

Items 3 to 8 of a request under the Freedom of Information and Protection of Privacy Act (FOIPP Act):

3. *All funding requests made by BC Ferries to the BC Ferries Services Board relating to the Northern Sea Wolf, 2016 to date;*
4. *All MV Northern Sea Wolf refit budgets, to date;*
5. *All MV Northern Sea Wolf refit budget estimates (including, but not limited to, labour, parts, services, and contracts), from time of purchase to date;*
6. *Operating budget of the MV Northern Sea Wolf, to date;*
7. *Operating budget for the MV Nimpkish 2017 to 2019; and*
8. *Operating costs of the MV Northern Adventure for 2017 to date.*

Response:

3. *All funding requests made by BC Ferries to the BC Ferries Services Board relating to the Northern Sea Wolf, 2016 to December 2018.*

The requests for full funding to bring the route into operation, including the MV Northern Sea Wolf:

Original Budget February 2017	Revised Budget February 2018	Forecast Budget Completion December 2018	Federal Funding (Estimate)	Forecast Budget Completion Net of Federal Funding December 2018
\$55.7m	\$63.4m	\$76.0m	\$15.1m	\$60.9m

4. *All MV Northern Sea Wolf refit budgets to December 2018:*

The costs to upgrade the MV Northern Sea Wolf are included in item 3 above. BC Ferries declines to release the specific amounts as pursuant to section 17 (1) of the FOIPP Act as the disclosure of these details could reasonably be expected to harm its financial interests. As part of this, such disclosure could reasonably be expected to harm our negotiating position, as well as result in undue financial loss or gain to third parties (ss 17(1)(d) and (f)).

5. *All MV Northern Sea Wolf refit budget estimates (including, but not limited to, labour, parts, services, and contracts), from time of purchase to December 2018:*

Same as item 4 above.

6. *Operating budget for MV Northern Sea Wolf for:*

Fiscal 2019 \$3,978,504

(This amount remains unspent except for marine insurance.)

Note: Includes operations activity costs only (no maintenance).

7. *Operating budget for MV Nimpkish for:*

Fiscal 2017 \$1,159,772

Fiscal 2018 \$1,242,471

Fiscal 2019 \$ 168,180

Note: Includes operations activity costs only (no maintenance).

8. *Operating costs for MV Northern Adventure for:*

Fiscal 2017 \$7,431,174

Fiscal 2018 \$7,956,829

Fiscal 2019 \$9,913,533 (to January 31, 2019)

Note: Includes operations activity costs only (no maintenance).

MV Northern Sea Wolf Preliminary Lightship Survey

IMO No 9212450

Report No. 2019-91632-01
Rev 0

British Columbia Ferry Services Inc.
Fleet Technical Engineering
16 January 2019

CAVEAT

This Lightship Survey was conducted with the best available data and with the best effort. However, the vessel was not in the most appropriate condition to conduct the Survey. The vessel should not be considered to be in the "complete as possible" condition. There was much work to be completed and the numerous solid weights noted are estimates. It is the Inclining Experiment that is scheduled for March that will be the final Lightship determination and available deadweight. This Report only provides an estimated Lightship and Deadweight for project guidance.

EXECUTIVE SUMMARY

The preliminary Lightship survey indicates that the Northern Sea Wolf at this point displaces ~10% more than before its refit and renewal. There is still approximately 200 tonnes of available deadweight. It is the opinion of Fleet Technical that this available deadweight is sufficient for the vessel to operate on its intended route, however, management of fuel and freshwater may be necessary so as not to submerge the Loadline during operations.

1.0 INTRODUCTION

A Lightship Survey was conducted on the Northern Sea Wolf to determine its preliminary lightship and deadweight capacity.

Survey Date: 11 December 2019
0930 - 1300

Personnel in attendance: Bob Kearney, BCF (conducting officer)
Capt. Guy Kendall, Senior Master
Grant Locke, Senior Chief Engineer

Location: BCF FMU (North wall), Richmond, BC

Weather and Sea Conditions: Temp 10°C, Wind 0kts, waves 0 cm, Tide falling,
sunny

Reference Datums and Sign Conventions:

Vertical heights are measured above the hydrostatic baseline, except drafts which are referenced to the USK 12mm below the baseline. Longitudinal distances are measured forward and aft from midships. Forward values are positive, aft values are negative. Transverse distances are measured to port and starboard of the centerline. Starboard values are positive, port values are negative.

2.0 DRAFT READINGS

Table 2-1 Draft Readings

LOCATION	DRAFT READING	MEAN DRAFT
Forward (No 1 End) Port	2.81 m	2.85 m
Forward (No 1 End) Stbd	2.89 m	
Aft (No 2 End) Port	3.0 m	3.023 m
Aft (No 2 End) Stbd	3.046 m	

Draft marks are referenced to the USK, 12mm below the baseline.

Draft marks are located 28.236m forward and 24.264m aft of midships.

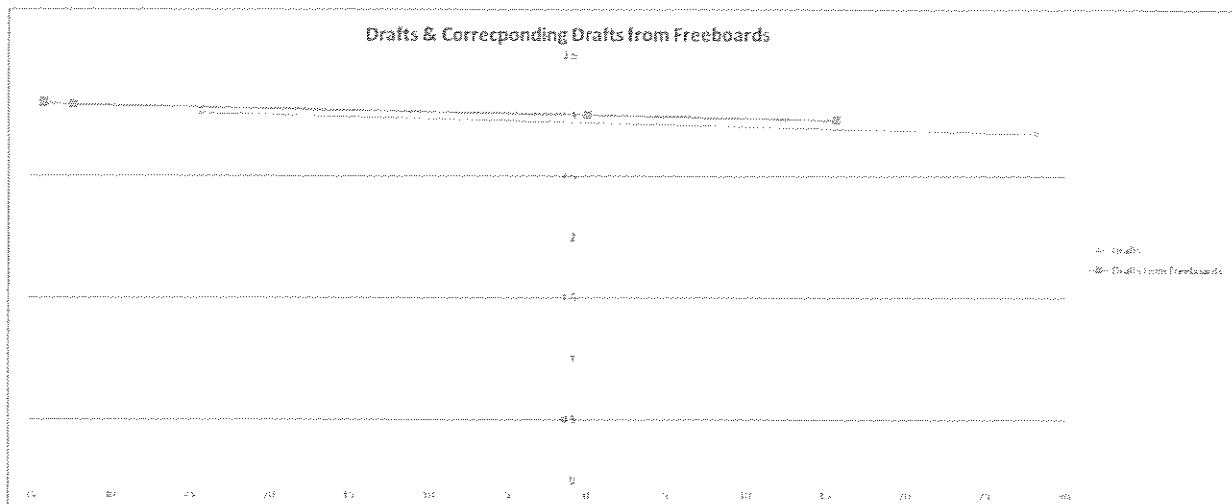
Table 2-3 Freeboard Readings

Distance From Midships	Freeboard Port	Freeboard Stbd	Freeboard Average	Depth at section	Corresponding draft (USK)
Fwd Rub Strake (15.665m fwd)	1.575m	1.435m	1.505m	4.327m	2.822m
Midships	203mm below Plimsol	75mm below Plimsol	0.139m	3.145m	3.006m
32.25m aft	1.194m	1.041m	1.118m	4.208m	3.09m
Aft (34.097 aft)	---	---	0.686m	3.790m	3.104m

List = 0.53° to stbd

Table 2-2 USK Drafts for GHS

LOCATION	DRAFTS
No 1 End	2.85m
Midships	3.006m
No 2 End	3.023m



Loadline draft (USK) = 3.142m (Salt Water)

Loadline draft (USK) = 3.192m (Fresh Water)

(The vessel was floating in fresh water ($\rho=1.00$) at the time of the Survey.)

3.0 WEIGHT SURVEY

Table 3-1 Weights to Come Off

Description	Location	Weight (kg)	LCG (m)	LMOM
			from midships aft(-), Fwd(+)	[t-m]
5 crew	Main Deck	375	-30.00	-11250.00
200 Lifejackets	Dk 5	60	-4.25	-255.00
Door skin deck protection	Dk 4	1270	-2.40	-3048.00
Door skin deck protection	Dk 5	290	14.70	4263.00
8 x FF Foam bottles	Main Deck	50	4.20	210.00
Dolly	Main Deck	100	4.20	420.00
Heat Exchanger	Main Deck	300	2.00	600.00
Spare parts	Main Deck	50	2.00	100.00
Pump	Main Deck	100	-3.00	-300.00
W/H chair	Main Deck	100	-3.30	-330.00
Valves & cable on pallet	Main Deck	700	-5.50	-3850.00
pumps	Main Deck	200	-7.70	-1540.00
welding machine	Main Deck	100	-9.00	-900.00
30HP motor	Main Deck	255	-10.60	-2703.00
Parts & compressor	Main Deck	100	-9.90	-990.00
10 stacked pallets	Main Deck	75	-22.00	-1650.00
Oil Drums	Main Deck	1565	0.80	1252.00
Parts & fan on pallet	Main Deck	100	-2.50	-250.00
Parts & fan on pallet	Main Deck	200	-5.30	-1060.00
Oil Tote	Main Deck	200	-11.20	-2240.00
Oil Drum	Main Deck	200	-14.30	-2860.00
Oil Tote	Main Deck	50	-15.50	-775.00
Safety Handrails	Main Deck	50	-15.80	-790.00
Steel ramp	Main Deck	100	-18.20	-1820.00
Work bench	Main Deck	200	-19.00	-3800.00
Cables on pallet	Main Deck	50	-22.00	-1100.00
Manlift	Main Deck	750	-22.00	-16500.00
Garbage bin	Main Deck	200	-23.90	-4780.00
Empty oil drums	Main Deck	50	-25.80	-1290.00
Total Weights To Come Off Kilograms		7840	-7.30	-57236.00
tonnes		7.84	-7.30	-57236.00

4.0 WATER DENSITY AND TEMPERATURE

The water density and temperature were taken onsite using a hydrometer and thermometer.

Aft:

Specific gravity: 1.00

Temperature: 6°C

5.0 SUMMARY

Item	Weight (t)	LCG (m)	LMOM
Vessel as surveyed displacement	1401.17	0.265	371.310
Weights to come off	-7.84	-7.300	57.232
Weights to go on	3.48	0.810	2.819
Tank weights to come off	-33.47	27.660	-925.780
Compartment weights to come off	0.00	0.000	0.000
Preliminary Lightship:	1363.34	-0.363	-494.419
2011 Lightship:	1237.5	tonnes	
Lightship difference (2011-2019) =	10.17%		
Maximum Allowable Displacement=	1560.56	tonnes	
Available Deadweight =	197.22	tonnes	

6.0 CONCLUSION

The preliminary Lightship survey indicates that the Northern Sea Wolf at this point displaces ~10% more than before its refit and renewal. There is still approximately 200 tonnes of available deadweight. It is the opinion of Fleet Technical that this available deadweight is sufficient for the vessel to operate on its intended route, however, management of fuel and freshwater may be necessary so as not to submerge the Loadline during operations.

Appendix A – GHS output

16-01-19 08:34:26
GHS 16.00BC Ferry Services Inc.
NORTHERN SEA WOLF

Page 1

USK draft refers to the line:

0.012 below baseline @ 28.236f and 0.012 below baseline @ 24.264a

displacement from drafts

DRAFTS used to establish waterline and Deflection

Location-----	Given-----	Used-----	Error
24.264a	3.023	3.023	0.000
0.000	3.006	3.006	0.000
28.236f	2.850	2.850	0.000

Distances in METERS.-----Drafts from USK---Deflection in LWL: 0.063 SAGGING

Lightship Survey CONDITION

WEIGHT and DISPLACEMENT STATUS

USK draft: 2.850 @ 28.24f, 3.023 @ 24.26a

Trim: Aft 0.173/52.500, Heel: zero

Deflection in LWL: 0.063 SAGGING

Part-----	-----weight(MT)	-----LCG-----	-----TCG-----	-----VCG		
	SpGr-----	-----Displ(MT)	-----LCB-----	-----TCB-----	-----VCB-----	-----RefHt
HULL	1.000	1,401.17	0.327f	0.021s	1.817	-2.994

DISPLACEMENT EXCESS: 1,401.17

Distances in METERS.-----