


The true scale and
impact of **chronic**
oil pollution
in UK seas



SEA SLICK



The background is a dark, textured surface, possibly a rock face or a wall, with a mottled appearance of dark brown and black. From the top edge, several thick, bright orange paint drips are falling down, creating a stark contrast with the dark background. The drips vary in length and thickness, with some being very long and others shorter.

**“BIG BUSINESS REMAINS
INDIFFERENT, PRIORITISING
PROFIT OVER PLANET. A LACK
OF MEANINGFUL ACTION CASTS
A DARK SHADOW OVER OUR
OCEANS, LEAVING US TO FACE
THE CONSEQUENCES”.**

Laura Young, Climate Activist and
Ethical Influencer

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EXECUTIVE SUMMARY

The extent of frequent, smaller-scale 'chronic oiling' in the North Sea has been grossly underestimated due to a combination of the oil industry's failure to provide data and an opaque and misleading reporting system. When these are accounted for, estimates of the volume of oil spilling into UK seas increase by at least 43%, and the true amount is almost certainly much more. Enforcement is also weak at best, with only two recorded convictions or fines in the last five years, one of which amounted to just £7,000, equivalent to 0.006% of the company's profit for the year, or 1.5 hours of the CEO's time. All this puts unique and vulnerable ocean wildlife and marine protected areas at serious risk.

43%

INCREASE

Missing Data

An opaque reporting system for oil pollution in UK waters is masking the true state of ongoing oil pollution. Oil companies must report both accidental oil spills and intentional discharges of 'produced water' – a by product containing oil and other toxic chemicals – which can be released under permit. If the conditions of a discharge permit are breached – for example, if the concentration of oil is above the specified limit – this is recorded separately to spills.



THIS MEANS THAT BREACHES OF PERMIT, DESPITE REPRESENTING SIGNIFICANT OIL CONTAMINATION, HAVE TYPICALLY BEEN EXCLUDED FROM ANALYSIS AND SCRUTINY.

As a result of this technicality, **levels of oil pollution have typically been significantly underestimated in media analyses of the scale of the issue.** When 'permit breaches' are added to 'accidental spills', **the total volume of oil spilt into UK waters since 2014 increases by 43%, and more than doubles the volume between 2021-2024.**

Nor is the situation improving: **there was a 36% increase in the average concentration of oil in produced water released into UK waters between 2016 and 2020.** This has driven a 20% increase in the total quantity of oil discharged over this period, despite the overall volume of produced water falling.²⁵

This untransparent reporting system is compounded by the failure of oil corporations to accurately report. **Nearly one third (32%) of the reports of permit breaches for produced water failed to include the volume of oil discharged.**

This additional opacity makes it likely that even the updated estimates in this report substantially underestimate the actual volume of oil released during permit breaches.

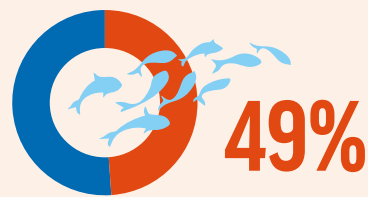
With the limited data available, this report estimates at least 1,331 tonnes of oil were accidentally spilled into the ocean from UK oil and gas operations between January 2011 and May 2024. A further estimated 570 tonnes were released in concentrations higher than permits allowed, taking the total amount to 1901 tonnes of oil spilt into the sea. As detailed above, the true levels of pollution are almost certainly much higher, but even these initial **figures are the equivalent of nearly 44,000 average car fuel tanks.**

In addition to oil, there were 3,383 reported chemical spills, resulting in 5,757 tonnes of chemicals entering the sea over the same period.

> 248 SPILLS FROM PERMIT BREACHES

Marine Life at Risk

The UK's network of marine protected areas (MPAs), which are home to internationally important ocean life, suffered 248 spills from permit breaches between January 2021 and May 2024.



Nearly half (49%) of the reports of these breaches failed to record the volume of oil discharged. The missing data mean that

THE REPORTED VOLUME OF OIL ENTERING THE UK'S MOST VULNERABLE AND IMPORTANT HABITATS IS LIKELY TO BE VASTLY UNDERESTIMATED.

Chronic oiling is linked to a wide range of harm to marine wildlife from cancer to impacts on immune systems and reproductive capacity. Species from the protected harbour porpoise to the plankton that form the basis of the entire marine food chain can be affected.^{1,2}

The UK's marine ecosystems are suffering chronic oiling on top of multiple other pressures, from damaging fishing methods to marine heatwaves and acidification driven by the climate crisis.

The impacts of chronic oiling on wildlife also puts commercial fisheries at risk, with species from cod to lobster impacted by pollutants showing increased susceptibility to tumours and diseases.³

The Worst Polluters

The worst five companies in terms of oil spill volume according to government data – *Total E&P*, *Shell*, *Teekay Group*, *Talisman* and *BP* – accounted for over **80% of all accidental oil spills** between January 2011 and May 2024. The corporation *Total E&P* alone accounted for 32% of the volume.

Between January 2021 and May 2024, **just five companies were responsible for almost 84% of all oil discharged in breach of permit**. The worst offender for these permit breaches (as well as for chemical spills) was *Repsol Resources*. This company owns the Piper Bravo rig, near to where numerous slicks were identified in satellite images.

Ineffectual Enforcement

The measures taken against oil companies overseeing spills or permit breaches have been few and far between, and the fines a drop in the ocean in comparison to corporate profits.

There were only two recorded convictions or fines in the last five years.³¹ In 2020, *BP* was fined just £7,000 for violating the Offshore Petroleum Activities (Oil Pollution Prevention Control) (OPCC) Regulations for a spill that occurred in 2016. **This fine amounts to 0.006% of their annual profits, or 1.5 hours of the CEO's time in the year of the spill.**

Such individual fines are capped at £50,000, a misguided rule for an industry that operates in such sensitive areas with a long history of causing damaging pollution.

Poor enforcement and regulation also plague the issue of produced water. Since 2014, less than 2% of all oil discharge permit applications have been rejected. **Of the permit breaches reported between January 2011 to May 2024, less than 1% were investigated.**

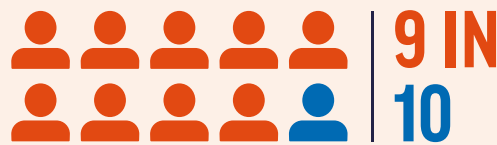
Despite these ongoing issues, and the severe threat to UK waters and marine wildlife, there has been minimal effort spent on inspections to ensure prevention of chronic spills.

ONLY 15% OF OIL AND GAS INFRASTRUCTURE WAS INSPECTED BY GOVERNMENT OFFICIALS IN 2023, DOWN FROM 25% IN 2022.

Concerns & Consequences



An overwhelming 74% of the UK public are concerned about the impact of pollution from the oil and gas industry, and 71% do not trust the regulator to ensure marine wildlife is protected from oil and gas drilling.⁴



Nine in ten UK adults support fining companies who spill and **85% support withdrawing licences entirely from repeat offenders**. Moreover, 81% support prosecutions of individuals responsible for spills in oil companies.⁴



Over half of UK adults (58%) also assume that oil and gas drilling is already banned in marine protected areas.⁴ In reality, **more than a third of the licences granted to oil companies in the recent 33rd licensing round overlap with MPAs.**

RECOMMENDATIONS

First, **the UK government must enact and make permanent its commitment to ending new oil and gas licences.** The commitment to end new licences, which makes the UK a global leader on climate action, can and should be augmented by ending new field consents in all UK seas. Halting any further expansion of oil and gas in UK seas is critical for ensuring no additional infrastructure or activities are approved that could lead to increasing pollution or risk missing our legal climate commitments. This can be achieved by:

- 1 Amending the Petroleum Act 1998 to remove powers to issue licences to “search and bore for and get petroleum”, and remove the principal objective of maximising the economic recovery of offshore oil and gas.
- 2 Preventing consents for new field developments under existing licences from being issued.
- 3 Revising the UK’s Marine Policy Statement and National Policy Statement for Energy to unambiguously direct future planning away from new oil and gas.
- 4 Setting out the UK’s commitment to end oil and gas on the world stage by including the policy in the UK’s Nationally Determined Contribution ahead of COP30 in 2025.

Activities can be curbed faster in marine protected areas by ending new project-level permits (which are required in addition to licences) for seismic surveys, exploratory drilling, and discharges of oil or chemicals. With no potential for new fields, applications for permits should significantly drop, but a complete ban on new permits in protected areas provides certainty of protection for these important sanctuaries.

Second, **the government and industry regulator must do more to flush out bad behaviour and protect the ocean from chronic oil pollution from existing infrastructure.** Ocean protection must remain at the heart of the transition to renewables in the UK, including through strict enforcement of regulations for existing oil and gas installations for the remainder of their lifetimes. A dramatic increase in the enforcement measures for pollution prevention and environmental regulations is needed to drive better practice. The government must:

- 5 Inspect all rigs and installations at least once every two years and provide the adequate resource for this.
- 6 Ensure that OPRED fully investigates all accidental spills and permit breaches.
- 7 Amend the Offshore Environmental Civil Sanctions Regulations⁵ to remove the cap from fines for breaches of offshore pollution regulations, which are currently limited to £50,000, a tiny proportion of oil company budgets.
- 8 Fine companies for all breaches of permit conditions and accidental spills at a level which will act as a meaningful deterrent, escalating in scale for repeated breaches and spills. This money should be ring fenced for marine nature recovery.
- 9 Introduce a new system of legal and financial sanctions on companies for non-reporting of spills and permit breaches.

Finally, **the government must take environmental protection seriously when making decisions that could pollute and degrade the marine environment.** Advice from statutory nature bodies such as the Joint Nature Conservation Committee should be at the heart of the decision-making process, not a tick box exercise. The government must:

- 10 Follow advice from statutory nature conservation bodies through all stages of the regulatory and approvals process and resource those bodies properly.

WHAT IS CHRONIC OILING?

We define chronic oiling as the release of oil that is higher in frequency but lower in volume than the large-scale spills associated with major accidents. Whilst smaller, visible spills may dissipate relatively quickly⁶, the oil and other toxic chemicals often remain in the marine environment and the frequency of these smaller spills means that the total volumes can be significant. Major oil spills are a well-known threat to the marine environment; however, smaller, higher frequency spills do significant damage, yet often go undetected.⁷



Chronic oiling sources include oil rigs, run off from land, and bilge water from vessels. Chronic oil from oil and gas operations has been systematically underestimated and the North Sea is one of the most problematic areas for leaks from offshore oil rigs in the world.⁷ A total of 94% of oil slicks have an anthropogenic source, a recent global study showed, compared to just 6% from natural seepages.⁷ The detection rate of oil spills associated with offshore platforms is low, and in the North Sea the average rate of detection is only 4.4%, indicating that the vast majority of North Sea spills go undetected.⁷

 **94%**

A TOTAL OF 94% OF OIL SLICKS HAVE AN ANTHROPOGENIC SOURCE, A RECENT GLOBAL STUDY SHOWED, COMPARED TO JUST 6% FROM NATURAL SEEPAGES.



In addition to accidental spills and leaks, discharges of ‘produced water’ are a significant issue. Produced water is a byproduct of the oil extraction process containing hazardous substances including residues of oil, heavy metals and other chemicals. Discharges are widely permitted by governments around the world. Of the total amount of oil discharged into the sea in the OSPAR region (which includes the North East Atlantic, North Sea and Arctic waters) between 2009-2019, over 95% was in produced water, except for in 2015, when a single large spill accounted for 12% of the annual total.⁸

New detection technology, such as satellite synthetic aperture radar, is now revealing the true scale of chronic oiling.⁹ For instance, the Skytruth Cerulean platform – a tool used to monitor human-caused oil slicks in seas around the world – scans the European Space Agency Sentinel-1 radar satellite images to detect oil spills.¹⁰

Why Worry About Chronic Oil Pollution?

Although chronic oil pollution has not been a focus for research, or indeed action, some recent studies have highlighted its global prevalence,⁷ the high number of incidents in UK waters compared to other countries,¹¹ and the harm it can cause. The continuing challenge of discharges from offshore oil platforms has increased since 2000, and does not yet seem to be on a decreasing trend, unlike those attributed to shipping.¹²

UK seas are subject to multiple threats which endanger species, habitats and the ecosystem services that benefit humanity, from carbon storage to food production. The pollution

associated with offshore oil is largely avoidable but is creating additional pressures on already vulnerable species and habitats. Whilst large-scale visible cases of severe oiling have declined, marine life using areas impacted by oil slicks are subject to non-lethal but potentially serious impacts to their health and capacity to reproduce and sustain future generations.⁶

The climate crisis is increasingly understood to be amplifying the impacts of oil pollution¹³ and will create much more challenging conditions for some of our most valued marine life.^{14,15,16}

It is extremely difficult to monitor accidental spills and intentional discharges offshore and there is still much reliance on companies self-reporting. Methods for detecting oil-related contaminants at levels harmful for species and ecosystems have been developed¹⁷ and there is a case for deploying more monitoring to ensure better compliance with existing regulation as well as improving detection of pollution events.⁷

Chronic, low-level oil pollution rarely causes the death of animals directly, however, it has been linked to a wide range of sub-lethal impacts that can reduce the ability of the individuals and populations to thrive.^{6,17} Combined with other pressures facing marine life, such as ocean heating and acidification, it can have severe consequences. The clear solution is to phase out offshore oil and gas exploration and development, as recommended by the International Energy Agency¹⁸ and many others. Better regulation of chronic pollution for existing projects is also urgently needed, along with a dedicated research framework to better understand the ecosystem impacts.

THE TRUE EXTENT OF CHRONIC OIL IN THE UK



How reporting of oil pollution works

The OSPAR Commission is the international mechanism by which 15 governments and the EU cooperate to protect the North East Atlantic, including the North Sea. As a signatory to the convention, the UK is required to report oil spills and other pollution incidents to the OSPAR secretariat on a regular basis and compliance with OSPAR targets and guidance is then assessed.¹⁹

Some oil pollution is permitted as part of the routine operations of offshore oil and gas developments. OSPAR and UK Government guidance²⁰ define a 'release' and a 'discharge' as two separate processes. A discharge is an

intentional emission of oil or chemicals into the sea, and a release is an accidental emission or spill.²¹

While the distinction between 'intentional' and 'accidental' initially appears to be clear, discharges over the legal limit are still considered a discharge, and are recorded separately to accidental spills.

THIS OPAQUE REPORTING SYSTEM MEANS THAT DISCHARGES IN BREACH OF PERMIT HAVE, UNTIL NOW, TYPICALLY BEEN EXCLUDED FROM ANALYSIS AND SCRUTINY OF THE VOLUME OF OIL POLLUTING THE SEA.

Methods

To uncover the extent of oil pollution, Oceana analysed published data on oil and chemical releases, which are collated and published by the Department for Energy Security and Net Zero on the Integrated Reporting Service.²² The data available includes times, dates and locations of spills and releases, the companies responsible, the tonnes of oil spilt (if given by the oil company), the source or cause of the spill and whether a formal investigation was carried out. The UK Energy Portal also includes data on the number of discharge permits granted and refused, but does not include reasons given for decisions.

Furthermore, data on enforcement activity was sourced from the department's public record of enforcement and convictions.³¹ The published data was supplemented by information on the number of inspections taking place on offshore infrastructure, acquired through a freedom of information request. Data on public opinions was the result of a YouGov poll, commissioned by Oceana in May 2024.⁴ Additional analysis conducted by the OSPAR Commission is also included.

Accidental Spills: Petroleum Offshore Notices

Accidental spills – not including the discharge permit breaches – are recorded as Petroleum Offshore Notices (PON1s). There were 3,145 reported oil spills in UK waters from January 2011 to May 2024, resulting in 1,331 tonnes of oil polluting the ocean, the equivalent of nearly 30,000 average car fuel tanks. In addition to oil, there were 3,383 reported chemical spills, resulting in 5,757 tonnes of chemical pollution (in 95 cases both oil and chemicals were released). Chemical spills included releases of hydraulic fluids, methanol and sodium hypochlorite (i.e. bleach), among others.

These spills had various causes, including drainage system overflows; valve, seal and pipework failure; hose ruptures; hydraulic releases; corrosion; and maintenance and operations errors (e.g. bore fittings and bunkering – where products are transferred to ships, etc.). A total of 2,463 investigations were opened into oil spills from January 2011 to May 2024, according to the PON1 data, and 2,409 investigations were opened into chemical spills (61 of which were into both oil and chemical spills).

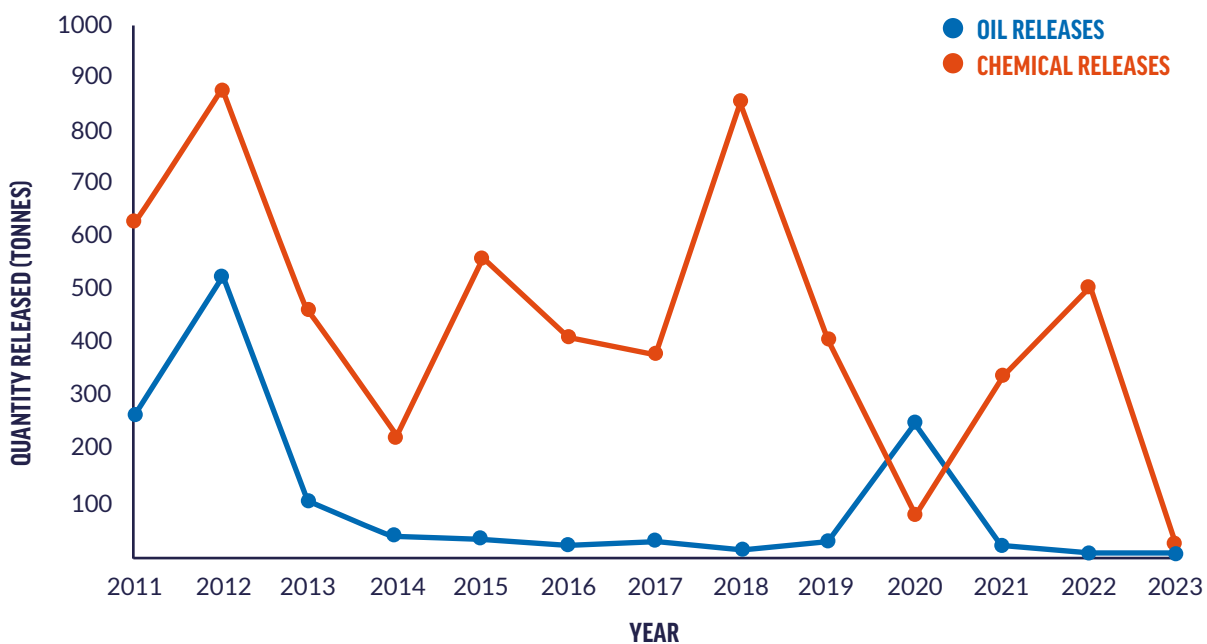


FIGURE 1: PON1 oil (blue) and chemical (orange) releases (tonnes) in UK waters from 2011-2023.

Worst Oil Companies for Oil & Chemical Spills in UK Waters

We ranked oil companies by volume of oil releases and chemical releases in UK waters using PON1 data from 1 January 2011 to 17 May 2024 (Table 1). The worst five companies by oil spill volume accounted for over 80% of all PON1 oil spills during this period. *Total E&P* alone accounted for about 32% of the total volume. The worst five companies for chemical spills accounted for about 59% of all PON1 chemical spills during this period.

TABLE 1: Rankings of oil companies with the largest volume of oil releases and chemical releases in UK waters from 1 January 2011 through 17 May 2024.

COMPANY	QUANTITY OF OIL RELEASED (TONNES)	COMPANY	QUANTITY OF CHEMICALS RELEASED (TONNES)
<i>Total E&P</i>	422	<i>Repsol</i>	973
<i>Shell</i>	250	<i>Total E&P</i>	806
<i>Teekay Group</i>	238	<i>Shell</i>	610
<i>Talisman</i>	81	<i>CNR</i>	608
<i>BP</i>	77	<i>BP</i>	381
Total	1,068	Total	3,379

Oil Discharge Permits: Permission to Pollute

Most oil companies with operations in UK waters hold an oil discharge permit. These allow companies to intentionally discharge produced water – an oily byproduct of the extraction process – into the sea. The industry standards, aligned with the international OSPAR convention, state that oil in produced water should not exceed a concentration of 100mg/l, or a maximum monthly average of 30mg/l.²³

If an operator breaches the conditions of a permit – for example if the concentration of oil in produced water exceeds permit conditions – they must submit an Offshore Petroleum Pollution Control Non Compliance Notice to the government.

EVEN WHEN DISCHARGES ARE IN BREACH OF A PERMIT, THEY ARE STILL CONSIDERED A DISCHARGE AND ARE RECORDED SEPARATELY TO ACCIDENTAL SPILL DATA.²³ THEY THEREFORE HAVE, UNTIL NOW, TYPICALLY BEEN EXCLUDED FROM MEDIA ANALYSIS AND SCRUTINY OF THE VOLUME OF OIL POLLUTING THE SEA.



DISCHARGES

Intentional emission of oil or chemicals into the sea.

Companies hold permits with conditions set on the concentrations of oil they are allowed to release.

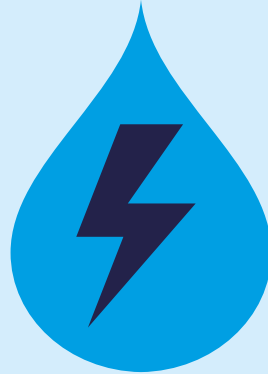
Breaches of permits (when concentrations of oil are too high) must be reported as a Non Compliance Notice, but are still defined as discharges rather than accidental releases.

RELEASES

Accidental release into the sea.

Government data splits oil and chemical releases from other materials and items lost at sea.

Must always be reported within six hours as a Petroleum Offshore Notice.²³



Oceana analysis reveals that:

**LESS THAN 2%
OF ALL OIL
DISCHARGE PERMIT
APPLICATIONS HAVE
BEEN REJECTED
SINCE 2014**

**4,167
APPROVED**

A total of **4,167 oil discharge permits were approved** and only **84 rejected** between January 2014 and May 2024 (Figure 2). The reasons for rejection were not given.

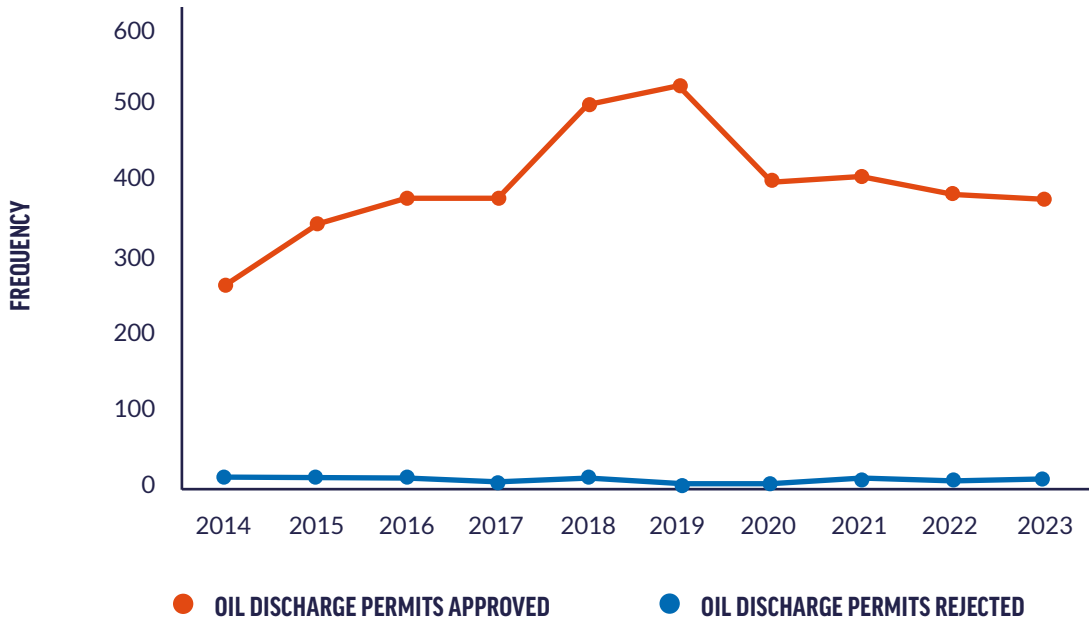


FIGURE 2: The total number of oil discharge permit applications granted and rejected from January 2014 to the end of 2023 for drilling, pipeline, well intervention, production, and decommissioning operations. Data from the UK Energy Portal.

From January 2014 to May 2024, a total of 1,039 discharge permits were approved in North Sea marine protected areas (MPAs) (Figure 3). Discharges are associated with all stages of operations, as shown in Table 2.

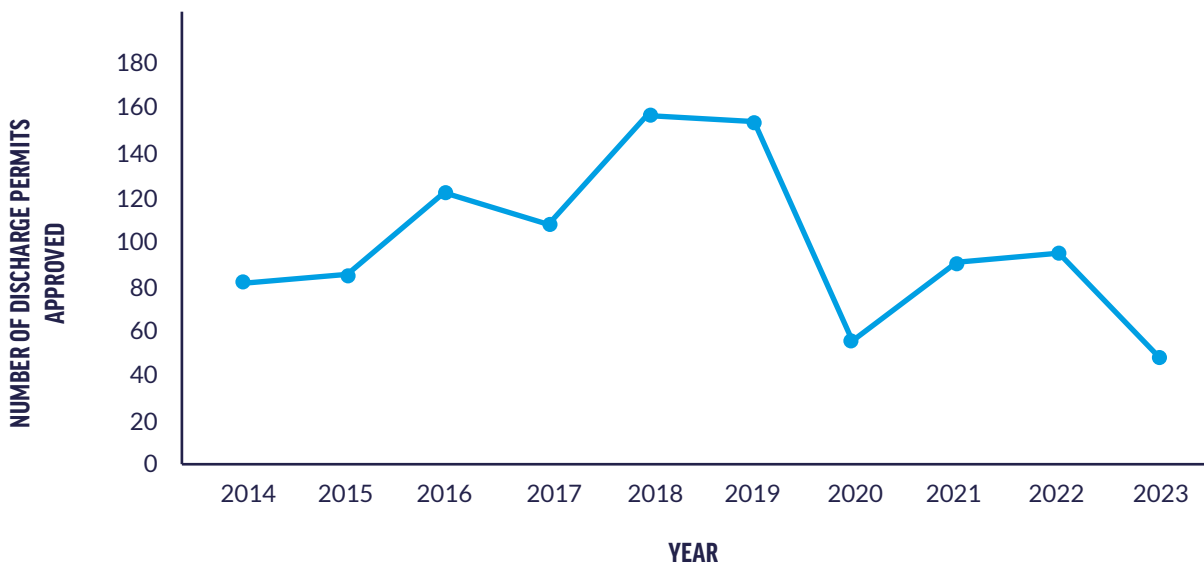


FIGURE 3: Total number of discharge permits approved in North Sea MPAs each year from 2014 to 2023. A total of 997 permits were approved in MPAs during this time period.



TABLE 2: Total number of discharge permits approved in North Sea MPAs by operation category from 2014 to 2023. Discharges are associated with all stages of operations.

YEAR	DRILLING	PIPELINE	WELL INTERVENTION	PRODUCTION	DECOMMISSIONING	TOTAL BY YEAR
2014	12	64	0	6	0	82
2015	13	64	0	8	0	85
2016	8	96	11	8	0	123
2017	0	85	15	4	4	108
2018	10	123	16	4	4	157
2019	7	116	6	12	12	153
2020	0	51	0	2	2	55
2021	0	85	2	4	0	91
2022	0	80	7	6	2	95
2023	0	32	8	8	0	48
Total	50	796	65	62	24	997

The data on the amount of oil that is discharged under permit are reported to government through the Environmental Emissions Monitoring System to inform OSPAR commission assessments.²⁴ The amount of oil discharged under permit is not included in this report which means the total volume of oil entering the sea is likely to be even higher.



THERE WAS A 36% INCREASE IN THE AVERAGE CONCENTRATION OF OIL IN 'PRODUCED WATER' RELEASED INTO UK WATERS BETWEEN 2016 AND 2020, ACCORDING TO LATEST OSPAR ASSESSMENT.²⁵

This has driven a 20% increase in the total quantity of oil discharged over this period, despite the overall volume of produced water reducing. Produced water accounts for 95% of the total amount of oil entering the sea and the UK has a higher average dispersed oil concentration than almost any other OSPAR signatory.^{25,26} To what extent is this driven by oil companies breaching their permit conditions?

Permit Breaches: Non-Compliance Notices

Reported separately to accidental spills, oil discharge permit breaches (which are reported in Offshore Petroleum Pollution Control non-compliance notices, and published on the Integrated Reporting Service) are discharges of produced water in breach of a company’s permit conditions, typically because the concentration of oil in the water exceeds the concentration limits of the permit.

Over 570 tonnes of oil was spilt, across 723 incidents, as a result of breaching of maximum or average concentration limits between January 2021 to May 2024.

THESE OIL DISCHARGES IN BREACH OF PERMIT INCREASE THE TOTAL VOLUME OF CHRONIC OIL SPILT IN UK WATERS SINCE 2014 BY ALMOST 43% (A TOTAL OF 1901 TONNES OF OIL), AND MORE THAN DOUBLE THE VOLUME OF CHRONIC OIL SPILT FROM 2021-2024.

Oil companies reported that more than 140 tonnes of oil were discharged in breach of permits every year between 2021-2023 (Table 3). Worryingly, 288 (27%) of the records up to May 2024 failed to state the reason for non-compliance (i.e. whether the breach was a result of excess oil or other reasons) and 337 (32%) of the records did not report a volume of oil discharged.

THIS ADDITIONAL OPACITY AND LACK OF OVERSIGHT MAKES IT LIKELY THAT THE VALUES REPORTED HERE VASTLY UNDERESTIMATE THE ACTUAL VOLUME OF OIL RELEASED DURING PERMIT BREACHES.

TABLE 3: Total reported quantity of oil discharged by year in breach of permit conditions from 2021-2023 and the total number of breaches exceeding the maximum concentration limit and average concentration limit from 2021-2023.

YEAR	TOTAL VOLUME OF OIL DISCHARGE (TONNES)	NUMBER OF TIMES MAXIMUM CONCENTRATION LIMIT EXCEEDED	NUMBER OF TIMES AVERAGE CONCENTRATION LIMIT EXCEEDED
2021	143	81	48
2022	246	209	107
2023	147	151	84
Total	536	441	239





OF THE 1,055 DISCHARGE PERMIT BREACHES REPORTED FROM 1 JANUARY 2011 TO 17 MAY 2024, ONLY FOUR FORMAL INVESTIGATIONS WERE OPENED:

30 SEPTEMBER 2021	<i>Dana Petroleum (E&P) Ltd, 13 tonnes</i>
13 APRIL 2022	<i>Petrofac Facilities Management Ltd, no volume reported</i>
30 APRIL 2022	<i>Petrofac Facilities Management Ltd, no volume reported</i>
21 JULY 2022	<i>BP Exploration Operating Company Ltd, no volume reported</i>

Published data does not include a reason why investigations were not opened.

THIS MEANS ONLY 0.38% OF REPORTED DISCHARGE PERMIT BREACHES WERE INVESTIGATED, COMPARED TO 73% OF PON1 SPILLS OVER THE SAME PERIOD, SUGGESTING A VASTLY DIFFERENT APPROACH TO INVESTIGATING PERMIT BREACHES, COMPARED TO ACCIDENTAL SPILLS.

Forty companies discharged oil in excess of the concentration limits set by their permits over the study period.

JUST FIVE COMPANIES ARE RESPONSIBLE FOR ALMOST 84% OF ALL OIL DISCHARGED IN BREACH OF PERMIT (TABLE 4).

Repsol Resources UK Ltd had both the highest frequency of breaches during the study period (145) and the largest volume of oil discharged (182 tonnes), and is responsible for about 32% of all oil discharges outside permit limits, followed by *Total E&P UK Ltd*, who is responsible for about 22%. As noted above, many of the records analysed failed to state the reason for non-compliance or the volume of oil spilt, meaning that the volume of oil discharged was never reported and is likely to be a significant underestimation.

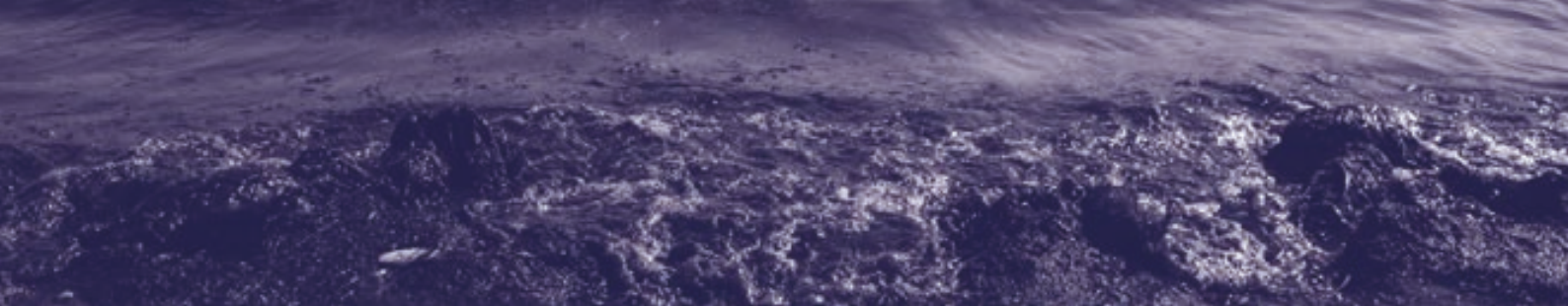


TABLE 4: The five companies with the largest volumes and frequency of oil discharges in breach of permit limits from January 2021 through May 2024. Volumes are given to the nearest tonne.

COMPANY	VOLUME (TONNES)	COMPANY	FREQUENCY
Repsol Resources UK Ltd	182	Repsol Resources UK Ltd	145
Total E&P UK Ltd*	126	Total E&P UK Ltd	110
Petrofac Facilities Management Ltd	98	Taqa Bratani Ltd	100
Equinor UK Ltd	39	Shell UK Ltd	77
Enquest Heather Ltd	34	Perenco UK Ltd	65
Total	479	Total	497

*Total volume of two Total E&P owned entities, Dana Petroleum (E&P) Ltd and Total Energies E&P UK Ltd, which discharged 71.2 and 54.6 tonnes, respectively.

Piper Bravo: The Worst Offender

The worst offender for discharge permit breaches (as well as the volume of chemical spills, see Table 1) was *Repsol Resources*, a company that also operates the Piper Bravo rig. Analysis using the SkyTruth Cerulean monitoring system shows suspected oil on the sea surface in more than a quarter of the satellite images of the rig in 2023 – the analysis is unable to distinguish between oil from accidents, permit breaches or permitted discharges. The rig had been served a health and safety notice regarding failures in ‘well integrity’ that had been known to the company since 2005.²⁷

Too Many Permit Breaches are in Marine Protected Areas

Oceana analysis of spill locations reveals a total of 248 permit breaches overlapped with marine protected areas (MPAs), totalling 56 tonnes of oil between January 2021 and May 2024. Some releases affected multiple MPAs, bringing the total spills in MPAs to 286.

OF THE 248 REPORTED PERMIT BREACHES THAT CAUSED SPILLING IN MPAS, NEARLY HALF (49%) FAILED TO REPORT THE VOLUME OF OIL DISCHARGED.

Due to this lack of transparency we believe the officially reported volume of oil discharged in MPAs is a considerable underestimate.

Previous research has found 215 accidental spills in MPAs between January 2011 and December 2023, releasing some 308 tonnes of oil into MPAs over the period.

One 2022 spill (by *Petrogas North Sea Ltd* and *Noble Drilling UK Ltd* in the Brigitta field) overlapping East Gannet and Montrose Fields MPA did not breach OPPC limits as no permit was in place.

Government guidance states that discharges are still considered a breach of permit, rather than an accidental spill, even if a permit was not in place, ‘but where a permit would reasonably have been expected to be issued’.

PERMIT BREACHES IN PROTECTED AREAS



The number of permit breaches in each marine protected area between January 2021 and May 2024



Enforcement and Convictions

The Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) is responsible for enforcing offshore oil and gas environmental regulations on behalf of the Secretary of State for the Department for Energy Security and Net Zero. OPRED monitors compliance with regulations using its inspection powers and enforcement methods, as set out in the Enforcement Policy, last updated in April 2024.²⁸ It states ‘OPRED will not hesitate to use its enforcement powers when and where appropriate in accordance with this Policy.’

Inspections

OPRED publishes an annual inspection strategy and undertakes a programme of planned inspections to ensure compliance with relevant regulations and permit conditions.²⁹ In May 2024 it had just 11 deployable inspectors whose role is to inspect oil and gas company onshore offices and offshore installations, according to OPRED’s response to a freedom of information request from Oceana.

In 2023, OPRED carried out 44 inspections of offshore installations, down from 58 in 2021 and 72 in 2022. There are 232 active platforms in UK waters and 54 other pieces of active infrastructure (e.g. floating production storage and offloading units) on the sea’s surface.

THAT MEANS THAT JUST 15% OF OIL AND GAS INFRASTRUCTURE WAS INSPECTED BY GOVERNMENT OFFICIALS IN 2023.

Enforcement Is Weak

DATA ON ENFORCEMENT SHOWS THAT THE MEASURES TAKEN AGAINST OIL COMPANIES OVERSEEING SPILLS OR PERMIT BREACHES HAVE BEEN FEW AND FAR BETWEEN, AND THE FINES FAR TOO SMALL TO SERVE AS A DETERRENT AGAINST FUTURE VIOLATIONS.

Enforcement actions can be imposed when companies breach regulations,³⁰ yet there have been just four investigations into reported permit breaches between January 2021 and May 2024 and 226 investigations into accidental spills over the same period.

The UK OPRED public register of enforcement activity tracks enforcement, improvement, and prohibition notices; enforcement activity; convictions; fines; and Emissions Trading Scheme civil penalties going back five years.³¹

Just five enforcement notices were issued between January 2019 to May 2024; only one improvement notice; and no prohibition notices (see Table 5). The five enforcement notices were issued to *Pierce Production Company*, *Shell UK Ltd*, *Repsol Sinopec Resources UK Ltd*, *BW Offshore Catcher (UK) Ltd*, and *Perenco UK Ltd*. The improvement notice was issued to *Petrofac Facilities Management Ltd*.

TABLE 5: The number of prohibition, enforcement, and improvement notices issued to oil and gas companies between January 2019 and May 2024.

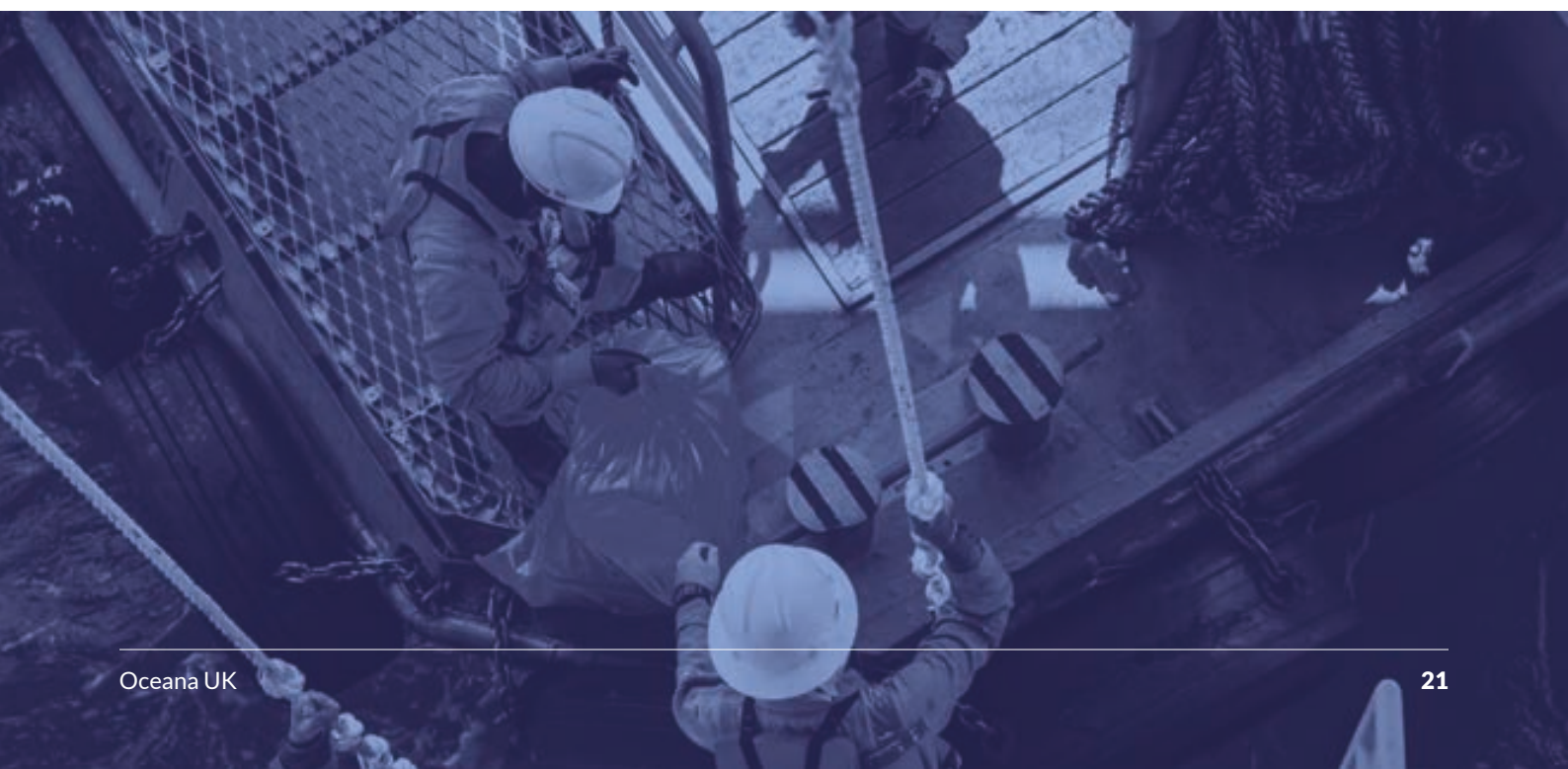
YEAR	PROHIBITION	ENFORCEMENT	IMPROVEMENT
2019	0	1	1
2020	0	0	0
2021	0	1	0
2022	0	2	0
2023	0	0	0
2024	0	1	0

There are only two recorded convictions or fines. In October 2016, *BP Exploration Operating Company Ltd* violated the Offshore Petroleum Activities (Oil Pollution Prevention Control) Regulations 2005.

BP WAS CONVICTED IN JULY, 2020, AND FINED £7,000 – JUST 0.006% OF THEIR ANNUAL PROFITS, OR 1.5 HOURS OF THE CEO’S TIME IN THE YEAR OF THE SPILL.

The only other fine on record was for £25,000, enforced in 2022 for an incident between November 2019 and February 2020 by *Golar-Nor (UK) Limited*, violating the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005.

These fines were imposed under the Offshore Environmental Civil Sanctions Regulations 2018⁵ which caps fines at £50,000. OPRED, when enforcing other areas of regulation, has used multiple fines to reach higher totals. For instance, *Repsol Sinopec Resources UK Limited* violated Article 51 of the Greenhouse Gas Emissions Trading Scheme Order 2020, receiving 14 fines amounting to a total of **£146,663** all from same event in July 2023.³¹



HOW DOES CHRONIC OIL HARM THE MARINE ENVIRONMENT?

Chronic oiling is little studied^{17,32} and poorly understood.⁹ Most research into oil impacts is short-term studies of larger oil spills. Whilst many of the physiological impacts reported will be relevant for chronic oil spills, additional specific research on the impacts of chronic oil pollution on species, habitats, ecosystems and human health is much needed.^{9,33}

What Chemicals Are Present in Chronic Oil Pollution?

Oil spills and produced water from offshore oil and gas operations contain a wide range of contaminants. Each of these components disperses, degrades and impacts on the marine environment in different ways. Produced water may be treated before release, but will still contain finely dispersed oil, dissolved hydrocarbons and compounds, including volatile fatty acids, naphthenic acids, biocides, corrosion inhibitors and heavy metals.



PAHS CAN CAUSE A RANGE OF LETHAL AND SUBLETHAL EFFECTS IN FISHES AND THE WIDER MARINE ECOSYSTEM, INCLUDING SKIN LESIONS, REPRODUCTIVE IMPAIRMENT AND DAMAGE TO THE HEART.³⁵



Some of the most problematic contaminants from oil and gas operations are alkylphenols and polycyclic aromatic hydrocarbons (PAHs).³⁴ PAHs are one of the most toxic elements of crude oil,⁶ and oil spills and produced water are among the main sources of these chemicals in the environment. In fish, PAHs can cause skin lesions, impair reproduction, damage the heart, and even cause death.³⁵ Some PAHs such as benzo[a]pyrene could be carcinogenic³⁶ and others can taint the taste of seafood, making it unsuitable for market.³⁷

Another contaminant, polyacrylamide, can be released in relatively high concentrations in produced water.³⁸ The pollutants associated with North Sea produced water have been found to affect the development of juvenile Atlantic cod.³⁹

Contaminants associated with chronic oiling have been shown to have a wide range of impacts on marine species, including:

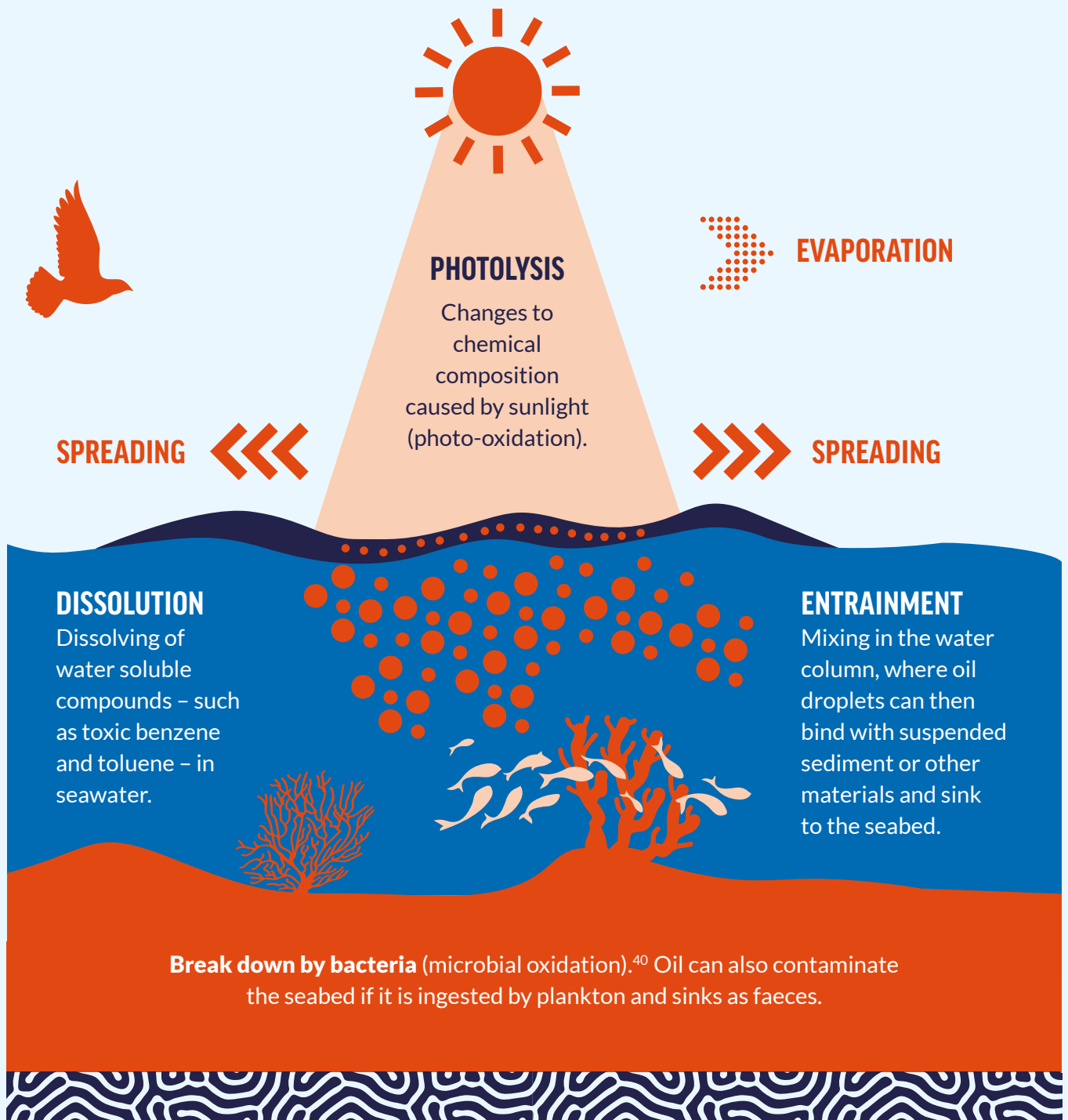
- Damaging cells and cell membranes (cytotoxicity).
- Damaging DNA, often leading to cancers (genotoxicity).
- Changing gene expression.
- Disrupting reproductive functions (including shifts in spawning time and larval survival).³³

What Happens to Chronic Oil Pollution?

Visible oil slicks are created by a thin layer of petroleum floating on the surface of the sea. Small oil spills can impact a much larger area than the sea surface visibly affected. One study found almost instant contamination down to 8 metres below the surface and up to 500 metres away from the visible slick.¹⁷

Once released, the spill goes through a process of dispersal and weathering. First, wave and wind action can disperse the oil and thin the thickness of the slick layer. The slick itself then decreases through:

- Evaporation.
- Changes to chemical composition caused by sunlight (photo-oxidation).
- Dissolving of water soluble compounds – such as toxic benzene and toluene – in seawater (dissolution).
- Mixing in the water column (entrainment) where oil droplets can then bind with suspended sediment or other materials and sink to the seabed. Oil can also contaminate the seabed if it is ingested by plankton and sinks as faeces.
- Break down by bacteria (microbial oxidation).⁴⁰



All of these effects can change the chemical composition of the oil and the nature and concentrations of the toxic substances.⁴¹ Although weathering can eventually reduce the toxicity of oil, a particular concern is the fact that weathering of crude oil releases various toxic polycyclic aromatic hydrocarbons (PAHs), with serious implications for ecosystem health.

The disappearance of a visible slick does not mean that the oil has disappeared, but that much of the oil and associated chemicals have been dispersed or converted into new, sometimes toxic, compounds which remain contaminants in the marine environment or the atmosphere.³³



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(Young Friends of the Earth Norway)

THE UK'S MARINE ECOSYSTEMS ARE SUFFERING CHRONIC OILING ON TOP OF OTHER PRESSURES, FROM DAMAGING FISHING METHODS THROUGH TO MARINE HEATWAVES AND ACIDIFICATION DRIVEN BY THE CLIMATE CRISIS.

Long-term, Extensive Damage

Chronic oil can be relatively quickly dispersed, but the oil and the complex mix of chemicals it contains move from the surface to deeper waters and can contaminate marine habitats hundreds of metres away from the original slick.¹⁷ The toxic components can also become locked into seabed sediments.³³ Whilst monitoring measures such as the numbers of oiled birds washed up on beaches have shown a significant reduction over the past few decades, this is compared with a baseline of very high levels of oil pollution in the 1970s and 1980s.⁴² Today's chronic oil pollution, although at lower levels than in the 70s, occurs with alarming regularity and in the context of a marine environment facing a range of other extreme and increasing threats.

PAH concentrations are still above background levels in sediment and there are still places where shellfish are reported with levels of PAHs above prescribed limits. Furthermore, there are areas where concentrations of PAHs in the sediment are increasing, such as in the Irish Sea and Scottish West Coast, and data gaps make it impossible to assess trends in some areas.⁴³ The OSPAR commission is clear that the UK compares poorly to other countries in the region when it comes to concentrations of oil in discharges, which has increased in recent years.²⁵

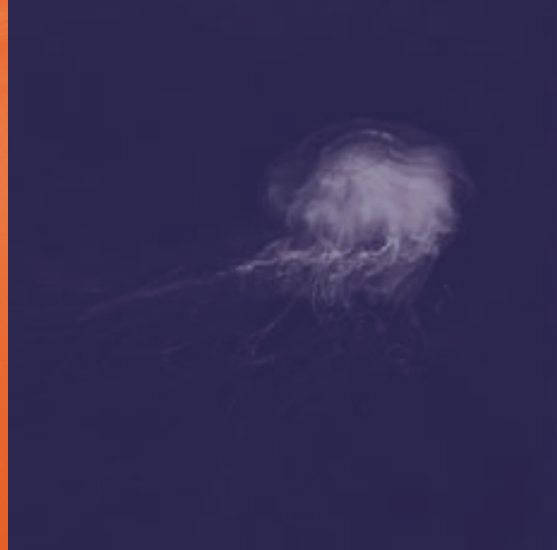
The UK's marine ecosystems are suffering chronic oiling on top of other pressures, from damaging fishing methods through to marine heatwaves and acidification driven by the climate crisis.

Not only can pollutants associated with offshore oil and gas make species and habitats more vulnerable to these pressures, it is widely acknowledged that the climate crisis can amplify the toxicity of such pollutants.¹³

The decreasing abundance of plankton in UK waters as a result of the climate crisis, for instance, is already a serious concern,⁴⁴ and widespread chronic oil pollution of our surface waters exacerbates the pressures on the marine life that sustains the entire ocean food web. One of the greatest challenges is how little dedicated research has been carried out on the impacts of chronic oiling, and this needs to be addressed.

Which Marine Ecosystems Are Most Affected by Chronic Oil Pollution?

A global review of ocean oil slicks found that 90% occurred within 160 km of the coast.⁷ Visible oil slicks are seen associated with offshore infrastructure and shipping. Initially, it is sea surface ecosystems that are most at risk from oil spills, including chronic oiling. The pollution associated with these slicks also continues as the slicks disperse, contaminating coastal areas when it is washed ashore and subtidal sediments when it combines with suspended sediment and sinks to the sea floor.³³



Many animals need to spend time at the surface of the sea – whether it is marine mammals and turtles which need to come up to breathe, or other species which feed at the surface – like basking sharks. They are therefore vulnerable to oil contamination through inhaling vapours at the surface, oil coming in contact with their skin and through eating contaminated prey, whether it is plankton, invertebrates or fish.

The community of animals and plants that live freely on the ocean’s surface includes seaweed, jellyfish, juvenile fish including cod and mackerel, snails, juvenile crustaceans and many others.^{45,46} This community is particularly vulnerable to oil pollution and it has been estimated these surface species can be subject to an order of magnitude more impact from oil than species even one metre below the surface.⁴⁶

Fish spawning and rearing habitats are especially vulnerable, including surface waters immediately beneath or near oil slicks for species that broadcast buoyant eggs.³³

Thin oil slicks can also cause significant changes to the distribution of bacteria species and groups in the ocean. Some more common species may disappear from surface waters entirely during and after a spill.⁴⁷

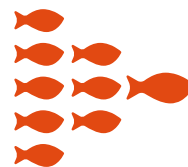
Coastal habitats are impacted when chronic oil pollution reaches the shoreline. In UK waters, habitats such as saltmarsh and intertidal seagrass beds are examples of habitats that can be impacted by oil pollution as it washes ashore.⁴⁸ Mussel beds and rocky shores are also at risk. Studies have shown the saltmarshes impacted by large oil spills have yet to fully recover decades after the spill, with lower biomass and changes to animal behaviour⁴⁹ and this is likely to apply to chronic oil pollution accumulating over decades.

90%

of slicks occurred within 160 km of the coast



Wildlife that breathes or feeds at the surface is at risk of oil contamination



Fish spawning and rearing habitats are especially vulnerable

Otters are particularly vulnerable to oil pollution because they have fur which they rely on for warmth and which they preen (ingesting oil). They also spend considerable amounts of time at the surface and on the shore – both places where they are likely to encounter oil.⁶² Populations of otter in the area of the Braer tanker spill had not recovered some years later.⁶³






How Are Whales & Dolphins Harmed by Chronic Oil Pollution?

CETACEANS NEED TO RETURN TO THE SURFACE TO BREATHE AT REGULAR INTERVALS AND CAN THEREFORE BE EXPOSED TO SURFACE OIL POLLUTION IN VARIOUS WAYS:

- Inhalation – when cetaceans surface they can breathe in the vapours from surface oil.
- Adsorption – oil adhering to the skin can allow contaminants to enter the blood stream.
- Direct ingestion – from oil at the surface.
- Indirect ingestion – from contaminated prey.⁵⁰

Exposure leads to a range of harms including:

- Lung lesions as demonstrated in bottlenose dolphins.⁵¹
- Effects on the liver and other organs, as demonstrated in minke whales.¹
- Impacts on reproductive success in species including orca and bottlenose dolphins.²



Oil can also impact prey species. Plankton, which are a key food source for species like minke and humpback whales, can be contaminated with oil which can lead to reductions in availability. In sandeels and herring, eaten by a range of cetaceans, development has been shown to be impacted by oil pollution.^{52,53}

OIL POLLUTION CAN CAUSE LONG TERM HEALTH CONDITIONS AND EXTREME SUFFERING IN WHALES AND DOLPHINS.

For example, eight years after the BP Deepwater Horizon oil spill, bottlenose dolphins in the area still had moderate to severe lung disease. Lung disease in dolphins not only impacts on their breathing but also on their buoyancy control, which affects the swimming and diving capacity essential to normal behaviour.⁵⁴

The longer term impacts of relatively low level oil pollution on marine mammals include chronic effects on the hypothalamic-pituitary-adrenal axis, a system that controls reactions to stress and regulates many body processes, including digestion, immune responses, reproduction, and energy storage and expenditure. Chronic oil pollution also affects the microbiomes of affected animals – the community of microorganisms that live on and in the body, and have a profound effect on health.³³

A range of chemical contaminants are monitored in marine mammals that are found stranded dead around the coast of the UK, and although many of these are present in offshore oil and gas pollution, it is difficult to link them specifically to this source.

LEVELS OF THESE POLLUTANTS, ALTHOUGH DECREASING, REMAIN A THREAT TO MARINE MAMMALS, AS A RECENTLY PUBLISHED STUDY OF STRANDINGS BETWEEN 1990 AND 2018 SHOWED.⁵⁵

While research remains patchy for many species, studies have shown that pollutant levels in common dolphins are declining much slower than in other studied species.⁵⁵ Combined with other pressures such as marine noise, declines in prey species and the climate crisis, this could be of serious concern.



The North Sea is an internationally important area for harbour porpoise and a large Special Area of Conservation is designated for this species. Porpoises return to the surface every five minutes to breathe and their blow holes can be contaminated with oil, toxic vapours and other associated pollutants.⁵⁶ This species also regularly returns to feed in particular areas and this behaviour can mean that they continue to feed at an oil slick despite the risks.⁵⁶





How Are Seals Impacted by Chronic Oil Pollution?

SEALS CAN BE HARMED BY OIL IN THE FOLLOWING WAYS:

- Inhalation of oil vapours and aerosols at the surface.¹
- Ingestion of oil directly or through eating oiled prey species such as fish or squid.¹
- Oiling of insulating fur disrupting heat regulation. This means burning more energy to keep warm and can make seals more vulnerable to starvation and hypothermia, as well as affecting foraging and other behaviours.^{58,59}

Seals must surface to breathe and spend a large proportion of their time at the surface or hauled out on the tidal shore. As such, they are vulnerable to chronic oiling, particularly when it affects coastal areas. While relatively little research has been done on oiling impacts on the UK's two main seal species (grey and common seals), studies show that furred marine mammals like seals are at higher risk from oil spills.⁵⁷

Exposure leads to a range of harms including leading to impaired respiration and nervous system function.¹

Seal pups are often more vulnerable to oil exposure than adults because they spend prolonged periods on the shoreline^{1,60} and as shown in studies following major oil spills, toxicity suffered by the mother is passed via the breast milk to the pup.⁶¹



Leach's Storm Petrels spend most of their time at sea in contact with the ocean surface, either to feed or rest. This makes them vulnerable to oil slicks.⁷⁷

How Are Sea Birds Impacted by Chronic Oil Pollution?

Birds are iconic symbols of the damage caused to nature by oil spills and although the number of oiled seabirds washing ashore has declined, low-level, chronic oiling can still lead to the death of birds as well as a range of sub-lethal harm.⁴¹

The oil is most dangerous to birds when the slick first forms and later when elements of the oil has bound with sediment particles and contaminated the seabed.⁴¹ The seabirds most vulnerable to oil impacts are those which spend most of their time either afloat on the surface or swimming and that cannot survive on shore for long, including auks, divers, and grebes.⁷⁵

OILING OF BIRDS CAUSES A WIDE RANGE OF IMPACTS.⁷⁶

- Coating of feathers and contact with skin – this is considered the greatest impact on birds as it can affect their ability to fly, swim, float and regulate their temperature, therefore reducing capacity to feed, reproduce and migrate.^{77,78}
- Inhaling oil – inhalation can reduce lung function and lead to toxins entering the bloodstream. This can cause problems for organs, including the liver and thyroid, as well as for the immune system.⁴¹
- Swallowing oil – which often happens a result of preening to remove oil from feathers. This can cause lesions in the digestive tract, inflammation, impacts on metabolism and internal bleeding. Impacts on the digestive system can contribute to starvation, dehydration and reduced immune system function. The toxic substances can also affect osmoregulation – salt balance – and excretion, as well as heart, brain and nervous system function. Damage to DNA, an increase in cancers, and disruption of reproductive and stress hormones are among the other impacts.⁷⁷
- Effects on eggs – incubating birds can contaminate their own eggs⁷⁹ which can lead to the death of embryos or a wide range of developmental defects.⁸⁰
- Indirect effects – oiling of seabirds can cause changes in behaviour, affecting their own health as well as wider population health. For example, oiled birds may spend more time preening to remove oil, and less time feeding.^{81,82}

How Are Sharks & Rays Impacted by Chronic Oil Pollution?



BLUE SHARKS EXPOSED TO HIGHER LEVELS OF CONTAMINANTS HAD INCREASED DNA DAMAGE AND PHYSICAL ABNORMALITIES, SUCH AS LESIONS.⁶⁷

SHARKS AND RAYS ARE IMPACTED BY OIL SPILLS AND CHRONIC OILING IN THE FOLLOWING WAYS:

- Ingesting oil directly while feeding at or near the surface, or indirectly by eating contaminated prey.
- Adsorption via the skin.

A wide range of shark, skate, and ray species are found in UK waters and their ranges often overlap with hotspots for chronic oiling. Large carnivorous sharks, like the blue shark, are vulnerable to the magnification of pollutants that accumulate through the food chain. Mercury, for instance, is a persistent pollutant associated with oil and gas extraction and is known to accumulate up the food chain, with concentrations increasing by orders of magnitude from plankton, to prey fish, to predators.⁶⁴

Along with carnivorous sharks, rays are particularly susceptible to accumulating mercury and other contaminants, including arsenic, lead, copper, cadmium and zinc.⁶⁵ Filter feeders, like basking sharks, are susceptible to ingesting oil directly via their zooplankton prey.⁶⁶

How Are Commercial Fisheries Impacted by Chronic Oil Pollution?



COMMERCIAL FISH AND CRUSTACEAN SPECIES ARE VULNERABLE TO:

- The direct oiling impacts in surface waters, particularly in the larval stages, which can lead to diverse developmental defects. For example, the oil contaminants known as polycyclic aromatic hydrocarbons (PAHs) can cause defects in fetuses, as well as tumours, bleeding and lesions in adult fish.^{36,68}
- The direct oiling impacts on the seabed, which affects spawning grounds and eggs deposited on the seabed for species like herring.
- The contamination of sediments, which can affect growth, development, respiration and feeding rates of lobsters.^{69,70}

Haddock caught near North Sea oil and gas installations have elevated levels of PAHs and the intensity of oil production in the North Sea was associated with negative impacts in haddock and cod.⁷¹ In cod, sustained exposure to oil-related contaminants led to increased immune stress and potentially greater susceptibility to infection, cancer, and other diseases.³

Exposure to the toxic effects of oil can lead to death in Atlantic salmon and herring, but even if that level of severity is not reached, it can cause reduced growth and spinal deformation.^{72,52,73}

Abnormal hearts and reduced cardiorespiratory function have also been observed in juveniles of both species. This is of particular concern, since cardiorespiratory function is a key determinant of survival and breeding potential.⁷⁴

How Is Plankton Impacted by Chronic Oil Pollution?

THE OIL-RELATED CHEMICALS PROPOSED AS LIKELY STRESSORS FOR *CALANUS* COPEPODS INCLUDE:

- PAHs.
- Phenols.
- Heavy metals (e.g. cadmium, lead, copper, iron, nickel, zinc, arsenic).⁶

The toxicity of oil in these species causes:

- Nerve damage.
- Cell and DNA damage.
- Disruption of essential moulting.
- Delayed egg hatching.
- Disrupted development of young.
- Reduced feeding.
- Poorer mating success.
- Higher mortality during diapause (winter deep sea hibernation).
- Decreased numbers of eggs.⁶

Plankton is present throughout the ocean, and phytoplankton (microscopic plants) and zooplankton (microscopic animals) together form the basis of marine food chains.

Calanus zooplankton are the basis of the food webs in the waters around the UK.⁶ They feed on phytoplankton and in turn are important prey for many ecologically and commercially important species of fish.

Calanus copepods are also being impacted by the climate crisis so there is a risk of cumulative and interacting impacts on this essential plankton group. The colder water species in the North Sea

Calanus finmarchicus has declined in biomass by 70% since the 1960s. Species with warmer-water affinities (e.g. *Calanus helgolandicus*) are moving northwards to replace the species, but are not as numerically abundant.⁴⁴

Levels of oil comparable with that found in oil-polluted marine areas in the Arctic has significant impacts on the health and productivity of copepods with oil pollution causing narcosis, which can impair feeding and movement. A significant reduction in feeding in these species was observed, which in turn impacts growth, activity and reproduction of the plankton.⁸³

The impact on feeding affects copepods' ability to store fat, which has consequences for their ability to survive the winter, as well as disrupting a key food source for the Arctic food web. Reductions in feeding and deposition of faecal pellets also reduces the carbon deposited into deeper layers, potentially reducing the rate of blue carbon capture and storage.⁸³



How Are Reef-building Animals Impacted by Chronic Oil Pollution?

Reef-building animals such as horse mussel reefs, sponge communities and oyster beds are an essential part of UK marine ecosystems and are havens that are particularly rich in biodiversity.⁸⁴

Blue mussels and horse mussels are both ecosystem engineers and create vital habitats used by other species. Produced water can cause damage to mussels' gills and membranes; increased stress; damage to DNA; and decreased filtration (and therefore feeding) rates, which in turn reduces growth and survival.⁸⁴ Even at very low levels of exposure, blue mussels have been shown to accumulate harmful chemicals such as PAHs.⁸⁵

With trawling bans in place for some North Sea MPAs, there is the potential for these important habitats to recover. However, studies elsewhere have shown oil-related contamination in oysters,⁸⁷ and although some research has shown that established reefs may be relatively resilient to oil-related pollution, oysters are vulnerable to oil spills when reproducing and in their planktonic stage.⁸⁸

THE NORTH SEA WAS ONCE HOME TO LARGE OYSTER BEDS WHICH COVERED A SIGNIFICANT AREA OF THE SEABED, SUSTAINING THRIVING ECOSYSTEMS AND FISHERIES.⁸⁶



EVEN WITHIN THIS LIMITED SCOPE OF CONSERVATION FEATURES, UK MPAS INCLUDE MANY SPECIES THAT ARE VULNERABLE TO OIL POLLUTION, SUCH AS THE HARBOUR PORPOISE AND A WIDE VARIETY OF SEABIRDS, AS WELL AS HABITATS LIKE SPONGE AGGREGATIONS, MUSSEL REEFS AND SEAGRASS BEDS.

How Does Chronic Oiling Harm Marine Protected Areas?

Pollution is a major issue for MPAs and oil-related contamination is recognised as undermining MPA effectiveness globally.⁸⁹ Many of the UK's MPAs have multiple offshore oil and gas projects within their boundaries, yet chronic oiling pollution is not well monitored or managed.

Effective MPAs require a high level of protection to allow species and ecosystems to recover and thrive. An effective MPA can also boost biodiversity and productivity in surrounding areas, bringing diverse benefits to ecosystems and to people.⁹⁰ However, until very recently UK MPA selection and management was almost entirely focused on management for a selected number of conservation features (species or habitats) where they occur within the MPA.⁹¹ This means that very few activities are banned site-wide within UK MPAs and destructive forms of fishing are permitted alongside oil and gas developments subject to assessment, even where the MPA is designed to protect species or habitats vulnerable to oil pollution. This has been exacerbated by the lack of ongoing research into the impacts of chronic oiling.

Oil pollution also has a damaging impact on plankton,^{92,93} the overspill of which seeds surrounding areas, an important function of MPAs.⁹⁴

The Faroe-Shetland Sponge Belt Nature Conservation Marine Protected Area was designated to protect important sponge communities and cetaceans in 2014,⁹⁵ but the site has continued to be explored and exploited for oil and gas. A substantial area of the seabed is covered in infrastructure, with multiple projects at different stages. Seabed diversity was found to increase with distance away from industrial activity⁹⁶ and degraded areas are known to take decades, if not longer, to recover.⁹⁷ The frequency of accidental spills and routine releases are likely to be high at this site with all the associated impacts outlined elsewhere.

The Southern North Sea Special Area of Conservation (SAC) overlaps with the Dogger Bank SAC and its primary function is to protect harbour porpoise, with the conservation objective to "maintain site integrity".⁹⁸ The likelihood of routine releases and accidental spills in this area is relatively high, along with associated risks to harbour porpoise and their prey species. Oil pollution also contributes to the interacting and cumulative threats faced by harbour porpoise including the climate crisis, which leads to declines in the availability of preferred prey.⁹⁹ This puts the species under increased risk of starvation, disease and low breeding success.¹⁰⁰



Does the Climate Crisis Impact the Effects of Chronic Oil Pollution?

The climate crisis is affecting the sea in many ways including increasing temperature, decreased oxygen, acidification, changes to circulation patterns, sea-level rise and increased extreme events such as storms.¹⁰¹ It is increasingly being acknowledged that these climate impacts are interacting with marine pollution with badly understood and unpredictable consequences.¹³ Rising sea temperatures and falling oxygen levels mean cold water corals are more vulnerable to ocean acidification,¹⁰² which in turn weakens the coral skeleton and makes the coral less resilient to pollution.¹⁰¹

In a study of the cumulative impact of oil pollution and the climate crisis on Arctic copepods the impact of oil contamination was found to be exacerbated by the climate crisis, because the plankton required more energy to regulate their temperature but had less energy available because of impaired feeding.⁸³

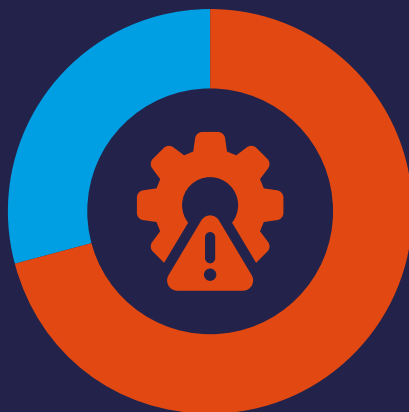
THE CLIMATE CRISIS IS AFFECTING THE SEA IN MANY WAYS INCLUDING INCREASING TEMPERATURE, DECREASED OXYGEN, ACIDIFICATION, CHANGES TO CIRCULATION PATTERNS, SEA-LEVEL RISE AND INCREASED EXTREME EVENTS SUCH AS STORMS.

THE PUBLIC'S VIEW ON CHRONIC OIL



74% 

An overwhelming 74% of the UK public are concerned about the impact of oil pollution from the oil and gas industry, according to a May 2024 YouGov poll commissioned by Oceana.⁴



71% 

Trust in the regulator and industry is also incredibly low – 71% of the public don't trust the regulator to ensure marine wildlife is protected from oil and gas drilling.



There is widespread support across the political spectrum for action to be taken against oil companies that spill oil into the sea. The same poll shows 9 in 10 (90%) of UK adults support oil companies being fined for spills, 82% support an end to licences for oil companies who have a history of spills, and 85% support licences being withdrawn from companies who repeatedly spill oil. Moreover, 81% of people support prosecutions of individuals responsible for spills in oil companies.

More than half the public (58%) assume that oil and gas drilling is already banned in marine protected areas but in reality, **over a third (30 of 82) of the licences granted to oil companies in the recent 33rd Licensing Round overlap with marine protected areas.**

The strong support from the public for stronger enforcement and action in response to spills is reflected across the UK, including in Scotland where most oil and gas industry is based, and across coastal constituencies.

“Our beautiful, life sustaining blue planet is slowly being contaminated by constant unseen pollution. Living by the coast, now knowing what is happening out of sight, fills me with anxiety, and puts yet another barrier in the way of enjoying our water environments. Big business remains indifferent, prioritising profit over planet. A lack of meaningful action casts a dark shadow over our oceans, leaving us to face the consequences.”

Laura Young, Climate Activist and Ethical Influencer



9 in 10 people support oil companies being fined for spills.

82%



of people support an end to licences for oil companies who have a history of spills.

85%



of people support licences being withdrawn from companies who repeatedly spill oil.

81%



of people strongly support prosecutions of responsible individuals in oil companies.



RECOMMENDATIONS

First, **the UK government must enact and make permanent its commitment to ending new oil and gas licences.** The commitment to end new licences, which makes the UK a global leader on climate action, can and should be augmented by ending new field consents in all UK seas. Halting any further expansion of oil and gas in UK seas is critical for ensuring no additional infrastructure or activities are approved that could lead to increasing pollution or risk missing our legal climate commitments. This can be achieved by:

- 1 Amending the Petroleum Act 1998 to remove powers to issue licences to “search and bore for and get petroleum”, and remove the principal objective of maximising the economic recovery of offshore oil and gas.
- 2 Preventing consents for new field developments under existing licences from being issued.
- 3 Revising the UK’s Marine Policy Statement and National Policy Statement for Energy to unambiguously direct future planning away from new oil and gas.
- 4 Setting out the UK’s commitment to end oil and gas on the world stage by including the policy in the UK’s Nationally Determined Contribution ahead of COP30 in 2025.

Activities can be curbed faster in marine protected areas by ending new project-level permits (which are required in addition to licences) for seismic surveys, exploratory drilling, and discharges of oil or chemicals. With no potential for new fields, applications for permits should significantly drop, but a complete ban on new permits in protected areas provides certainty of protection for these important sanctuaries.

Second, **the government and industry regulator must do more to flush out bad behaviour and protect the ocean from chronic oil pollution from existing infrastructure.** Ocean protection must remain at the heart of the transition to renewables in the UK, including through strict enforcement of regulations for existing oil and gas installations for the remainder of their lifetimes. A dramatic increase in the enforcement measures for pollution prevention and environmental regulations is needed to drive better practice. The government must:

- 5 Inspect all rigs and installations at least once every two years and provide the adequate resource for this.
- 6 Ensure that OPRED fully investigates all accidental spills and permit breaches.
- 7 Amend the Offshore Environmental Civil Sanctions Regulations⁵ to remove the cap from fines for breaches of offshore pollution regulations, which are currently limited to £50,000, a tiny proportion of oil company budgets.
- 8 Fine companies for all breaches of permit conditions and accidental spills at a level which will act as a meaningful deterrent, escalating in scale for repeated breaches and spills. This money should be ring fenced for marine nature recovery.
- 9 Introduce a new system of legal and financial sanctions on companies for non-reporting of spills and permit breaches.

Finally, **the government must take environmental protection seriously when making decisions that could pollute and degrade the marine environment.** Advice from statutory nature bodies such as the Joint Nature Conservation Committee should be at the heart of the decision-making process, not a tick box exercise. The government must:

- 10 Follow advice from statutory nature conservation bodies through all stages of the regulatory and approvals process and resource those bodies properly.

Conclusions

The volume of oil spills in the North Sea is significantly higher than previously reported by the media, and even the figures in this report are likely to be an underestimate. This should be of grave concern to any government with commitments to protect and restore nature. Levels of enforcement are shockingly low despite a clear picture of recurring and routine discharges and spills in breach of permitted activity. Oil and gas corporations have been permitted to discharge oil and toxic chemicals into UK seas unchecked for too long.

Chronic oil pollution has been consistently dismissed and the impacts downplayed on the basis of very little evidence. On 3 May 2024 the government at the time granted 21 new oil and gas licences in marine protected areas, yet has failed to include not just the climate impacts of burning the potential oil produced, but also the cumulative threats to protected habitats and species, including from chronic oiling. The assessment process is therefore fundamentally flawed and


goes against the precautionary principle of avoiding harm in case of potential uncertainty and risk.

There is widespread public support for robust action to tackle oil spills and hold the oil industry to account, polling in this report shows.

There is now an opportunity for a robust approach to ensure that oil companies are held accountable for pollution they cause. Smart regulation and enforcement will drive a reduction in spills and discharges and ensure the ocean is protected from harm alongside a just transition to clean, green sources of energy.

Oil corporations have polluted our air and water for decades, destroying and degrading marine ecosystems and driving our seas to breaking point. We must act to put the recovery of the ocean at the heart of government policy and create a future free of oil pollution.

LESSONS SHOULD BE TAKEN FROM THE SEWAGE SCANDAL: THE PUBLIC DON'T TAKE KINDLY TO BIG INDUSTRY ACTING WITH IMPUNITY AND POLLUTING OUR WATERWAYS AND SEAS.

A photograph of a protest where a person in the foreground holds up a white sign with the word 'ENOUGH' written in large, bold, black letters. The background is a blurred crowd of people, suggesting a public demonstration or rally.

ENOUGH

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