
2006	3	3	4	2	1	5	0	-	18
2007	5	3	4	7	0	4	0	-	23

Category Year of occurrence	Aircraft			Rotorcraft		Glider	Airship	Unmanned aircraft	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane				
2008	3	6	2	3	0	3	0	-	17
2009	6	2	1	7	0	3	0	-	19
2010	0	4	2	4	0	2	0	-	12
2011	1	8	1	3	0	1	0	-	14
2012	8	3	2	4	0	1	0	-	18
2013	1	4	1	3	0	2	0	-	11
2014	4	5	2	1	0	5	0	-	17
2015	3	9	3	3	1	8	0	-	27
2016	3	4	1	2	0	4	0	-	14
2017	2	8	3	5	1	2	0	-	21
2018	3	3	4	3	0	1	0	-	14
2019	4	1	2	2	0	3	0	-	12
2020	4	1	4	3	1	0	0	-	13
2021	1	2	2	3	0	3	0	-	11
2022	8	4	4	3	0	2	0	0	21
Total	188	400	181	447	26	212	2	0	1,456

- (Note)
1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission.
  2. Large aeroplanes are aircraft with a maximum take-off weight of more than 5,700 kg.
  3. Small aeroplanes are aircraft with a maximum take-off weight of 5,700kg or less, excluding Ultralight planes.
  4. Ultralight planes include self-made, ultralight plane-shaped aircraft.
  5. Gyroplanes include self-made, gyroplane-shaped aircraft.
  6. The number of unmanned aircraft in 2022 is from December onward.



Number of occurrences by aircraft category (aircraft accidents)



**4 Number of fatalities in accidents (aircraft accidents)**

(Persons)

Year of occurrence	Category	Aircraft			Rotorcraft		Glider	Total	
		Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
2008	Crew	0	1	1	2	0	1	5	5
	Passengers and others	0	0	0	0	0	0	0	
2009	Crew	2	0	2	5	0	0	9	9
	Passengers and others	0	0	0	0	0	0	0	
2010	Crew	0	2	1	14	0	0	17	17
	Passengers and others	0	0	0	0	0	0	0	
2011	Crew	0	5	0	1	0	0	6	6
	Passengers and others	0	0	0	0	0	0	0	
2012	Crew	0	0	0	0	0	0	0	1
	Passengers and others	0	1	0	0	0	0	1	
2013	Crew	0	0	0	0	0	1	1	2
	Passengers and others	0	0	0	0	0	1	1	
2014	Crew	0	1	0	0	0	0	1	2
	Passengers and others	0	1	0	0	0	0	1	

Year of occurrence \ Category		Aircraft			Rotorcraft		Glider	Total	
		Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
2015	Crew	0	1	1	2	0	1	5	10
	Passengers and others	0	2	1	2	0	0	5	
2016	Crew	0	1	0	0	0	3	4	8
	Passengers and others	0	3	0	0	0	1	4	
2017	Crew	0	2	0	2	1	1	6	22
	Passengers and others	0	4	0	12	0	0	16	
2018	Crew	0	0	2	1	0	0	3	11
	Passengers and others	0	0	0	8	0	0	8	
2019	Crew	0	0	1	0	0	0	1	1
	Passengers and others	0	0	0	0	0	0	0	
2020	Crew	0	0	1	1	0	0	2	2
	Passengers and others	0	0	0	0	0	0	0	
2021	Crew	0	0	0	1	0	1	2	3
	Passengers and others	0	0	0	0	0	1	1	
2022	Crew	0	2	1	1	0	1	5	9
	Passengers and others	0	2	1	0	0	1	4	
	Crew	2	15	10	30	1	9	67	108
	Passengers and others	0	13	2	22	0	4	41	
	Total	2	28	12	52	1	13		

- (Note)
1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission in 2008
  2. Death tolls represent data for the respective years of occurrence relisted from the annual reports published for those years.
  3. Large aeroplanes are aircraft with a maximum take-off weight of more than 5,700 kg.
  4. Small aeroplanes are aircraft with a maximum take-off weight of 5,700kg or less, excluding Ultralight planes.
  5. Ultralight planes include self-made, ultralight plane-shaped aircraft.
  6. Gyroplanes include self-made, gyroplane-shaped aircraft.

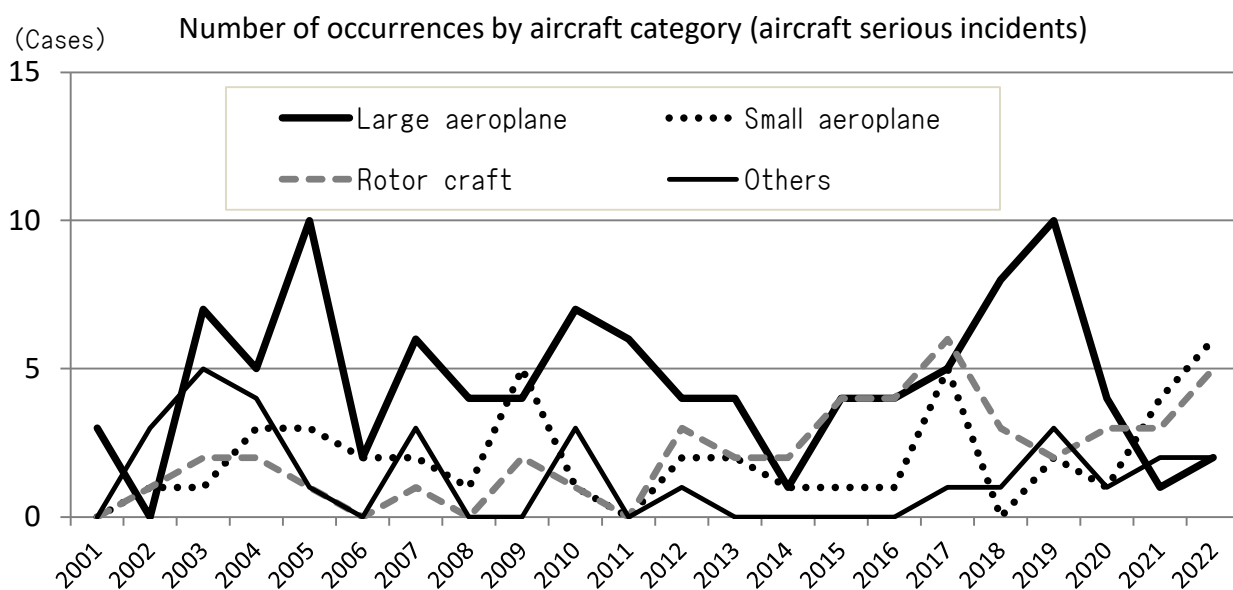
### 5 Number of occurrences by aircraft category (aircraft serious incidents)

(Cases)

Year of occurrence \ Category		Aircraft			Rotorcraft		Glider	Airship	Unmanned aircraft	Total
		Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane				
2001		3	0	0	0	0	0	0	-	3
2002		0	1	2	1	0	1	0	-	5
2003		7	1	4	2	0	1	0	-	15
2004		5	3	4	2	0	0	0	-	14
2005		10	3	1	1	0	0	0	-	15

Category Year of occurrence	Aircraft			Rotorcraft		Glider	Airship	Unmanned aircraft	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane				
2006	2	2	0	0	0	0	0	-	4
2007	6	2	2	1	0	1	0	-	12
2008	4	1	0	0	0	0	0	-	5
2009	4	5	0	2	0	0	0	-	11
2010	7	1	3	1	0	0	0	-	12
2011	6	0	0	0	0	0	0	-	6
2012	4	2	0	3	0	1	0	-	10
2013	4	2	0	2	0	0	0	-	8
2014	1	1	0	2	0	0	0	-	4
2015	4	1	0	4	0	0	0	-	9
2016	4	1	0	4	0	0	0	-	9
2017	5	5	0	6	0	1	0	-	17
2018	8	0	0	3	0	1	0	-	12
2019	10	2	0	2	0	3	0	-	17
2020	4	1	1	3	0	0	0	-	9
2021	1	4	1	3	0	1	0	-	10
2022	2	6	1	5	0	1	0	0	15
Total	101	44	19	47	0	11	0	0	222

- (Note)
1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission.  
The number of cases for 2001 represents those that occurred from October onward.
  2. Large aeroplanes are aircraft with a maximum take-off weight of more than 5,700 kg.
  3. Small aeroplanes are aircraft with a maximum take-off weight of 5,700kg or less, excluding Ultralight planes.
  4. Ultralight planes include self-made, ultralight plane-shaped aircraft.
  5. The number of unmanned aircraft in 2022 is from December onward.



**6 Number of occurrences by type (railway accidents)**

(Cases)

Year of occurrence \ Type	Railway							Tramway							Total
	Train collision	Train derailment	Train fire	Level crossing accident	Accident against road traffic	Other accidents with casualties	Heavy property loss without casualties	Vehicle collision	Vehicle derailment	Vehicle fire	Level crossing accident	Accident against road traffic	Other accidents with casualties	Heavy property loss without casualties	
2001	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
2002	1	14	1	2	0	1	1	0	0	0	0	0	0	0	20
2003	1	20	2	0	0	0	0	0	0	0	0	0	0	0	23
2004	0	18	0	1	0	0	0	0	1	0	0	0	0	0	20
2005	2	20	0	0	0	1	0	0	1	0	0	0	0	0	24
2006	1	13	0	1	0	0	0	1	0	0	0	0	0	0	16
2007	0	12	2	3	0	0	0	0	2	0	0	0	0	0	19
2008	0	7	2	2	0	1	1	0	0	0	0	0	0	0	13
2009	0	5	1	2	0	3	0	0	0	0	0	0	0	0	11
2010	0	6	0	0	0	1	0	0	0	0	0	2	0	0	9
2011	0	12	0	1	0	1	0	0	0	0	0	0	0	0	14
2012	0	13	2	0	0	2	0	0	2	0	0	1	0	0	20
2013	0	11	1	1	0	1	0	0	1	0	0	0	0	0	15
2014	1	9	0	4	0	0	0	0	0	0	0	0	0	0	14
2015	1	5	1	4	0	1	0	0	1	0	0	0	0	0	13

2016	0	7	0	15	0	0	0	0	1	0	0	0	0	0	23
2017	0	9	0	7	0	2	1	0	0	0	0	0	0	0	19
2018	0	2	0	9	0	0	0	0	0	0	0	0	0	0	11
2019	0	9	0	7	0	1	0	0	0	0	0	0	0	0	17
2020	0	7	0	6	0	0	0	0	0	0	0	0	0	0	13
2021	0	6	0	5	0	0	0	0	0	0	0	0	0	0	11
2022	0	5	0	8	0	1	0	0	0	0	0	0	0	0	14
<b>Total</b>	<b>7</b>	<b>214</b>	<b>13</b>	<b>78</b>	<b>0</b>	<b>16</b>	<b>3</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>344</b>

(Note) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission.

2. The number of cases for 2001 represents those that occurred from October onward.

### 7 Number of fatalities in accidents (railway accidents)

(Persons)

Year of occurrence	Death Classification			Total
	Crew members	Passengers	Others	
2008	0	0	2	2
2009	0	0	3	3
2010	0	0	2	2
2011	0	0	1	1
2012	0	0	1	1
2013	0	0	1	1
2014	0	0	6	6
2015	0	2	4	6
2016	0	0	15	15
2017	0	0	10	10
2018	0	0	9	9
2019	0	0	8	8
2020	0	0	1	1
2021	0	0	5	5
2022	0	0	9	9
<b>Total</b>	<b>0</b>	<b>2</b>	<b>77</b>	<b>79</b>

(Note) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission in 2008

2. Death tolls represent data for the respective years of occurrence relisted from the annual reports published for those years.

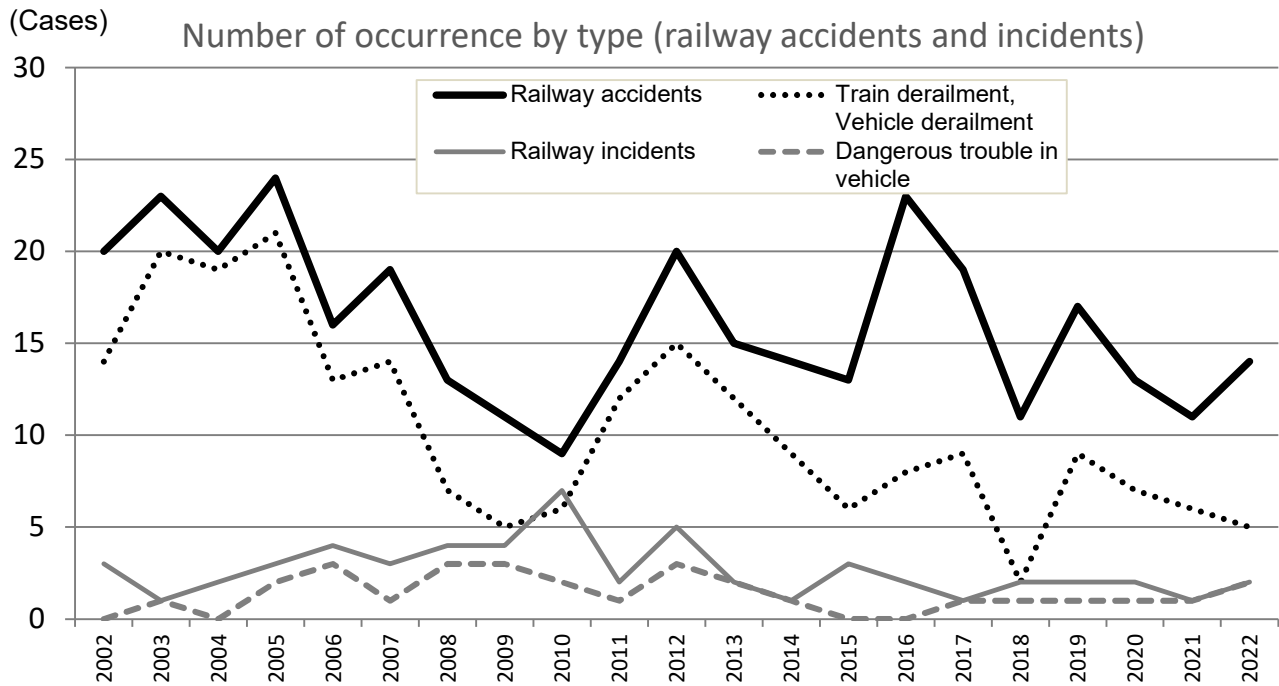
3. As investigations began to cover fatal accidents at third- and fourth-class crossings without crossing gates in April 2014, the number of deaths occurring in those locations were added.

### 8 Number of occurrences by type (railway serious incidents)

(Cases)

Year of occurrence	Railway										Tramway						Total		
	Incorrect management of safety block	Incorrect indication of signal	Violating red signal	Main track overrun	Violating closure section	Vehicle derailment	Dangerous damage in facilities	Dangerous trouble in vehicle	Dangerous object	Heavy leakage of dangerous object	Others	Incorrect management of safety block	Violating red signal	Main track overrun	Dangerous damage in facilities	Dangerous trouble in vehicle		Heavy leakage of dangerous object	Others
2001	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2002	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2003	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2004	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2005	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
2006	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	4
2007	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
2008	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4
2009	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
2010	1	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0	0	0	7
2011	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2012	0	0	0	0	1	1	0	3	0	0	0	0	0	0	0	0	0	0	5
2013	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2014	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2015	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	3
2016	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
2017	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2018	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2019	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
2020	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
2021	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2022	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	1	7	0	1	7	2	3	29	0	3	3	1	0	0	0	0	0	0	57

(Note) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission.  
 2. The number of cases for 2001 represents those that occurred from October onward.



**9 Number of occurrences by area (marine accidents and incidents)**

(Cases)

Year of occurrence	In Japanese waters			Outside Japanese waters	Total
	Area	In ports specified by the Cabinet Order	Within 12 nautical miles		
2007		0	3	0	3
2008		227	576	15	873
2009		341	1,065	34	1,522
2010		305	909	38	1,334
2011		238	781	28	1,126
2012		224	807	31	1,115
2013		214	764	35	1,082
2014		193	762	31	1,030
2015		153	674	44	910
2016		147	638	43	849
2017		154	670	35	906
2018		186	689	38	957
2019		218	761	53	1,067
2020		176	641	38	873
2021		156	685	26	884
2022		176	607	40	842
Total		3,108	11,032	529	15,373

(Note) The above table shows the number of accidents and incidents into which the JTSB launched an investigation as of the end of December 2021 (including those carried over from the former Marine Accident Inquiry Agency).

### 10 Number of occurrences by type (marine accidents and incidents)

(Cases)

Year	Marine accidents												Marine incidents				Total
	Collision	Contact	Grounding	Foundering	Flooding	Capsizing	Fire	Explosion	Missing	Facility damage	Fatality/Injury	Others	Loss of control	Stranded	Safety obstruction	Navigation obstruction	
2007	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2008	181	101	255	12	4	28	15	3	0	30	61	0	54	34	8	87	873
2009	325	174	431	16	19	58	42	3	0	38	217	2	105	33	0	59	1,522
2010	356	180	369	15	18	50	35	2	0	26	146	0	83	16	0	38	1,334
2011	282	145	265	12	18	56	32	1	0	23	142	1	103	10	1	35	1,126
2012	246	133	264	5	21	55	44	2	0	33	155	0	113	5	4	35	1,115
2013	264	145	210	10	25	49	33	2	0	38	163	2	106	7	3	25	1,082
2014	265	116	213	7	11	61	35	1	0	37	150	3	92	15	0	24	1,030
2015	244	102	202	5	12	56	38	3	0	20	122	1	85	4	4	12	910
2016	217	94	163	5	19	46	26	3	0	21	144	0	85	6	6	14	849
2017	200	96	181	14	22	55	27	3	0	23	143	0	115	4	3	20	906
2018	243	86	172	21	26	52	24	2	0	24	180	0	107	10	0	10	957
2019	219	98	201	11	26	67	31	1	0	40	145	2	181	24	0	21	1,067
2020	190	94	155	13	15	52	29	2	0	21	134	1	141	14	2	10	873
2021	199	80	173	3	36	67	26	3	1	35	122	1	121	12	0	5	884
2022	176	87	143	7	16	57	30	2	1	9	130	2	169	10	0	3	842
Total	3,607	1,732	3,399	156	288	809	467	33	2	418	2,154	15	1,660	204	31	398	15,373

(Note) 1. The above table shows the number of accidents and incidents into which the JTSB launched an investigation as of the end of December 2021 (including those carried over from the former Marine Accident Inquiry Agency).

2. The figures in the column "Fatality/Injury" are the number of cases involving death, death and injury, missing persons, or injury which is not a result from other types of accident.

### 11 Number of vessels involved in accidents and incidents by type of vessel (marine accidents and incidents)

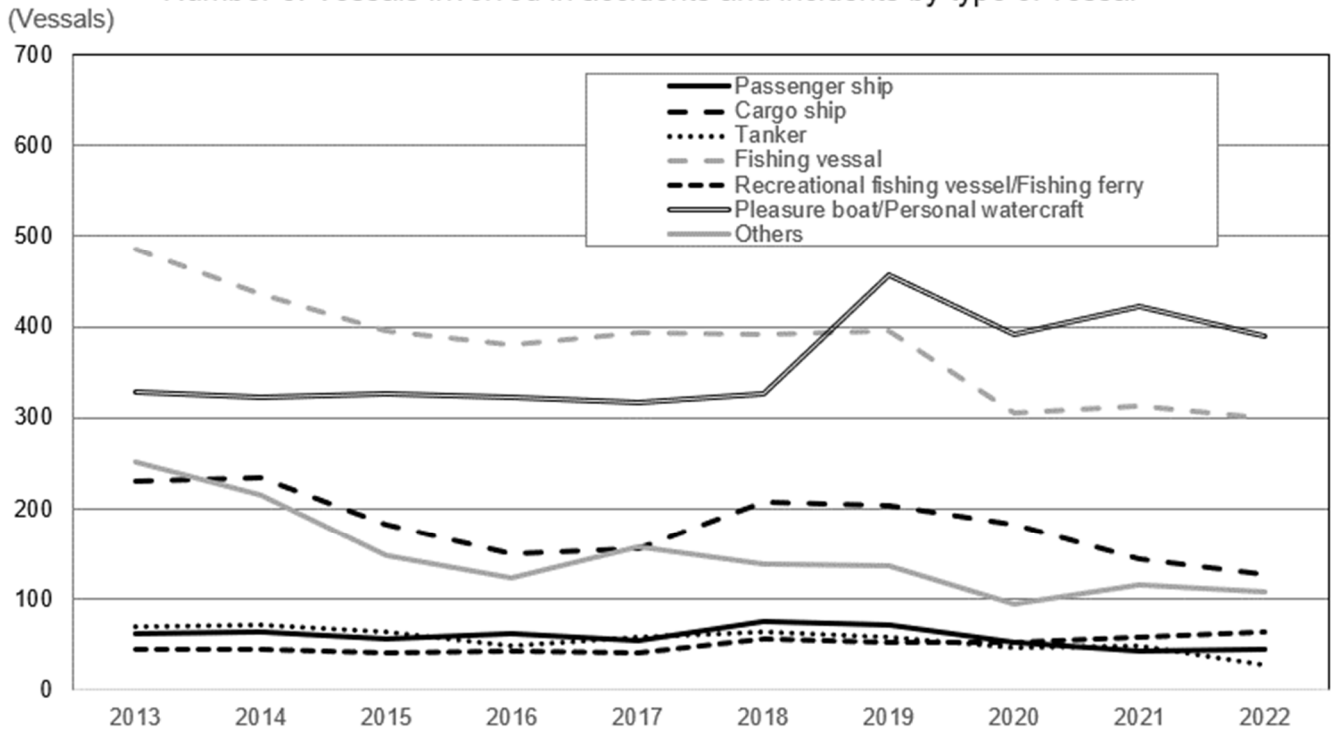
(Vessels)

Year	Type of Vessel														Total
	Passenger ship	Cargo ship	Tanker	Fishing vessel	Tug boat, push boat	Recreational	Fishing ferry	Work vessel	Barge, lighter	Public-service ship	Pleasure boat	Personal water craft	Others		
2007	2	1	0	0	0	0	0	0	0	0	0	0	0	3	
2008	55	318	55	307	98	28	6	27	59	11	126	31	7	1,128	
2009	103	480	83	605	163	39	5	35	104	40	249	65	23	1,994	



Type of Vessel \ Year	Passenger ship	Cargo ship	Tanker	Fishing vessel	Tug boat, push boat	Recreational	Fishing ferry	Work vessel	Barge, lighter	Public-service ship	Pleasure boat	Personal water craft	Others	Total
2010	99	398	105	555	123	53	6	48	82	24	251	66	18	1,828
2011	68	285	105	504	89	38	6	29	50	16	250	46	21	1,507
2012	79	296	75	467	91	33	8	36	59	14	247	55	8	1,468
2013	62	231	70	485	101	41	4	37	72	24	264	64	18	1,473
2014	63	235	71	436	91	39	5	36	58	17	253	69	13	1,386
2015	57	183	63	396	53	33	7	28	45	14	279	48	9	1,215
2016	62	150	49	379	47	36	7	27	33	11	254	68	5	1,128
2017	55	155	59	393	63	37	3	29	45	13	275	42	7	1,176
2018	76	207	63	391	52	48	8	20	36	14	269	57	16	1,257
2019	72	203	58	396	50	47	6	30	32	10	411	46	15	1,376
2020	52	183	47	306	35	50	2	14	22	10	335	56	13	1,125
2021	42	144	49	312	37	53	5	30	23	12	365	57	13	1,142
2022	44	127	27	300	34	60	3	22	22	17	336	54	13	1,059
Total	991	3,597	979	6,232	1,127	635	81	448	742	247	4,164	824	198	20,265

Number of Vessals involved in accidents and incidents by type of vessal



(Note) The above table shows the number of vessels involved in accidents and incidents into which the JTSB launched an investigation as of the end of December 2021 (including those carried over from the former Marine Accident Inquiry Agency).

## 12 Number of vessels involved in accidents and incidents by gross tonnage (marine accidents and incidents)

(Vessels)

Year	Gross Tonnage											Unkn own	Total
	Less than 20 tons	20 to less than 100 tons	100 to less than 200 tons	200 to less than 500 tons	500 to less than 1,600 tons	1,600 to less than 3,000 tons	3,000 to less than 5,000 tons	5,000 to less than 10,000 tons	10,000 to less than 30,000 tons	More than 30,000 tons			
2007	1	0	0	1	0	0	0	0	0	0	1	3	
2008	485	52	138	216	77	24	16	17	10	15	78	1,128	
2009	903	89	230	288	116	42	34	49	30	14	199	1,994	
2010	900	86	175	260	128	36	37	39	25	24	118	1,828	
2011	823	59	142	194	101	39	18	32	21	17	61	1,507	
2012	790	53	133	199	78	33	25	38	25	20	74	1,468	
2013	881	44	113	142	93	47	27	36	19	17	54	1,473	
2014	839	46	86	145	87	38	26	29	17	17	56	1,386	
2015	762	43	66	111	64	32	18	28	22	19	50	1,215	
2016	745	31	64	104	61	23	17	21	18	10	34	1,128	
2017	756	39	80	116	69	24	14	22	17	6	33	1,176	
2018	798	32	79	118	75	46	31	19	15	12	32	1,257	
2019	929	32	47	130	68	29	20	34	11	14	62	1,376	
2020	769	19	47	124	54	21	6	27	13	15	30	1,125	
2021	809	27	40	98	51	18	18	14	14	16	37	1,142	
2022	678	30	40	102	31	20	9	19	9	4	117	1,059	
Total	11,868	682	1,480	2,348	1,153	472	316	424	266	220	1,036	20,265	

(Note) The above table shows the number of accidents and incidents into which the JTSB launched an investigation as of the end of December 2022 (including those carried over from the former Marine Accident Inquiry Agency).

## 13 Number of vessels involved in accidents and incidents in 2022 by type of accident/incident and type of vessel (marine accidents and incidents)

(Vessels)

Type of accident /incident	Marine accidents											Marine incidents				Total	
	Collision	Contact	Grounding	Foundering	Flooding	Capsizing	Fire	Explosion	Missing	Facility damage	Fatality/Injury	Others	Loss of control	Stranded	Safety obstruction		Navigation obstruction
Type of Vessel																	
Passenger ship	8	16	5	0	1	0	1	0	0	1	6	0	2	2	0	2	44
Cargo ship	48	25	30	0	1	1	2	0	0	2	4	1	11	2	0	0	127
Tanker	12	6	5	0	0	0	0	0	0	1	1	0	2	0	0	0	27
Fishing vessel	115	12	26	4	5	13	13	0	0	0	77	0	35	0	0	0	300
Tug boat, push boat	8	7	9	0	0	2	1	0	0	1	3	0	2	1	0	0	34
Recreational fishing vessel	26	3	11	0	1	0	0	0	0	0	4	0	15	0	0	0	60

Fishing ferry	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	3
Work vessel	7	2	1	0	0	4	3	0	0	1	3	0	1	0	0	0	22
Barge, lighter	5	4	7	1	0	1	0	0	0	0	3	0	1	0	0	0	22
Public-service ship	8	3	2	0	0	1	1	0	0	1	1	0	0	0	0	0	17
Pleasure boat	95	13	53	2	5	35	9	2	1	3	15	1	96	5	0	1	336
Personal water craft	23	0	0	0	3	1	0	0	0	0	23	0	4	0	0	0	54
Others	9	2	0	0	0	1	0	0	0	0	0	0	1	0	0	0	13
<b>Total</b>	<b>364</b>	<b>93</b>	<b>150</b>	<b>7</b>	<b>16</b>	<b>59</b>	<b>31</b>	<b>2</b>	<b>1</b>	<b>10</b>	<b>141</b>	<b>2</b>	<b>170</b>	<b>10</b>	<b>0</b>	<b>3</b>	<b>1,059</b>

(Note) 1. The above table shows the number of vessels involved in accidents and incidents into which the JTSB launched an investigation as of the end of December 2022.

2. The figures in the column “Fatality/Injury” are the number of cases involving death, death and injury, missing persons, or injury which is not a result from other types of accident.

### 14 Number of fatalities in accidents (marine accidents)

Year of occurrence		Type of Vessel	(Persons)							Total	
			Passenger ship	Cargo ship	Tanker	Fishing vessel	Recreational fishing vessel/ Fishing ferry	Pleasure boat/Personal water craft	Others		
2008	Crew	0	2	1	51	1	5	1	61	71	
	Passengers	0	0	0	0	2	0	0	2		
	Others	0	0	0	0	1	6	1	8		
2009	Crew	3	1	2	109	0	26	4	145	191	
	Passengers	0	0	0	0	3	0	0	3		
	Others	1	5	0	6	0	27	4	43		
2010	Crew	1	10	1	74	0	11	2	99	129	
	Passengers	0	0	0	0	1	0	0	1		
	Others	0	3	0	1	1	22	2	29		
2011	Crew	3	4	8	83	3	18	7	126	146	
	Passengers	4	0	0	0	2	0	0	6		
	Others	0	2	0	0	0	12	0	14		
2012	Crew	2	6	4	79	1	22	3	117	133	
	Passengers	1	0	0	0	2	0	0	3		
	Others	1	1	0	1	0	8	2	13		
2013	Crew	0	17	2	69	0	19	7	114	134	
	Passengers	0	0	0	0	1	0	0	1		
	Others	0	2	0	0	0	16	1	19		
2014	Crew	0	11	3	89	0	17	3	123	138	
	Passengers	0	0	0	0	2	0	0	2		
	Others	0	1	1	1	0	10	0	13		

Year of occurrence	Type of Vessel	Passenger ship	Cargo ship	Tanker	Fishing vessel	Fishing vessel/ Fishing ferry	Recreational fishing vessel/ Fishing ferry	Pleasure boat/Personal water craft	Others	Total	
2015	Crew	3	5	0	44	0	12	5	69	87	
	Passengers	2	0	0	0	2	0	0	4		
	Others	0	0	0	0	0	13	1	14		
2016	Crew	1	4	5	45	1	10	4	70	93	
	Passengers	0	0	0	0	2	0	0	2		
	Others	0	2	0	2	0	15	2	21		
2017	Crew	2	4	0	46	0	7	20	79	93	
	Passengers	0	0	0	0	0	0	0	0		
	Others	0	0	0	0	0	12	2	14		
2018	Crew	0	2	1	48	0	10	2	63	87	
	Passengers	0	0	0	0	1	0	0	1		
	Others	1	0	0	1	0	17	4	23		
2019	Crew	0	17	0	57	1	11	1	87	103	
	Passengers	0	0	0	0	1	0	0	1		
	Others	0	3	0	1	0	10	1	15		
2020	Crew	1	3	1	47	1	12	2	67	87	
	Passengers	0	0	0	0	3	0	0	3		
	Others	0	2	0	0	0	11	4	17		
2021	Crew	0	4	1	51	0	15	2	73	89	
	Passengers	0	0	0	0	1	0	0	1		
	Others	0	1	0	0	0	14	0	15		
2022	Crew	2	1	1	32	0	10	6	52	76	
	Passengers	18	0	0	0	0	0	0	18		
	Others	0	0	0	1	0	2	3	6		
Total	Crew	18	91	30	924	8	205	69	1,345	1,657	
	Passengers	25	0	0	0	23	0	0	48		
	Others	3	22	1	14	2	195	27	264		
	Total	46	113	31	938	33	400	96			

(Note) The above table shows the number of vessels involved in accidents and incidents into which the JTSB launched an investigation as of the end of December 2022 (including those carried over from the former MarineAccident Inquiry Agency).

**15 Numbers of issued recommendations, opinions and safety recommendations**

Type and mode Year	Recommendation			Opinion			Safety recommendation	
	Aircraft	Railway	Vessel	Aircraft	Railway	Vessel	Aircraft	Vessel
2008	—	—	—	2	—	—	—	—
2009	—	—	—	1	1	1	3	—
2010	—	—	—	—	—	1	1	—
2011	—	1	2	1	—	5	—	9
2012	1	1	6	1	—	4	1	2
2013	4	3	4	—	—	2	3	—
2014	4	—	—	—	—	1	2	6
2015	2	—	—	—	1	—	—	—
2016	1	—	—	—	—	—	1	3
2017	1	—	1	—	—	—	—	2
2018	1	—	1	1	2	2	—	1
2019	1	—	1	—	1	1	—	5
2020	3	—	2	—	—	—	—	1
2021	—	1	3	—	1	—	—	4
2022	—	—	1	—	—	3	—	—
Total	18	6	21	6	6	20	11	33

(Note) These were issued after the establishment of the JTSB in October 2008.