

## INCIDENT MONITORING AND OUTCOMES SUMMARY – FOLLOWING THE PERENCO OIL SPILL TO OWER BAY, POOLE HARBOUR MARCH 2023.

Final update on 3<sup>rd</sup> March 24 From Premium Monitoring Coordination Cell (PMCC) following production of the PMCC monitoring report.

### **The oil incident**

Perenco Wytch Farm extract and process oil, which is then transferred via pipeline to Hamble Oil terminal where it is stored. On 26<sup>th</sup> March 2023 Perenco discovered oil leaking from one of their 12-inch infield pipelines into Shotover Moor which feeds into Poole Harbour. A significant amount of oil leaked into the harbour (circa 200 barrels of a crude oil and reservoir fluid mix). The oil entered Owers Bay and reports were later received of oil sheens in parts of the wider harbour and small amounts of oil were reported on intertidal areas including the north of the harbour and the north side of Brownsea Island.

A decision was made immediately following the incident to close the shellfish beds within the wider Poole harbour.

### **The Response by Perenco**

When the release was reported, Perenco activated its emergency response plan and mobilised its Incident Management Team and Emergency Response Teams. As part of this response Oil Spill Response Limited (OSRL) a specialised global oil spill response company, were mobilised to assist with oil recovery operations. Various booms were deployed to prevent the release of oil into the wider Poole Harbour Area and various teams of pollution response personnel from Perenco and OSRL were deployed to recover oil in the area of Shotover Moor, the point of release. The release entered the water at Ower Bay.

As part of their programme of works, OSRL also deployed five shoreline clean-up assessment teams applying the Shoreline Clean-up Assessment Technique (SCAT). SCAT is a well-established technique used to document the status of oiled shorelines and their subsequent treatment recommendations, in a methodical and scientific manner. As part of the SCAT surveys the teams documented locations of shoreline oil, took photographs of the contaminated areas and estimated the level of oil coverage. In addition to the SCAT teams from OSRL there were five recovery teams from Adler and Allen working in coordination with the OSRL SCAT teams to recover and dispose of any oiled waste identified.

In addition to land-based monitoring, there were a series of Aerial surveillance flights around Poole Harbour using fixed wing, drone and helicopter resources.

## **The PMCC Response**

The area is important in many ways, due to the diverse and sensitive habitats and species found within Poole harbour (which include peacocks worm beds, seagrass and saltmarsh) as well as the commercial lease beds for shellfisheries and important bird life. It is designated as a Site of Special Scientific Interest (SSSI), a Ramsar wetlands site and a Special Protection Area (SPA). Following discussions within the Standing Environment Group it was decided to initiate the Pollution Response in Emergencies: Marine Impact Assessment and Monitoring (PREMIAM) Monitoring Coordination Cell (PMCC).

The PMCC group met weekly, until September 2023 when this frequency reduced, but the group continued to operate until 15<sup>th</sup> February 2024. Its focus was to develop and implement a Poole harbour monitoring plan and ensure there was a report on the findings of this work. PMCC's main role during any incident is in coordination. Experts and practitioners from a range of organisations and specialisms were brought together to collate and analyse existing information relating to the site and the initial evidence and ongoing generated from the incident. Using this information, the PMCC developed and implemented a proportionate and evidence informed monitoring programme to provide an assessment of the impacts of the incident on the flora and fauna of Poole Harbour. The final report of this work was issued on 6<sup>th</sup> March 2024.

## **Situation at Site D**

Due to the extent of clean-up required at the site of the leak (site D), Perenco and consultants Adler and Allan led on the monitoring working undertaken in this area. This work entailed an investigation phase around the point of release to establish the extent of any potential oil plume in addition to ongoing surface water sampling in the wider Poole Harbour Area. The Investigation stage undertook surface water, groundwater, and sediment analysis in accordance with a work scope agreed by all relevant stakeholders. The investigation showed there was an area of contaminated sediments and soils to approximately 300mm depth within a defined area around the release point.

There has clearly been an environmental impact in Ower Bay around the point of release. Any remaining hydrocarbons were fully contained initially by booms and absorbents, and later, by a bubble curtain, to prevent a risk to the wider Poole Harbour area. This impacted area is being monitored and managed by Perenco and Adler and Allen. Plans were implemented to remediate this area by removing this surface layer of contaminated sediment. That work has now been completed.

The active participation of Perenco Oil and Adler and Allan in the PMCC has ensured that there has been an integrated approach taken to the monitoring and assessment of the whole extent of the area impacted by the incident – this included both the site immediately around the spill and the potential impacts on the wider harbour.

## **Shellfish Beds**

Based on the decision to close the commercial shellfish beds within the harbour immediately following the incident, the priority of the PMCC was to facilitate the collection and analysis of shellfish samples from the commercial beds within the harbour. These were collected within 4 days of the incident and included sediment samples alongside the shellfish sampling. The results for the shellfish samples showed that all polycyclic aromatic hydrocarbons (PAH's - a class of chemicals that are found in oil) were within safe levels for consumption, which led to the commercial shellfish beds being re-opened on advice from the Food Standards Agency three weeks after the incident. Further shellfish samples were collected from the wild shellfish beds to ensure these communities had not been impacted by the incident. As with the commercial shellfish beds, results from the wild shellfish beds determined that all PAH values were within safe levels.

The sediment samples collected at the same time also showed low contamination of PAH – samples being below at the international level set showing toxic effects are unlikely to be observed or predicted. Later sediment samples continue to report similar findings.

### **Seabed habitats**

Based on existing knowledge of the site, the oil evidence collected during daily overflights, SCAT surveys and bird surveys conducted in the area; the PMCC designed an initial monitoring survey. This was to collect sediment and investigate sediment-dwelling invertebrate samples from a range of what were deemed 'impacted' and 'un-impacted' seabed sites across Poole Harbour. These benthic macro-invertebrate species and abundance were assessed as these communities are known to be good indicators of oil pollution. The surveys to collect sediment were undertaken in Poole harbour on the 4<sup>th</sup> and 5<sup>th</sup> April, using the Environment Agency vessel. This included sites close to sensitive habitats, in the vicinity of the commercial beds and representative of the areas where oil was noted during the initial stages of the incident. Results from the analysis of the macro-invertebrate communities in these samples showed no obvious impacts of oil pollution linked to the incident, although the macro-invertebrates in the sites nearest to Ower Bay were different in community make up than in other sites. During the same survey, some small areas of oil sheen were noted at three locations in the wider bay, but the source could not be confirmed. Water samples from three locations, collected as part of this survey and close to Owers Bay showed no oil present.

To assess the potential impacts of oil released during the incident reaching the seabed over a protracted period, a further sediment chemistry and benthic macroinvertebrate survey took place within Poole Harbour on 4<sup>th</sup> and 5<sup>th</sup> August, approximately four months after the incident. Seven stations were selected based on previous samples collected, the proximity to sensitive habitats and species as well as locations distant to the release site, which could function as reference stations. Results from these chemical analyses show data for all seven sites is still below the Effects Range Low and Effects Range Median for PAHs. Given these results continue to remain low, the likelihood that the benthic invertebrates will have been impacted also remains low. Consequently, the August invertebrate samples were not analysed.

### **Bird Survey**

Birds of Poole harbour (BoPH) completed a wetland birds survey on 2<sup>nd</sup> April 2023 soon after the initial oil release. This showed some oiling on six birds had occurred. Some unconfirmed numbers of birds were said to have been seen with oil sheens on their bodies after this initial survey, but these were not formally reported. Overall, impacts on birds appeared to have occurred but were limited to a few individuals. The annual surveys of wintering birds will be reported to PMCC once available, which will provide some assessment of how birds continue to use the site in the first winter after the oil release.

### **Seagrass beds**

Seagrass is a particularly sensitive and protected habitat within the wider harbour. Oil sheen was noted during the initial stages of the incident close to the location of the subtidal seagrass bed in the wider harbour. Routine Plants surveys are timed to occur in mid to late summer to coincide with the main growth period of these plants. Surveys on this and the related tasselweed *Ruppia* were completed in July and August as part of the Environment Agency's routine surveys.

The *Ruppia* monitoring in the intertidal mudflats was completed on 23<sup>rd</sup> July and found sparse beds of *Ruppia* at Fitzworth Point and Brands Bay which is similar to that found in previous years. No signs of oil were seen at these locations. No *Ruppia* was noted at the previous site near Ower Bay, although *Ruppia* was noted there in 2016.

The subtidal seagrass bed to the northeast of the wider harbour was surveyed using an underwater camera. No immediate evidence of any oil pollution was seen on the images during the survey.

### **Conclusion of work**

Based on the encouraging results from the different monitoring undertaken within the wider Poole Harbour, a decision was made that no further monitoring would be undertaken in the wider bay linked to the incident. Routine ecological monitoring of the harbour will continue to take place over coming months by the FSA, BoPH, Environment Agency and others. Also, the ongoing monitoring conducted by Alker and Allen will continue to be examined in light of the incident and to assess the success of the remediation works and how the habitat may recover.

### **Summary**

There was an environmental impact within Ower Bay around the point of release. Any remaining hydrocarbons were fully contained initially by booms and absorbents, and then by a bubble curtain, reducing any risk to the wider Poole Harbour area. This impacted area is monitored and managed by Perenco and Adler and Allen in agreement with the multiagency remediation and restoration group. Operations were completed in February to remove the key area of contaminated sediment in mudflat and saltmarsh, enabling a staged removal of the booms across Ower Bay. This removal was only approved once repeated weekly water

sampling over various ranges of tides indicated little risk of oil pollution to the wider harbour remained.

The investigation and monitoring activity undertaken to date indicates that there has been limited impact from the incident on the wider Poole Harbour area. The key impacts have been on the activity in and around Poole Harbour in the first two weeks after the incident when fishing and shellfish activities were restricted. From an ecological perspective there does not appear to have been a material impact on the wider Poole Harbour area from data and observations to date.

Based on the encouraging results from the monitoring undertaken within the wider Poole Harbour, a decision was made that no further monitoring would be undertaken in the wider bay linked to the incident. However, to ensure that potential long-term effects of the incident are considered, relevant evidence arising from current and planned monitoring within Poole Harbour will continue to be examined into 2025.