

PACIFIC PILOTAGE AUTHORITY

1000 – 1130 West Pender Street
Vancouver, B.C
V6E 4A4



NOTICE TO INDUSTRY

Date Issued: 24 May 2024

Notice Number: 03/2024

Subject: Tidal Lift Program 2024 – using tidal current assistance to reduce environmental impacts and pilotage assignment duration. This trial program will be in effect until 31 Dec. 2024.

Geographic Area: The waters of Haro Strait, Boundary Passage, Strait of Georgia, Southern Gulf Islands, and the Salish Sea.

Application: These voluntary guidelines apply to vessels transiting from the Brotchie pilot station to an anchorage in the Southern Gulf Islands, Vancouver, English Bay, Nanaimo, or the Fraser River.

Details:

The British Columbia Coast Pilots (BCCP) and the Pacific Pilotage Authority (PPA) wish to assist shipping companies, agents, masters, and owners adopt favorable tidal currents while transiting inbound through Haro Strait and Boundary Pass. Reducing a ship's transit time in Boundary Pass and Haro Strait will directly reduce the amount of overall noise pollution in the water column, help protect sensitive species in our waterways, reduce pilotage costs, and reduce fuel consumption while in pilotage waters.

Ships that embark a pilot at the Brotchie pilot station at an opportune time will experience the benefit of transiting with a favourable tidal current for most of the inbound transit. The benefits of a reduced transit duration include less hydroacoustic noise, less fuel consumption, reduced GHG emissions, reduced pilotage costs, and reduced fatigue for the ships' bridge teams. The samples overleaf show two scenarios of the same vessel travelling with the tidal current, and against the tidal current, compared to a slack-water transit baseline.

To assist ships' masters and agents place pilot orders for opportune times, BCCP's technical team has developed tidal lift decision tables that indicate optimal transit window times. Two spreadsheets have been developed based on ship speeds of 11 knots and 14.5 knots to depict vessel groups participating in the ECHO Program. The information in the spreadsheets, attached herewith, commence 01 May 2024.

PPA & BCCP encourage vessels' masters and agents to commence taking advantage of the voluntary Tidal Lift Program.

Please contact PPA at marineops@ppa.gc.ca for any queries or clarifications on these guidelines.

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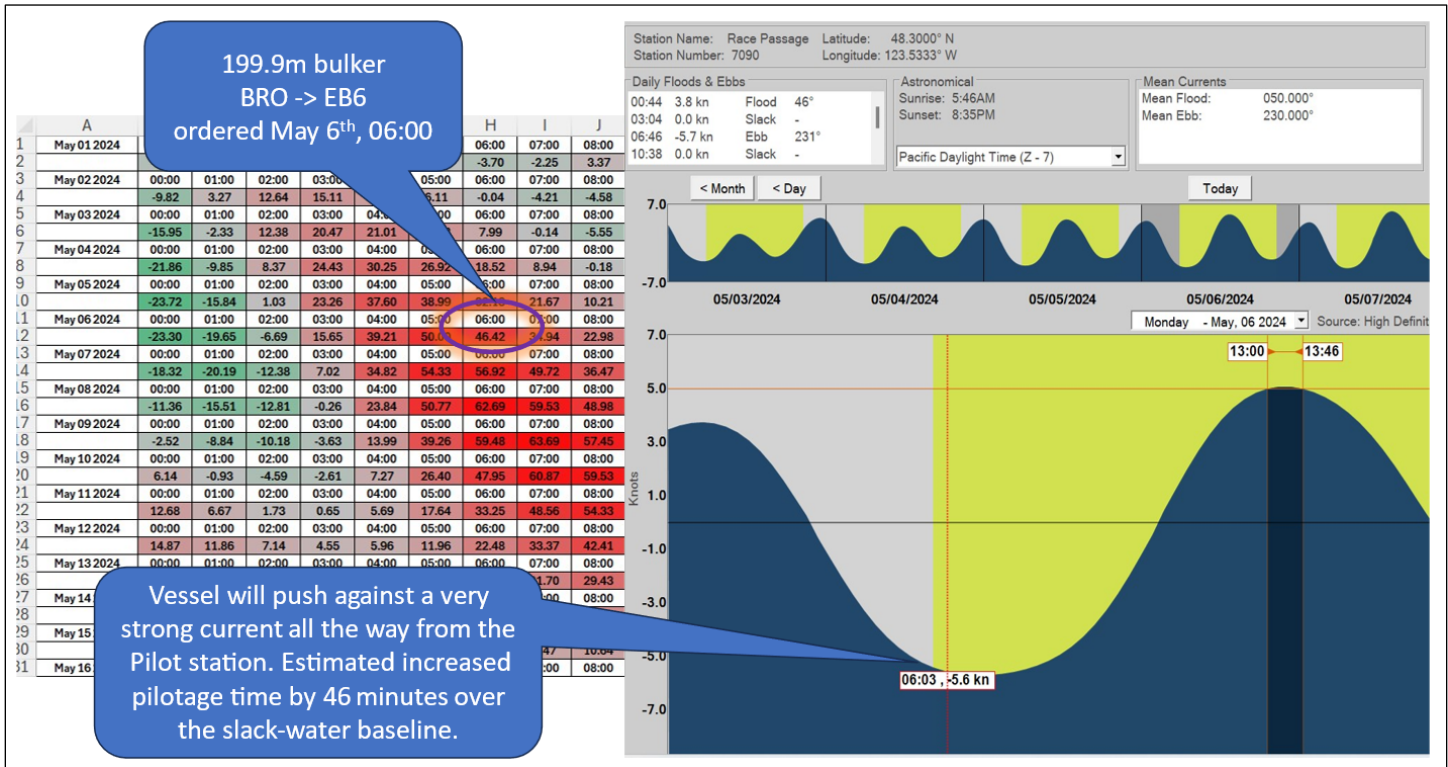


Figure 1

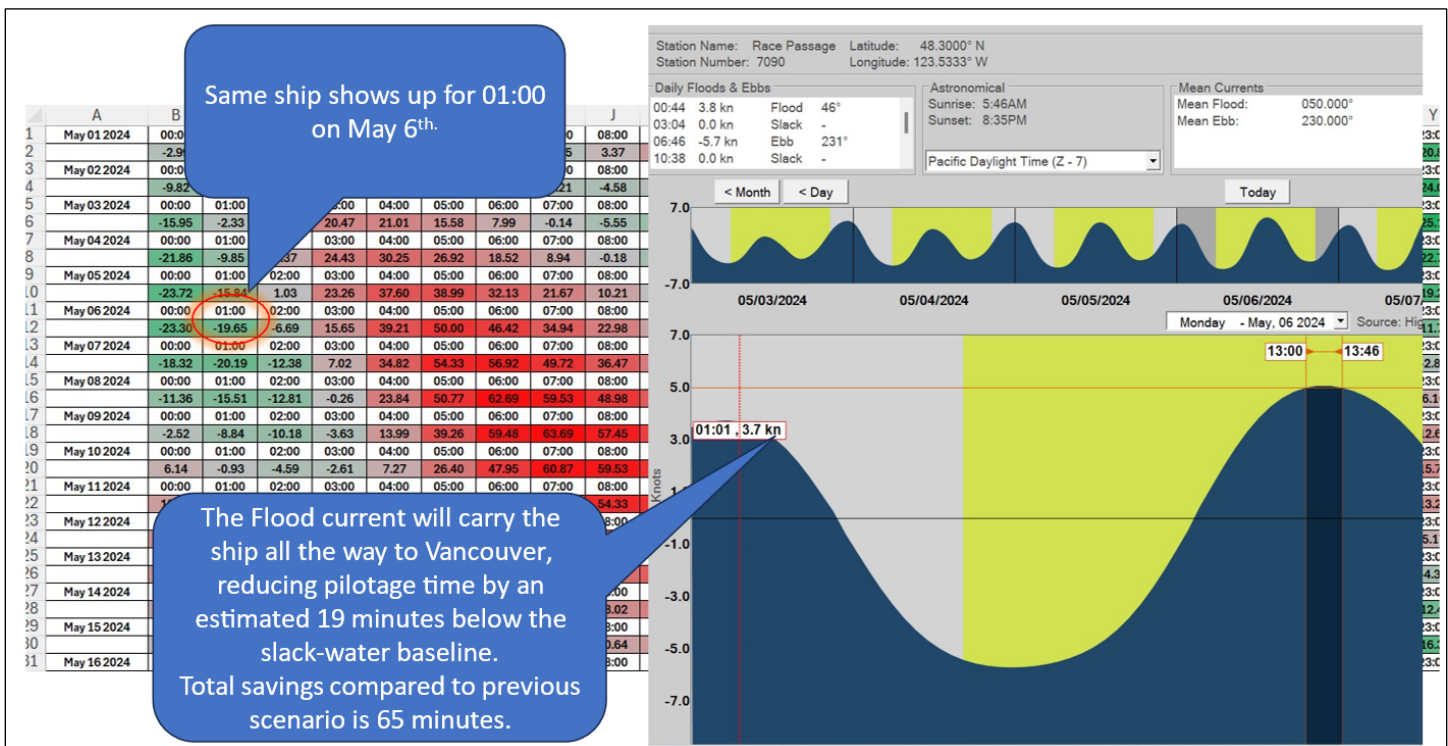


Figure 2

Tidal Lift Data for 11-Knots Ship Speed

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|--------|--------|-------|-------|-------|--------|--------|-------|-------|--------|
| Dec 23 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 16.73 | 15.70 | 10.94 | 3.78 | -4.41 | -11.41 | -16.34 | -18.46 | -15.89 | -8.81 | 1.75 | 11.45 | 18.55 | 21.02 | 20.53 | 17.15 | 13.39 | 10.70 | 8.56 | 5.69 | 2.29 | 0.31 | 1.19 | 4.25 |
| Dec 24 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 8.23 | 10.46 | 8.84 | 3.87 | -2.97 | -10.39 | -15.63 | -16.71 | -15.28 | -9.23 | 0.29 | 11.71 | 21.46 | 26.98 | 27.34 | 24.80 | 20.44 | 16.56 | 13.05 | 9.67 | 3.81 | -2.25 | -6.04 | -5.93 |
| Dec 25 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -3.18 | 1.41 | 4.50 | 3.50 | -2.11 | -8.35 | -14.39 | -16.67 | -15.34 | -10.47 | -1.07 | 11.06 | 23.37 | 31.56 | 35.47 | 33.95 | 29.91 | 24.82 | 19.40 | 14.21 | 7.02 | -1.63 | -9.32 | -13.17 |
| Dec 26 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -13.43 | -9.70 | -3.69 | 0.07 | -0.93 | -6.11 | -12.00 | -15.55 | -16.01 | -12.42 | -4.22 | 7.63 | 22.64 | 35.21 | 42.37 | 42.99 | 38.97 | 33.14 | 25.60 | 19.29 | 11.72 | 2.03 | -8.78 | -17.27 |
| Dec 27 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -19.83 | -19.12 | -13.52 | -6.99 | -2.35 | -3.64 | -7.78 | -12.88 | -15.23 | -13.76 | -7.75 | 2.73 | 17.66 | 32.91 | 46.52 | 51.07 | 47.56 | 42.39 | 33.70 | 25.50 | 16.83 | 6.01 | -5.68 | -16.66 |
| Dec 28 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -24.17 | -26.62 | -23.26 | -15.47 | -7.84 | -2.91 | -4.01 | -7.77 | -11.24 | -12.67 | -10.02 | -2.83 | 9.49 | 26.26 | 43.51 | 53.68 | 54.71 | 49.31 | 42.04 | 32.61 | 23.30 | 12.44 | -0.23 | -13.99 |
| Dec 29 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -25.21 | -30.93 | -30.53 | -24.65 | -15.22 | -6.10 | -1.79 | -2.41 | -5.95 | -8.60 | -9.74 | -6.75 | 1.37 | 15.03 | 34.59 | 50.74 | 58.42 | 54.70 | 48.38 | 39.59 | 31.53 | 21.05 | 6.67 | -7.81 |
| Dec 30 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -21.20 | -30.86 | -34.86 | -32.03 | -23.40 | -13.23 | -3.65 | 0.60 | -0.12 | -2.96 | -6.82 | -7.84 | -5.04 | 3.82 | 20.26 | 40.61 | 55.55 | 58.83 | 53.78 | 46.27 | 38.22 | 29.27 | 15.65 | 0.56 |
| Dec 31 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -14.30 | -27.71 | -34.64 | -36.58 | -30.59 | -19.96 | -8.52 | 0.78 | 3.21 | 1.64 | -1.91 | -6.37 | -7.79 | -4.76 | 5.85 | 24.15 | 44.44 | 56.61 | 58.19 | 52.46 | 45.70 | 37.53 | 26.38 | 11.09 |
| Jan 01 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -4.92 | -20.00 | -31.49 | -36.05 | -34.24 | -25.89 | -13.45 | -2.06 | 5.93 | 6.21 | 2.79 | -2.17 | -7.07 | -9.41 | -5.22 | 6.18 | 24.67 | 44.39 | 54.73 | 54.77 | 50.33 | 43.55 | 35.01 | 22.69 |
| Jan 02 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 6.17 | -10.90 | -24.82 | -34.21 | -35.21 | -31.01 | -19.34 | -6.74 | 4.84 | 9.31 | 7.70 | 2.67 | -3.88 | -8.73 | -10.81 | -5.47 | 6.88 | 24.92 | 43.79 | 53.67 | 52.94 | 48.24 | 40.97 | 30.13 |
| Jan 03 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 16.30 | -0.37 | -16.47 | -27.41 | -33.44 | -32.44 | -24.40 | -11.33 | 1.52 | 11.19 | 12.52 | 8.87 | 2.15 | -5.26 | -9.65 | -11.17 | -5.45 | 7.07 | 23.61 | 39.58 | 49.04 | 48.99 | 43.92 | 35.07 |
| Jan 04 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 22.77 | 8.87 | -7.28 | -20.41 | -29.48 | -32.08 | -27.45 | -16.36 | -0.78 | 11.92 | 17.17 | 15.18 | 9.73 | 2.36 | -4.15 | -9.62 | -9.65 | -4.82 | 5.11 | 19.39 | 33.75 | 42.00 | 42.19 | 36.64 |
| Jan 05 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 27.57 | 14.88 | -0.14 | -14.42 | -24.13 | -29.75 | -28.52 | -20.90 | -5.99 | 11.01 | 20.96 | 23.66 | 19.25 | 12.78 | 4.29 | -3.15 | -8.39 | -9.10 | -6.56 | 1.18 | 12.29 | 24.90 | 32.16 | 33.07 |
| Jan 06 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 27.76 | 18.17 | 6.47 | -7.00 | -17.85 | -25.64 | -27.78 | -23.90 | -11.60 | 6.69 | 22.81 | 30.80 | 29.88 | 24.42 | 16.67 | 7.75 | -0.56 | -5.92 | -9.49 | -10.28 | -5.57 | 2.78 | 12.58 | 20.29 |
| Jan 07 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 23.11 | 19.29 | 11.37 | 0.19 | -11.19 | -19.91 | -24.49 | -23.40 | -15.80 | 0.18 | 19.65 | 34.77 | 40.98 | 37.06 | 30.14 | 20.97 | 11.25 | 2.28 | -5.65 | -11.72 | -15.17 | | | |

Tidal Lift Data for 14.5-Knots Ship Speed

| Date | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | |
|-------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Jun 29 2024 | 00:00 | 12.69 | 19.35 | 20.18 | 17.08 | 11.39 | 5.24 | -0.52 | -4.39 | -7.17 | -7.61 | -5.06 | 0.41 | 7.50 | 13.79 | 16.77 | 14.63 | 9.25 | 2.32 | -5.79 | -12.28 | -15.67 | -16.24 | -11.31 | -2.04 |
| Jun 30 2024 | 00:00 | 9.86 | 19.54 | 24.99 | 24.84 | 20.67 | 14.43 | 7.73 | 1.55 | -4.70 | -9.27 | -11.79 | -10.45 | -5.93 | 0.28 | 7.35 | 11.41 | 11.03 | 6.53 | -0.35 | -6.51 | -11.31 | -13.48 | -11.43 | -5.23 |
| Jul 01 2024 | 00:00 | 4.53 | 16.67 | 25.80 | 30.17 | 29.00 | 23.61 | 16.74 | 9.15 | 1.79 | -5.98 | -12.75 | -16.54 | -16.83 | -12.79 | -5.62 | 2.25 | 7.89 | 8.43 | 4.51 | -0.95 | -5.46 | -9.60 | -9.67 | -7.29 |
| Jul 02 2024 | 00:00 | -0.41 | 10.78 | 22.17 | 31.38 | 34.76 | 31.46 | 26.05 | 18.72 | 9.83 | 1.58 | -8.19 | -15.73 | -21.04 | -21.94 | -18.40 | -10.59 | -0.98 | 5.38 | 7.03 | 4.09 | 0.09 | -3.01 | -5.33 | -6.10 |
| Jul 03 2024 | 00:00 | -2.77 | 4.98 | 16.09 | 26.51 | 35.09 | 36.09 | 32.38 | 26.34 | 18.66 | 9.98 | -0.08 | -11.48 | -20.52 | -26.42 | -26.03 | -21.93 | -12.61 | -2.21 | 4.52 | 6.84 | 5.39 | 2.23 | -0.69 | -2.14 |
| Jul 04 2024 | 00:00 | -2.10 | 0.82 | 8.46 | 18.98 | 29.83 | 35.76 | 35.52 | 31.86 | 25.88 | 18.14 | 8.95 | -3.18 | -14.58 | -23.28 | -27.51 | -27.37 | -22.44 | -12.23 | -1.89 | 4.82 | 7.62 | 6.91 | 4.17 | 1.88 |
| Jul 05 2024 | 00:00 | -0.17 | -0.11 | 3.43 | 10.79 | 20.53 | 30.04 | 34.54 | 33.82 | 29.78 | 25.10 | 17.59 | 7.80 | -5.09 | -15.87 | -25.74 | -28.68 | -27.07 | -21.30 | -10.76 | -0.48 | 5.83 | 8.73 | 8.09 | 6.11 |
| Jul 06 2024 | 00:00 | 2.75 | 0.38 | 0.46 | 4.29 | 11.84 | 20.63 | 28.72 | 31.16 | 30.68 | 28.39 | 24.06 | 16.17 | 5.69 | -7.04 | -17.89 | -26.95 | -27.62 | -25.91 | -17.84 | -7.70 | 2.16 | 7.64 | 9.38 | 8.09 |
| Jul 07 2024 | 00:00 | 5.62 | 1.90 | -0.43 | 0.20 | 4.59 | 11.99 | 19.87 | 25.76 | 28.97 | 28.82 | 27.01 | 22.05 | 13.79 | 2.50 | -9.09 | -19.82 | -25.77 | -25.51 | -21.95 | -13.62 | -3.62 | 4.61 | 8.52 | 9.00 |
| Jul 08 2024 | 00:00 | 6.73 | 3.08 | 0.01 | -1.10 | 0.06 | 4.86 | 11.83 | 18.65 | 24.30 | 26.87 | 26.91 | 25.05 | 19.46 | 10.17 | -0.44 | -11.73 | -19.32 | -22.80 | -22.26 | -16.79 | -8.64 | -0.06 | 6.13 | 8.73 |
| Jul 09 2024 | 00:00 | 7.74 | 4.31 | 0.70 | -1.80 | -1.57 | 0.46 | 5.31 | 11.71 | 17.73 | 22.97 | 24.80 | 24.33 | 21.32 | 14.85 | 5.33 | -4.41 | -13.08 | -18.39 | -20.10 | -17.27 | -11.32 | -3.11 | 4.28 | 8.10 |
| Jul 10 2024 | 00:00 | 8.51 | 6.19 | 2.41 | -0.72 | -2.09 | -1.41 | 1.42 | 5.87 | 11.65 | 17.16 | 21.44 | 22.46 | 20.89 | 16.18 | 8.85 | 0.48 | -7.91 | -13.97 | -16.96 | -16.24 | -12.09 | -5.07 | 2.20 | 7.59 |
| Jul 11 2024 | 00:00 | 9.66 | 8.95 | 5.99 | 2.60 | -0.44 | -1.03 | 0.02 | 2.47 | 6.22 | 11.10 | 15.66 | 18.35 | 18.67 | 15.54 | 9.90 | 2.48 | -4.76 | -10.98 | -14.93 | -15.10 | -12.21 | -6.26 | 0.63 | 6.76 |
| Jul 12 2024 | 00:00 | 11.01 | 10.84 | 8.54 | 5.40 | 3.34 | 2.04 | 0.83 | 1.32 | 2.89 | 5.60 | 8.72 | 12.27 | 14.49 | 13.85 | 9.94 | 3.76 | -3.10 | -9.47 | -13.23 | -14.77 | -12.51 | -7.14 | -0.12 | 6.75 |
| Jul 13 2024 | 00:00 | 11.69 | 14.38 | 13.23 | 10.10 | 7.15 | 4.77 | 3.39 | 2.84 | 1.62 | 1.92 | 3.29 | 5.35 | 7.56 | 9.52 | 8.41 | 4.25 | -1.46 | -7.95 | -11.96 | -14.45 | -13.19 | -8.57 | -1.39 | 6.38 |
| Jul 14 2024 | 00:00 | 12.71 | 17.33 | 17.61 | 15.67 | 12.71 | 9.27 | 6.80 | 4.69 | 2.78 | 0.16 | -1.18 | -1.14 | 0.78 | 3.42 | 4.31 | 3.43 | -0.20 | -5.47 | -9.78 | -13.51 | -13.57 | -9.82 | -3.61 | 4.90 |
| Jul 15 2024 | 00:00 | 12.71 | 18.56 | 22.04 | 21.41 | 18.97 | 15.31 | 11.34 | 7.90 | 4.56 | 0.40 | -3.51 | -5.93 | -5.78 | -4.41 | -1.47 | 1.05 | 0.29 | -3.11 | -6.99 | -10.70 | -12.69 | -10.65 | -5.91 | 1.94 |
| Jul 16 2024 | 00:00 | 11.13 | 18.74 | 24.21 | 24.99 | 24.34 | 21.13 | 16.86 | 12.75 | 7.74 | 2.96 | -2.90 | -8.21 | -11.35 | -11.28 | -9.12 | -4.59 | -1.56 | -1.64 | -3.98 | -7.29 | -9.76 | -10.07 | -7.62 | -1.63 |
| Jul 17 2024 | 00:00 | 6.80 | 16.50 | 23.93 | 28.39 | 29.31 | 26.77 | 22.31 | 17.81 | 12.62 | 6.21 | -1.02 | -8.19 | -13.45 | -16.24 | -15.57 | -11.48 | -6.35 | -2.47 | -1.78 | -3.57 | -6.48 | -8.46 | -7.59 | -4.27 |
| Jul 18 2024 | 00:00 | 2.06 | 10.79 | 20.01 | 28.18 | 31.43 | 30.62 | 27.85 | 22.85 | 17.90 | 11.63 | 3.54 | -4.53 | -12.51 | -18.56 | -20.73 | -18.34 | -12.27 | -5.56 | -1.64 | -0.26 | -2.39 | -4.44 | -5.93 | -5.41 |
| Jul 19 2024 | 00:00 | -2.29 | 4.23 | 13.11 | 23.41 | 30.72 | 34.02 | 32.24 | 27.84 | 23.59 | 17.69 | 9.87 | 0.87 | -8.94 | -17.90 | -22.12 | -22.65 | -18.69 | -10.76 | -3.70 | 0.77 | 1.47 | -0.16 | -3.06 | -4.76 |
| Jul 20 2024 | 00:00 | -4.86 | -2.10 | 4.52 | 14.16 | 25.23 | 32.48 | 35.26 | 32.94 | 28.49 | 23.91 | 16.96 | 7.64 | -2.95 | -14.13 | -20.99 | -24.91 | -22.65 | -16.42 | -8.38 | -1.17 | 3.08 | 2.89 | 0.51 | -2.63 |
| Jul 21 2024 | 00:00 | -5.26 | -6.03 | -3.53 | 3.96 | 15.54 | 26.51 | 34.68 | 36.10 | 33.80 | 30.05 | 24.12 | 15.18 | 4.74 | -7.47 | -16.80 | -23.57 | -25.09 | -20.46 | -12.82 | -3.70 | 3.12 | 5.17 | 3.91 | 0.73 |
| Jul 22 2024 | 00:00 | -3.13 | -7.10 | -8.06 | -4.81 | 2.98 | 15.97 | 28.32 | 35.59 | 36.68 | 34.55 | 30.02 | 22.68 | 12.90 | -0.37 | -11.27 | -20.87 | -24.58 | -23.23 | -16.90 | -8.03 | 2.12 | 6.53 | 7.77 | 4.81 |
| Jul 23 2024 | 00:00 | 0.15 | -4.50 | -9.16 | -9.68 | -5.86 | 2.69 | 16.04 | 28.76 | 35.65 | 36.63 | 34.09 | 28.20 | 19.17 | 7.54 | -4.35 | -15.64 | -21.94 | -24.61 | -20.43 | -11.76 | -0.83 | 7.05 | 10.68 | 9.93 |
| Jul 24 2024 | 00:00 | 5.31 | -0.75 | -6.00 | -10.07 | -10.35 | -6.30 | 2.35 | 14.91 | 26.26 | 34.48 | 35.16 | 31.47 | 24.00 | 14.70 | 1.62 | -9.40 | -18.37 | -22.41 | -21.46 | -15.21 | -5.49 | 5.69 | 13.08 | 14.38 |
| Jul 25 2024 | 00:00 | 11.01 | 6.45 | -1.26 | -6.64 | -10.94 | -10.87 | -6.59 | 1.46 | 12.93 | 23.77 | 30.21 | 31.01 | 27.00 | 18.77 | 8.42 | -3.07 | -13.36 | -19.70 | -21.13 | -17.67 | -9.40 | 1.80 | 12.98 | 18.14 |
| Jul 26 2024 | 00:00 | 17.73 | 13.20 | 6.29 | -0.80 | -6.13 | -10.13 | -10.66 | -7.46 | -0.72 | 8.67 | 18.17 | 24.47 | 25.00 | 20.49 | 12.46 | 2.78 | -7.44 | -15.42 | -19.08 | -18.30 | -12.80 | -1.64 | 10.57 | 19.20 |
| Jul 27 2024 | 00:00 | 22.77 | 20.36 | 14.98 | 7.80 | 1.29 | -5.07 | -9.07 | -10.78 | -9.13 | -4.35 | 3.63 | 11.73 | 17.57 | 18.08 | 14.03 | 6.92 | -1.92 | -9.96 | -15.18 | -16.45 | -14.19 | -5.79 | 5.68 | 17.28 |
| Jul 28 2024 | 00:00 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |

Tidal Lift Data for 14.5-Knots Ship Speed

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|--------|
| Dec 23 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 10.62 | 11.28 | 9.35 | 5.06 | -0.59 | -6.06 | -9.77 | -11.90 | -11.54 | -7.68 | -2.06 | 4.62 | 10.90 | 14.05 | 14.05 | 12.02 | 9.64 | 7.50 | 5.60 | 3.40 | 0.80 | -0.84 | -1.23 | 0.77 |
| Dec 24 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 4.14 | 6.08 | 6.98 | 4.68 | 0.36 | -4.64 | -9.16 | -10.74 | -10.68 | -7.80 | -2.58 | 4.47 | 11.37 | 16.52 | 17.54 | 17.21 | 14.82 | 11.95 | 9.50 | 6.22 | 3.00 | -1.58 | -4.68 | -5.01 |
| Dec 25 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -3.50 | -0.17 | 2.97 | 2.97 | 0.62 | -3.47 | -8.12 | -10.15 | -10.53 | -8.54 | -3.82 | 3.61 | 11.25 | 18.22 | 22.49 | 22.83 | 20.52 | 17.22 | 13.81 | 10.12 | 5.26 | -0.43 | -5.89 | -8.59 |
| Dec 26 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -9.69 | -7.34 | -3.50 | 0.10 | 1.02 | -1.73 | -5.63 | -8.94 | -10.32 | -9.14 | -5.58 | 1.19 | 10.06 | 18.50 | 24.93 | 27.54 | 26.65 | 22.74 | 18.62 | 14.06 | 9.36 | 2.83 | -4.46 | -10.25 |
| Dec 27 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -13.70 | -13.44 | -10.56 | -5.16 | -1.45 | -0.57 | -3.09 | -6.53 | -9.21 | -9.13 | -7.15 | -1.89 | 6.37 | 16.53 | 25.20 | 30.48 | 30.90 | 28.47 | 23.33 | 18.56 | 12.93 | 5.73 | -2.30 | -10.26 |
| Dec 28 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -15.82 | -18.21 | -16.62 | -11.57 | -5.59 | -1.91 | -1.84 | -3.57 | -6.26 | -8.03 | -7.62 | -4.54 | 1.84 | 11.47 | 22.55 | 30.77 | 34.77 | 32.97 | 28.68 | 22.98 | 17.51 | 10.50 | 2.43 | -7.04 |
| Dec 29 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -14.46 | -19.76 | -21.62 | -18.07 | -11.32 | -4.81 | -1.48 | -0.41 | -2.53 | -4.64 | -6.29 | -5.79 | -2.31 | 4.99 | 15.95 | 26.58 | 34.84 | 36.09 | 33.00 | 28.14 | 22.22 | 16.43 | 7.70 | -2.97 |
| Dec 30 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -12.31 | -19.72 | -23.47 | -22.32 | -17.72 | -10.35 | -3.68 | 0.76 | 1.03 | -0.78 | -3.28 | -5.21 | -4.89 | -1.06 | 7.09 | 18.87 | 30.36 | 36.24 | 36.14 | 32.49 | 26.94 | 21.26 | 14.37 | 3.26 |
| Dec 31 2024 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | -6.78 | -15.53 | -22.44 | -24.87 | -21.63 | -15.39 | -7.83 | -1.14 | 2.54 | 2.42 | 0.15 | -3.06 | -5.33 | -5.02 | -0.50 | 8.78 | 22.00 | 31.54 | 36.44 | 35.82 | 32.02 | 26.99 | 19.98 | 10.54 |
| Jan 01 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 0.15 | -10.39 | -19.62 | -23.91 | -23.82 | -19.48 | -11.18 | -2.62 | 3.06 | 4.54 | 3.56 | 0.27 | -3.72 | -6.54 | -5.95 | -0.72 | 9.50 | 22.07 | 30.71 | 35.43 | 34.71 | 31.57 | 26.10 | 17.83 |
| Jan 02 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 7.44 | -3.49 | -14.84 | -21.20 | -24.15 | -21.56 | -15.53 | -7.46 | 0.48 | 5.49 | 6.78 | 3.83 | -0.61 | -5.15 | -7.60 | -6.24 | -0.57 | 9.79 | 20.95 | 30.39 | 34.61 | 33.75 | 30.19 | 23.72 |
| Jan 03 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 14.46 | 3.05 | -8.35 | -16.87 | -21.74 | -23.10 | -18.77 | -10.42 | -1.04 | 5.80 | 8.82 | 8.10 | 3.84 | -1.59 | -5.39 | -8.01 | -6.35 | -0.58 | 8.84 | 19.77 | 28.90 | 31.50 | 30.95 | 26.46 |
| Jan 04 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 19.37 | 9.04 | -1.65 | -11.38 | -19.22 | -21.42 | -19.98 | -13.67 | -5.10 | 4.73 | 10.50 | 12.05 | 9.10 | 4.22 | -1.45 | -5.11 | -7.70 | -6.19 | -1.15 | 7.11 | 16.80 | 24.21 | 27.90 | 26.70 |
| Jan 05 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 21.83 | 13.78 | 3.48 | -5.90 | -14.50 | -19.36 | -20.18 | -15.98 | -8.01 | 1.76 | 11.47 | 15.81 | 15.41 | 11.03 | 5.47 | -0.21 | -3.99 | -6.31 | -6.51 | -2.83 | 3.95 | 11.69 | 18.06 | 22.16 |
| Jan 06 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 21.00 | 15.99 | 8.26 | -1.15 | -9.02 | -15.49 | -18.58 | -17.01 | -11.10 | -1.10 | 10.39 | 18.09 | 21.51 | 18.36 | 14.01 | 7.87 | 2.40 | -3.27 | -6.12 | -7.58 | -6.15 | -1.62 | 4.81 | 11.07 |
| Jan 07 2025 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
| | 15.39 | 15.25 | 10.50 | 4.23 | -3.71 | -10.84 | -15.43 | -16.89 | -13.12 | -4.30 | 6.55 | 17.77 | 24.59 | 25.78 | 22.71 | 16.91 | 10.31 | 3.67 | -2.37 | -6.91 | -10.19 | | | |