

Dounreay
Environmental Monitoring at Dounreay
Dr Christopher Sneddon

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Environmental Monitoring - Overview

- **Introduction**
 - Present and future
 - Environmental Monitoring at Dounreay
- **Environmental radioactivity**
 - Site sources and pathways
 - Background
 - Conceptual model
- **Regulatory oversight**
 - Statutory mechanisms
 - Transparency
- **Site water quality monitoring network**
- **Environmental monitoring Programme**
 - Monitoring programme
- **Environmental monitoring – dissemination**
- **Questions**

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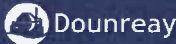
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Dounreay Present and Future

- Legacy Radiological and Non-Radiological Hazards
- Decommissioning to remove these hazards
- Interim End State – Release Site from Regulation
- Next Use?




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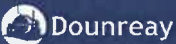
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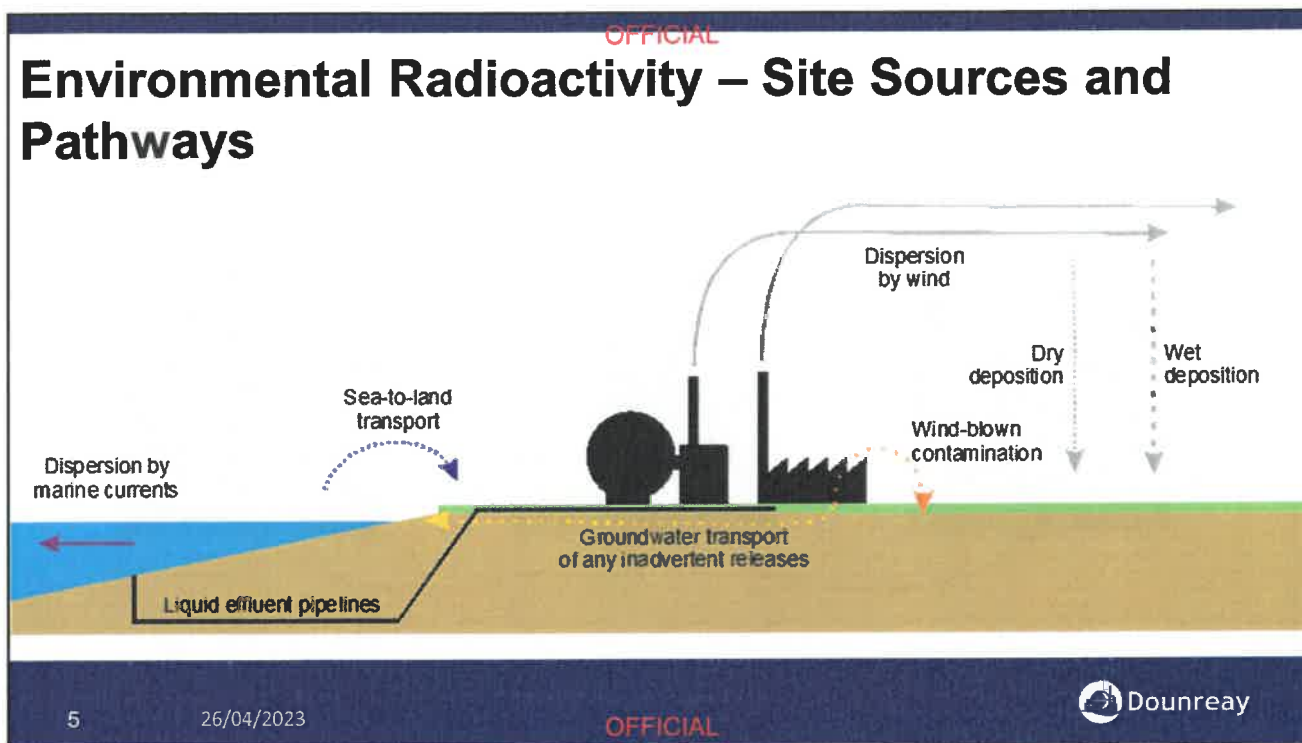
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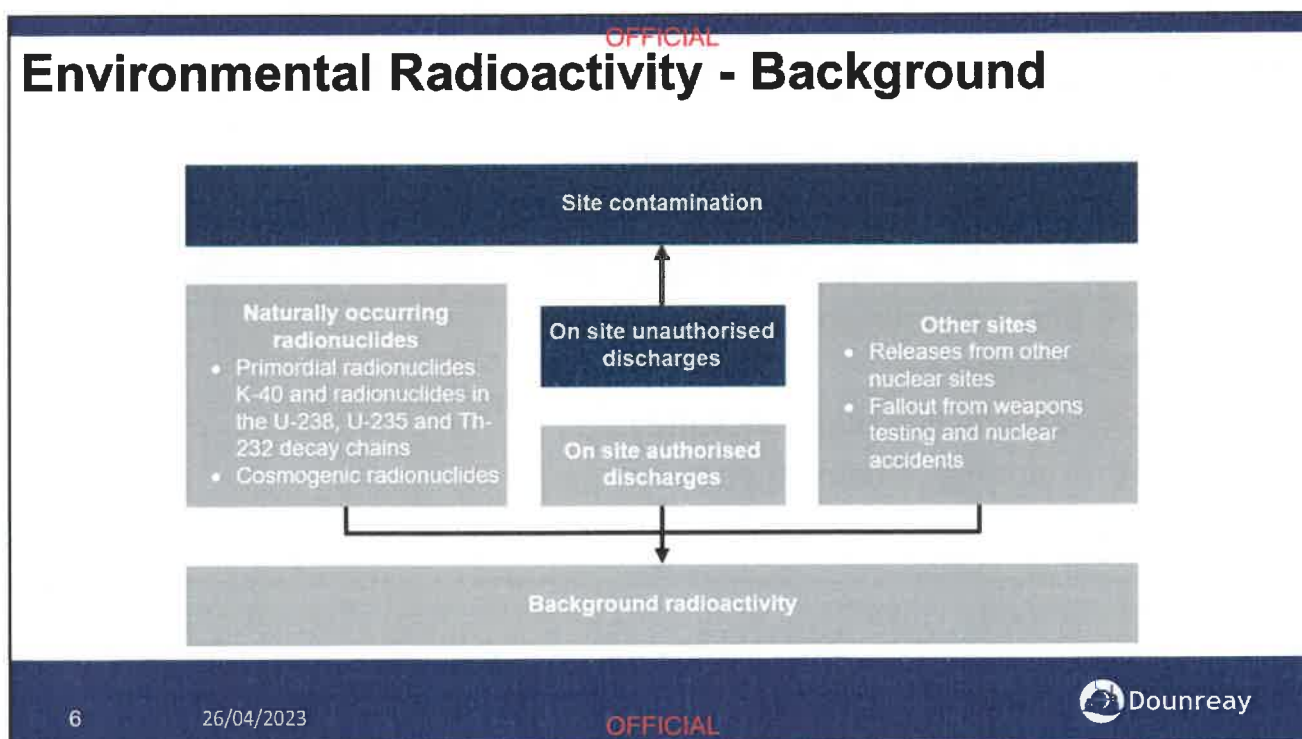
- Dounreay conducts sampling and analysis of the environment to understand the impact of site operations on the environment, this includes.
 - Legacy impacts e.g. particles
 - Current impacts e.g. EASR(18) authorised discharges
 - Future impacts e.g. Tc-99 baseline

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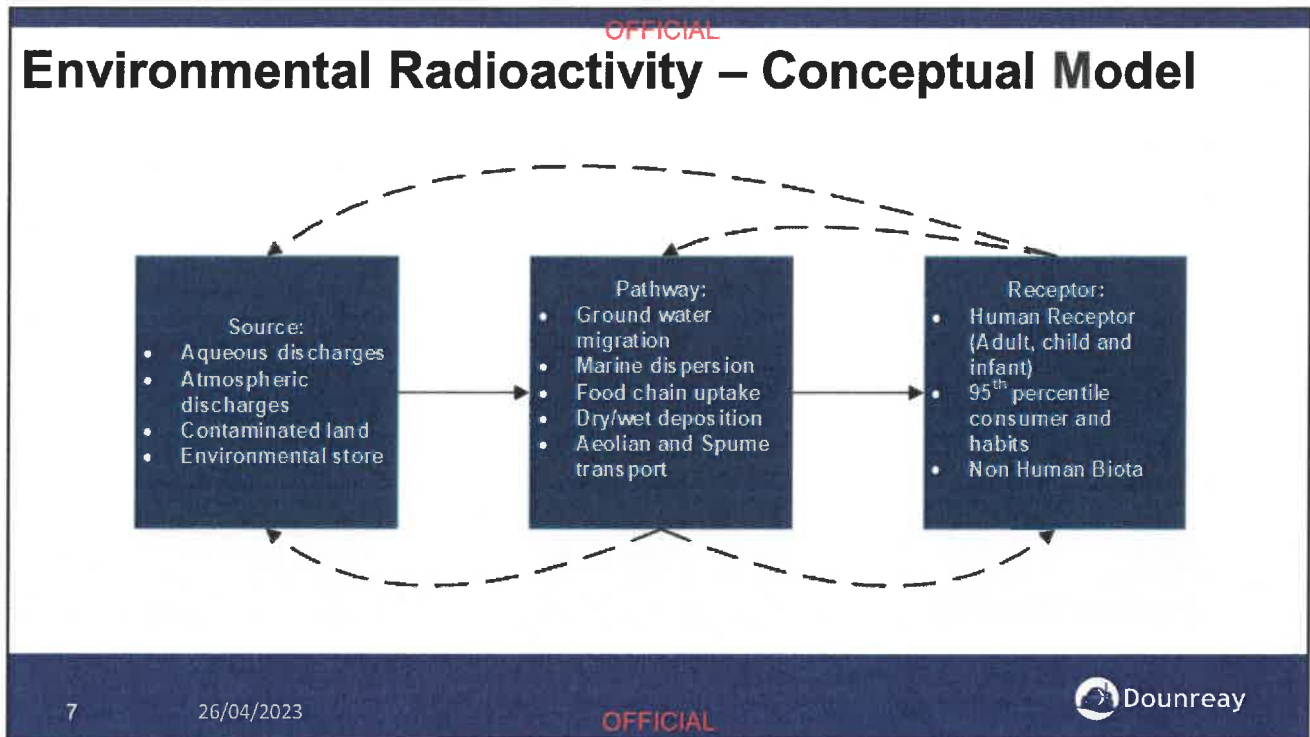
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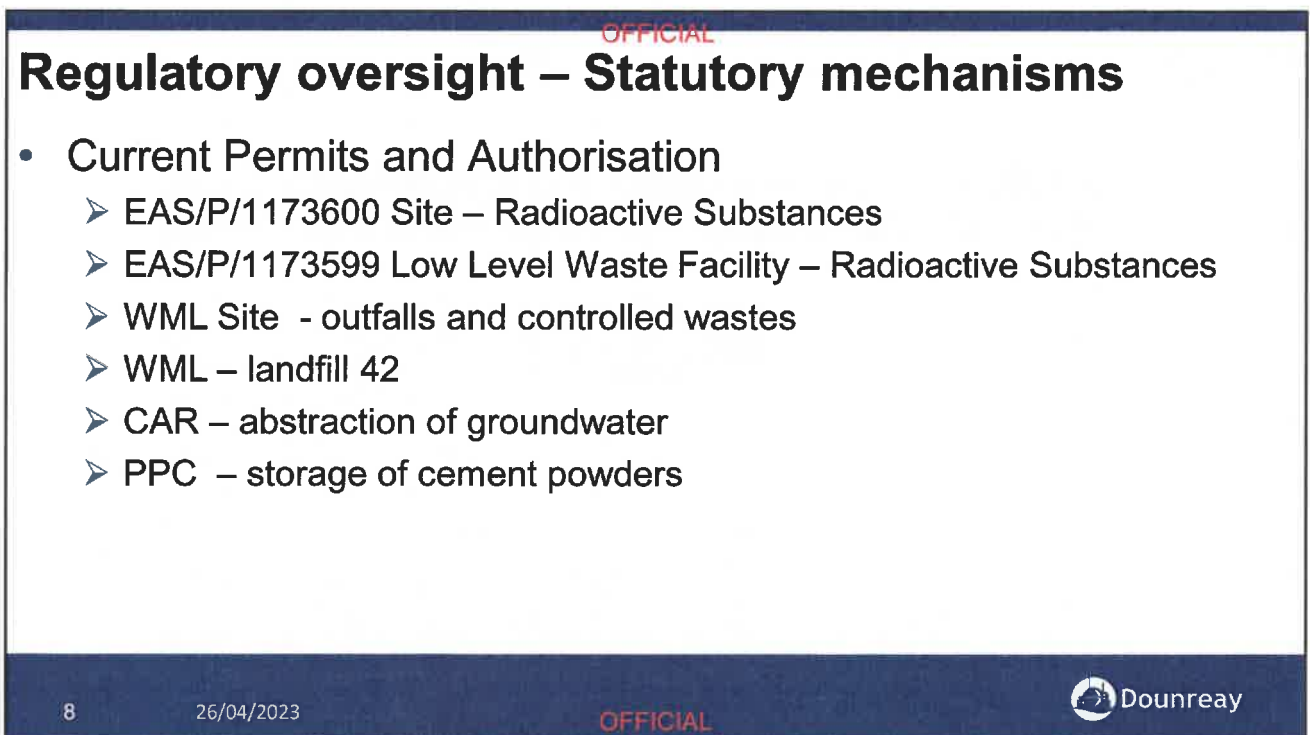
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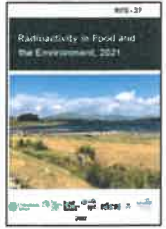







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Regulatory oversight – Transparency

- RIFE reports (current RIFE 27)
- Habits surveys (Latest 2018 + 2020 Covid survey)
- Site submissions to SEPA and ONR
 - Quarterly EMProg submissions to SEPA
 - Annual Beach monitoring submissions to SEPA
 - Annual Public dose submission to ONR
- Data provided to Regulators is available via online portals and subject to FOI






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Site Water Quality – Monitoring Network

- Routine sampling of:
 - 198 boreholes
 - 36 surface water locations
 - 24 seep locations

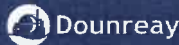




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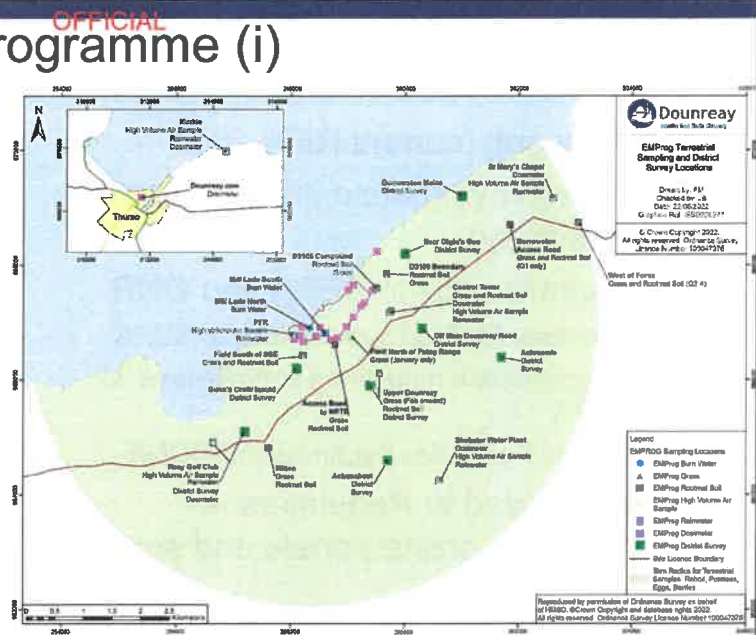
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EMProg – Monitoring programme (i)

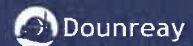
- 5km Terrestrial zone
 - Food stuffs
 - Environmental media
 - Radiation surveys



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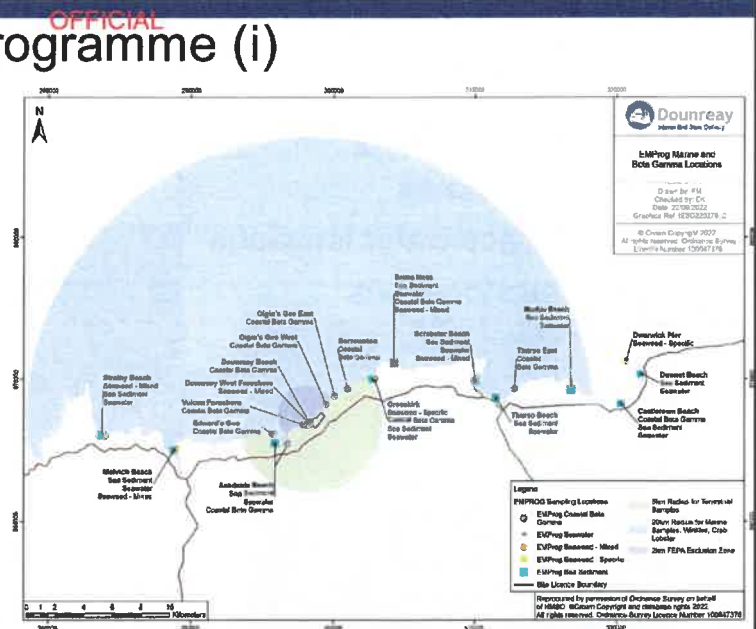
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EMProg – Monitoring programme (i)

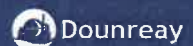
- 20km marine zone
 - Food stuffs
 - Environmental media
 - Radiation surveys



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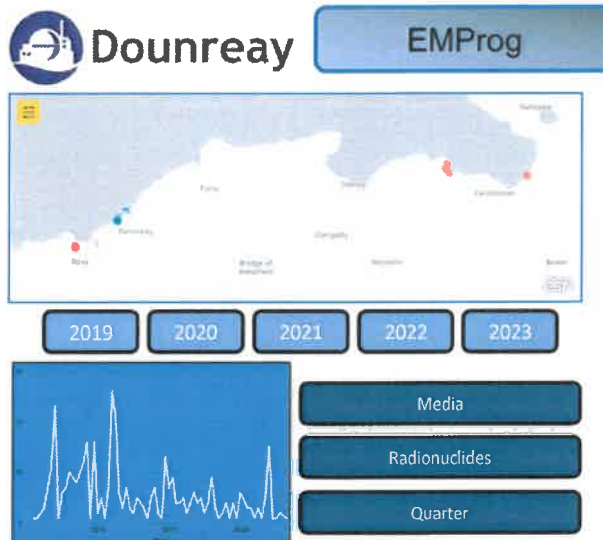


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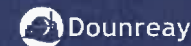
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Environmental monitoring - Dissemination

- EMProg Dashboard
 - Where and when sampling occurs within Caithness
 - Interactive web based application
 - Complementary to the RIFE reports



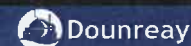
The screenshot shows the EMProg Dashboard interface. At the top, there is a 'Dounreay' logo and an 'EMProg' button. Below this is a map of Caithness with several red dots indicating sampling locations. Underneath the map are five buttons for the years 2019, 2020, 2021, 2022, and 2023. Below the year buttons is a line graph showing data for the year 2019. To the right of the graph are three buttons: 'Media', 'Radionuclides', and 'Quarter'.

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Any Questions?

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