

# SCOTTISH ENVIRONMENT PROTECTION AGENCY



## A PRESENTATION TO IMPEL WATER & LAND CONFERENCE

OCTOBER 2022

A photograph of a rocky landscape with yellow lichen and a bird's nest. The text 'Environmental Liability in Scotland – Case Studies' is overlaid in white, bold, sans-serif font. The background shows a rocky outcrop covered in bright yellow lichen, with a bird's nest made of dry twigs and sticks in the foreground. The nest contains two small, greyish-brown eggs. The surrounding area is covered in green grass and small plants.

# Environmental Liability in Scotland – Case Studies



500 natura sites

>300 protected species

51 Ramsar >300,000 hectares

30 Marine Protected Areas

Biosphere reserves e.g. Beinn Eighe

World Heritage Site – St Kilda

3 geoparks covering 10% of Scotland's land area



**4.—(1) Subject to regulation 5, these Regulations apply in relation to—**

**(a) damage to protected species and natural habitats if—**

**(i) it has significant adverse effects on reaching or maintaining the favourable conservation status of the protected species or natural habitat; and**

**(ii) it is caused by an activity listed in Schedule 1 or by the fault or negligence of an operator whilst carrying on any other activity;**

**(b) water damage, caused by an activity listed in Schedule 1, which is any damage that significantly adversely affects any or all of the—**

**(i) ecological status;**

**(ii) chemical status;**

**(iii) quantitative status;**

**(iv) ecological potential,**

**of the waters concerned with the exception of adverse effects where Article 4(7) of Directive 2000/60/EC applies;**

**(c) land damage, caused by an activity listed in Schedule 1, which is any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction in, on, or under land of substances, preparations, organisms or micro-organisms.”**



## ESTABLISHING WATER DAMAGE

- Accidental discharge of agricultural fertiliser to a stream
- 400 dead fish removed over 400m
- Area based electro-fishing survey showed low fish abundance of all age groups
- Ex-ante WFD Fish Ecology Status Good
- Pre-incident data not available.



### Challenges and solutions to establishing baseline water damage and expected recovery

- Ecology survey and expert advice from SEPA ecologists
- Scaling number of dead fish to length of downstream water body
- Historical surveys of similar waterbodies
- Historical different type of survey



Primary Remediation – natural recovery will take time because of natural barriers to fish migration

Compensatory remediation – focus on services and resources

Fish barrier mitigation measures to open up 10s of kms of river to migratory trout and salmon in another stream in the catchment

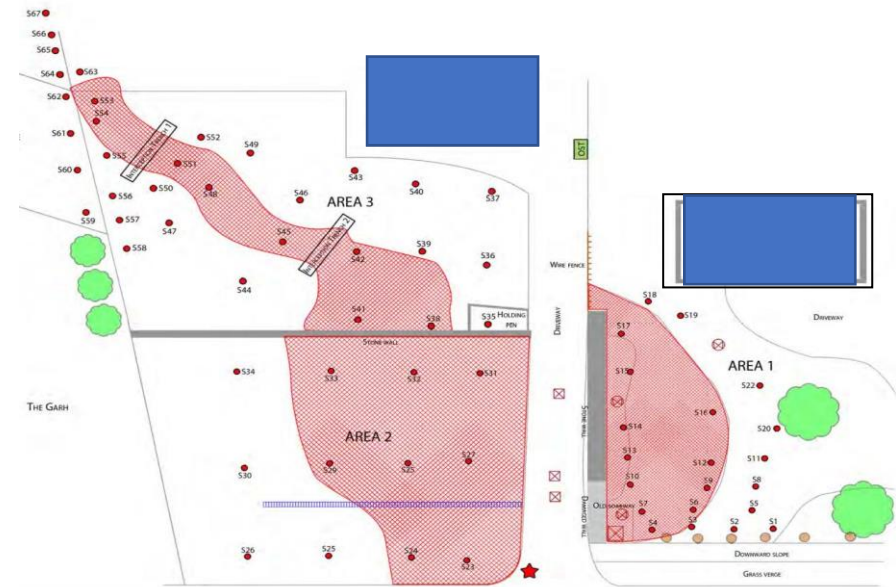
Successful call on operators financial provision (insurance)





## ASSESSING AND REMEDIATING LAND DAMAGE

- 20,000L aviation fuel spilled near houses
  - Conceptual site model – key pathways
  - Dermal contact with contaminated soils.
  - Inhalation of airborne dust & vapours (BTEX, naphthalene).
  - Off-site migration via surface flow and shallow groundwater flow.
  - Surface Water via shallow groundwater, potential service routes and overland flow.
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- Soil and groundwater investigation to establish extent of damage and design remediation plan
  - **Generic soil assessment criteria for residential land use and site specific criteria**
  - Contaminated soil removal (several phases)
  - Pump and treat and ORC© to clean shallow groundwater
  - Validation – soil, groundwater and air sampling
  - Successful call on operators financial provision (insurance) .- around €900K



## PREVENTION OF ENVIRONMENTAL DAMAGE

- Potential for polluting discharge from site if water treatment system not in place in time
- Potential for the discharge to quickly migrate to an important fisheries river and cause water damage
- SEPA indicated that actions need to be taken to ensure there is no discharge of polluting effluent
- **OUTCOME** – the required preventive actions were taken



- Release of sediment into river from river bankside construction works
- River in a catchment which provides habitat for freshwater pearl mussels
- Prevention notice issued to require the operator ensures that there is no biodiversity damage
- Prosecution action under existing environmental legislation





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