



PUBLIC ANNUAL ENVIRONMENTAL STATEMENT 2023

WELCOME

This is our environmental performance report for 2023. This report has been produced in accordance with OSPAR Recommendation 2003/5 and includes information on our assets and our environmental performance. Operated assets tied back to host production facilities i.e. Seagull, are not included in this report as they are covered elsewhere.

On 31 January 2024, the sale of Neptune E&P UK Limited to Eni International B.V. was completed, therefore as per the OSPAR Recommendation 2003/5 this report focusses predominantly on 2023's activity under Neptune's E&P UK Limited's Environmental Management System.

In 2023, Cygnus remained the largest single producing gas field in the UK Southern North Sea, capable of supplying enough gas to heat approximately two million homes. Cygnus maintained a significantly lower emissions intensity than the industry average and we continued to identify emission reduction opportunities including fuel use, alternative power generation and flare gas recovery options.

In 2023, we also made good progress advancing our pipeline of CCS opportunities and were awarded three CCS licenses in the UK.



Alan Muirhead
Country Director, UK
Neptune E&P UK Limited



OVERVIEW OF UK OFFSHORE OPERATIONS IN 2023

Cygnus

Cygnus, the UK's largest single producing gas fields, is located in blocks 44/11a and 44/12a of the Southern North Sea and can supply 6% of the UK's gas demand, enough to fuel two million homes. Cygnus Alpha began producing in December 2016 and Cygnus Bravo produced its first gas in August 2017.

In 2022 we commenced a two well infield programme at Cygnus. The 10th and 11th well started up during 2023 and will support production in the field. Further wells are planned to offset natural decline and increase recovery.

Gas compression continues to support the natural decline in reservoir pressure. In addition, future infill wells are planned for 2024/2025.

Several studies have been conducted to accurately assess the emissions profile of Cygnus, in particular methane. Such studies include; flare destruction efficiency and drone surveys.

Seagull

Seagull is a development 17 km south of the BP-operated ETAP Central Processing Facility (CPF). Upon completion, a new 5 km pipeline, will tie the Seagull manifold to the existing Heron pipeline system via a newly installed tie-in skid at the Egret manifold. Production will utilise the Heron pipeline system and riser to evacuate fluids to the ETAP CPF. The development include a 17 km control umbilical direct from ETAP.

Progress at the Seagull project continued in 2023. The first and second wells were completed, and first oil commenced in the fourth quarter of 2023. Two additional are due to be brought onstream at Seagull in 2024.



ENVIRONMENTAL STRATEGY 2023

Neptune Energy Environmental Policy

Uncontrolled unless viewed via the Management System

NEPTUNE
ENERGY

Our commitment

Environmental excellence is an integral part of our journey of being a leading international independent E&P company. Neptune Energy is committed to minimising the impact of our operations on the environment as set out by this policy. Our goal is to empower our employees and contractors to achieve environmentally responsible operations, including the authority and responsibility to stop work for a situation regarded as potentially harmful to the environment.

Our impact on the environment is one of the operational matters discussed regularly by everybody as part of health, safety and environment (HSE).

We will ensure that the necessary resources are provided to fully support this policy and will ensure that it is subject to audit and review as part of the company's Management System.

Neptune Energy relies on the commitment and responsibility of everyone associated with our business to achieve environmental excellence.

Our environmental management

Our environmental strategy prioritises ten topics. These were defined through a robust process that included direct engagement with our key stakeholders, including employees, investors, industry bodies and NGOs.

For the **ten environmental topics** below, we consider regulatory requirements as a minimum. We are committed to monitoring the impact of our activities and mitigating their impacts on the environment and will use Best Available Techniques (BAT) in accordance with industry practices. For some, we have further ambitions and will apply our own, more stringent, standards.

Together, we will:

- 1 Conduct our operations with minimal impact on the environment, focus on improving energy efficiency and reduce our emissions, recognising **climate change** is a global challenge.
- 2 Ensure zero operational **spills**.
- 3 Reduce our **CO2e emissions** and achieve an ambitious long-term intensity measure.
- 4 Improve our **energy** efficiency performance through ambitious target setting.
- 5 Reduce our **other air emissions**, e.g. NOx, SOx and nmVOCs.
- 6 Reduce our volume of **waste**. Our first priority is waste prevention, then reuse and recycle.
- 7 Monitor and reduce hazardous contaminants in **discharges to water**.
- 8 Manage impact of **water use** in water scarce areas.
- 9 Minimise our impact on **biodiversity**.
- 10 Achieve environmentally responsible **decommissioning**.

All personnel working on behalf of Neptune Energy must comply with this policy and be proactive in the pursuit of environmental excellence.



Pete Jones
03/05/2022

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2.0 – 2019

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MAKE IT SAFE.
MAKE IT SAFER.



HOW WE DO
THINGS SAFELY.



ENVIRONMENTAL STRATEGY 2023

During 2023 Neptune continued to assess and minimise any impact on the environment from our activities through our Integrated Management System (IMS) which is certified against ISO 14001 and ISO 50001.

Environmental Management Systems

During 2023, Neptune was audited by DNV to assess our EMS against the standard and was subsequently recommended for recertification. Neptune has an effective approach for the management of environmental issues. Neptune currently uses an Environmental case (E-case) which describes all of Neptune's Environmental Aspects.

The E-case is central to the environmental aspect of the IMS and are designed the bridge the gap between operational objectives and stakeholder expectations. They provide an audit trail between high level objectives and individual tasks and responsibilities.



Environmental Compliance Manual

During 2023, Neptune developed the Environmental Compliance Manual and Environmental Compliance Matrix to support operations and associated environmental compliance regulatory requirements.



ENVIRONMENTAL OBJECTIVES 2023

During 2023, Neptune E&P UK Limited had a number of objectives and methods to improve the environmental performance and/or data capture. The list below is not an exhaustive list but are the most relevant and in line with the purpose of this document:

Develop Methane Action Plan to support Emissions Reduction Action Plan (ERAP) – including the development of engineering studies.

Development and studies continue and engineering studies and have been included in the ERAP. Studies have included methane quantification and drone surveys.

Assess decarbonisation options for Cygnus Alpha.

A team has been established to drive forward decarbonisation projects such as potential electrification of Cygnus.

Develop and complete a schedule of environmental audits covering operated assets, MODU's and key vendors as appropriate.

An audit schedule was developed in 2023 for operational assets, Mobile Offshore Drilling Unit (MODU) and a key vendor.

All audits were completed.

Develop and roll-out an Environmental Compliance Handbook to support compliance activities

An Environmental Compliance Manual was developed during 2023 and rolled out with key departments including drilling, projects, production and HSEQ.



ENVIRONMENTAL PERFORMANCE 2023

Atmospheric emissions

Atmospheric emissions occur in our operations mainly as a result of the combustion of fuel gas and diesel to generate power and through flaring. Emissions in the North Sea are controlled by UK, regulations. Neptune continued to develop an ERAP to explore reduction opportunities in accordance with our commitment to the zero flaring initiative.

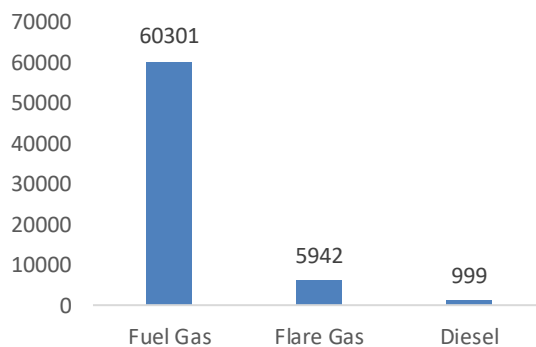
We report greenhouse gas emissions on a CO₂ equivalent basis, including CO₂ and CH₄. We also report other air emissions including the oxides of nitrogen (NO_x) and sulphur (SO_x).

Our total greenhouse gas emissions for our Cygnus operations were 67,241 tonnes of CO₂e in 2023 (excluding supply vessels and fugitive gas).

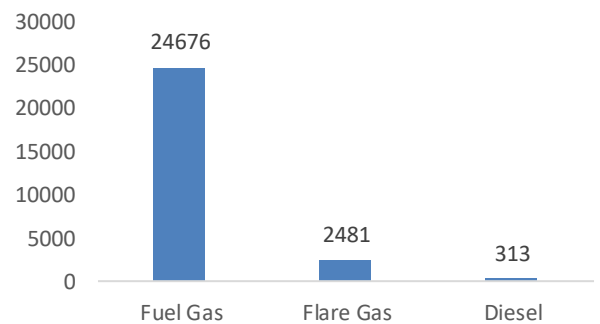
Cygnus currently has one of the lowest carbon intensities in the industry in the UK at 4.89 kg CO₂/boe compared to the industry average is 21 kg CO₂/boe . Due to the natural depletion of wells as our assets mature, our carbon intensity has increased since 2021 as gas compressing came online. More energy is needed to extract more mature oil and gas reserves meaning that CO₂ emissions increased due to an increase in fuel use reported since 2021.

In addition, since April 2022 we have measured our methane emissions intensity at Cygnus. Our 12 monthly rolling intensity is low at 0.028% (at the time of writing) but Cygnus has a target of 0.015%.

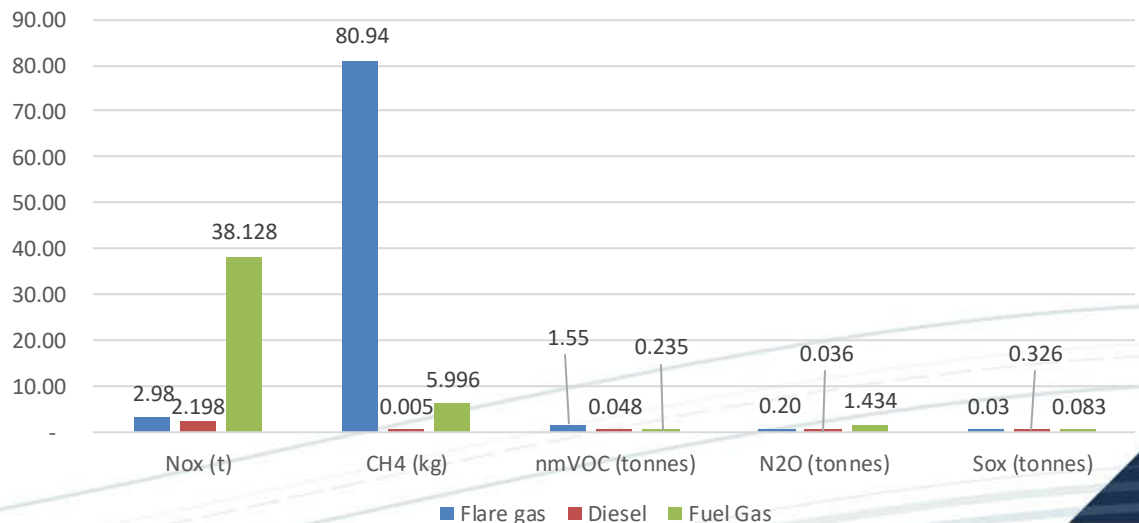
CO₂ Emissions (tonnes)



Fuel Use (tonnes)



Cygnus Air Emissions (tonnes)



ENVIRONMENTAL PERFORMANCE 2023

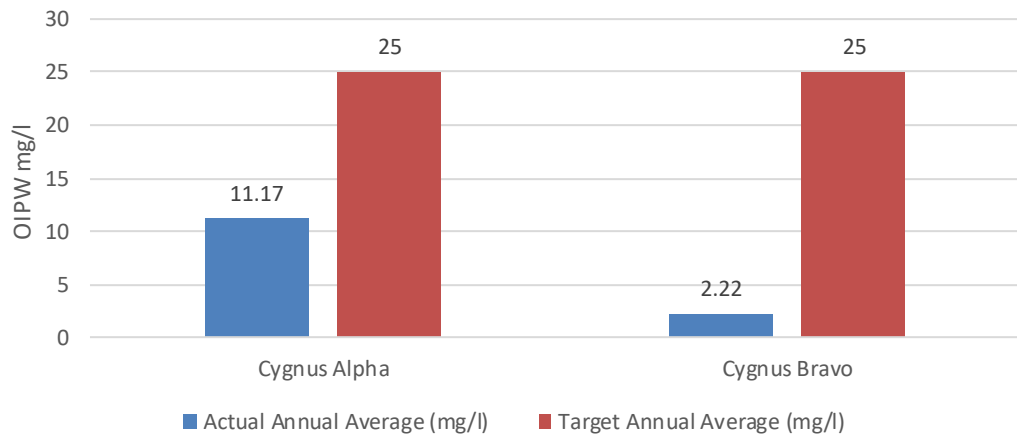
Produced water

Produced water is created during the process of oil and gas extraction and can include dissolved and dispersed hydrocarbons. Typically, gas reservoirs produce less water compared to oil. Once oil and gas has been separated from reservoir fluid the resulting water can be discharged to sea provided strict limitations are adhered to.

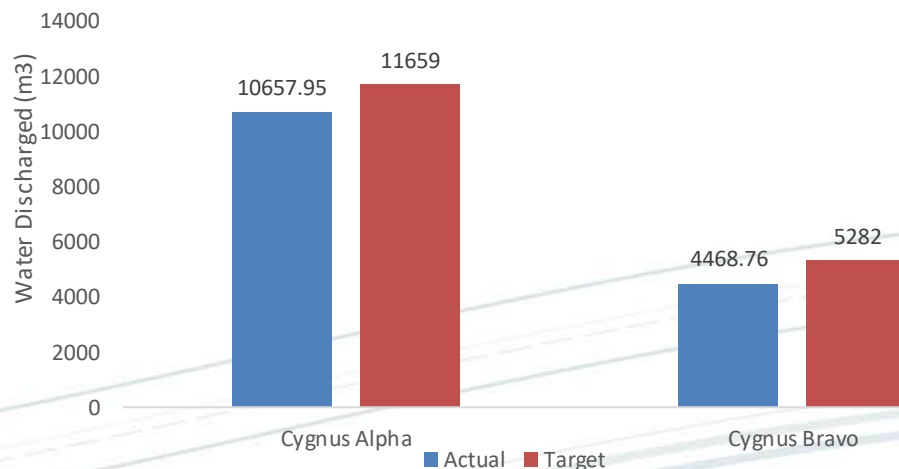
All discharges must be permitted by OPRED including the volume of produced water and the concentration of oil discharged within the water. Therefore, ongoing monitoring is required to ensure legal limits are not breached.

In 2023, Cygnus Alpha and Bravo had zero instantaneous samples $>100\text{mg/l}$ or a monthly average $>30\text{mg/l}$. Target concentrations less than 25mg/l were set and achieved as samples showed an average of 11.17mg/l from Alpha and 2.22mg/l from Bravo.

Actual OIPW Versus Target OIPW Concentrations



2023 Actual Versus Produced Water Discharge



ENVIRONMENTAL PERFORMANCE 2023

Chemical use and discharge

The use of chemicals in the offshore industry is an essential part of any production and operational activities and the subsequent processes involved in the production of hydrocarbons from an installation, include drilling mud chemicals, corrosion inhibitors, scale inhibitors, biocides, demulsifiers, antifoams and detergents.

Due to the hazards associated with the use of chemicals offshore to the marine environment, any activity within the North Sea is controlled and regulated using the OSPAR requirements.

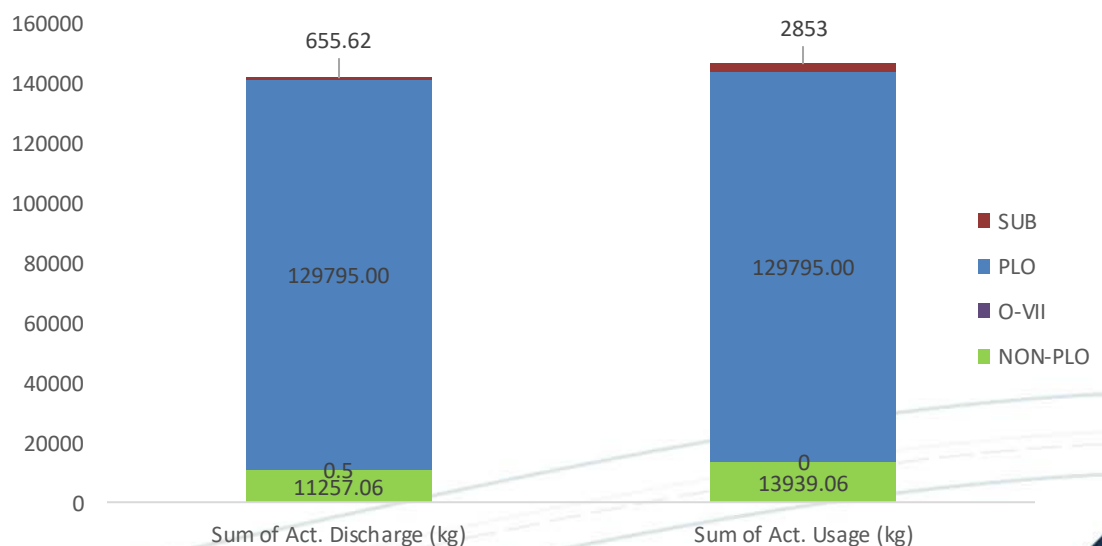
These requirements, implemented in the UK through the Offshore Chemicals Regulations 2002, require operators, such as Neptune E&P UK Limited, to obtain a chemical permit from OPRED in the application and discharge of any chemical used offshore.

As stated in these regulations, Neptune E&P UK Limited may only use chemicals which have been registered by the Centre for Environment, Fisheries & Aquaculture Science (Cefas) and continues to work to manage the risks posed to the environment from chemical use.

This has been achieved by actively aiming to use chemicals which are considered to pose little or no risk to the environment (PLONOR) where technically possible and limiting the amount of discharge to the marine environment.

The chart below shows overall chemical usage and discharge volumes in tonnes for Cygnus production operations only (drilling and subsea chemical use is not included in this report) , in addition to the proportion of chemicals that are PLONOR or possess a SUBSTITUTION warning. Where technically feasible, we continue to try and change our chemicals with substitution warnings for more environmentally friendly alternatives.

Chemical Use 2023



ENVIRONMENTAL PERFORMANCE 2023

Waste

Many aspects of offshore activities in the oil and gas industry generate operational waste and can provide a significant environmental challenge to operators in its safe disposal. All of our projects and operations have waste management plans to prevent waste as the first priority, followed by options for recycling and reuse. As per statutory regulations, any produced waste must be categorised and managed accordingly, using a waste management system. This system ensures all waste is monitored and any hazardous operational waste produced is stored on the installation and shipped ashore for safe disposal.

Neptune has developed site specific waste management plans; within each plan the emphasis is to reduce waste generation wherever possible. In addition, we continue to engage with waste contractors in order to seek out more sustainable waste processing options to avoid landfill disposal. We continue to monitor waste segregation by carrying out skip audits and sharing the findings with offshore personnel.

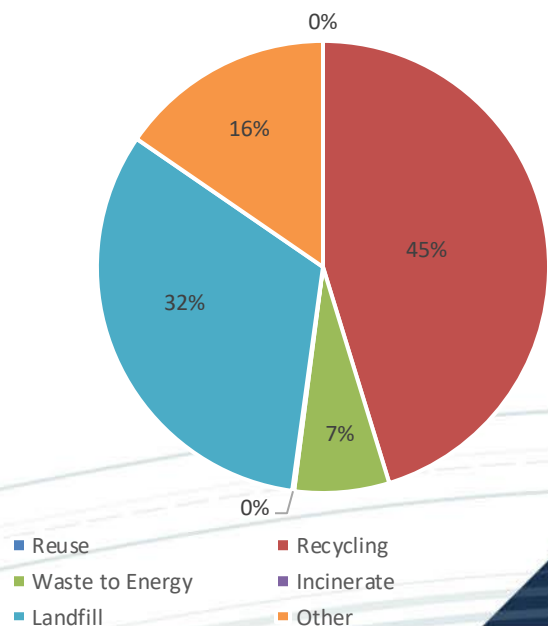
Category	Tonnes
Group 1 - Special	
Chemical/Paints	16.89
Drums/Containers	0.63
Oils	14.88
Miscellaneous Special Waste	6.14
Sludges/Liquids/Tank Washing	4.16
Group II - General	
Chemicals/Paints	0.98
Drums/Containers	0.00
Scrap Metal	25.62
Segregated Recyclables	28.40
General Waste	49.73
Sludges/Liquids/Tank Washings	3.02
Group III - Other	
Asbestos	0
Radioactive materials (exc. NORM)	0
Clinical	0.01
Explosives	0
Total	150.46

Total waste types

During 2023, Cygnus recycled proportionally more waste (45%) than 2022 (37%). In addition, less was sent to landfill, 50 tonnes compared to 89 tonnes.

Neptune continues to engage with the waste contractor to identify waste hierarchy improvements including general waste and the reuse of PPE.

Waste Fate 2023



ENVIRONMENTAL PERFORMANCE 2023

Unplanned releases

Our aim is to have zero operational spills. We have an approved Oil Pollution Emergency Plan (OPEP) in place for all offshore operations. The OPEP details the actions and sequence of events that shall be followed in event of an unplanned spill. In addition, Neptune has an Environmental Events procedure which details what constitutes an unplanned release and responsibilities.

We are members of Oil Spill Response Limited (OSRL), who provide resources in the event of an oil spill. In 2022 we worked with OSRL on our response readiness. Certain roles within the organisation have completed mandatory oil spill response training. In addition, OIM's are required to complete an OPEP exercise annually as a minimum.

Petroleum Operations Notice 1 (PON1) must be submitted following any release of oil or offshore chemicals during oil and gas activities regardless of quantity. PON1's are reported through the Department for Energy Security & Net Zero (DESNZ) Integrated Reporting System (IRS) are displayed below. The total volume of fluid lost to sea during 2023 due to operational spills reduced during 2023 (0.371t) in comparison to 2022 (9.341t).

Type	Date	Detail	Component	Tonnes
PON1	24 th January 2023	Flow of Transaqua from mezz deck to cellar deck.	Castrol Transaqua HT2	0.247
PON1	15 th February 2023	Low volume of sheen in water reported to be coming from the port side of the Prospector 1	Lube oil	0.0000148
PON1	5 th March 2023	Sheen spotted in the sea on the starboard side of the Valaris Gorilla VI	OBM/Brine/Drill Water	0.036
PON1	16 th June 2023	During diesel transfer a small volume of diesel was identified on surface.	Diesel	0.000001
PON1	12 th December 2023	Hydraulic actuator on slot 7 wash water shut down valve	Castrol Transaqua HT2	0.0875
Total				0.371

ISO14001 CERTIFICATE



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
20362-2008-AE-GBR-UKAS

Initial certification date:
14 September 2009

Valid:
25 September 2021 – 08 May 2024

This is to certify that the management system of
Neptune E&P UK Limited
16 North Esplanade West, Aberdeen, AB11 5RJ, United Kingdom
Cygnus Complex
UKCS Block, 44/11 and 44/12, United Kingdom

has been found to conform to the Environmental Management System standard:

ISO 14001:2015

This certificate is valid for the following scope:

The management of significant environmental aspects associated with exploration and production of oil and gas.

Place and date:
London, 28 September 2021



For the issuing office:
DNV - Business Assurance
4th Floor, Vivo Building, 30 Stamford Street, London,
SE1 5LQ, United Kingdom

Doug Milne
Management Representative

ISO50001 CERTIFICATE



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
10050309442-MSC-RvA-GBR

Initial certification date:
12 November 2019

Valid:
13 November 2022 – 12 November 2025

This is to certify that the management system of
Neptune E&P UK Limited
16 North Esplanade West, Aberdeen, AB11 5RJ, United Kingdom
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Energy Management System standard:

ISO 50001:2018

This certificate is valid for the following scope:

The management of energy associated with the exploration and production of oil and gas.

Place and date:
Barendrecht, 14 October 2022

For the issuing office:
DNV - Business Assurance
Zwolsseweg 1, 2994 LB Barendrecht,
Netherlands



Eric Koek
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance B.V., Zwolsseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102922689 - www.dnv.com/assurance

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The River Dee Trust

Beltie Burn Project:

As part of our partnership with the River Dee Trust a number of employees volunteered for the Beltie Burn Project. The burn is a large regeneration project which changed the canalised river into a more natural, meandering river. The aim of the work was to improve the habitat for fish and other wildlife, while allowing the river to expand and contract during periods of high water.

The team planted 500 trees in a few hours, including Downy Birch, Bird Cherry, Rowan and Aspen trees, and worked on regenerating an unused patch of land by spreading wildflower seeds.



Removal of Invasive Species:

Employees also volunteered with the River Dee Trust to remove Himalayan balsam, an invasive species that was taking over the Dee river side. The clearance provides space and light for native species to return to the area, increasing biodiversity in and around the river.



The North-East Scottish Biodiversity Partnership (NESBiP)

Neptune has a partnership with NESBiP, which brings together organisations and individuals in north-east Scotland to coordinate the conservation and restoration of biodiversity. NESBiP initiates biodiversity projects and contributes to conservation in Scotland. We supported the organisation by providing funding for a coordinator role, this is key to the operation of the partnership, especially successful delivery on the ground.

We have worked with NESBiP to identify potential projects that would enhance and improve biodiversity around our Aberdeen office. NESBiP also identified several volunteering opportunities for Neptune employees around the local area.




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