

MARINE POLLUTION RISK ASSESSMENT FOR THE PACIFIC ISLANDS REGION (PACPOL Project RA1)

Volume 2: Appendices

**for
Marine Pollution Programme,
South Pacific Regional Environment Program (SPREP)**

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1 APPENDIX 1: CONTACT LIST

We extend our sincere thanks to all of those who assisted with our quest for data. This contact list features people who have provided direct information on marine traffic patterns in the Pacific Islands region. Many more people contributed significantly by directing us to the eventual sources. To those we have inadvertently missed, our apologies.

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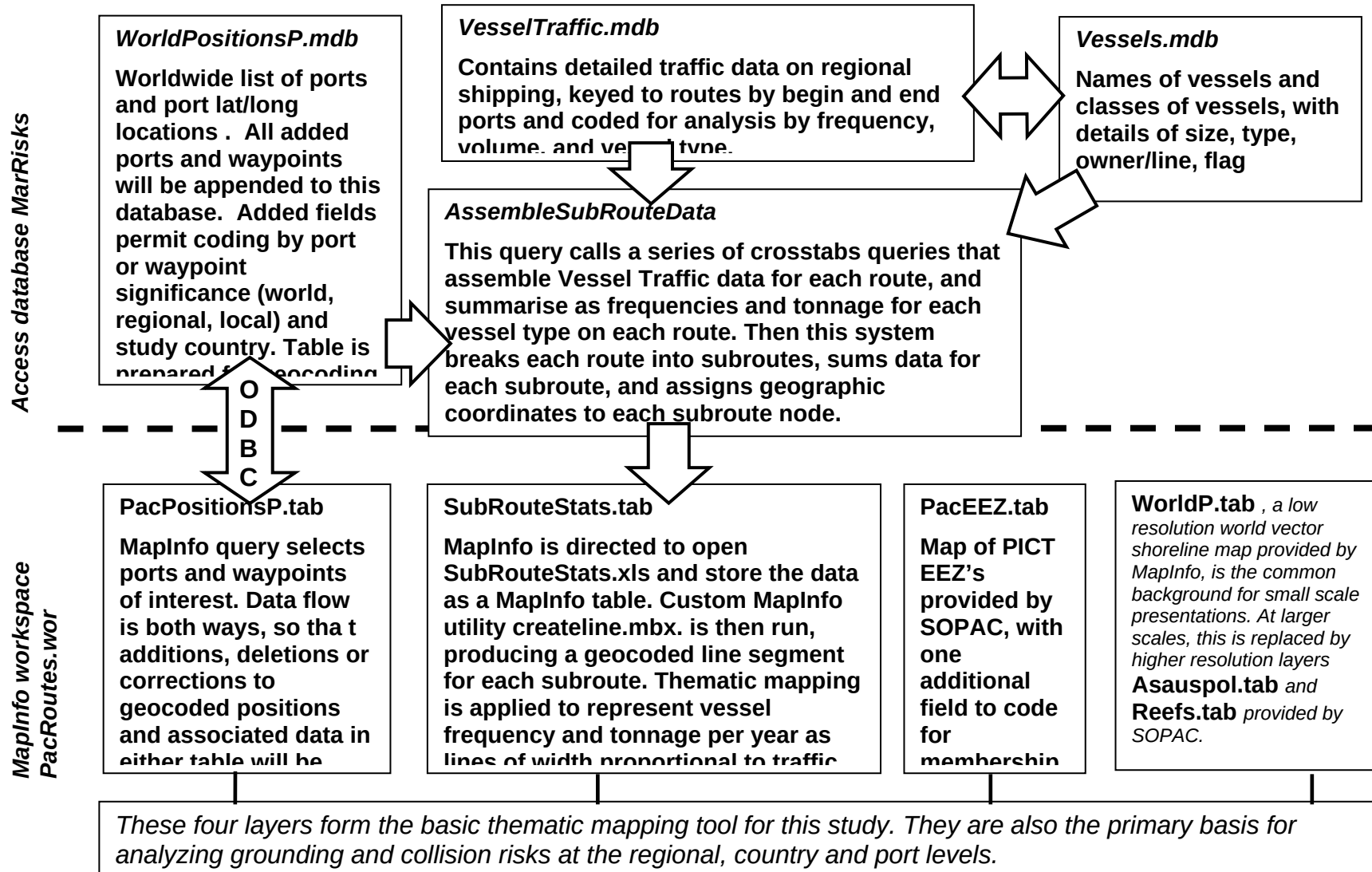
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2 APPENDIX 2: DATABASE STRUCTURE: ACCESS DATABASES AND MAPINFO GIS

The organizing principle for analysis was that Microsoft Access would be used as far as practical for primary data storage and statistical analysis, with MapInfo GIS for thematic presentations and geospatial analyses of risk potential.



Access database MarRisks

Casualties.mdb
Database of PICT region marine incidents, prepared for MapInfo geocoding in Pacific-centered convention. Casualties contains information from previous "Ship Groundings ..." SPREP report updated by

NQ2000.txt
Data on the actual positions of ships reporting to the International Meteorological Office Voluntary Observing Ships program. This information is opened into MapInfo table NQ2000ByVesselType and

FishActiv.mdb
Database of fishing activities, including transshipment, derived from FFA annual reports. Because the information will relate mainly to areas rather than lines (courses) or points (ports)

MapInfo workspaces

Casualties.tab
MapInfo thematic map showing casualty locations, by type and severity. Info Tool permits interactive reference to Casualties database text details.

NQ2000ByVesselType.Tab
Allows us to compare the actual position sequences of large commercial vessels with the routes inferred from interviews and sailing directions.

FishActiv.tab
MapInfo thematic map showing longline and purse seine tuna fishing activity..

EnvSensP.tab
Placenames and locations associated with discussions of environmental sensitivity, ballast/deballast operations, etc. Locations digitised

Auxiliary databases and map layers

3 APPENDIX 3: VESSELS, POSITIONS AND TRAFFIC

The Microsoft Access database MarRisk2.mdb contains all of the raw data on vessels, vessel traffic, positions and routes. The primary tables are quite large – about 1911 vessel traffic records for 656 vessels over 5017 route segments between 918 positions. Here we present the database table structures as an introduction to the electronic databases, which are provided on compact disk. Printed records can be obtained by running the report utilities PrintVessels, PrintVesselTraffic PrintPacPositionsP and PrintRoutesSubRoutes provided in MarRisk2.mdb:.

The “2” in MarRisk2.mdb refers to the fact that it is an Access 2002 database. MarRisk.mdb is the same data and functionality in an Access 97 database.

Structure of Microsoft Access database MarRisk2.mdb

Table: ISO3166CountryCodes

Properties

ISO 3166 is the list of official country names, two-character country codes and 3-character codes.

Columns

Name	Type	Size
ID	Long Integer	4
Country	Text	50
ISO2	Text	5
ISO3	Text	5
ISONumber	Text	5

Table: PositionTypes

Properties

Codes to distinguish position types, for example P1 for major world ports, W1 for ocean waypoints.

Columns

Name	Type	Size
ID	Long Integer	4
Position_Type	Text	2
Comment	Memo	

Table: MAPINFO MAPCATALOG

Properties

MapInfo internal bookkeeping

Columns

Name	Type	Size
SPATIALTYPE	Double	8
TABLERNAME	Text	32
OWNERNAME	Text	32

SPATIALCOLUMN	Text	32
DB_X_LL	Double	8
DB_Y_LL	Double	8
DB_X_UR	Double	8
DB_Y_UR	Double	8
COORDINATESYSTEM	Text	254
SYMBOL	Text	254
XCOLUMNNAME	Text	32
YCOLUMNNAME	Text	32

Table: PositionTypes

Properties

List of standard codes to distinguish positions by type, for example P1 for major world port, W for waypoint.

Name	Type	Size
ID	Long Integer	4
Position_Type	Text	2
Comment	Memo	-

Table: RoutesSubRoutes

Properties

Table of the subroutes that form the line segments of each route from port to port. All Routes and Subroutes are named by their begin and end position codes from WorldPositionsP.

Columns

Name	Type	Size
MAPINFO_ID	Long Integer	4
RouteName	Text	11
PACPOLArea	Text	1
SubRouteBegin	Text	5

SubRouteEnd	Text	5
OrderInRoute	Integer	2
SubRouteName	Text	10

Table: Vessels

Properties

Vessel names, tonnages, flags and other characteristics.

Columns

Name	Type	Size
VesselID	Long Integer	4
Line	Text	30
VesselOrClass	Text	30
VesselType	Text	5
Flag	Text	5
GRT	Long Integer	4
LOA	Integer	2
TEU	Integer	2
DWT	Long Integer	4
YearBuilt	Integer	2
SpeedKn	Single	4
Passengers	Integer	2
Crew	Integer	2
VesselComment	Memo	-

Table: VesselTraffic

Properties

The main table of detailed data on traffic from port to port by vessel and voyages/year.

Columns

Name	Type	Size
VeTrID	Long Integer	4
VesselOrClass	Text	30
RouteBegin	Text	5
RouteEnd	Text	5
Variant	Text	1
RouteName	Text	11
Frequency	Single	4
Comment	Memo	-
DataYear	Text	5
DataCollBy	Text	3
DataEntryBy	Text	3
LastEditBy	Text	3
LastEditDate	Date/Time	8

Table: VesselTypes

Properties

Columns

Name	Type	Size
VeTyID	Long Integer	4
ListOrder	Integer	2
VesselType	Text	5
VesselTypeDef	Text	50
DefaultGRT	Long Integer	4
DefaultDWT	Long Integer	4
DefaultTEU	Integer	2
DefaultPopulation	Integer	2
Comment	Memo	-

Table: WorldPositionsP

Properties

A large list of world ports, plus ports and waypoints added for this study, coded for position type, and including coordinates in Lat/Long by decimal minutes (traditional) and decimal degrees (for MapInfo)XCOORDP contains decimal degree longi in Pacific-centered format (0-360 degrees eastward)

Columns

Name	Type	Size
MAPINFO_ID	Long Integer	4
Position	Text	50
P_Code	Text	5
Country	Text	50
C_Code	Text	5
Position_Type	Text	5
PacIsland	Text	5
Latitude	Text	10
Longitude	Text	11
XCOORD	Single	4
YCOORD	Single	4
XCOORDP	Single	4

4 APPENDIX 4: CASUALTIES

Provisional database of ship casualties with significant potential to cause marine pollution. January 1976 – October 2000, in 22 Pacific Island countries and territories

Key to abbreviations

Vessel Type

Toil	Tanker (crude oil and petroleum products)
Tchem	Tanker (chemicals)
Tlpg	Tanker (LPG)
Ctr	Container vessel
RoRo	Roll-on roll-off cargo vessel
CG	Mixed cargo (break bulk)
Bulk	Bulk cargo
OBO	Oil-bulk-ore
R	Reefer
FC	Ferry (Cargo and passenger)
FP	Ferry (primarily passenger)
SP	Specialized function
FV	Fishing Vessel
LC	Landing Craft
Other	Other
CL	Cruise Liner
U	Unknown

Incident type

G	Grounding (details unknown)
GP	Grounding under power
GD	Grounding adrift
C	Collision
F	Fire
M	Mechanical
H	Hull
S	Storm
O	Other
U	Unknown

Severity of incident

T	Total loss
P	Partial loss
M	Minor Damage
U	Unknown

Structure of database CasualtyReports2.mdb

Table: Casualties

Properties

The table of casualties with significant pollution potential in the Pacific Islands Region, 1976-2002 – coded by type and severity, and georeferenced.

Columns

Name	Type	Size
ID	Long Integer	4
VesselName	Text	50
Flag	Text	20
Type	Text	20
GRT	Long Integer	4
YearBuilt	Integer	2
DateIncident	Date/Time	8
CountryOfIncident	Text	50
LocationName	Text	50
Latitude	Text	10
Longitude	Text	11
TypeIncident	Text	5
Severity	Text	5
Comments	Text	255
YCOORD	Single	4
XCOORD	Single	4
XCOORDP	Single	4
CoordChangeFlag	Yes/No	1

Table: IncidentTypeCodes

Properties

Columns

Name	Type	Size
ID	Long Integer	4
IncidentTypeCode	Text	50
IncidentType	Text	50

Table: ISO3166CountryCodes

Properties

Columns

Name	Type	Size
ID	Long Integer	4
Country	Text	50
ISO2	Text	5
ISO3	Text	5
ISONumber	Text	5

Table: MAPINFO MAPCATALOG

Properties

MapInfo internal bookkeeping

Columns

Name	Type	Size
SPATIALTYPE	Double	8
TABlename	Text	32
OWNERNAME	Text	32
SPATIALCOLUMN	Text	32
DB_X_LL	Double	8
DB_Y_LL	Double	8
DB_X_UR	Double	8
DB_Y_UR	Double	8
COORDINATESYSTEM	Text	254
SYMBOL	Text	254
XCOLUMNNAME	Text	32
YCOLUMNNAME	Text	32

Table: VesselTypes

Properties

Standard vessel type categories, with default tonnage values.

Columns

Name	Type	Size
VeTyID	Long Integer	4
ListOrder	Integer	2
VesselType	Text	5
VesselTypeDef	Text	50
DefaultGRT	Long Integer	4
DefaultDWT	Long Integer	4
DefaultTEU	Integer	2
DefaultPopulation	Integer	2
Comment	Memo	-

Detailed contents of table Casualties

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Hoto Maru</u> - -	JP	U U	60 T	1978	Sank. All crew rescued.
<u>Celtic Kiwi</u> - -	NZ 27-Oct-1991	U O	0 T	0	Sank after leaving NZ. 13 crew members rescued by 'Rock Steady' and brought to NZ. Was carrying 850 tonnes of cement.
<u>Michelangelo</u> American Samoa Reef Outside Tafuna Airport, Tutuila	- 22-Dec-1978	FV GP 14°21.00'S	1066 T	1970 170°49.00'W	Stranded, refloated & proceeded to Whangarei for repairs. Vessel sank whilst proceeding to Whangarei.
<u>Hsiung Hsing</u> American Samoa Off Tutuila Island	- 09-Jun-1980	FV GP 14°17.00'S	187 T	1977 170°39.00'W	Wrecked. During salvage operations ship capsized
<u>Jui Man No.3</u> American Samoa Off Pago Pago	- 08-Apr-1981	FV GP 14°16.70'S	216 P	1969 170°35.20'W	Wrecked in heavy weather. Cargo fish. Extensive damage to double bottom allowed small quantity of fuel to leak out. Fairly extensive damage. Fire after grounding.
<u>Kwang Myung No. 65</u> American Samoa Pago Pago, Samor Island	- 31-Oct-1982	FV GP 14°18.00'S	352 T	1968 170°38.00'W	Stranded, refloated, taken to inner port where sank, remaining partly submerged. Oil and fuel removed from vessel. 12 tonnes of oil collected from beach and disposed of.
<u>Vessel Name</u> Country of	Flag Date of Incident	Type Type	GRT Severity	Year Built	Comments

Incident Location Name		Incident Latitude		Longitude	
<u>Young Kwang No.1</u> American Samoa Aunun (Aunuu?) Island	- 22-Jun-1985	FV GP 14°17.00'S	233 T	1963 170°33.00'W	Wrecked in heavy weather. Vessel holed and engine room flooded
<u>Fotu o Samoa</u> American Samoa Reef at Fa'asouga Point, Tau Island	- 22-Mar-1991	LC GP 14°17.00'S	271 P	1979 169°31.00'W	Stranded, refloated, taken to Pago Pago for survey and repair. Bottom buckled and distorted. Damage to a tank and rudder.
<u>Koram No.3</u> American Samoa Pagopago Harbour	- 08-Dec-1991	FV GD 14°17.00'S	304 T	1973 170°40.00'W	Wrecked on reef during Cyclone Val (6-10 Dec 1991). Removed from reef and sunk in deep water on 16 Mar 2000.
<u>Koram No.1</u> American Samoa Pagopago Harbour	- 08-Dec-1991	FV GD 14°17.00'S	304 T	1973 170°40.00'W	Wrecked on reef during Cyclone Val (6-10 Dec 1991). Later cut down to water line and scrap metal dumped at sea.
<u>Kwang Myung No.63</u> American Samoa Pago Pago Harbour	- 08-Dec-1991	FV GD 14°17.00'S	352 T	1968 170°40.00'W	Wrecked on reef during Cyclone Val (6-10 Dec 1991). Later cut down to water line and scrap metal dumped at sea.
<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Kwang Myung No.51</u> American Samoa Pago Pago Harbour	- 08-Dec-1991	FV GD 14°17.00'S	347 T	1967 170°40.00'W	Wrecked on reef during Cyclone Val (6-10 Dec 1991). Later cut down to water line and scrap metal dumped at sea.
<u>Miga No.5</u>	-	FV	0	0	Wrecked on reef during Cyclone Val (6-10 Dec 1991).

American Samoa Pagopago Harbour	08-Dec-1991	GD	T	14°17.00'S	170°40.00'W	Later cut down to water line and scrap metal dumped at sea.
<u>Yute No.1</u>	-	FV	0		0	Wrecked on reef during Cyclone Val (6-10 Dec 1991).
American Samoa Pagopago Harbour	08-Dec-1991	GD	T	14°17.00'S	170°40.00'W	Removed from reef and sunk in deep water 19 Mar2000.
<u>Korbee No.7</u>	-	FV	304		1974	Wrecked on reef during Cyclone Val (6-10 Dec 1991).
American Samoa Pago Pago Harbour	08-Dec-1991	GD	T	14°17.00'S	170°40.00'W	Later cut down to water line and scrap metal dumped at sea.
<u>Kwang Myung No.72</u>	-	FV	346		1969	Wrecked on reef during Cyclone Val (6-10 Dec 1991).
American Samoa Pagopago Harbour	08-Dec-1991	GD	T	14°17.00'S	170°40.00'W	Later cut down to water line and scrap metal dumped at sea.
<u>Kwang Myung No.58</u>	-	FV	347		1968	Wrecked on reef during Cyclone Val (6-10 Dec 1991).
American Samoa Pagopago Harbour	08-Dec-1991	GD	T	14°17.00'S	170°40.00'W	Later cut down to water line and scrap metal dumped at sea.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Amiga No.5</u> American Samoa Pago Pago	- 10-Dec-1991	FV GP 14°17.00'S	284 T	1970 170°40.00'W	Stranded during Cyclone Val
<u>Kao Ya No.137</u> American Samoa Pagopago Harbour	TA 13-Nov-1996	FV C 14°21.00'S	560 P	1990 170°40.00'W	Collided with BHP fuel dock causing a spill of 600 gallons of oil into harbour.
<u>Adriatic Sea</u> American Samoa 90 miles north of Tutuila	US 23-Jan-1998	FV S 12°40.00'S	1559 T	1970 170°50.00'W	Sank in rough seas. Crew safely rescued.
<u>Capt. Cristiano da Rosa</u> American Samoa One mile off American Samoa	US 04-Oct-1998	FV M 13°35.00'S	1348 M	1986 169°42.00'W	Reported taking on water. Safely towed to Pagopago
<u>Laura</u> Australia Near Wessel Island	FR 26-Feb-1998	CG M 10°50.00'S	0 T	0 137°30.00'E	Sunk. Developed engine problems in rough seas and developed a heavy list. Crew abandoned vessel and were later rescued. Vessel was being towed when it sank.
<u>Teknik Putra</u> Australia Thursday Island	PA 24-Jan-2000	Other GP 10°34.28'S	1009 M	1980 142°14.90'E	Vessel grounded lightly. Refloated with tug assistance. Minor damage to propellor, none to hull.
<u>Pratidina 05</u> Australia Numar Reef, Torres Strait	ID 13-Nov-2000	FV U	0 T	0	Vessel grounded. Ten crew removed and returned to Indonesia. Vessel not found by subsequent aircraft patrols, presumed sunk.
<u>Doric Chariot</u>	GR	Bulk	0	0	Vessel ran aground northbound after failing to execute a

Australia	29-Jul-2002	GP	P		planned turn. Cargo coal. Extreme damage to Breat
Piper's Reef, 330 nmi N Cairns		12°15.00'S		143°14.00'E	Barrier Reef feared, but vessel was refloated with tug
					assistance on 08 Aug 02. No oil or cargo lost. TBT
					antifoulant and mechanical damage to reef.
<u>Aremiti</u>	PF	FC	608	1994	Enroute Singapore to Fiji. Entered Stephens Islet due to
Australia?	17-Aug-1996	H	M		taking water. Proceeded to Cairns for repairs.
Stephens Islet		09°30.00'S		143°33.00'E	
<u>Shotoku Maru No.65</u>	-	FV	339	1962	Stranded, refloated and towed to Suva. Condemned.
Cook Islands	24-Aug-1978	GP	P		
Nassau Island		11°33.00'S		165°25.00'W	
<u>Lien Ho No.1</u>	-	FV	162	0	Wrecked in heavy weather. Crew rescued from Pukapuka
Cook Islands	02-Mar-1981	GP	T		Island.
Reef off Pukapuka Island		10°55.00'S		165°51.00'W	
<u>Manuvai</u>	-	CG	284	1960	Stranded. Holed during refloating attempts.
Cook Islands	28-Dec-1988	GP	T		
Reef at Nassau Island		12°00.00'S		168°00.00'W	

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Edna</u> Cook Islands Atui (Atiu) Island	- 28-Nov-1990	CG GD 20°02.00'S	132 P	1918 158°07.00'W	Stranded after dragging anchors in heavy weather
<u>Fiammetta</u> Cook Islands Avarua Harbour	GB 13-Aug-1991	U GD 21°12.00'S	9 T	1957 159°47.00'W	Dragged anchor, drifted onto rocks and sank.
<u>Marthalina</u> Cook Islands Penrhyn Island	NZ 21-Feb-1992	U GP 09°00.00'S	0 M	0 158°00.00'W	Ran aground. Later floated off with no damage.
<u>Acadea B</u> Cook Islands Rarotonga	US 16-Mar-1992	FV S 21°12.00'S	M	1977 159°47.00'W	Damaged while berthed at Rarotonga during Cyclone 'Gene'. Vessel had disabled engine.
<u>Acadea B</u> Cook Islands -	CK 02-Sep-1995	CG O 16°56.00'S	69 T	0 159°10.00'W	Sank enroute to Northern Islands. Overloading of cargo possible cause
<u>Kaunitoni</u> Cook Islands 350 nautical miles east of Rarotonga	FJ 02-Sep-1995	FP M 21°13.54'S	384 M	1975 154°18.34'W	Disabled (engine breakdown) and adrift at sea on way from Rarotonga to Mururoa Atoll to take part in protest against resumption of nuclear testing. Towed to Rarotonga for repairs.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Orongo</u>	-	Tug	0	0	
Cook Islands	04-Jan-1996	C	P		Tug and lighter went aground in heavy rain and poor visibility. Subsequently salvaged.
Reef at Aitutaki, north of passage		18°50.00'S	159°40.00'W		
<u>Kura Ora</u>	PF	U	299	1967	
Cook Islands	30-Sep-1996	H	T		Foundered after ingress of water in hold through crack in shell plating.
Two miles off Pukapuka		10°40.00'S	165°35.00'W		
<u>Avatapu</u>	NZ	FC	0	0	
Cook Islands	21-Feb-1997	O	T		Abandoned by passengers/crew. Vessel since not sighted and presumed to have sunk
-		20°30.00'S	160°30.00'W		
<u>Aroa Nui</u>	CK	CG	117	1968	
Cook Islands	15-Jun-1998	GP	T		Stranded. Engine room holed and flooded. Expected to be constructive total loss.
Reef at Atiu		19°59.00'S	158°08.00'W		
<u>Thor Lisbeth</u>		Ctr	1395	0	
Cook Islands ?	06-Nov-1995	GP	M		Ran aground on a reef. Able to free herself. Proceeded to Rarotonga
-		19°31.40'S	159°43.72'W		
<u>Ika Vuka</u>	-	CG	180	1944	
Fiji	27-Feb-1977	GP	T		Stranded, refloated and taken to Savusavu Bay. Condemned. Cargo copra.
Reef off Toberua Island		17°58.00'S	178°45.00'E		

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Ji Nam No.22</u> Fiji Southern Reef	- 16-Feb-1978	FV GP 18°30.00'S	194 P	1965 177°55.00'E	Grounded, refloated and towed to Suva for repairs.
<u>Nam Hai No.231</u> Fiji Off Suva Harbour on reef	- 14-Mar-1978	FV GP 18°10.00'S	159 T	1965 178°25.00'E	Grounded in heavy rain on dark night. Subsequently capsized in heavy seas during 2nd salvage attempt. Crew taken off and vessel abandoned. Cause unknown currents. Attempts to salvage remaining cargo (bulk fertiliser)
<u>Mobil Producer</u> Fiji North of Viti Levu	- 09-Jun-1978	Toil GP 17°12.90'S	18258 M	1974 177°33.40'E	Stranded on soft mud patch. Refloated without any assistance, examined and proceeded. Minimal damage.Sailed for Singapore.
<u>Akhilles</u> Fiji On Reef Suva Harbour	- 15-Nov-1978	FV GP 18°10.00'S	2654 M	1970 178°24.00'E	Grounded, refloated with assistance of sister ships and continued on voyage.
<u>Cenpac Rounder</u> Fiji Votualailai Reef, Off Suva	- 28-Mar-1979	FP GP 18°30.00'S	3179 T	1961 177°40.00'E	Stranded in heavy weather (winds from passing cyclone). Refloated, towed to Suva and thence taken to Busan and broken up.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Colville</u> Fiji Reef off Tavua	- 18-Apr-1979	CG GP 17°20.00'S	123 T	1943 177°53.00'E	Stranded and sank. Raised, repaired and refitted.
<u>Tui Cakau II</u> Fiji Off Lautoka	- 26-Jul-1979	RoRo GP 17°31.00'S	1965 M	1961 177°24.00'E	Stranded, refloated without assistance and continued on voyage. Some bottom damage.
<u>Kwang Myung No.9</u> Fiji Cakaulekaleka Reef, SW of Vatulele	- 22-Mar-1980	FV GP 18°28.00'S	236 P	1966 177°37.00'E	Stranded, refloated and taken to Suva for repairs. Prior to refloating fish and bait were removed by helicopter. Moderate damages to 80% of bottom extending to P&S bilge keels. No damage to stern gear and skeg.
<u>Pacific Gas</u> Fiji 1 mile north of Navula Light	- 08-Nov-1980	Tlng GP 17°53.00'S	903 P	1967 177°12.00'E	Stranded, refloated without assistance and proceeded to Suva for discharge. Shell plating set up in isolated places.
<u>Nam Pyung No.5</u> Fiji Reef In Suva Harbour	- 24-Nov-1980	FV GP 18°10.00'S	218 M	1962 178°24.00'E	Stranded, refloated with tug assistance and proceeded for inspection. No repair was necessary, returned to service.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Tokerau</u> Fiji Reef 37 km NNW of Yandua Island	- 24-Dec-1980	CG GP 16°28.00'S	349 T	1937 178°12.00'E	Stranded, refloated with assistance and towed to Suva where broke up. Entire bottom hull corrugated, keel strake set up and buckled, 3 propeller blades bent, main engine and auxiliary engine water damaged.
<u>Stardust II</u> Fiji Suva Harbour (also reported as "off Nadi")	- 15-Jan-1981	FP GP 18°10.00'S	159 P	1945 178°24.00'E	Stranded after 73-knot winds. Returned to service. Needed port propeller shaft and minor repairs to the timber hull.
<u>Taoni</u> Fiji In Suva Harbour	- 15-Jan-1981	CG GD 18°10.00'S	514 M	1958 178°25.00'E	Stranded during Cyclone Arthur. Refloated with no serious damage.
<u>Dae Yang No.10</u> Fiji Off Suva Harbour	- 30-Dec-1981	FV GP 18°10.00'S	192 T	1964 178°25.00'E	Stranded during Cyclone Eric. Refloated and taken to Suva. Scuttled. At least one double bottom fuel tank breached and oil leaked to sea.
<u>Viti</u> Fiji Tivoa Reef	- 27-Aug-1982	FP GP 17°37.10'S	114 T	1941 177°21.50'E	Struck reef and sank approx. 5 miles off Lautoka. All crew members and passengers rescued.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Kekanui</u> Fiji Suva Harbour	- 02-Mar-1983	CG GD 18°08.00'S	400 M	1954 178°25.00'E	Stranded after dragged anchor during Cyclone Oscar (1-2 Mar 1983). Refloated by own means and towed back to anchorage by Ports Authority tug where re-anchored.
<u>Fiji Gas</u> Fiji Reef north of Lautoka	- 22-Oct-1983	Tlng GP 17°29.00'S	1587 M	1972 177°26.00'E	Stranded, refloated without assistance. No major bottom damage, continued on voyage to Labasa.
<u>Pacific Shell</u> Fiji Labasa River	- 15-Jan-1984	Toil GP 16°24.00'S	493 M	1975 179°20.00'E	Touched bottom in river, continued on voyage, surveyed at Suva, where repairs effected. Minor repairs.
<u>Ika No.5</u> Fiji Cakaulevu Reef, Lau	- 27-Apr-1984	FV GP 18°52.00'S	105 P	1980 178°22.00'W	Ran aground on reef. All passengers and crew rescued, no injuries. Vessel's hull extensively damaged, oil tanks leaking. Refloated, towed to Suva, repaired and returned to service.
<u>Independence</u> Fiji Vatu Vula Reef, near Makogai Island	- 07-May-1984	FV GP 17°28.00'S	125 P	1983 178°55.00'E	Stranded, refloated with assistance and towed to Suva. Later repaired and returned to service. Crew rescued. Hull holed.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Na Mataisau</u>	-	FC	274	1978	
Fiji	17-Jan-1985	GD	T		
Reef off Moala Island		18°44.00'S	179°50.00'E		Sustained main engine breakdown 6 miles SW of Moala Island, struck reef and sank off Moala after dragging anchor during Cyclone Eric. 2 died. Mast and other gear removed and recovered and vessel left as lies in 15-18 meters of water.
<u>Kekanui</u>	-	CG	400	1954	
Fiji	18-Jan-1985	GD	T		
Northern Anchorage, Suva Harbour		18°07.00'S	178°25.00'E		Stranded whilst anchored in Suva during Cyclone Nigel. Sank in Northern Anchorage in heavy weather. Vessel was looted by local fishermen.
<u>Matthew Flinders</u>	-	FP	1002	1954	
Fiji	05-Mar-1985	GP	P		
Reef in Saweni Bay		17°37.00'S	177°25.00'E		Dragged anchor and stranded on reef during Cyclone Gavin. Refloated and proceeded to Lautoka. Refloating hampered by heavy winds and rough seas, tug assisted. Some bottom and propeller damage.
<u>Young Kwang No.1</u>	-	FV	233	1963	
Fiji	13-Apr-1985	GP	P		
Suva Harbour		18°10.00'S	178°24.00'E		Stranded whilst departing Suva in heavy weather, refloated without assistance and anchored. Returned to service. Port bilge keel buckled.
<u>Pacific Shell</u>	-	Toil	493	1975	
Fiji	04-May-1985	GP	M		
Coral reef between Labasa and Lautoka		16°25.00'S	178°17.00'E		Stranded whilst on voyage from Labasa to Lautoka. Refloated without assistance and proceeded on voyage. Minor damage.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Ika No.1</u> Fiji Mana Island channel	- 11-Feb-1986	FV GP 17°40.00'S	114 P	1972 177°07.00'E	Stranded whilst manoueuvering through channel. Refloated and returned to Lautoka. Subsequently flooded, towed and beached. Part of vessel badly damaged.
<u>Talofa</u> Fiji Reef at Yasawa Island	- 15-Apr-1986	LC GD 16°42.00'S	141 P	1984 177°35.00'E	Capsized and stranded after sustaining steering trouble. Refloated and towed to Suva for repairs. 8 crew members missing.
<u>Kaunitoni</u> Fiji Mabulithi Reef, south of Gau Island	- 08-Aug-1986	FP GP 18°13.00'S	384 P	1975 179°18.00'E	Stranded in good weather, refloated and taken to Suva for repairs. All passengers and crew safely rescued. Hull bottom holed.
<u>Boral Gas</u> Fiji Entrance to Navula Passage, Momi Bay, Nadi	- 19-Apr-1987	TIng GP 17°55.06'S	1897 M	1970 177°13.00'E	Stranded, refloated without aid. Slightly damaged.
<u>Shin Chyun No.7</u> Fiji 300 miles SW of Fiji	- 22-Jun-1988	FV GP 21°40.00'S	163 P	1974 174°32.00'E	Stranded, refloated and towed to Suva for repairs. Sold, renamed 'Tasu No.2'. Engine room flooded.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Matthew Flinders</u> Fiji Navatu Reef, SE of Moala Island	- 11-Jul-1989	FP GP 18°39.00'S	1002 T	1954 179°33.00'W	Wrecked. Passengers and crew rescued. Hold and engine room flooded.
<u>Mollie Dean</u> Fiji 8 miles SE of Beqa	FJ 13-Aug-1991	U H 18°32.00'S	110 T	0 178°17.00'E	Sank. Passengers rescued by Fiji Navy vessel. Salvage not possible.
<u>Polynesian Link</u> Fiji Port of Suva	- 15-Oct-1991	Ctr O 18°08.00'S	0 T	0 178°25.00'E	Sank in Suva Harbour alongside the Kings Wharf obstructing part of wharf. Floating containers of meat were looted. Vessel a constructive total loss. Subsequently wreck was removed and scuttled in deep water outside Suva Harbour.
<u>Wairua</u> Naikorokoro Fiji Near Namalata Reefs	- 08-Aug-1993	FP GP 18°58.00'S	618 T	1961 178°08.00'E	Wrecked, 13 miles NE of Cape Washington, off
<u>Arauco</u> Fiji Reef off Labasa	- 15-Feb-1994	Bulk GP 16°34.00'S	15080 P	1979 179°23.00'E	Stranded, refloated with tug assistance and taken to Savusavu for temporary repairs. Taken to Singapore for repairs. Sustained damage to forepeak double bottom tank and water in one hold.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Congresso del Partido</u> Fiji -	CU 09-Jun-1994	Bulk M 19°47.71'S	9626 P	1975 176°00.44'E	Broke down and drifted without power en route for Noumea. Vessel located and towed to Fiji. Some damages. Cargo bagged fishmeal.
<u>Kin Sin II</u> Fiji 90 km south of Nadi	- 10-Jul-1994	FV F 18°37.00'S	0 T	0 177°22.00'E	Taiwanese trawler reported burning as a result of an internal explosion. Crewmen rescued by NZ Air Force.
<u>Rybnovsk</u> Fiji Suva	MA 06-Oct-1994	Ctr O 18°08.00'S	0 M	0 178°25.00'E	Listed 45 degrees during unloading. Two dock workers injured. Water pumped from engine room to stabilize vessel.
<u>Garden Sun</u> Fiji Nanuku Reef	- 13-Jan-1995	FV GP 16°40.00'S	100 M	0 179°26.00'W	Grounded due to poor navigation. Refloated without assistance on high tide.
<u>Archer</u> Fiji Waters within Suva Harbour	- 03-Feb-1996	FV F 18°08.00'S	0 T	0 178°25.00'E	Caught fire at wharf. Towed into harbour by vessel 'Playing Hookey' and navy vessel 'Maika Tora'. After fire out, towed back to Kings Wharf. Vessel later the centre of dispute, unlawfully removed and stripped of equipment.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Christine</u> Fiji -	US 27-Dec-1996	Other GP	0 P	0	Lower portion flooded. Salvage operation by Marine Pacific Ltd.
				000°00.00'E	
<u>Dong Huai</u> Fiji Near naval base, Walu Bay	- 30-Jan-1997	FV O	0 T	0	Oil spill from sinking vessel. Firefighters used spill dispersant to lessen pollution risk. Vessel abandoned about a year before the incident.
		18°07.00'S		178°25.00'E	
<u>Bulou Ni Ceva</u> Fiji -	FJ 07-May-1997	FP M	0 M	0	Towed to Suva Harbour. Sustained minor damage. Back to regular schedule.
		18°15.00'S		178°26.00'E	
<u>Arctic P.</u> Fiji -	BA 25-May-1997	Other GP	0 P	1970	Serious bottom damage sustained after went aground. Yacht.
<u>Jubilee</u> Fiji Reef off Nabuwalu	JP 18-Jul-1998	RoRo GP	0 T	0	Grounded, flooded and sank.
<u>Sofe</u> Fiji Near Naselai Passage	FJ 22-Jul-1998	RoRo S	997 M	1968	Developed heavy list in rough seas. Damaged vehicles on board.
		18°12.00'S		178°35.00'E	

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Ulu 1</u> Fiji Udu Point, Northern Coast of Vanua Levu	FJ 27-Aug-1998	FV U 16°00.00'S	0 T	0 179°54.00'W	Sank.
<u>Fortuna No.8</u> Fiji Near Mavutulevu Village, Viti Levu	- 21-Sep-1999	U GP	0 P	0	Ran aground. Initial efforts to refloat vessel failed. Authorities working to refloat the vessel. No casualties reported.
<u>Kamoea</u> Fiji Lau Waters	TO 21-Dec-1999	U U 19°16.00'S	0 T	0 179°17.00'W	Capsized. Navy sent a search for the vessel and five missing seamen the following day.
<u>Pacific Mariner</u> Fiji Waiyevo, Taveuni	FJ 27-Feb-2000	Toil G 16°52.50'S	1384 M	1977 159°57.00'E	Tanker grounded near Shell Oil terminal, Taveuni. Area to be resurveyed indicates possible uncharted obstacle.
<u>Charng Yih No.12</u> Fiji Mabulithi Reef intended	TA 27-Jul-2000	FV GP 18°14.00'S	230 T	1974 179°18.00'E	Ran aground in bad weather and rough seas. Engine room subsequently flooded causing power shut down. Crew rescued by Fiji naval vessel. No salvage operation due to severe structural damage.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>SK</u> Fiji King's Wharf, Suva Harbour	FV 09-Nov-2000	542 C 18°09.00'S	1986 M	Bow of Sung Kyung No. 507 contacted stern of Direct Kiwi(16281 GT, built 1997). One crewman of Sung Kyung No.507 killed. Master Direct Kiwi states his vessel moored and discharging at time.	
<u>Chelsea</u> Fiji Southern Lau	FJ 12-May-2001	FV GP 19°30.00'S	0 U	0 178°30.00'W	Grounded on reef near uninhabited island in southern Lau. Crew rescued by naval vessel "Kiro". Owner Steve Ayers considering salvage.
<u>Grete Theresa</u> Fiji Navula Passage	VU 01-Jul-2002	Toil GP 17°54.82'S	821 M	1996 177°13.00'E	Grounded under power on sandy bottom en route Vuda Point to Port Vila. Freed by tug "Maika Tora 4 Jul 02, inspected Vuda Point and proceeded.
<u>Massachusetts</u> Fiji Southern Lau	US 16-Jul-2002	FV GP 19°30.00'S	0 T	0 179°00.00'W	Attempts to refloat by South Seas Towage , United Salvage unsuccessful. Insurer liable for \$525,000 loss and possible costs of removal. Report variously refloated by Seamech Fiji Ltd on 21 Sep 02, and still aground on 23 Oct 02.
<u>Niuselelevata</u> Fiji Northern Anchorage	FJ 08-Nov-2002	U U 18°07.44'S	0 U	0 178°25.23'E	Cause of sinking unknown. Investigation under way.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Tai Nui</u> French Polynesia Off Papeete	- 21-Dec-1983	FV GP 17°30.00'S	120 T	1973 149°35.00'W	Stranded and sank
<u>Taporo II</u> French Polynesia Reef off Nukutavake, Tuamotu Archipelago	- 25-Nov-1984	CG Gp 19°30.00'S	343 T	1963 138°40.00'W	Sprang leak in engine room and beached on reef to save cargo and lives of passengers and crew.
<u>Byron No.16</u> French Polynesia Tetiaroa Island	- 08-Sep-1988	Rfr GP 17°00.00'S	1872 P	1970 149°00.00'W	Stranded, refloated after cargo offloaded and towed to Japan where repairs effected. Later in service. Hull bottom and steering gear damaged, rudder bent and prop blade twisted. Vessel later trading under name 'Sky Frost'.
<u>Dory 2</u> French Polynesia Off Makatea Island	FR 13-Aug-2002	FC F 15°50.00'S	348 T	1973 148°15.00'W	Caught fire, sank one day later. Passengers and crew rescued with slight injuries.
<u>Meiho Maru No.7</u> FSM -	- 22-Apr-1979	FV GP 08°03.00'N	349 P	1962 146°44.00'E	Stranded, subsequently refloated & taken to Ishinomaki. Repaired & returned to service.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Etna</u> FSM Yap Harbour	- 25-May-1979	CG GP 09°31.00'N	3654 M	1972 138°08.00'E	Stranded, refloated with tug assistance and berthed at Yap.
<u>Micro Spirit</u> FSM Sandbar near Woleai	- 14-May-1980	CG GP 07°22.00'N	790 M	1978 143°55.00'E	Aground, refloated and reported back in service.
<u>Curacao</u> FSM Ngulu Atoll	- 16-Jan-1982	FV GP 08°33.00'N	367 T	1960 137°28.00'E	Wrecked in heavy weather. Crew rescued. Engine room flooded and tidal. Rudder carrier bolts sheared and rudder stock lifted 15cm, skeg set up.
<u>Hinode Maru No.56</u> FSM Off Truk Island	- 12-Sep-1982	FV GP 07°25.00'N	344 T	1972 151°50.00'E	Stranded and sank.
<u>Kitcho Maru No.28</u> FSM Mint Reef	- 27-Nov-1982	FV GP 08°05.00'N	404 T	1968 154°14.00'E	Wrecked. Extensively damaged. Owners state vessel not to be removed due to extent of damages. Possible cause is captain not making sufficient adjustment for fast moving east tide over reef. MFV 'Fukuwa Maru No.1' approached to give assistance but also got

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Fukuwa Maru No.1</u> FSM Mint Reef	- FV 306 28-Nov-1982	1969 GP 08°05.00'N	Wrecked. Declared a total loss and not removed. Vessel abandoned. T	154°14.00'E	
<u>Conic No.1</u> FSM Sorol Island	- 30-May-1984	FV GP 08°04.00'N	908 T	1983 140°28.00'E	Stranded and presumed to have sank.
<u>Tong Wha No.71</u> FSM Near Ifalik Atoll	- 17-Mar-1985	FV GP 07°15.00'N	221 P	1963 144°27.00'E	Stranded, refloated and taken in tow to Guam. Subsequently sold. Towed to Manila.
<u>Meiho Maru No.17</u> FSM -	- 29-Apr-1985	FV GP 05°48.88'N	432 P	1972 157°13.35'E	Stranded, refloated with assistance after several attempts and towed to Ponape. Towed to Hachinohe thence Ishinomaki where repaired and SD. Bottom plate damaged.
<u>Micronesian Commerce</u> Sailed to FSM Yap,W.C.I.	- 02-Nov-1988	- GP 09°32.00'N	Ctr P	5730 1982 138°10.00'E	Stranded, refloated and berthed at Yap Pier. Palau Islands and thence to Manila. Sustained heavy bottom damage to fuel oil tanks and hull.
<u>Crest 1</u> FSM -	PH 29-Mar-1991	Bulk C 02°43.00'N	0 P	0 154°06.00'E	'Dead in water' following collision with Tenfu (Reefer). No casualties.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Golden Camia</u> FSM NE of Yap Island	PH 15-Mar-1992	Bulk O 10°16.00'N	0 T	0 139°30.00'E	Sank. Crew abandoned ship due to shifting of cargo (logs) in heavy fog and rain. Crew safely rescued. Oil slick produced.
<u>Nanshin Maru No.78</u> FSM -	JP 19-Aug-1992	FV U 02°00.00'N	19 T	0 158°07.00'E	Sank. Crew rescued safely.
<u>Yujin Busan</u> FSM 420 miles south of Truk	PA 27-Feb-1994	Toil F 00°20.00'N	1550 T	1974 151°40.00'E	Sank. Attempts to fight a fire in the engine room resulted in the flooding of the vessel. Crew rescued safely.
<u>Oceanus</u> FSM Wenimong Reef at Satawal Island	GR 18-Mar-1994	Bulk GP 07°22.00'N	38891 P	1993 147°02.00'E	Ran aground with 70,000 tons of coal. Refloated after part cargo transferred to barges. Proceeded Guam inspection, Ulsan repairs. Satawal residents sued for damages for pollution by coal, spilled oil and garbage dumped during salvage.
<u>Jin Fwu Yi 366</u> FSM -	TA 06-May-1994	U U 08°47.00'N	0 T	0 151°33.00'E	Vessel missing. Aircraft reported debris.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Dang Delima</u> FSM Reef at entrance to Ponape Harbour	PA 16-Jun-1994	CG GP 06°40.00'N	5903 P	1985 158°25.00'E	Stranded, refloated and achored at Ponape. Sailed in tow to Busan after repairs. Fuel tanks holed. Oil pollution.
<u>Ocean Harmony</u> FSM -	PA 23-Jun-1994	CG M 08°26.00'N	3769 U	1973 140°57.00'E	Disabled and adrift with engine problems.
<u>Deborah</u> FSM -	PA 20-Sep-1994	Bulk O 10°23.60'N	4010 T	1984 135°49.20'E	Sank. Departed Yap with cargo of logs. Sank but due to cargo drifted 5ft below surface. Crew rescued safely
<u>Valerie</u> FSM -	ME 29-Nov-1995	FV H 00°39.00'N	1127 T	1983 156°38.83'E	Sank due to crack or holing of hull. All crew rescued.
<u>Mister Bill</u> FSM 85 miles NE of Yap Island	- 24-Dec-1996	Other S 11°13.00'N	196 T	1971 165°25.00'E	Supply vessel. Took water and sank during typhoon 'Fern'. Crew rescued safely.
<u>Mina Maru</u> FSM West of Fayu Island	JP 06-Apr-1998	FV GP 08°33.00'N	0 U	0 151°10.00'E	Ran aground. Crew rescued.

<u>Vessel Name</u>	<u>Flag</u>	<u>Type</u>	<u>GRT</u>	<u>Year Built</u>	<u>Comments</u>
<u>Country of Incident</u>	<u>Date of Incident</u>	<u>Type Incident</u>	<u>Severity</u>		
<u>Location Name</u>		<u>Latitude</u>	<u>Longitude</u>		
<u>Hung Sun Tai</u> TW	FV 0 0	Vessel reported adrift and sinking 25 Apr. Six crew			
FSM	25-Apr-2001	U	T		rescued by Taiwan longline fv Hung Sun Tsai, length 66 ft.
-		09°40.00'N	150°40.00'E		No further sightings 1 may, assumed sunk.
<u>Cecilia 1</u>	-	LC	365	1990	Flooding in Engine Room through hole (leak?) Patched by Coast Guard Guam. Cargo petrol in barrels.
FSM	20-Jun-2002	H	M		
-		08°23.00'N	142°36.00'E		
<u>Micronesia Sunrise</u>	-	Toil	3535	1971	Reported stranded, refloated and proceeded to Guam for temporary repairs. Sustained a small hole in one tank , fuel transferred to another tank with slight loss of cargo. Oil Pollution.
Guam	19-Oct-1980	GP	P		
Ibay, off Guam		13°32.65'N	144°41.78'E		
<u>Bright Peak</u>	-	Bulk	9735	1978	Stranded, refloated and diverted to Guam for temporary repairs. Subsequently towed to Onishi for repairs. Returned to service. Cargo wheat.
Guam	07-Apr-1981	GP	P		
South of Guam		12°32.00'N	144°42.00'E		
<u>American Legion</u>	-	Ctr	19157	1968	Stranded, refloated with tug aid and entered port where temporary repairs effected. Sailed to Kaohsiung for permanent repairs. 80000 gallons of bunker fuel spilled after an oil tank and cargo hold were ruptured. Oil pollution.
Guam	13-Dec-1985	GP	P		
Entrance to Apra Harbour	13°27.00'N	144°37.00'E			
<u>Vessel Name</u>	<u>Flag</u>	<u>Type</u>	<u>GRT</u>	<u>Year Built</u>	<u>Comments</u>
<u>Country of Incident</u>	<u>Date of Incident</u>	<u>Type Incident</u>	<u>Severity</u>		
<u>Location Name</u>		<u>Latitude</u>	<u>Longitude</u>		
<u>Toros Bay</u> -	CG 8931 1973	Stranded, refloated and taken to Apra, subsequently taken			
Guam	22-Dec-1986	GP	P		to Kaohsiung, sold, and broken up. Some extensive
On reef		13°15.00'N	144°38.00'E		damage as vessel stern contacted reef during refloating.

<u>Kotobuki Maru No.1</u>	-	FV	253	1966	Stranded during typhoon 'Roy'
Guam	12-Jan-1988	GP	U		
Guam		13°28.00'N		144°32.00'E	
<u>Kaiyo Maru No.5</u>	JP	FV	0	0	Ran aground. Refloated same day.
Guam	28-Jan-1991	GP	M		
Apra Harbour		13°27.00'N		144°37.00'E	
<u>Glacier Bay</u>	US	Other	0	0	Tank barge. Damaged due to heavy contact with tug.
Guam	07-Jan-1992	C	P		
Vicinity of Guam		13°52.00'N		145°22.00'E	
<u>Jean Charcot</u>	PA	RV	0	0	Research vessel ran aground while conducting survey of
Guam	18-Mar-1992	GP	M		ocean floor.
Tumon Bay		13°30.00'N		144°47.00'E	
<u>Esso Tees</u>	SI	Tlng	0	0	Explosion occurred while vessel discharging pressurised
Guam	17-Aug-1992	F	P		liquefied gas followed by a fire. Immediate action halted
Apra Harbour		13°27.00'N		144°37.00'E	the fire. No injuries.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Seaspan</u> Guam 90 miles NW of Guam	CA 31-Aug-1992	Brg U 14°34.00'N	0 U	0 143°40.00'E	Barge adrift.
<u>Francisca</u> Guam 15 miles NE of Guam	US 18-Nov-1992	Brg S 13°50.00'N	1075 T	0 145°11.00'E	Deck barge. Broke from tow of tug during typhoon "Hunt" and was lost at sea.
<u>Yasiu Maru</u> Guam Off Guam	- 09-Feb-1994	U H 11°30.00'N	0 T	0 142°55.00'E	Sank after crack developed in hull.
<u>Miya Maru No.88</u> Guam -	JP 17-Nov-1995	U M 14°07.00'N	349 M	1982 144°23.00'E	Took in water resulting in vessel disabled and drifting. Later towed to Guam.
<u>Anangel Might</u> Guam South west of Guam	04-Nov-1998	U M 11°09.20'N	0 M	0 139°15.40'E	Adrift due to engine failure. Later towed by US Navy vessel and then tug Chamorro to Guam
<u>Carolines</u> Guam Near Guam	PA 17-Jan-1999	Bulk S 13°38.00'N	0 T	0 145°24.00'E	Sank due to bad weather and rough seas. Cargo 6,000 tons of silica sand. Crew rescued safely.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Fokutoku Maru No.5</u> Guam 7 nmi S Guam	JP 30-May-2000	FV M 13°08.00'N	119 M	1984 144°42.00'E	Broke down, adrift 2 days. Tug "Chamorro" towed to Apra for repairs.
<u>1st Lt. Baldomero Lopez</u> Guam 520 nmi NW Guam	US 05-Aug-2002	RoRo F 15°12.00'N	32908 P	1985 145°42.00'E	Fire in engine room. Two crew injured. Vessel disabled. Tug Bei Hai 102 dispatched from Busan
<u>Hangil No.12</u> High Seas -	SK	FV U 12°45.00'N	0 T	0 157°35.00'W	Sank.
<u>Flag Mars</u> High Seas	MA 08-Apr-1992	CG M 14°41.00'N	0 M	0 157°08.00'E	Damaged rudder. Towed to Guam.
<u>Midas Ocean</u> High Seas -	HD 02-Jan-1995	Bulk H 01°50.00'N	0 T	0 158°50.00'E	Sank. On passage from Nauru to Inchon with phosphate when ingress of water caused vessel to sink. All crew safely rescued.
<u>Sybarite</u> High Seas -	US 12-May-1995	U H 10°23.00'N	0 T	0 162°03.00'W	Vessel taking in water. Water pumped out and vessel continued on voyage Samoa for Honolulu. Crew later picked up when vessel in sinking condition 300 miles from Honolulu. Assumed vessel sank.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Ming Fong Sheing</u> High Seas -	TA 11-Apr-1997	FV F 15°50.00'N	0 T	0 133°40.00'E	Caught fire and sank. Nine crew rescued, three missing.
<u>Sapir</u> High Seas 400 nmi N Guam	PA 06-Mar-2000	Toil H 17°31.00'N	54980 M	1990 139°40.00'E	Leak in cargo tank discovered at sea by crew. Cargo redistributed and vessel continued to Honolulu for inspection.
<u>Ji Moon Chun</u> High Seas 648 nmi E Guam	TW 21-Aug-2001	FV F 13°32.00'N	0 T	0 155°33.00'E	Fire at sea. Vessel burned and sank. Crew rescued by helicopters from USN amphibious assault vessel "Boxer", 40,000 gt, returning from Arabian Gulf.
<u>Chiyo Maru No. 3</u> High Seas -	JP 13-May-2002	FV F 17°17.00'N	77 T	1978 151°05.99'E	Fire. Nine crew rescued by another FV. No further sightings, assumed sunk.
<u>Katsuura Maru No. 28</u> High Seas At Sea	JP 19-Jul-2002	FV H 15°30.00'N	164 T	1985 164°00.00'E	Sank in open water. Pumps unable to control leak, believed caused by grounding in Micronesia.
<u>Sea Hawk No.3</u> Indonesia - West Papua	SK 16-May-1991	FV C -	0 T	0 01°36.00'N 137°06.00'E	Sank after colliding with Reefer Jia Year No.66. All crew rescued.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Lara K.</u> Indonesia? north of Wetar Island	BA 24-Jul-1991	Bulk M 07°38.00'S	0 U	0 127°10.00'E	Lost power.
<u>Kwang Myung No.62</u> Kiribati Tamana island	- 25-Mar-1980	FV GP 02°30.00'S	352 T	1968 175°59.00'E	Wrecked. Crew rescued.
<u>Nam Chang</u> Kiribati Off Starbuck Island	- 23-Feb-1982	FV GP 05°35.00'S	227 T	1971 155°35.00'W	Wrecked. Crew rescued
<u>Young Kwang No.5</u> Kiribati Reef	- 17-Nov-1982	FV GP 01°47.00'N	243 T	1964 157°26.00'W	Struck reef, refloated but sank off Christmas Island at 01 41 05N, 156 40 05 W on 22 Nov 82.. All crew rescued. Sank due to severe leakage of seawater through fractured holes of bottom and one oil tank area.
<u>Fentress</u> Kiribati Off Christmas Island	- 03-Nov-1983	CG GP 02°05.00'N	3805 M	1945 157°35.00'W	Stranded while on loaded voyage from Honolulu to Fanning Island. Refloated and resumed voyage.
<u>Evelyn da Rosa</u> Kiribati -	- 03-May-1993	FV GP 02°14.00'N	966 T	1974 171°10.00'E	Struck submerged object and subsequently foundered. 18 persons rescued.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Aito</u> Kiribati Caroline Atoll	PF 20-Nov-1994	Tug GP 10°00.00'S	0 T	1962 150°15.00'W	Tug grounded on reef while attempting to tow yacht Oracle. Considered a total loss.
<u>Vostochnyy Bereg</u> Kiribati Tarawa Atoll	RU 31-Dec-1994	Rfr GP 01°34.00'N	7856 M	1981 172°56.00'E	Grounded. No damage occurred.
<u>Maasmond</u> Kiribati Approx 415 nautical (500 miles) east of Tarawa	- 07-Jan-1997	FC F 01°35.00'N	1055 U	1971 179°59.00'E	Drifting without power after fire in engine-room. En route Tarawa to Christmas Island.
<u>Marshall Islands</u> Marshall Islands Off Jemo Island	- 16-Dec-1979	CG GP 10°05.00'N	798 T	1976 169°34.00'E	Wrecked. Salvage attempts unsuccessful. Constructive total loss.
<u>Tong Wha No.101</u> Marshall Islands Off Kwajalein Atoll	- 13-Jun-1983	FV GP 08°48.00'N	215 T	1965 167°48.00'E	Wrecked.
<u>Seifuku Maru No.1</u> Marshall Islands -	- 16-Jan-1994	FV GP 07°06.00'N	119 T	1985 171°07.00'E	Struck a rock and sank.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Victor Eoaeo</u> Nauru Reef off Nauru	- 29-Jan-1986	FV GD 00°20.00'S	948 T	1977 167°10.00'E	Struck reef and sank after moorings parted in heavy weather. 9 crew members rescued.
<u>Purau</u> New Caledonia On coral reef	- 07-Aug-1986	Tug GP 19°21.00'S	247 P	1986 163°12.00'E	Stranded. Refloated by own power and taken to Poume. Towed to Noumea for temporary repairs and thence Tonagasaki for permanent repairs. Vessel was on delivery voyage.
<u>Konemu</u> New Caledonia Reef of Porc Epic, an island 10 miles from Noumea	NC 24-Jan-1997	Toil GP 22°01.00'S	755 P	1990 165°52.00'E	Grounded. Refloated with tug assistance. Leakage of light petrol into lagoon.
<u>Contship France</u> New Caledonia -	- 14-Feb-1997	Ctr S 21°15.91'S	16236 M	1993 169°10.57'E	Minor damage and partial loss of contents of two containers overboard during bad weather. Vessel en route from Noumea to New York.
<u>Mary D. Princess</u> New Caledonia Off Noumea	NC 02-Aug-1997	FP GP 22°04.00'S	0 P	0 166°00.00'E	Grounded. Damaged, repaired, and resumed normal service.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Nisshin Maru</u> New Caledonia 400 nautical miles off east coast of Australia	JP 20-Nov-1998	RV F 20°29.00'S	7569 P	1987 159°54.00'E	Research vessel/fish factory caught fire and drifting without power. No injuries. Later towed to New Caledonia for repairs.
<u>Padang Hawk</u> New Caledonia -	SI 10-Jul-1999	Bulk S 22°20.00'S	27011 M	1995 158°20.00'E	Encountered rough seas en route New Caledoni to Townsville and developed a 15 degree list, attributed to liquefaction of nickel ore cargo.essel arrived safely in Townsville.
<u>Seefalk</u> New Caledonia Anchored at Noumea	- 16-Nov-1999	Toil U 22°17.00'S	639 T	1962 166°26.00'E	Sank at anchor.
<u>Komenu</u> New Caledonia Noumea Harbour	NC 14-Jan-2000	Toil C 22°17.00'S	0 M	0 166°26.00'E	Collided with bulk carrier Arctic Trader (14,922 gt, built 1985) in Noumea Harbour. Damage minor. Reportedly the master of Komenu was drunk.
<u>Lucifero</u> Niue 200 km east of Niue	- 25-May-1999	Other U 19°00.00'S	0 T	0 168°00.00'W	Two crew rescued from sinking yacht.

<u>Vessel Name</u>	<u>Flag</u>	<u>Type</u>	<u>GRT</u>	<u>Year Built</u>	<u>Comments</u>
<u>Country of Incident</u>	<u>Date of Incident</u>	<u>Type Incident</u>	<u>Severity</u>		
<u>Location Name</u>		<u>Latitude</u>	<u>Longitude</u>		
<u>Fentress</u>	-	CG 3805 1945	Stranded during typhoon 'Hazen'.		Refloated with
Northern	15-Nov-1981	GP	P		assistance after lightening, arrived in Osaka for repairs and
Saipan Island		15°18.00'N	145°42.00'E		then resumed trading.
<u>Nam Sung No.62</u>	-	FV	287	1962	Wrecked due to failure of gyrocompass and radar in heavy
Northern	20-Jul-1982	GP	T		weather. Vessel left as lies due to heavy damage
sustained					
Rota Island		14°10.00'N	145°09.00'E		
<u>Sun Long No.8</u>	-	Rfr	3662	1968	Stranded while entering harbour. A hold and engine room
Northern	23-Aug-1986	GP	P		flooded.
Entrance to Tinian Harbour		14°57.00'N	145°34.00'E		
<u>Petro Service</u>	-	Sp	573	1968	Stranded during typhoon 'Kim'. Vessel a supply ship
Northern	03-Dec-1986	GP	U		(O.R.S.V)
On reef off Saipan Island		15°15.00'N	145°44.00'E		
<u>Isla Grande</u>	-	Toil	2915	1979	Touched bottom whilst manouvering at Saipan Island.
Northern	17-Mar-1990	GP	M		Sailed for China. Sustained propeller damage,
Saipan Island		15°14.00'N	145°42.00'E		
<u>Belait Kingfisher</u>	-	LC	253	1974	Stranded, refloated with tug assistance, towed to Guam
Northern	15-Sep-1990	GP	P		after temporary repair. Towed to Cebu for repairs to hull
Rota Island		14°06.00'N	145°12.00'E		bottom, tailshaft, propellor, and both rudders.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Tumon 2</u> Northern 14 miles NE of Saipan	MH 06-Oct-1991	CG GP 15°30.00'N	194 T	1970 146°00.00'E	Grounded. Subsequently broke in two and sank during typhoon 'Seth'.
<u>Manila Harmony</u> Northern Between Saipan and Tinian Islands	- 04-Nov-1991	U S 15°06.00'N	0 P	0 145°42.00'E	Shifted at sea while sheltering from typhoon 'Seth' resulting in flooding of hold.
<u>Maria</u> Northern Off Rota Island	- 20-Feb-1996	CG U 14°11.00'N	80 U	0 145°13.00'E	na
<u>Guernsey Express</u> Northern -	PH 09-Nov-1996	Other S 13°02.00'N	4255 T	1967 144°01.00'E	Livestock carrier (cattle) sank due to bad weather. Crew rescued safely.
<u>Fidel Jr.</u> Northern Saipan Dock	BE 25-Apr-1997	U O 15°16.00'N	192 P	1961 145°44.00'E	Sunk due to leaks in starboard tanks while loading containerised cargo. Containers were recovered but severley damaged. Fuel to be removed.
<u>Shogun</u> Northern Rota Island	PA 05-Nov-1997	Tchem GP 14°09.00'N	717 P	1977 145°08.00'E	Grounded in bad weather. Minor diesel spillage. Efforts to refloat hampered by typhoon 'Keith'. Cargo offloaded before refloated. Proceeded to Rota and thence to Phillipines for repairs.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built	Comments
<u>China Progress</u> Northern North of Northern Marianas Islands	18-Feb-2000	PA H 17°23.00'N	P	Bulk0 0 147°56.00'E	Vessel with cargo of copper concentrate, Chile for Japan, sustained hull damage in heavy weather. Flooding in No. 1 hold and ballast tank. Vessel proceeded Guam under tug escort for temporary repairs, thence departed for Qindao 25 Feb.
<u>China Progress</u> Northern -	18-Feb-2000	PA S 17°23.00'N	0 M	0 147°56.00'E	Vessel took in water due to hull damage sustained in heavy storms. Proceeded to Guam under escort from Japanese salvage tug. Cargo copper concentrate.
<u>Greenville III</u> Northern Entrance Saipan Harbour	27-Aug-2001	US GP 15°12.00'N	0 M	0 145°42.00'E	Submarine brushed bottom in rough seas on approach to Saipan Harbour. Minor repairs effected Apra Harbour. Greenville was the sub in collision with Japanese training vessel "Ehime Maru" off Diamond Head 9 Feb 01
<u>Bovenhusen</u> NZ? -	02-Jul-2001	CY M 33°30.60'S	3186 M	1990 171°02.50'E	Engine breakdown, adrift. Tug dispatched with engineer and parts 4 July .
<u>Bowoon No.7</u> Palau -	22-Apr-1980	- Toil GP 07°14.85'N	3084 P	1969 134°28.65'E	Stranded. Refloated after jettisoning part cargo and anchored in Koror, Palau. Oil pollution.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Bluefin Endeavour</u> Palau Helen Reef	- 05-Jun-1992	FV GP 02°55.00'N	1010 T	1977 131°48.00'E	Struck reef (north of PNG) and sank.
<u>Blue Diamond</u> Palau Vicinity of Helen Reef	- 28-Aug-1992	U O 02°55.00'N	0 T	0 131°48.00'E	Sank.
<u>Golden Eagle</u> Palau Off Palau	LI 05-Apr-1998	Toil GP 08°30.00'N	36865 M	1982 134°45.00'E	Grounded. Proceeded to Balboa for repairs
<u>Pacific Falcon</u> Palau -	PA 21-May-2000	Ctr GP 07°22.12'N	8132 M	1998 134°22.46'E	Grounded while on passage from Australia to Japan, carrying 7142 tonnes of containers and copper. Refloated by partial unloading and assist from tug Koyo Maru. Anchored and inspected Palau. No immediate repairs required.amage.
<u>Partner</u> PNG -	CY	U GP	0 M	0	Grounded. Refloated and proceeded to Rabaul.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Maluka</u> PNG Ragave Point, Cape Vogel	- 01-Jun-1977	CG GP 09°41.00'S	584 T	1950 150°03.40'E	Vessel stranded on reef in hazy conditions. In two rescue attempts 'Sepik Energy' and 'Hebe' both stranded on same reef and considered total losses. Maluka refloated, anchored at Salamaua Bay, sold and broken up.
<u>Hebe</u> PNG Ragave Point, Cape Vogel	- 06-Jun-1977	CG GP 09°41.08'S	296 T	1946 150°03.40'E	Stranded while attempting to refloat stranded 'Maluka'. Subsequently refloated, towed to Samarai and scuttled off Salamaua.
<u>Carla Manus</u> PNG Reef near Willaumez Penninsular, New Britain	- 09-Mar-1979	LC GP 05°05.00'S	174 M	1970 149°58.00'E	Stranded. Refloated and resumed service. Damage presumed minor
<u>Rudolph Wahlen</u> PNG Circular Reef	- 27-Jun-1979	CG GP 03°26.00'S	115 U	1964 147°47.00'E	Wrecked. Weather good at time of casualty. Abandoned after attempts to refloat failed. Some cargo saved
<u>Idun</u> PNG Dove Island	- 02-Aug-1979	CG GP 09°59.00'S	300 M	1971 143°08.00'E	Grounded. Refloated under own power.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Ambusa</u> PNG Cape Gloucester, New Britain	- 02-Aug-1979	LC GP 05°24.00'S	180 M	1972 148°25.00'E	Stranded. Refloated& continued on voyage.
<u>Chiang Wei</u> PNG Kalili Harbour, New Ireland	- 01-Jan-1980	CG GP 03°26.72'S	3981 P	1979 151°55.00'E	Stranded. Refloated with assistance after cargo jettisoned & continued service. Probable cause strong current.
<u>Dai Wang No. 105</u> PNG Coral Island	- 15-Jan-1980	FV GP 02°28.00'S	299 M	1964 149°57.00'E	Stranded in poor visibility. Refloated by tug and towed to Rabaul.
<u>Waigani Express</u> PNG Off Hood Point	- 04-Jul-1981	CG GP 10°09.00'S	5084 P	1971 147°43.00'E	Stranded. Refloated and towed to Port Moresby thence Singapore where sold, renamed 'Papua' and returned to service. Damage to port forward and starboard.
<u>Seiha Maru</u> PNG Reef off Rabaul, New Britain	- 08-Nov-1982	Tug GD 04°12.80'S	1033 P	1969 152°30.00'E	Tug. Stranded after tow wire fouled propellor whilst towing 'Hinode Maru No.8'. Refloated,towed to Sakoshi, sold, broken up.
<u>Manhattan Duke</u> PNG Basilisk Reef	- 16-Jul-1983	Toil GP 09°33.00'S	39349 P	1976 147°08.00'E	Stranded in heavy weather, whilst awaiting pilot. Refloated with tug assistance. Towed to Singapore for repairs. Extensively damaged. Oil pollution.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Cosmaris</u>	-	RoRo	340	1978	
PNG	27-Nov-1983	GP	M		Stranded during heavy weather. Refloated with tug assistance and redelivered to owners at Rabaul. Minor damage.
Coral Reef off Tingwon Group		02°37.00'S	149°39.00'E		
<u>Longan</u>	-	CG	4660	1977	
PNG	27-Mar-1984	GP	M		Stranded . Refloated with own power but assisted by tug. Minor damage
30 miles south of Kieta, Bouganville Island		06°33.00'S	156°00.00'E		
<u>Tangir</u>	-	LC	170	1971	
PNG	17-Jan-1985	GD	T		Stranded. Capsized and sank after cargo shifted and attempts to refloat. .
Reef off Port Moresby		09°32.00'S	147°07.00'E		
<u>Moale Chief</u>	-	LC	262	1981	
PNG	28-Feb-1985	GP	P		Stranded. Taken to slipway at Port Moresby, repaired and returned to service. Mechanical damage
Reef at Gadaisu Point, Orangerie Bay		10°35.00'S	149°37.00'E		
<u>Bow's Brother</u>	-	CG	4719	1977	
PNG	23-Jun-1985	GD	P		Stranded after dragging anchor in heavy weather, refloated with tug aid, towed to Rabaul thence Kobe where repairs effected, returned to service. Mechanical damage.
Between Rabaul and New Ireland		04°04.00'S	152°26.00'E		

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Ok Tarim</u> PNG Off Port Moresby	- 19-Aug-1985	Tug GP 09°32.00'S	126 P	1982 147°07.00'E	Stranded when main towing line became entangled in port propeller. Taken to port where surveyed and repaired and returned to service. Slight damage.
<u>Bright Ace</u> PNG 33 miles NE of Cape Nelson	- 11-Oct-1986	RoRo GP 08°35.00'S	7666 P	1978 149°40.00'E	Stranded. Refloated and taken to Port Moresby, then to Ulsan and Japan. Repaired and returned to service. Sustained mechanical damage.
<u>Smilax</u> PNG -	- 03-Jan-1987	CG GP 08°47.00'S	3810 M	1982 150°11.00'E	Stranded. Refloated and proceeded to Tufi Anchorage for inspection. Returned to service. Minor damage.
<u>Witbridge</u> PNG 20 miles east of Cape Ward Hunt	- 02-Mar-1987	LC GP 08°00.00'S	718 P	1977 148°30.00'E	Stranded. Refloated and towed to Cairns for repairs then returned to New Britain. Mechanical damage.
<u>Huris</u> PNG Lihir Island	- 05-Oct-1987	LC GP 03°06.00'S	354 M	1977 152°39.00'E	Stranded whilst unloading in heavy swell. Refloated with tug assistance and towed to Rabaul. Minor damage.
<u>Sun Island</u> PNG Off Woodland Island	- 09-Mar-1989	CG GP 09°09.78'S	3931 M	1974 152°24.25'E	Stranded. Refloated without assistance and towed to Port Moresby for temporary repairs. Minor damage

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Kim Lien</u>	-	CG	6020	1977	Stranded after sustaining engine failure. Refloated with tug assistance and towed to Port Moresby.
<u>PNG</u>	18-Jul-1990	GD	P		
Reef 2 miles off Port Moresby Harbour entrance		09°32.00'S	147°07.00'E		
<u>Glomaris</u>	-	LC	371	1981	Stranded. Capsized and sank. Subsequently raised and repaired. Vessel holed.
<u>PNG</u>	26-Jul-1990	GP	P		
Off Jacquinot Bar, New Britain		05°40.00'S	151°36.00'E		
<u>Steel Rover</u>	PG	Other	0	0	Logging barge. Reported drifting without anyone on board.
<u>PNG</u>	15-Mar-1991	U	U		
south west of Bouganville Island		07°50.00'S	154°00.00'E		
<u>Simbang</u>	PG	FC	0	0	Sank after being hit by a freak wave which drove it onto a reef before capsizing. 9 people died and 24 missing.
<u>PNG</u>	04-Sep-1991	GP	T		
Vitiaz Strait, near Port Sialum, northern PNG		05°50.00'S	147°32.00'E		
<u>AdhigunaNugraha 1</u>	IN	CG	4928	1980	Stranded in heavy weather. Refloated with tug assistance and towed to Rabaul then Singapore for repairs. Minor damage. Log carrier
<u>PNG</u>	06-Sep-1991	GP	M		
Reef near Cape Sena, New Ireland		02°19.32'S	150°51.10'E		

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Costa de Marfil</u> PNG -	SK 09-Oct-1991	U C 05°34.00'S	807 M	0 156°01.00'E	Collided with Atlantis (1,427 tons).
<u>Shilla Pioneer</u> PNG -	SK 21-Nov-1991	FV C 02°30.00'N	0 P	0 145°30.00'E	Collided with Fung Kuo No.736. Hull sustained damages.
<u>Paradise Ocean</u> PNG -	PA 20-Feb-1992	Bulk GP 10°21.33'S	0 M	0 151°01.58'E	Grounded. Refloated under own power.
<u>Chemlong</u> PNG 100 miles north of Manus Island	KO 24-Mar-1992	FV O 00°14.00'S	0 T	0 146°54.00'E	Sank
<u>Sheng Fu No.16</u> PNG -	- 06-May-1992	FV GD 09°49.00'S	311 T	1972 142°12.00'E	Wrecked after sustaining steering failure.
<u>Hand Cheong</u> PNG Reef on approach to Karu Bay, New Ireland	PA 07-May-1992	CG GP 03°27.60'S	5030 P	1978 152°13.70'E	Stranded in strong wind and current. Refloated and towed to Rabaul for repairs. Cargo logs.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Ayu Permata</u> PNG Reef at Karu, New Ireland	IN 07-May-1992	U GP 03°52.65'S	5030 P	1978 153°08.10'E	Grounded. Holed. Subsequently towed to Rabaul for temporary repairs
<u>Madang Coast</u> PNG -	PG 07-Nov-1992	U F	0 P	0	Engine room fire while on voyage from Lae to Oro Bay. Fire extinguished and vessel returned to Lae. Extensive damage. NO injuries.
<u>Carlina</u> PNG Natera Reef, on approach to Basilisk Passage	PA 30-Nov-1992	CG GP 09°33.00'S	0 M	0 147°07.70'E	Stranded. Refloated by tug. Minor damage.
<u>Arktis Ocean</u> PNG River Fly	- 04-Mar-1993	CG GD 08°25.00'S	1598 P	1987 143°10.00'E	Touched bottom after log caught in propeller. Cargo copper concentrate.
<u>Pixy May</u> PNG	PA 22-Mar-1993	CG GP 06°19.00'S	2820 M	1986 149°52.00'E	Stranded. Refloated and towed to Rabaul for repairs. Vessel sailed for Japan.
<u>Olympus Kim</u> PNG -	SK 06-Apr-1993	U C 00°22.00'S	0 P	0 151°30.00'E	Collided with Reina No.101. Structural damage.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Armstrong</u> PNG Port Aumo, West New Britain	PA 13-Aug-1993	CG GP 06°58.00'S	6719 P	1970 148°36.00'E	Ran aground while entering port. Arrived Rabaul with salvor assistance. Subsequently sailed to Aland and broken up. Hull bottom holed. Cargo logs.
<u>Kris</u> PNG near Samuda Island, West New Britain	PG 19-Aug-1993	RoRo U 05°24.00'S	420 T	1972 149°01.00'E	Capsized and sunk. Two passengers and a crewman died.
<u>Tenyu Maru</u> PNG Entrance of Port Wasum, SE coast New Britain Is.	JP 17-Oct-1993	U GP 06°19.06'S	3703 U	0 149°51.14'E	Ran aground while entering port.
<u>Tropic Wind</u> PNG -	- 11-Nov-1993	CG S 25°58.00'N	0 T	0 131°32.00'E	Sank in heavy weather and rough seas caused by Cyclone "Jeana"
<u>Kwang II No.3</u> PNG Gulf of Papua, 185 km NW of Port Moresby	SK 01-Mar-1994	FV U 08°40.00'S	286 T	1963 145°35.00'E	Sank. Crew abandoned sinking vessel and were safely rescued.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Samsun Brave</u> PNG Reef off Carteret Island, North Solomon Islands	- 06-Mar-1994	FV GP 04°42.00'S	1247 T	1983 155°26.00'E	Grounded. Subsequently slipped off reef, capsized, and sank. Crew rescued. 10 islanders that boarded the vessel to remove goods died when vessel capsized and sank.
<u>Papuan Chief</u> PNG East Island, Bonvouloir Islands	HK 25-Jun-1994	Ctr GP 10°23.00'S	7914 M	1991 152°07.00'E	Grounded. Refloated with assistance and proceeded to Alotau for inspection. Sailed to Singapore for repairs.
<u>Dasa Sebelas</u> PNG Star reef area	PA 13-Oct-1994	U GP 08°29.00'S	0 P	0 149°35.00'E	Ran aground. Towed by tug to Port Moresby.
<u>Ocean Yuri</u> PNG Off south coast of New Britain	PA 07-Jan-1995	CG GP 06°24.00'S	0 P	0 149°38.00'E	Grounded. Refloated and towed to Madang for repairs. Cargo logs.
<u>Shoei No.2</u> PNG Off New Britain	PA 24-May-1995	CG GP 06°05.00'S	3007 M	1982 148°34.00'E	Grounded. Refloated.
<u>Grand Fortune</u> PNG On reef	PA 25-Sep-1995	CG GP 06°18.00'S	7913 P	1976 149°50.90'E	Ran aground. Refloated with assistance and proceeded to Lae for repairs. Forepeak holed.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Armada Kasturi</u>	ML	CG	6784	1975	Grounded. Cargo logs.
PNG	16-Oct-1995	GP	U		
Reef off Sauren, off West New Britain		04°34.10'S	168°17.39'E		
<u>Pera</u>	-	LC	310	1969	Sank in bad weather due to Cyclone 'Justin'. 6 of 8 crew rescued.
PNG	09-Mar-1997	S	T		
S tip of New Ireland Prov., SE of Cape St George		05°00.00'S	153°02.00'E		
<u>Orange Wave</u>	SI	Other	7551	1983	Engine breakdown. Towed to Madang Harbour by ferry.
PNG	14-Aug-1997	M	P		Vehicle carrier.
-		05°10.00'S	146°00.00'E		
<u>Elfride</u>	PG	FV	0	0	Grounded. Crew rescued safely. Attempts to refloat abandoned.
PNG	07-Oct-1998	GP	T		
Reef near Basilisk Passage		09°32.27'S	147°08.07'E		
<u>Star Sun</u>	-	CG	6399	1975	Sank. Initially ran aground on reef at Wasum Bay, West New Britain. Pulled off and towed to Rabaul when sank. Crew rescued.
PNG	09-Dec-1998	GP	T		
Jacquinet Bay, East New Britain		05°42.80'S	151°46.00'E		

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Bao Ji Shan</u> PNG Reef outside entrance to Port Moresby	PA 21-May-2000	CG GP 09°32.00'S	0 M	0 147°06.00'E	Grounded. Cargo logs
<u>Gazelle Coast</u> PNG Isulailai Point	HK 14-Jun-2000	U GP 10°33.60'S	4292 U	1984 150°42.40'E	Aground.
<u>Ligaya</u> PNG -	HN 08-Aug-2000	CG M 10°46.00'S	4339 M	1982 141°32.00'E	Mechanical breakdown forced vessel to anchor after leaving Port Moresby for Kaohsiung. Towed to Port Moresby, repaired and continued voyage.
<u>Anax</u> PNG At Sea	MT 14-Aug-2000	Bulk M 10°20.00'S	18392 M	1979 157°10.00'E	Dissabled by engine problem. Carrying (ore?) concentrate and fish meal for Thailand. Towed to Port Moresby
<u>Coral Trader</u> PNG -	BS 25-Jan-2002	RoRo GP 10°14.33'S	4887 P	1978 150°56.27'E	Grounded, with punctured forward double bottom. Ballast tanks. Freed with tug assistance, repaired and resumed service.
<u>Irina 2</u> PNG Oro Bay	MT 29-Jul-2002	Toil GP 08°53.00'S	15063 U	1983 148°29.00'E	Tug from Smit Salvage dispatched to aid crude oil tanker aground. Outcome unknown.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Kimbe Queen</u> PNG Kimbe	PG 01-Oct-2002	FP GP 05°33.00'S	156 M	1989 150°09.00'E	Vessel grounded on leaving Kimbe on regular route to Rabaul. 180 passengers transferred to Rabaul Queen. Vessel refloated 4 days later, returned directly to service. Grounding attributed to lack of nav aids.
<u>Polynesia</u> Samoa East Reef, Off Apia, Upolu Island	- 09-Sep-1988	Ctr GP 13°48.70'S	10774 M	1979 171°45.20'W	Stranded, refloated without assistance, returned to Apia, sailed for Long Beach, CA for temporary repairs. Resumed service. Damage confined to an area approx. 2.5 m in length in way of bulbous bow.
<u>Queen Salamasina</u> Samoa Apia	- 03-Feb-1990	FC GP 13°48.00'S	714 P	1977 171°45.00'W	Stranded during Cyclone Ofa. Refloated and towed to Nelson. Repaired and vessel returned to Samoa.
<u>Jin Shiang Fa</u> Samoa Reef at Rose Island	TA 14-Oct-1993	FV GP 14°33.00'S	363 T	1985 168°09.00'W	Struck reef near island which is a bird sanctuary. Created diesel spill. Removed and sunk in deep water.
<u>Agnui 1</u> Samoa 160km (86 nmi) west of Savai'i	SB 07-Oct-2001	FV M 13°27.00'S	0 M	0 174°18.00'E	Mechanical breakdown, drifted 10 days before being located by Orion aircraft from (??). Six crew well, rendezvous and presumed towed by sister vessel Agnui II.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Greenville III</u> Seychelles? -	SI 05-Nov-1993	Tug M 02°06.00'N	0 U	0 073°05.00'E	Tug with barge in tow disabled and adrift.
<u>Pacific Trader</u> Solomon Islands Viru Harbour	- 23-Mar-1979	Toil GP 08°32.00'S	970 M	1972 157°44.00'E	Stranded. Refloated without assistance and proceeded to Honiara for survey. Tanker?
<u>Pacific Voyager</u> Solomon Islands Gizo Harbour	- 20-Jun-1979	Toil GP 08°06.00'S	674 P	1970 156°51.00'E	Stranded. Refloated with tug assistance and repaired at Rabaul. Mechanical damage.
<u>Yu Hsing</u> Solomon Islands -	- 02-Jul-1979	FV GP 05°08.00'S	0 P	0 159°09.00'E	Stranded. Refloated and taken to Honiara for repairs. Mechanical damage.
<u>Solomon Fisher</u> Solomon Islands Reef at Tulagi	- 16-Sep-1979	FV GP 09°06.00'S	121 P	1979 160°09.00'E	Stranded. Refloated and repaired.
<u>Tenryu Maru No.22</u> Solomon Islands Soloman Sea	- 11-Mar-1980	FV GP 08°00.00'S	194 T	1969 154°40.00'E	Stranded. Declared a constructive total loss.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Soltai No.6</u>	-	FV	103	0	Stranded. Refloated with assistance and towed to Tulagi.
Solomon Islands	08-Aug-1980	GP	M		Minor mechanical damage.
Off Munda lighthouse, New Georgia Island		08°20.00'S	157°13.00'E		
<u>Iu-Mi-Nao</u>	-	FC	518	1965	Stranded on reef. Refloated, repaired and returned to service. Slight damage.
Solomon Islands	13-Aug-1980	GP	M		
Reef		08°55.00'S	159°10.00'E		
<u>Mikolaj Rej</u>	-	CG	9397	1969	Listed after stranding. Discharged cargo and refloated.
Solomon Islands	16-Aug-1983	GP	P		Pilot error was cause.
Honiara Harbour		09°26.00'S	159°58.00'E		
<u>Hanlim Master</u>	-	Bulk	9808	1969	Stranded whilst manoeuvring close to shore to load logs.
Solomon Islands	15-Feb-1984	GP	P		Oil tank ruptured causing oil pollution . Refloated
Beach 3 miles west of Taware Point, San Cristobal		10°22.60'S	161°46.50'E		
<u>Ann</u>	-	CG	262	1958	Stranded in heavy weather. Refloated with no damage. 1 crew missing.
Solomon Islands	03-Mar-1985	GP	M		
1 mile E. of Point Cruz, Honiara		09°25.00'S	159°56.00'E		

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Soloman Princess</u>	-	FP	121	1969	Wrecked in heavy weather
Solomon Islands	03-Mar-1985	GP	T		
On rocks approx. 1 mile E. of Point Cruz, Honiara		09°25.00'S	159°56.00'E		
<u>Regina M</u>	-	CG	500	1956	Stranded after dragging anchors during cyclone Namu.
Solomon Islands	19-May-1986	GD	U		Broken up in situ.
Honiara		09°25.00'S	159°57.00'E		
<u>Island Trader</u>	-	CG	199	1969	Stranded. Refloated and taken to shipyard for repairs.
Solomon Islands	20-Jan-1988	GP	P		
Rua Ndika Reef		08°43.00'S	159°56.00'E		
<u>Camphor</u>	LI	U	0	0	Grounded. Refloated.
Solomon Islands	19-Aug-1990	GP	M		
River Enoghae		08°10.00'S	157°18.00'E		
<u>Larix</u>	PA	CG	3810	1981	Touched bottom whilst entering Bay. Towed to Honiara.
Solomon Islands	17-Apr-1991	GP	M		Minor mechanical damage.
Aruraha Bay, Makira Island, San Cristobal		10°26.00'S	161°27.00'E		

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Soltai No. 25</u> Solomon Islands -	SI 04-Jul-1991	FV S 08°27.00'S	64 T	1969 156°39.00'E	Sank due to rough seas and strong winds whilst on journey from fishing ground to Gizo. 6 crew still missing.
<u>Island Trader</u> Solomon Islands Ranadi Beach	SI 17-Feb-1992	CG GP 09°25.00'S	199 T	1969 159°57.00'E	Stranded during cyclone Daman. Refloated and berthed at Honiara. Scuttled.
<u>Liapari</u> Solomon Islands Ranadi Beach, Honiara	SI 17-Feb-1992	U GP 09°25.00'S	55 P	1984 159°57.00'E	Grounded during sudden squall. Severly damaged.
<u>Harmonica</u> Solomon Islands Point Cruz	- 17-Feb-1992	Other GP	0 M	0	Yacht. Grounded. Later refloated.
<u>Princess II</u> Solomon Islands Florida Islands	SI 27-Jul-1992	FP GD 09°09.00'S	133 T	1963 160°23.00'E	Sustained engine trouble and stranded. Subsequently sank. All passengers and crew rescued.
<u>Tropical Damsel</u> Solomon Islands Wilson Harbour	PA 13-Oct-1992	CG GP 07°49.00'S	5451 M	1985 157°18.00'E	Touched bottom. Towed to Noro for temporary repairs. Rudder damaged.

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>New Asia</u>	TA	CG	0	0	Ran aground in bad weather caused by cyclone "Nina".
Solomon Islands	01-Jan-1993	GP	U		
Kalena Bay entrance, New Georgia		08°21.40'S	157°38.80'E		
<u>Solomon Catcher</u>	-	Bulk	27	1984	Sank after taking in water. Crew rescued.
Solomon Islands	14-Feb-1993	U	T		
-		08°33.00'S	158°47.00'E		
<u>Pelawan</u>	-	CG	4815	1975	Struck reef whilst manoeuvring and sustained damage to rudder and propeller. Towed to Noro.
Solomon Islands	21-Apr-1993	GP	P		
Sumberged reef at Keneko		08°28.00'S	157°16.00'E		
<u>Qena</u>	EG	Bulk	0	0	Taking in water
Solomon Islands	23-Dec-1993	H	U		
Near Solomon Islands		13°27.00'S	161°51.00'E		
<u>Kinabalu Limabelas</u>	ML	CG	4685	1977	Grounded. Efforts to remove vessel have failed.
Solomon Islands	15-Mar-1994	GP	T		
Entering Kenelo, western Solomon Islands		07°53.73'S	157°56.12'E		
<u>World Discoverer</u>	LI	CL	3724	1974	Beached after hit uncharted reef. No injuries reported.
Solomon Islands	30-Apr-2000	GP	T		
Sandfly Passage		09°01.00'S	160°07.00'E		

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Sea Star</u> Solomon Islands Reef outside Munda, Western Solomons	GE 16-Dec-2000	CG GP 08°22.89'S	6601 U	1977 157°13.81'E	Log vessel grounded on reef, still aground 22 dec 02.
<u>Anyamanii</u> Solomon Islands logs. Honiara	- 04-Mar-2002	CG O 09°25.00'S	4581 M	1973 159°57.00'E	Piracy. Vessel boarded and crew robbed by 10 armed men, four with guns. Proceeded to Malaita for cargo of
<u>Hua Di</u> Solomon Islands -	MT 03-Oct-2002	CG G 08°47.30'S	10932 P	1977 157°55.70'E	Developed steering gear problems, grounded. Cargo approximately 7000 cubic meters logs. Vessel refloated without assistance, anchored. Tug Hua Ji dispatched from China to tow Hua Di to Shanghai for repairs.
<u>Tai Yang No.103</u> Tokelau Reef on S.W. side of Atafu Island	. 19-Feb-1978	FV U 08°34.00'S	133 U	1967 172°28.30'W	na
<u>Nam Hae No.217</u> Tokelau Off Atafu Island	- 09-Apr-1978	FV GP 08°31.00'S	159 U	1965 172°30.00'W	Stranded in poor visibility

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Sunlight No.22</u> Tokelau Nukunono	- 20-Jun-1979	FV GP 09°10.00'S	291 P	1963 171°50.00'W	Stranded. Refloated and towed to Suva. Repaired and returned to service. Moderate damages
<u>Ai Sokula</u> Tokelau Reef off Fakaofo Atoll	- 26-Feb-1981	CG GP 09°19.55'S	400 T	1961 171°12.90'W	Wrecked. Salvage attempts abandoned due to low value of vessel and damage to hull. Cargo plundered by islanders.
<u>Young Kwang No.3</u> Tonga Coral Reef	- 23-Feb-1987	FV GP 15°57.00'S	184 T	1965 173°43.00'W	Wrecked
<u>Golden Glow</u> Tonga 200 miles south of Tonga	US 03-Feb-1998	U F 21°59.56'S	959 T	1967 175°00.85'W	Fire started on board forcing crew to abandon ship. Crew later rescued. Position reports conflict; 175o00.00'E probably in error, corrected to W.
<u>Paragon 3259</u> Tonga At Sea	NZ 27-May-2002	FV M 20°02.00'S	0 M	0 176°00.00'W	Trawler adrift due to engine problems. Located by RNZAF Orion aircraft on routine patrol. Towed to Tonga by fishing vessel Southwind.
<u>Nam Hae No.203</u> Tuvalu Nanumanga	- 10-Nov-1978	FV GP 06°20.00'S	159 P	1965 176°17.00'E	Grouned. Refloated and repaired at Suva. Mechanical damage.

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Aoi Maru</u> Tuvalu Funafuti Island	- 18-Jan-1979	CG GP 08°31.00'S	223 P	1972 179°08.00'E	Stranded. Refloated without assistance and sold. Casualty occurred in heavy weather. Taken to Suva.
<u>Sieh Tsin Jung</u> Tuvalu Nukufetau	- 08-Feb-1981	FV GP 08°00.00'S	187 T	0 178°30.00'E	Stranded. Left-as-Lies. Major mechanical damage. Charged for illegal fishing by Tuvalu government.
<u>Sisco</u> Tuvalu Vaitup Island	- 20-Apr-1981	CG GP 07°28.00'S	481 T	1949 178°41.00'E	Wrecked. Bottom extensively damaged. Attempt to refloat unsuccessful. Casualty occurred.
<u>Jeanette Diana</u> Tuvalu 800 miles NNE of Pagopago	US 21-Apr-1993	FV F 05°00.00'S	0 T	0 178°00.00'E	Main engine blew starting a fire. Crew abandoned vessel and were later rescued. Vessel sank 50 miles east of Tuvalu.
<u>Ryoyu Maru No.8</u> USA - Palmyra On Kingman reef 40 miles NW of Palmyra Island	- 22-Nov-1979	FV GD 06°25.00'N	134 P	1973 162°26.00'W	Stranded after an electrical fault. Owners abandoned vessel to salvors who refloated and effected repairs. Renamed Jucy and used as an auxillary salvage vessel by salvors.
<u>Hui Feng No.1</u> USA - Palmyra Palmyra Island	- 14-Jun-1991	FV GP 05°53.00'N	280 P	1969 162°05.00'W	Stranded. Crew rescued. Diesel fuel leakage.Oil pollution

<u>Vessel Name</u>	Flag	Type	GRT	Year Built	Comments
Country of Incident	Date of Incident	Type Incident	Severity		
Location Name		Latitude	Longitude		
<u>Shanta Shibani</u>	-	Bulk	15387	1971	
USA - Wake Island	25-Jan-1984	GD	P		Stranded on rocks after moorings broke in heavy weather. Refloated and taken to Guam and thence to Ulsan where temporary repairs effected.
Wake Island		19°17.00'N	160°37.00'E		
<u>Kalili</u>	-	FC	227	1961	
Vanuatu	16-Jan-1985	GP	T		Stranded. Subsequently sank following cyclones Eric and Nigel.
Palikulo Bay, Espiritu Santo Island		15°29.00'S	167°14.00'E		
<u>Federesen Nalkutan</u>	-	CG	341	1958	
Vanuatu	18-Jan-1985	GP	T		Wrecked during cyclone Nigel.
Segond Channel, off Espiritu Santo		15°33.00'S	167°08.00'E		
<u>Fetukai</u>	-	CG	115	1971	
Vanuatu	16-Jun-1987	H	P		Took water and beached. Refloated after temporary repairs and taken to Port Vila.
Tanna Island		19°30.00'S	169°20.00'E		
<u>Lublin II</u>	PO	U	0	0	
Vanuatu	18-Nov-1992	U	P		Vessel leaked oil into port causing pollution
Santos Port		15°31.00'S	167°10.00'E		
<u>Matissimo</u>	VU	U	0	0	
Vanuatu	18-Nov-1992	M	P		Vessel leaked oil into port causing pollution
Santos Port		15°31.00'S	167°10.00'E		

<u>Vessel Name</u> Country of Incident Location Name	Flag Date of Incident	Type Type Incident Latitude	GRT Severity	Year Built Longitude	Comments
<u>Latua</u> Vanuatu Between Port Vila and Shepherd Islands	- 08-May-1999	FP S 17°10.00'S	0 T	0 168°40.00'E	Vessel went missing during heavy storms. 25 passengers and crew on board.
<u>Fetukai</u> Vanuatu Tanna Island	- 16-Jun-1987	CG H 19°30.00'S	115 P	1971 169°20.00'E	Took water and beached. Refloated after temporary repairs and taken to Port Vila.
<u>Lublin II</u> Vanuatu Santos Port	PO 18-Nov-1992	U U 15°31.00'S	0 P	0 167°10.00'E	Vessel leaked oil into port causing pollution
<u>Matissimo</u> Vanuatu Santos Port	VU 18-Nov-1992	U M 15°31.00'S	0 P	0 167°10.00'E	Vessel leaked oil into port causing pollution
<u>Latua</u> Vanuatu Between Port Vila and Shepherd Islands	- 08-May-1999	FP S 17°10.00'S	0 T	0 168°40.00'E	Vessel went missing during heavy storms. 25 passengers and crew on board.

5 APPENDIX 5: RISK ANALYSIS METHODS AT THE REGIONAL AND EEZ SCALES

Several map layers were required to create the grounding and collision potential maps. These included the vessel traffic route and volume map, as well as the contextual map layers: reefs and shorelines. The method described here involves two distinct processes: one for the grounding hazard map and one for the collision hazard map. Both maps use a separate 'thematically-shaded grid' layer to store information processed from the traffic and context layers. For example: the product of the number of routes in a grid area and the volume of traffic in the area is stored for each grid cell. This information is then coloured for each grid cell as a low, moderate or high collision hazard.

5.1 Grid Creation

First, a grid was created covering the study area. Each grid square has a data field named Zero_depth. If this field is set to '1' then a grounding hazard exists in the form of a reef or a shoreline contour. This grid need only be created once. It is re-used each time a new thematic grid map is required for either collisions or groundings.

Step 1. Create a grid of regions in MapInfo—one degree x one degree in size.

Use the MapInfo Grid Maker add-in tool.

Step 2. Count the reefs and shorelines that intersect with the grid cells

Use the MapInfo Update Column function. The OneDegreeSquares table is pre-processed using the geographic join where intersects and where within from the reefs and auspol tables to the grid table. The Zero_depth field in the grid table is then set to 1 or 0 if there is a grounding danger or not, respectively. Steps 1 and 2 need never be repeated unless the reefs or auspol maps are updated.

5.2 Grounding potential thematic map

In order to cover the entire south pacific study area, the resolution of this map is one degree or 60 nautical miles square. Grounding potential is thematically mapped as the product of the existence or not of a reef or shoal within a one degree grid cell and the traffic volume.

Step 1. Update the Grounding_risk field in the grid cells with the product of the Zero_depth and the traffic count.

1.

Use the MapInfo Update Column function.

Step 2. Create the thematic map using the Grounding_risk field

Use the MapInfo Create Thematic Map function.

5.3 Collision potential thematic map

Collision potential is thematically mapped as the product of the count of traffic routes within a one degree grid cell and the traffic volume. This function is intended to associate a higher collision potential with multiple routes in close proximity.

Step 1. Count the vessel routes that intersect with the grid cells

Use the MapInfo Update Column function. The grid map is processed using the geographic join where intersects with the table Sroutes. The field Count_routes is set to the count of the number of vessel routes that intersect with each grid cell.

Step 2. Update the Collision_risk field in the grid cells with the sum of total traffic frequency data for all routes in Sroutes that intersect with the grid cells

Use the MapInfo Update Column function. The grid map is processed using the geographic join where intersects with the table Sroutes. The field Collision_risk is set to the Sum(TotalFreq) of of SRoutes that intersect with each grid cell.

Step 3. Update the Collision_risk field in the grid cells with the product of the count of routes and the total traffic count

Use the MapInfo Update Column function. The grid map is processed by setting $\text{Collision_risk} = \text{Count_routes} \times \text{Collision_risk}$.

Step 4. Create the thematic map using the Collision_risk field

Use the MapInfo Create Thematic Map function

6

APPENDIX 6: SAMPLE FORMS

COUNTRY DATA SHEET

PACPOL RA1: Marine Risks Assessment**Reward for return, if lost to:**

Edward Anderson Marine Sciences PO Box 2125 Sidney, BC anderson_e@coastnet.com
 or (Feb – Mar 2001) c/o Institute of Applied Sciences, USP, PO Box 1168, Suva, Fiji (679) 313 900

or Sione Tu'itupou Fotu POBox 2461, Nuku'alofa, Tonga (676)22479 stfotu@kalianet.to
 or GeoInfoSolutions, 10352 Arbay Close, Sidney, British Columbia, Canada V8L 4S2 (250) 656-7170, bjudson@geoinfosolutions.com

COUNTRY:	
-----------------	--

MAJOR GOVERNMENT AGENCIES: PORTS, FISHERIES, ENVIRONMENT

Agency, Department, Ministry	Contact	Address, Phone, fax, email	Contacted? (When, who)
(one row omitted)			

MAJOR PORTS SERVING INTERNATIONAL OR INTERISLAND SHIPPING

Port	General description	OPTIONAL: Cargoes handled, approx annual volume	Info source, year to which it applies?
(one row omitted_			

COUNTRY DATA SHEET p2

COUNTRY: _____

Page ____ of ____

ACTIVE SHIPPING LINES SERVING COUNTRY, VESSELS over 200 GRT, and VESSEL CHARACTERISTICS

Shipping lines active in country (international lines and any in country with vessels over 200 GRT; distant-water fishing vessels may be grouped- e.g. longline FV, 200-400 GRT)			Vessels (Vessels that have called in one recent year, especially those that repeat calls on schedule)			
Line name, flag	Agent or contact	Address	Vessel name(s)	Type (container, bulk cargo, oil tanker, LNG tanker, passenger/cargo ferry, etc.)	Tonnage GRT? DWT?	Speed, kn (if known)

(use additional sheets as necessary)

PORT DATA

PACPOL RA1: Marine Risks Assessment

Edward Anderson Marine Sciences
anderson_e@coastnet.com
c/o Institute of Applied Sciences,
University of the South Pacific
PO Box 1168, Suva, Fiji

email

phone (679) 313 900

fax (679) 300 373

Country

Port (separate sheet for each port in country)

Page ____ of ____

Contact(s) for this port

Data source person, position (or "see country")	Mail	<u>Phone</u>
Department, agency or company		<u>Fax</u> <u>Email</u>
Data source person, position	Mail	<u>Phone</u>
Department, agency or company		<u>Fax</u> <u>Email</u>

Traffic Patterns

<u>Vessel (or Line of similar vessels from Country Sheet)</u> (distant waters fishing vessels may be grouped, as in examples)	<u>Inbound from</u>		<u>Outbound to</u>	Frequency (per year)
Examples	examples		examples	examples
(three rows deleted)				

(use additional sheets as necessary)

Port: _____
(continued)

Page ____ of ____

General practices (this section is optional, but any observations will be useful)

Ballast/deballast (Do vessels deballast to enter port? Which types of vessels, and where?)
Solid waste disposal (Do visiting vessels unload solid waste at this port? Dump at sea nearby?)
Sewage (Do vessels discharge sewage to harbour or lagoon?)
Further impressions (Bilge pumping, lube oil disposal, etc.)

Hazards to navigation (optional section - any places of special danger to ships?)

Near port
<u>Within country EEZ on frequently traveled routes</u>

Environmentally sensitive areas at risk to pollution from ships (optional section)

Near port
Within country EEZ

Hazard/sensitive location notes and sketches - use additional pages as necessary (charts, sketches, or rough drawings will help us understand your notes)

Data recording notes (please leave this last section blank)

Comments/verifications	Data recorded by
	<u>Date</u>

SHIPPING LINE DATA

PACPOL RA1: Marine Risks Assessment

Edward Anderson Marine Sciences
anderson_e@coastnet.com

Reward for return, if lost to:

PO Box 2125 Sidney, BC , Canada V8L 3S6
tel (250) 380-8599; fax(250) 389-2247

SHIPPING LINE:

Page 1 of

Contact(s) for this line

	Mail	<u>Phone</u>
		<u>Fax</u>
		<u>Email</u>

Vessels over 200 GRT

Vessel Name	Type*	Tonnage (GRT? DWT?)	TEU (contain er ships)	Year Built	Crew	Passen gers	Spee d, kn
Example: MV "Island Navigator"	Passen ger ferry	1250 GRT	-	1976	15	320	15
(three rows omitted)							

Toil - Tanker, oil and petroleum products; TLNG - Tanker, compressed/liquid gas; OBO - Oil-Bulk-Ore; Bulk - Bulk products carrier; Ctr - Container; RoRo - Rollo-on-Roll-off; Pass - Passenger vessel, including passenger/freight ferry; GenC - General Cargo (may have some passengers); Othr - Other type (explain)

Traffic Patterns

<u>Vessel or Class of similar vessels</u>	<u>Route</u>	<u>Frequency (per year)</u>
Example: "Island Navigator"	1. Suva-SavuSavu-Levuka-Taveuni-Suva 2. Suva - Kadavu - Suva	12 26
(ten rows of blank cells omitted)		

Page 2, All questions optional - but any responses welcome!**Sketches of routes, etc. Use extra pages as necessary.**

(extra space omitted here)

Comments, sketches on hazards to navigation (bear port, EEZ). Use extra pages as necessary.

(extra space omitted here)

General practices

Fuel type, total capacity, where taken on
Solid waste disposal (incinerate onboard? Dump at sea? Unload at continental port? unload at island port?)
Sewage (holding? macerate/chlorinate? Discharge to harbour?)
Further impressions (Bilge pumping, lube oil disposal, etc.)

Comments/verifications	Data recorded by	Date

END OF REPORT