

## M.V. TWOSUCH LOADING TABLES ASSIGNMENT ONE ANSWERS

Conditions    1    2    3    4    5    6    7    8

### CONDITION 1. LIGHTSHIP

(Information supplied courtesy Marine Safety, WA Department for Planning and Infrastructure. Extracts by Ranger Hope © 2008).

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water						
Fwd FO      P&S						
Fwd D/B FO   P&S						
Aft D/B FO   P&S						
ER Wing FO   P&S						
Lub Oil						
Crew & Effects						
Stores						
Provisions						
<b>Deadweight</b>						
<b>Lightship</b>	<b>148.46</b>	<b>3.48</b>	<b>516.61</b>	<b>-0.65</b>	<b>-96</b>	
<b>Displacement</b>						

[Back to top](#)

**CONDITION 2** Departure to fishing. 100% water and fuel Full crew & stores.

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water	8.9	2.06	18.33	+5.05	+44.95	
Fwd FO P&S	9.0	1.78	16.02	+3.45	+31.05	-
Fwd D/B FO P&S	13.10	1.17	15.33	+1.25	+16.38	-
Aft D/B FO P&S	12.8	1.20	15.36	-1.78	-22.78	-
ER Wing FO P&S	12.6	2.40	30.24	-4.83	-60.86	-
Lub Oil	0.55	2.50	1.38	-7.90	-4.35	-
Crew & Effects	1.0	4.0	4.00	+6.00	+6.00	-
Stores	4.0	3.0	12.00	-	-	-
Provisions	2.0	2.0	4.00	+7.00	+14.00	-
Deadweight	63.95		116.66		+24.39	-
Lightship	148.46		516.61		-96	-
Displacement	212.41	2.98	633.27	-0.337	-71.61	0
<b>K.G 3.48m(Light)</b>	<b>(Loaded) 2.98m</b>		<b>L.C.G -0.65m</b>	<b>(Loaded) - 0.337m</b>		
<b>F.S.N. 0m</b>	<b>0.00m</b>					
<b>Kgf 3.48m</b>	<b>2.98m</b>					

[Back to top](#)

**CONDITION 3** Fishing 20% Catch. 17% Fuel. 21% Water. FSE in part filled tanks.

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water	1.90	1.15	2.19	+ 4.80	+ 9.12	1.30
Fwd FO P&S	-					
Fwd D/B FO P&S	-					
Aft D/B FO P&S	-					
ER Wing FO P&S	8.00	2.25	18.00	- 4.75	- 38.00	0.88
Lub Oil	0.10	2.50	0.25	- 7.90	- 0.79	0.18
Crew & Effects	1.00	4.00	4.00	+6.00	+6.00	
Stores	2.00	3.00	6.00	-	-	
Provisions	0.40	2.00	0.80	+7.00	+2.80	
Brine Tank	3.00	4.40	13.20	-5.50	- 16.50	
Cod end load	0.50	11.40	5.70	-5.50	- 2.75	
Catch	4.80	0.60	2.88	+0.50	+ 2.40	
Deadweight	21.70		53.02		- 37.72	
Lightship	148.46		516.61		- 96.00	-
Displacement	170.16		569.63		- 133.72	2.36
<b>K.G 3.48m(light)</b>	<b>(Loaded) 3.348m</b>		<b>L.C.G. -0.65m</b>	<b>(Loaded) - 0.786m</b>		
<b>F.S.N. 0m</b>	<b>0.014m</b>					
<b>Kgf 3.48m</b>	<b>3.362m</b>					

[Back to top](#)

**CONDITION 4** Fishing 20% Catch. 10% Fuel 90% Water. FSE in part filled tanks.

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water	8.00	1.95	15.6	+ 5.02	+ 40.16	1.30
Fwd FO P&S	-					
Fwd D/B FO P&S	-					
Aft D/B FO P&S	-					
ER Wing FO P&S	4.40	2.05	9.02	- 4.69	- 20.64	0.88
Lub Oil	0.10	2.50	0.25	- 7.90	- 0.79	0.18
Crew & Effects	1.00	4.00	4.00	+6.00	+6.00	
Stores	2.00	3.00	6.00	-		
Provisions	0.40	2.00	0.80	+7.00	+ 2.80	
Catch	4.80	2.60	12.48	+2.40	+ 11.52	
Deadweight	20.70		48.15		+ 39.05	2.36
Lightship	148.46		516.61		-96	
Displacement	169.16		564.76		- 56.95	2.36
<b>K.G 3.48m(Light)</b>	<b>(Loaded) 3.339m</b>		<b>L.C.G. -0.65m</b>	<b>(Loaded) - 0.336m</b>		
<b>F.S.N. 0m</b>	<b>0.014m</b>					
<b>Kgf 3.48m</b>	<b>3.353m</b>					

[Back to top](#)

**CONDITION 5** Fishing 66% Catch. 20% Fuel 90% Water. FSE in part filled tanks.

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water	8.00	1.95	15.6	+ 5.02	+ 40.16	1.30
Fwd FO P&S	-					
Fwd D/B FO P&S	-					
Aft D/B FO P&S	-					
ER Wing FO P&S	9.00	2.29	20.61	- 4.77	- 42.93	0.88
Lub Oil	0.10	2.50	0.25	- 7.90	- 0.79	0.18
Crew & Effects	1.00	4.00	4.00	+6.0	+6.00	
Stores	2.00	3.00	6.00	-	-	
Provisions	0.40	2.00	0.80	+7.00	+ 2.80	
Catch	18.00	1.80	32.40	+0.50	+ 9.00	
Deadweight	38.50		79.66		+ 14.24	2.36
Lightship	<b>148.46</b>		<b>516.61</b>		<b>-96</b>	-
Displacement	186.96		596.27		- 81.76	2.36
<b>K.G 3.48m(Light)</b>	<b>(Loaded)</b>	<b>3.189m</b>	<b>L.C.G. -0.65m</b>	<b>(Loaded) - 0.437m</b>		
<b>F.S.N. 0m</b>						
<b>Kgf 3.48m</b>						

[Back to top](#)

**CONDITION 6** Arrival 100% Catch. 10% Fuel 38% Water.FSE in part filled tanks.

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water	3.40	1.35	4.59	+ 4.85	+ 16.49	1.30
Fwd FO P&S	-					
Fwd D/B FO P&S	-					
Aft D/B FO P&S	-					
ER Wing FO P&S	4.40	2.05	9.02	- 4.69	- 20.64	0.88
Lub Oil	0.10	2.50	0.25	- 7.90	- 0.79	0.18
Crew & Effects	1.00	4.0	4.00	+6.0	+6.00	
Stores	1.00	3.0	3.00	-		
Provisions	0.40	2.0	0.80	+7.00	+ 2.80	
Catch	24.00	2.6	62.40	+0.5	+ 12.00	
Deadweight	34.30		84.06		+ 15.86	2.36
Lightship	148.46		516.61		-96	-
Displacement	182.76		600.67		- 80.14	2.36
<b>K.G 3.48m(Light)</b>	<b>(Loaded) 3.287m</b>		<b>L.C.G. -0.65m</b>	<b>(Loaded) - 0.438m</b>		
<b>F.S.N. 0m</b>	<b>0.013m</b>					
<b>Kgf 3.48m</b>	<b>3.300m</b>					

[Back to top](#)

**CONDITION 7**

Fishing 20% Catch. 20% Fuel 47% Water Stalled winch load.

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water	4.20	1.45	6.09	+ 4.88	+ 20.50	1.30
Fwd FO P&S	-					
Fwd D/B FO P&S	-					
Aft D/B FO P&S	-					
ER Wing FO P&S	9.00	2.29	20.61	- 4.77	- 42.93	0.88
Lub Oil	0.10	2.50	0.25	- 7.90	- 0.79	0.18
Crew & Effects	1.00	4.0	4.00	+ 6.0	+6.00	
Stores	2.00	3.0	6.00	-		
Provisions	0.40	2.0	0.80	+7.00	+ 2.80	
Brine Tank	3.00	4.40	13.20	- 5.5	- 16.50	
Catch	4.80	2.6	12.48	+ 2.4	+ 11.52	
Winch Load	2.50	5.50	13.75	-10.5	- 26.25	
Deadweight	27.00		77.180		-54.770	2.36
Lightship	148.46		516.61		-96	-
Displacement	175.46		593.79		-150.77	2.36
<b>K.G 3.48m(Light)</b>	<b>(Loaded) 3.384m</b>		<b>L.C.G. -0.65m</b>	<b>(Loaded) -0.86m</b>		
<b>F.S.N. 0m</b>	<b>0.013</b>					
<b>Kgf 3.48m</b>	<b>3.397m</b>					

[Back to top](#)

**CONDITION 8** Fishing 20% Catch 20% Fuel 90% Water & Fouled Net

Item	Tonnes	V.C.G.	Vert. Moment	L.C.G. +/-	Long. Moment	F.S.N.
Fresh water	8.00	1.95	15.6	+ 5.02	+ 40.16	1.30
Fwd FO P&S	-					
Fwd D/B FO P&S	-					
Aft D/B FO P&S	-					
ER Wing FO P&S	9.00	2.29	20.61	- 4.77	- 42.93	0.88
Lub Oil	0.10	2.50	0.25	- 7.90	- 0.79	0.18
Crew & Effects	1.00	4.0	4.00	+ 6.0	+ 6.00	
Stores	2.00	3.0	6.00	-		
Provisions	0.40	2.0	0.80	+ 7.00	+ 2.80	
Brine tank	3.00	4.4	13.20	- 5.5	- 16.50	
Catch	4.80	2.6	12.48	+ 0.5	+ 2.40	
Warp load	0.50	7.0	3.50	+ 1.0	- 0.50	
Deadweight	28.80		76.44		-8.36	2.36
Lightship	148.46		516.61		-96	-
Displacement	177.26		593.05		-104.36	2.36
<b>K.G 3.48m(Light)</b>	<b>(Loaded) 3.346m</b>		<b>L.C.G. -0.65m</b>	<b>(Loaded) - 0.59m</b>		
<b>F.S.N. 0m</b>	<b>0.013</b>					
<b>Kgf 3.48m</b>	<b>3.359m</b>					

[Back to top](#)