



Annual Performance Report 2021-2022



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1. Introduction

The Council, as the Statutory Harbour Authority, presents its Annual Performance Report for 2021/22. This report contributes towards compliance with the Port Marine Safety Code, which requires the Harbour Authority to report items to the Duty Holder and port users. More generally, the report gives an insight into local maritime activity to all those with an interest in the importance of harbours' activity to the wellbeing and economic vibrancy of Orkney both at sea and ashore.

The statistical information within this report relates to the period 1 April 2021 to 31 March 2022. The report covers operational activity, economic and financial activity, safety and pollution incidents, infrastructure and staffing matters, governance, statutory provision of Aids to Navigation, Pilotage and the Marine Environmental Unit activity. The report also provides a commentary on business developments as well as a forward look to opportunities and risks.

2. Harbour Authority Revenue Account – Income and Expenditure

In terms of the Orkney County Council Act 1974, the accounts for the Harbour operation must be kept separate from the General Fund accounts of Orkney Islands Council. The Act also allows for separate accounts for each area of business; hence, the Harbour Authority operates accounts for the Scapa Flow Oil Port operations (Flotta tanker operations, Ship to Ship (STS) transfers and offshore platform moorings) and for all other operations under Miscellaneous Piers and Harbours (including all ferry, cruise and isles operations). It is important to note that these accounts *receive no public monies* and are dependent upon Harbour Charges which, as referred to in the Harbours Act 1964, may be collected for the sole purpose of '*maintaining, improving or managing*' the Harbour. Any surpluses from the Scapa Flow Oil Port Account are assigned to the Council's Strategic Reserve Fund, whilst surpluses from Miscellaneous Piers and Harbours are assigned to the Miscellaneous Piers Fund and the Property Maintenance Fund. These funds can be used for future projects, to offset any overspend in future years and to enable the funding of the significant burden of repairs, maintenance and improvement of the 29 piers and harbours. Any surpluses take account of loan charges to repay the debt incurred when developing piers and making vessel improvements and have the effect of decreasing any surpluses generated.

The table below provides information on the Scapa Flow Oil Port and Miscellaneous Piers and Harbours accounts for the last 3 financial years.

| | 2019-20 | | | 2020-21 | | | 2021-22 | | |
|---------------------|-----------|-----------|------------------------------------|-----------|-----------|------------------------------------|-----------|-----------|------------------------------------|
| | £k Exp | £k Inc | £k Net surplus/ (deficit) | £k Exp | £k Inc | £k Net surplus/ (deficit) | £k Exp | £k Inc | £k Net surplus/ (deficit) |
| Scapa Flow Oil Port | 5,623 | 8,043 | 2,420 | 6,083 | 8,804 | 2,721 | 6,976 | 8,014 | 1,038 |
| M, P & H | 6,412 | 7,791 | 1,379 | 5,999 | 4,944 | (1,055) | 7,621 | 7,597 | (24) |
| Totals | 12,035 | 15,834 | 3,799 | 14,118 | 13,693 | 1,666 | 14,597 | 15,611 | 1,014 |

(Exp = Expenditure; Inc = Income; M, P & H = (Miscellaneous Piers and Harbours)).

The overall position for the Miscellaneous Piers and Harbours as detailed above shows an overall increased level of income of £2.653 million compared to financial year 2020/21.

This was in part due to the return of some cruise liners once the restrictions relating to COVID-19 were relaxed.

Conversely Scapa Flow Oil Port showed a downturn from the previous period, although continuing to receive tankers both at Flotta Oil Terminal and Scapa Flow, there was a reduction in both numbers.

3. Tanker Operations within Scapa Flow Oil Port

The following detail relates to the number of tankers associated with cargo uplift from the Flotta Oil Terminal and Ship-to-Ship (STS) transfer operations of crude oil in Scapa Flow during the reporting period. It should be noted that charges for Flotta tanker activity are based on the gross tonnage of the vessel, whereas charges for STS activity are based on the tonnage of cargo product transferred.

Flotta Terminal operations are the priority activity of Scapa Flow and it is this which drives the responsiveness of pilotage and towage services. For the reporting period, there were no recorded operational delays for Flotta Terminal related activity directly from the Harbour Authority failing to meet response times or service availability. The Harbour Authority is proud of its 100% record which is a key factor in ensuring customer satisfaction for the Flotta Terminal.

Tanker movements to the Flotta Oil Terminal have decreased by three movements from the previous reporting period, resulting in 26 movements which was below the budgeted forecast supplied by the terminal operators. Previously the Flotta Terminal had amended its operational forecasts to reflect projected activity with an expected 34 tankers call in 2021 and 31 in 2022. Whereas the decline in tankers calling at Flotta has reduced as predicted the actual numbers for each financial year are between 10 to 20% lower than the figures. The prediction is then for a continued steady reduction in the number of tankers that will be calling at the terminal. There is

reported some opportunity for new third party oil exports which will see a possible increase in tanker exports from 2024 but the pattern of decline will continue towards the 2030's.

STS transfer operations of crude oil also decreased on the previous financial period with a 28% decrease resulting in 58 STS operations involving 122 tankers compared to 164 previously, numbers that are more similar to the 2019/20 financial period. There was a return of LPG STS, supporting Ineos at Grangemouth which saw 19 operations, meaning that a total of 77 STS transfers were done in the period, although the LPG transfers were in smaller amounts of cargo transferred.

Cargo volumes transferred have decreased by 1,478,838 tonnes to 4,330,199 tonnes. STS activity has seen a lot of fluctuation in the period from the start of the pandemic through to the Russian invasion of Ukraine and the effect of these on the world commodity and energy markets. It is difficult to predict the levels going forward although oil majors and STS facilitators recognise the excellence of service delivery, experience and knowledge of local marine services staff and the ease with which operations and flexibility are dealt with.

| | 2019-20 | 2020-21 | 2021-22 |
|---------------------------------------|-----------|-----------|------------|
| Pipeline Product | | | |
| Total number of Crude Oil Tankers | 31 | 28 | 26 |
| Total Number of LPG Tankers | 0 | 0 | 0 |
| Total GT of tankers crude and Propane | 1,933,955 | 1,782,524 | 1,584,321 |
| Total Crude Oil Loaded (Tonnes) | 2,673,695 | 2,524,955 | 2,2065,651 |
| Total LPG Loaded (Tonnes) | 0 | 0 | 0 |
| Ship to Ship Oil Transfers | | | |
| Total number of Import tankers | 63 | 83 | 64 |
| Total Number of Export Tankers | 61 | 81 | 58 |
| Total Crude Oil Export (Tonnes) | 4,654,153 | 5,809,037 | 4,330,199 |
| Ship to Ship LNG Transfers | | | |
| Total Number of Import Tankers | 0 | 0 | 0 |
| Total Number of Export Tankers | 0 | 0 | 0 |
| Total LNG Export (Tonnes) | 0 | 0 | 0 |
| Ship to Ship LPG Transfers | | | |
| Total number of Import tankers | 0 | 0 | 3 |
| Total Number of Export Tanker | 0 | 0 | 19 |
| Total LPG EXPORT (Tonnes) | 0 | 0 | 70,324 |

(LPG = Liquefied Petroleum Gas; LNG = Liquefied Natural Gas; GT = Gross Tonnage)

4. Reported Pollution Incident Summary

Pollution prevention and pollution response is a significant responsibility of the Harbour Authority and hence it is encouraging that there was one pollution incident recorded during this reporting period, as detailed in the table below. There were no incidents associated with the oil port.

| Date | Location | Information | Oil Type | Quantity |
|------------|-----------|---|---------------|-----------|
| 07/05/2021 | Stromness | Contact from Stromness Piermaster saying that a hydraulic hose had burst on the Pier Teletruk spilling hydraulic oil onto the main road. Cones were placed around the vehicle and Harbours staff proceeded to place sorbent over the spill to soak up and prevent the oil entering the drain. Staff arrived with additional sorbents and OSII bioremediation liquid, and after having had the truck removed and as much oil as possible removed by the sorbents treated the area with OSII this visibly broke up the oil. This was left to work with the cones around the area. OIC Roads deployed a team to deploy the cones and signs. The OSII was left to work on the oil with council cones around the area. The area was rechecked and more treatment applied before removing the cones on 11 May 2022. | Hydraulic Oil | 55 litres |

Oil Pollution Response Contingency Returns (OPRC)

The annual Oil Pollution Response Contingency (OPRC) returns were submitted to the Maritime and Coastguard Agency (MCA) Salvage and Pollution Officer for Scotland as required by regulation. The returns detail the incident record keeping, reporting, training and exercises conducted and completed. The returns all met with MCA approval.

Oil Spill Training and Exercises

During this reporting period 6 pollution exercises were held. These were conducted in various locations, and all were successfully completed. MCA Level 2 oil pollution response training was also carried out for Harbours and Roads staff and was completed satisfactorily.

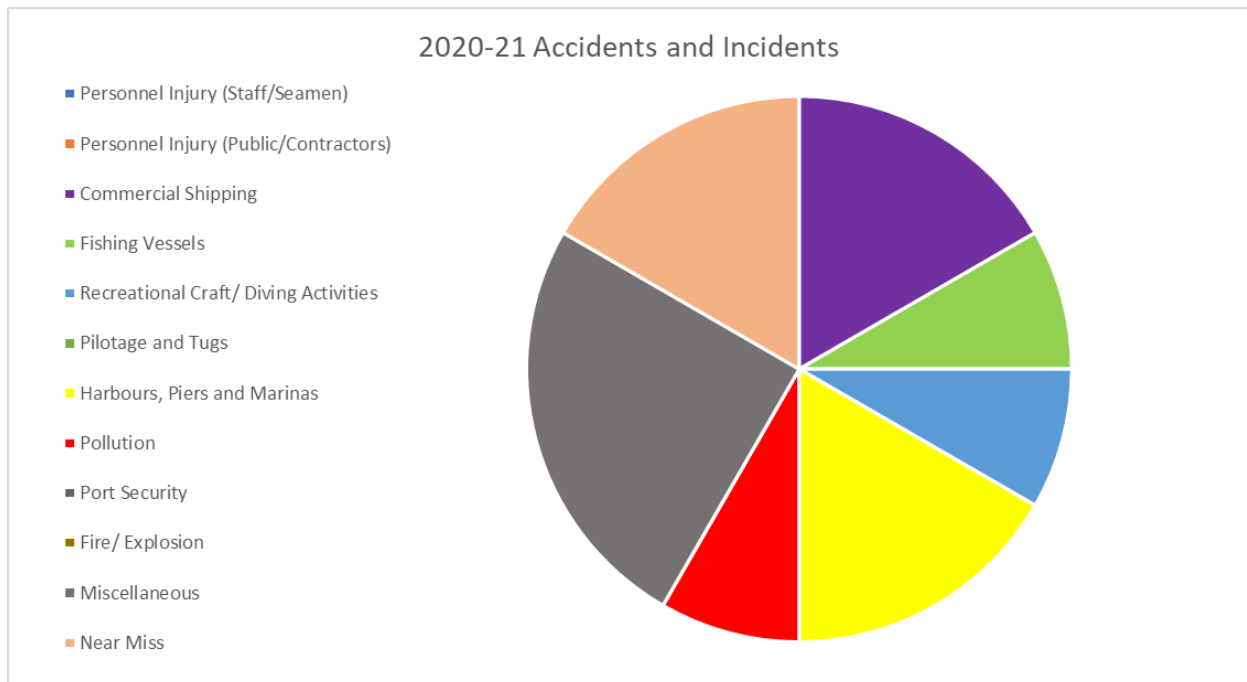
5. Port Waste Management

Port Waste Management is now wholly conducted by the Waste Officer within the Harbour structure. Record keeping and returns are of a high standard and regularly inspected by an Inspector from the Department for Environment, Food and Rural Affairs (DEFRA).

6. Accidents and Incidents

Safe operations are the fundamental responsibility of the Harbour Authority, and the monitoring and investigation of incidents are crucial parts of a safety culture.

The following pie chart shows the range and number of reported accidents and incidents within the harbour area. The current trend, when compared to the previous reporting period, shows that the figures for accidents and incidents have substantially decreased which is more than likely due in part to the reduction of interaction aside from essential work during the pandemic at the start of the reporting period. All incidents, irrespective of their gravity, are now being reported and acted upon.



| | | 2019-20 | 2020-21 | 2021-22 | Trend |
|---|---------------------------------------|---------|---------|---------|----------|
| 1 | Personnel Injury (Staff/Seamen) | 1 | 0 | 0 | Same |
| 2 | Personnel Injury (Public/Contractors) | 0 | 0 | 0 | Same |
| 3 | Commercial Shipping | 6 | 4 | 2 | Decrease |
| 4 | Fishing Vessels | 2 | 2 | 1 | Decrease |

| | | 2019-20 | 2020-21 | 2021-22 | Trend |
|----|---------------------------------------|---------|---------|---------|----------|
| 5 | Recreational Craft/ Diving Activities | 1 | 1 | 1 | Same |
| 6 | Pilotage and Tugs | 0 | 0 | 0 | Same |
| 7 | Harbours, Piers and Marinas | 6 | 4 | 2 | Decrease |
| 8 | Pollution | 4 | 3 | 1 | Decrease |
| 9 | Port Security | 1 | 0 | 0 | Same |
| 10 | Fire/ Explosion | 1 | 0 | 0 | Same |
| 11 | Miscellaneous | 4 | 1 | 3 | Increase |
| 12 | Near Miss | 1 | 1 | 2 | Increase |
| | Totals | 27 | 16 | 12 | Decrease |

Analysis of Data

No incidents were required to be reported to the Marine Accident Investigation Branch (MAIB) in the reporting period. Towage Services and Orkney Ferries Limited operate their own Safety Management System for ship associated incidents.

Incidents involving commercial/recreational dive vessels were investigated separately by the vessels involved, the Health and Safety Executive and Police Scotland as appropriate. It should be noted that none of the diving incidents involved the Harbour Authority directly.

Port Skills and Safety

Figures are now being returned to Ports Skills and Safety (PSS) at an increased frequency for the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) and Sea Accidents. This is to increase the awareness of trends and PSS continues to work hand in hand with the Health and Safety Executive and the MAIB.

Staff Accidents Reported

There was no reported injury to staff during this reporting period.

7. Port Marine Safety Code (PMSC) and Governance

Port Marine Safety Code

The Safety Management System (SMS) which forms part of the Port Marine Safety Code (PMSC) is continuously reviewed and the controlled version is held by the Port Marine Safety and Counter Pollution Manager and uncontrolled versions freely available on the Internet.

Designated Person (DP)

The Harbour Authority requires a Designated Person (DP) to provide independent assurance that the port is operating in accordance with the Port Marine Safety Code.

The DP has been sent monthly updates on reports and incidents which, in turn, have been discussed with the Head of Marine Services, Transportation and Harbour Master in a monthly telephone call prior to the writing of a monthly DP report.

The DP contract is currently held by Marico Marine, and they advise the Harbour Authority on ongoing compliance with the Port Marine Safety Code as well as the provision of training for members of the Harbour Authority Sub-committee.

Governance

The Harbour Authority Sub-committee, comprising seven Members of the Council, is the Duty Holder for the Harbour Authority. The Sub-committee is subject to change at each election and at the mid-term review of committee membership. This reporting period is the final one for this Council and it is expected that a number of members will stand down at the forthcoming election.

A report was given to the Policy & Resources committee on the 23rd November regarding the role of duty holders and the arrangements to be put in place during periods, such as elections, when elected members are unable to perform that duty. It was agreed that there would be additional members from the Council's Senior Management Team inducted and trained as Duty Holders.

All Members of the Sub-committee and extra members have received a training programme to enable them to undertake their Duty Holder responsibilities.

8. Pilotage

Acts of Pilotage

The Council, as the Competent Harbour Authority for pilotage, met its target to achieve all acts of pilotage within the required timescale of 2 hours' notice, 24 hours a day, 365 days a year. It also complied with its requirement to examine all applicants for Pilotage Exemption Certificates (PEC) for bona fide officers on those ships regularly calling at Orkney ports.

During the reporting period, the new starter pilot recruited in 2020-21 progressed to become a Class 1 pilot in time to cover the expected retirement of a senior pilot. The Orkney pilots are particularly broadly skilled with few ports anywhere covering the range of pilotage activities, from STS operations to the largest cruise ships in the world.

One PEC and 36 renewals were issued during the reporting period, resulting in a total of 37 PEC holders between Serco Northlink and Pentland Ferries.

Summary of Pilotage Acts 2021/22

| | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | At each Port |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| Crude Oil Tankers | 2 | 5 | 5 | 6 | 9 | 7 | 8 | 4 | 3 | 4 | 4 | 5 | 62 |
| Flotta Pier | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 5 |
| Hatston - Cruise Liner | 0 | 0 | 0 | 2 | 22 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 42 |
| Hatston Terminal | 6 | 2 | 6 | 4 | 6 | 4 | 6 | 3 | 1 | 3 | 10 | 5 | 56 |
| Hoy Sound - Cruise Liner | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kirkwall Cruise Liner | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 8 |
| Kirkwall Harbour | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| LPG Ship to Ship | 0 | 9 | 24 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 |
| Lyness Pier | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Scapa Flow Anchor | 8 | 6 | 16 | 0 | 0 | 14 | 3 | 15 | 5 | 0 | 7 | 26 | 100 |
| Scapa Flow Bunkers | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Scapa Pier | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 0 | 7 |
| Ship to Ship | 26 | 26 | 25 | 28 | 18 | 27 | 27 | 19 | 29 | 15 | 22 | 26 | 288 |
| St Margaret's Hope Pier | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Stromness - Cruise Liner | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Stromness Harbour | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 7 |
| Total Acts | 44 | 57 | 77 | 54 | 57 | 78 | 44 | 45 | 40 | 26 | 43 | 65 | 630 |

No. of Acts

(LPG = Liquefied Petroleum Gas; LNG = Liquefied Natural Gas)

Acts of Pilotage 3 Year Comparative Overview

| | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Jan | Feb | Mar | Totals |
|-----------|-------|-----|------|------|-----|------|-----|-----|-----|-----|-----|-----|--------|
| 2019-2020 | 53 | 96 | 105 | 109 | 112 | 74 | 63 | 56 | 56 | 55 | 64 | 50 | 893 |
| 2020-2021 | 53 | 37 | 40 | 40 | 64 | 51 | 52 | 92 | 51 | 47 | 43 | 63 | 633 |
| 2021-2022 | 44 | 57 | 77 | 54 | 57 | 78 | 44 | 45 | 40 | 26 | 43 | 65 | 630 |

Pilotage Dues 3 Year Comparative Overview

| | 2019-2020 | 2020-2021 | 2021-2022 |
|----------------------------------|--------------------|--------------------|--------------------|
| Scapa Flow Oil Port | £ 1,097,559 | £ 1,321,579 | £ 1,130,411 |
| Miscellaneous Piers and Harbours | £ 524,586 | £ 75,008 | £ 232,353 |
| TOTAL | £ 1,622,145 | £ 1,396,587 | £ 1,362,764 |

The tables above demonstrate that the loss of the cruise traffic in the previous reporting period removed a large percentage of the pilotage income from the MPH account. The small recovery in cruise traffic in 2021 is reflected in the figures reported.

9. Towage

The Harbour Authority had welcomed 2 new tugs in the previous reporting period, Thor and Odin of Scapa, and these 2 vessels joined the existing 3 tugs to cover operations in Scapa Flow. With the new tugs fully immersed in the operations plans to sell the Einar and Erlend moved forward and Einar was eventually sold to new owners in the Baltic. As advised in the financial section having the 5 tugs working together meant an increase in costs for the towage budget.

In addition to the above it was agreed that the Harbour Authority could recruit a further crew to cover operations and provide extra flexibility for the towage team across the fleet.

This was needed as a result, largely, of the continuing work in STS which is very towage intensive, as well as tug work in support of semi-submersible rigs and other vessels in Scapa Flow. Scapa Flow is now recognised as the premier, safe location for these operations in Northern Europe and in the continued operations shows the high regard that our operations are held within the industry. Collectively, this scope of work has underpinned the broad range of skills deployable by Orkney towage crews and pilots and has enabled a busy year to be undertaken with no safety incidents. Towage service was maintained throughout the recovery from the pandemic with mitigations in place to ensure that tug crews were not affected by isolation rules.

Although not part of the Orkney Towage effort, the MCA Emergency Towing Vessel (ETV) continues to use Kirkwall as its main base although it still spends much longer at sea on risk-based tasking. There have been several taskings for the ETV, some of which have been supported by the Orkney Harbour Authority tugs and the ETV requirement is under constant review.

10. Aids to Navigation (AtoN)

As a Harbour Authority, Orkney Islands Council is the Local Lighthouse Authority and as such must undertake statutory duties associated with those responsibilities. A report into the availability of the Harbour Authority's various Aids to Navigation (AtoN) is therefore prescribed by regulation. Performance is monitored and periodically audited by the National Lighthouse Authority, namely the Northern Lighthouse Board (NLB).

As prescribed by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and contained within the Port Marine Safety Code, the amount of time the Aids to Navigation are required to be available is dictated by their category. The category is a product of the Aids to Navigation importance in reducing risk to the mariner.

The required standards are as follows:

- Category 1: 99.8%.
- Category 2: 99.0%.
- Category 3: 97.0%.

In the table below, the following applies:

- OOS means Out of Service.
- MTTR means Mean Time to Repair.
- MTBF means Mean Time Between Failures.

AtoN Availability by Category

| IALA Category | No. of Aids | Max Hours | No. of Failures | OOS Hours | MTTR | MTBF | Availability | Target Availability |
|------------------------|-------------|-----------|-----------------|-----------|-------|-----------|--------------|---------------------|
| Orkney Islands Council | | | | | | | | |
| CAT 1 | 11 | 96,096 | 1 | 66:15 | 66:15 | 96029:45 | 99.93 | 99.80% |
| CAT 2 | 54 | 471,744 | 3 | 106:00 | 35:20 | 157212:40 | 99.98% | 99.00% |
| CAT 3 | 0 | 0 | 0 | 0:00 | 0:00 | 0:00 | 0.00% | 97.00% |
| No Category | 0 | 0 | 0 | 0:00 | 0:00 | 0:00 | 0.00% | 0.00%. |

AtoN Availability by Individual AtoN (Lights, Markers and Buoys)

| ALLFS No. | Aton Name | IALA Category | No. of Failures | OOS Hours | MTTR | MTBF | Availability | Target Availability |
|-------------------------------|-------------------------------------|---------------|-----------------|-----------|-------|---------|--------------|---------------------|
| Orkney Islands Council | | | | | | | | |
| A3613.2 | Lyness Wharf, South End | CAT 2 | 1 | 19:33 | 19:33 | 8716:27 | 99.78% | 99.00% |
| A3687.7 | Kirkwall, Hatston Pier, East | CAT2 | 1 | 10:27 | 10:27 | 8725:33 | 99.88% | 99.00% |
| A3738 | Papa Westray, Moclett Bay, Pierhead | CAT 1 | 1 | 66:15 | 66:15 | 8669:45 | 99.24% | 99.80% |
| | Stromness Harbour Can Buoy | CAT 2 | 1 | 76:00 | 76:00 | 8660:00 | 99.13% | 99.00% |
| At or above target | | | | | | | | |
| Within 10% of the target | | | | | | | | |
| More than 10% from the target | | | | | | | | |

Any Aids to Navigation failure is in the main related to wear and tear of equipment. The out of service hours can be compounded due to either a greater problem than

was initially reported, availability of spare parts and/or time and opportunity through adverse weather to access the Aids to Navigation to effect repairs.

Several Aids to Navigation are serviced through arrangements with the NLB and this arrangement continues to work well.

All failures of the Aids to Navigation included in this report were reviewed by the NLB and all highlighted anomalies were addressed and monitored by the Board. The information provided in this report has been reviewed and accepted by the NLB.

11. Cruise Ships

The COVID-19 pandemic was still a major factor on the cruise industry at the start of 2021 with a delay to the restart of the sector. Plans were put in place to develop and complete a full Covid Plan for the restart of cruise in Orkney and this was done by the time the first caller arrived at the end of July.

Cruise Ship Comparative Data

| | 2019/20 | 2020/21 | 2021-22 |
|----------------|------------|---------|-------------|
| Port Calls | 156 | 0 | 25 |
| Gross Tonnage | 5,256,422 | 0 | 2,055,437 |
| Passengers | 131,506 | £0 | 19,347 |
| Port Dues | £1,574,282 | £0 | £604,962.71 |
| Passenger Dues | £217,845 | £0 | £33,550.25 |
| Pilotage | £205,783 | £0 | £155,916.25 |
| Fresh Water | £37,235 | £0 | £2,552.55 |
| Revenues | £2,269,685 | £0 | £805,773.51 |

The cautious restart for cruise saw a much reduced interaction between vessel and destination with strict guidelines in place to separate passengers and crew from those on the shore. As the season progressed these rules were relaxed in line with government guidance and passengers were able to enjoy locations more. Orkney Harbour Authority took the decision to reduce the discretionary services that are usually supplied to cruise callers to protect staff and service suppliers.

12. Vessel Traffic Services

The Vessel Traffic Services (VTS) system of radar and CCTV sites has operated reliably during the reporting period and the following upgrades were introduced:

- AIS receiving station in North Ronaldsay established.
- Upgraded some of the CCTV to HD type cameras.
- Started to establish an IT comms link at Coplands Dock for CCTV and a new weather station.
- Planning for a VTS disaster recovery building.

VTS has therefore been fully operational, with qualified staff all to the approved standards as required by the MCA during the period.

13. Marine Environmental Unit

In 2021 targeted monitoring of selected sandy shores was carried out. During the months of March and April four sandy shores were visited and samples for benthic macroinvertebrate and sediment particle size were collected. Data analysis for these samples was not completed at the time of writing. Eleven rocky shore sites were visited, and samples of periwinkles and kelp were collected for radiological particle monitoring. The samples were sent to the Geosciences Advisory Unit, University of Southampton, for processing and analysis for gamma and alpha emitting radionuclides. The conclusions of the analytical report indicated low levels of radioactivity in marine biota around Orkney and showed that the levels of radioactive particles had either remained the same or decreased since the last survey in 2018.

Marine non-native species monitoring surveys were conducted during the months of May to October. The monitoring included:

- Intertidal surveys.
- Benthic soft sediment sampling.
- Scrape sample collections from navigation buoys and Visiting Yacht Mooring buoys.
- Phytoplankton and zooplankton sample collection using plankton nets.
- Visits to all three of Orkney's Marinas.
- Salinity samples.
- Sea water temperature logging.

All samples were sent to APEM Ltd taxonomic laboratory for identification. Fourteen marine non-native species were identified in 2021, two of the species recorded, orange cloak sea squirt *Botrylloides violaceus* and rough sea squirt *Styela canopus*, were recorded for the first time by the Orkney Islands Council Harbour Authority non-native species monitoring programme. Orange cloak sea squirt *B. violaceus* has been recorded in Orkney previously in 2012 at Kirkwall Marina. The record of *Styela canopus* in 2021 is the first confirmed record of this species in Orkney. Twelve of the non-native species had been recorded in Orkney previously. In August 2021 a scientific publication, "A new range-extending record of the invasive sea squirt *Styela clava* in the north of Scotland", authored by personnel from the Marine Environmental Unit in collaboration with ICIT Heriot-Watt University was published.

As per the Orkney Islands Council Ballast Water Management Policy for Scapa Flow, ballast water samples were collected from all vessels wishing to de-ballast in Scapa Flow. Phytoplankton, zooplankton, salinity and bacterial samples were collected from each vessel by a contracted sampling team. Phytoplankton and zooplankton samples were sent to a taxonomic laboratory for analysis and identification and bacterial and salinity samples were tested in-house at Marine Services. In 2021 the Orkney Harbour Authority trialled an indicative ballast water analysis kit, BQUA. The BQUA test kit is used to analyse treated ballast water. The

trial was carried out over seven months to determine the ease of use of the equipment and to compare the results with the current plankton analysis method. The trial was successful, from January 2022 onwards the BQUA testing kit has been in use by the Harbour Authority to test treated ballast water in-house.

Potable water samples were collected and tested by the Marine Environmental Unit from Orkney Ferries vessels, Marine Services vessels and from all main pier outlets. Software maintenance of the seven Marine Services weather stations was carried out as and when it was required, and monthly data download and processing was carried out.

The Marine Environmental Scientist with Marine Environmental Unit attended the International Centre of Explorations of the Seas (ICES) Working Group Meetings in March. The meetings for the ICES Working Group on Ballast and Other Ship Vectors and ICES Working Group on Introductions and Transfers of Marine Organisms were both held virtually and brought together experts from 20 countries to discuss the latest development and research in each subject group.

Scientific publication:

Want, A. and Kakkonen, J.E. (2021) A new range-extending record of the invasive sea squirt *Styela clava* in the north of Scotland. Marine Biodiversity Records, 14(1), pp.1-5. <https://mbr.biomedcentral.com/articles/10.1186/s41200-021-00213-9>

14. Ferry Traffic – Miscellaneous Piers and Harbours

The ferry traffic to and from Orkney Islands Council Harbours is set out below. These statistics do not include St Margaret’s Hope which is not part of the Harbour Authority area but operates as a Trust Port.

Serco NorthLink Ferries Ltd

Traffic on Stromness - Scrabster Route (Hamnavoe)

| Year. | Passengers. | Accompanied Cars. | Commercial Vehicles. | Freight (tonnes) |
|-----------|-------------|-------------------|----------------------|------------------|
| 2019-2020 | 155,461 | 47,144 | 8,261 | 26,823 |
| 2020-2021 | 42,454 | 18,141 | 4,812 | 23,735 |
| 2021-2022 | 115,900 | 41,331 | 5,331 | 21,312 |
| % Change | 173.0% | 127.8% | 10.8% | -10.2% |

Traffic on Kirkwall-Aberdeen-Lerwick Route

| | Passengers | Accompanied Cars | Commercial Vehicles | Freight (tonnes) |
|------------------|------------|------------------|---------------------|------------------|
| 2019-2020 | 54,550 | 8,908 | 12,557 | 119,564 |
| 2020-2021 | 13,007 | 3,657 | 10,507 | 98,191 |
| 2021-2022 | 35,764 | 7,877 | 11,398 | 101,736 |
| % Change | 175.0% | 115.4% | 8.5% | 3.6% |

John O Groat's Ferries

| | Passengers |
|----------|------------|
| 2019-20 | 25,942 |
| 2020-21 | 0 |
| 2021-22 | 4,815 |
| % Change | n/a |

Orkney Ferries Ltd

| | Passengers | | Cars | | Total |
|------------------|------------|---------|--------|--------|---|
| | Outer | Inner | Outer | Inner | |
| 2019-2020 | 100,369 | 226,328 | 36,080 | 56,849 | 2021/22 Total OF Passengers = 285,146 (Northlink totals both routes = 151,664) |
| 2020-2021 | 40,865 | 117,621 | 24,066 | 41,244 | |
| 2021-2022 | 85,017 | 200,129 | 20,249 | 43,069 | 2021-22 Total OF Cars = 63,310 (Northlink totals both routes = 49,208) |
| % Change | 108.0% | 70.1% | -15.9% | 4.4% | |

Comment

The recovery from the pandemic throughout the reporting period is reflected in the ferry statistics returning to between 65 to 90% of pre pandemic figures for the Northlink services. Similar figures were reported for Orkney Ferries except for cars travelling to the Outer Isles. John O Groat's Ferries saw a short season from when the guidelines were relaxed and this is reflected in the numbers reported.

15. Staffing

The ongoing effects of the pandemic continued in this period and meant that planning for expansion was delayed. As previously reported the staff size at the Harbour Authority remains largely the same since 2012 when there were 50 cruise

ships, 12 Flotta tankers and no STS or semi-submersible operations. There was also no ongoing major projects such as the Harbours Masterplan (HMP).

The HMP continues to progress as the project moved towards a series of milestones that would determine the future viability of developing the new quay in Scapa Flow (Scapa Deep Water Quay) and extending Hatston Pier to be able to support future growth. At the end of this period the tender for the appointment of Technical Advisors for the project was near to completion and it is hoped they will lessen the burden on Harbours staff.

Collective and emergency training ashore continues to be an area for attention and, with some restrictions of the pandemic remaining, team and individual pollution training has continued to take place. Pilotage training of new employees is an ongoing task and, importantly, refresher training for members of the Harbour Authority Sub-committee and senior Council officials has been undertaken.

16. Harbours' Infrastructure and Equipment

During this period, outside of usual maintenance and repairs, the main work of infrastructure development was the commissioning of the shore power connection at Stromness for MV Hamnavoe.

Although restrictions due to the pandemic were eased, supply chain delays meant there were still issues with getting work completed in time and this had the knock-on effect of delaying projects.

The return of the cruise market identified that there was a need for new reception facilities at Hatston Pier for liners and as part of the Clean Maritime Demonstration Competition the Harbour Authority was part of a consortium that was looking at Hydrogen in an Integrated Maritime Energy Transition (HiMET) project. Part of this was the design, build and use of hydrogen and solar powered cabins that were purpose built to act as cruise reception and office facilities. These arrived at the end of March 2022 and were commissioned in time for the first cruise callers of 2022.

The Harbours Masterplan continued to progress and the ScotWind announcement focussed activities. With the locations and designs now fixed a campaign of site investigation work was conducted at both the proposed Scapa Deep Water Quay and Hatston Pier locations, on both land and in the marine environment.

17. Current and Future Activity

The continued effects of the COVID-19 pandemic were felt in this period with restrictions still in place for the starting few weeks and months. Guidelines were gradually relaxed by governments which allowed less restricted freedom of movement and activities such as cruise returned.

Although the major work on the immediate recovery from the pandemic was done in the previous reporting period business development activities operated remotely for a large part of the reporting period.

As previously reported, there is a recognition of the work needed to ensure the strong recovery for the Harbour Authority as well as identify new income possibilities and diversification of the business.

As previously reported the Scapa Flow Oil Port was in a strong position during the pandemic and the national and natural asset that is Scapa Flow continues to be recognised as the preferred location for safe STS operations and shelter for semi-submersibles.

Lyness has actually seen an increase in activity in this reporting year with some imports of sand for a cable project on the island of Hoy and the lay-up and rearming of the laid-up vessels in Scapa Flow mentioned above. There is considerable scope for the whole site and some discussions with potential developers have taken place. With this in mind, remediation of the oil pollution at Lyness becomes increasingly important.

The renewables sector has showed a modest reversal of the recent downturn, with some work at our facilities with devices. It is hoped that various programmes to commercialise marine renewables continue to view Orkney as the optimum location and linking that with the proposed developments at Hatston Pier will provide optimism for continued growth.

The restart of the cruise market in the summer was an excellent confidence builder in lieu of a potential full season in 2022. The Covid plan, written with expert guidance from industry consultants, was boosted by training sessions at Hatston Pier with the service providers.

In January 2022 Crown Estate Scotland announced the results for the ScotWind leasing bids with an unexpected 25GW of sites awarded including 14.5GW of floating offshore wind. All of the sites that are close to Orkney waters were awarded to developers that Orkney Harbour Authority has engaged with. The winning developers intensified discussions around collaboration with the proposed Masterplan projects and this will be the main focus of activities going forward.

To assist in encouraging growth and identifying opportunities that are not only harbour centric but also the local community a business aims, and objectives document was written to cover the period 2021-2023.

18. Conclusions

It was stated in the conclusion section last time that the last report was like no other due to the pandemic. It is sad to report that there was still a lot of effect of the pandemic in this report with restrictions still in place for the start of the reporting period. A return to normal did start to return in the summer and the cruise liners returning was a clear indicator of this. This much reduced activity affected the Miscellaneous Piers and Harbours Account for the second period in a row.

Being able to absorb the loss of a major part of the business in cruise did allow some refocussing on other projects that will benefit the Harbour Authority in the future but continuing to be in a financially strong position is a goal for the recovery from the

pandemic and it is vital that the harbours' infrastructure and vessels are developed to ensure that operations remain safe, that lifeline services and the more remote piers are not forgotten and to diversify activity to ensure that the harbour continues to be a major economic driver for Orkney.

All of this must be done within the principles of the Port Marine Safety Code and the Guidance for the Good Governance of Ports and Harbours, as well as being consistent with the Harbours Act 1964 and the Orkney County Council Act 1974, both of which indicate a need for a greater level of investment in harbour infrastructure.

The success of the Harbour Authority is attributed to market conditions and to the marketing and business development activity to ensure opportunities are identified and progressed. However, it is the staff, ably supported by the Harbour Authority Sub-committee, who have delivered safe and successful operations. The ability to recruit, train and retain the appropriate quality of staff is always essential and the extra roles that were identified by the senior management team would be hoped to be filled in the next period. As previously reported, the level of business growth is also an area worthy of scrutiny as the number of staff has not increased in line with activity levels and strategic project development. The challenge around technical staff continues to cause some concern, with these staff continuing to be hard pressed covering the aging ferry fleet and other infrastructure.