

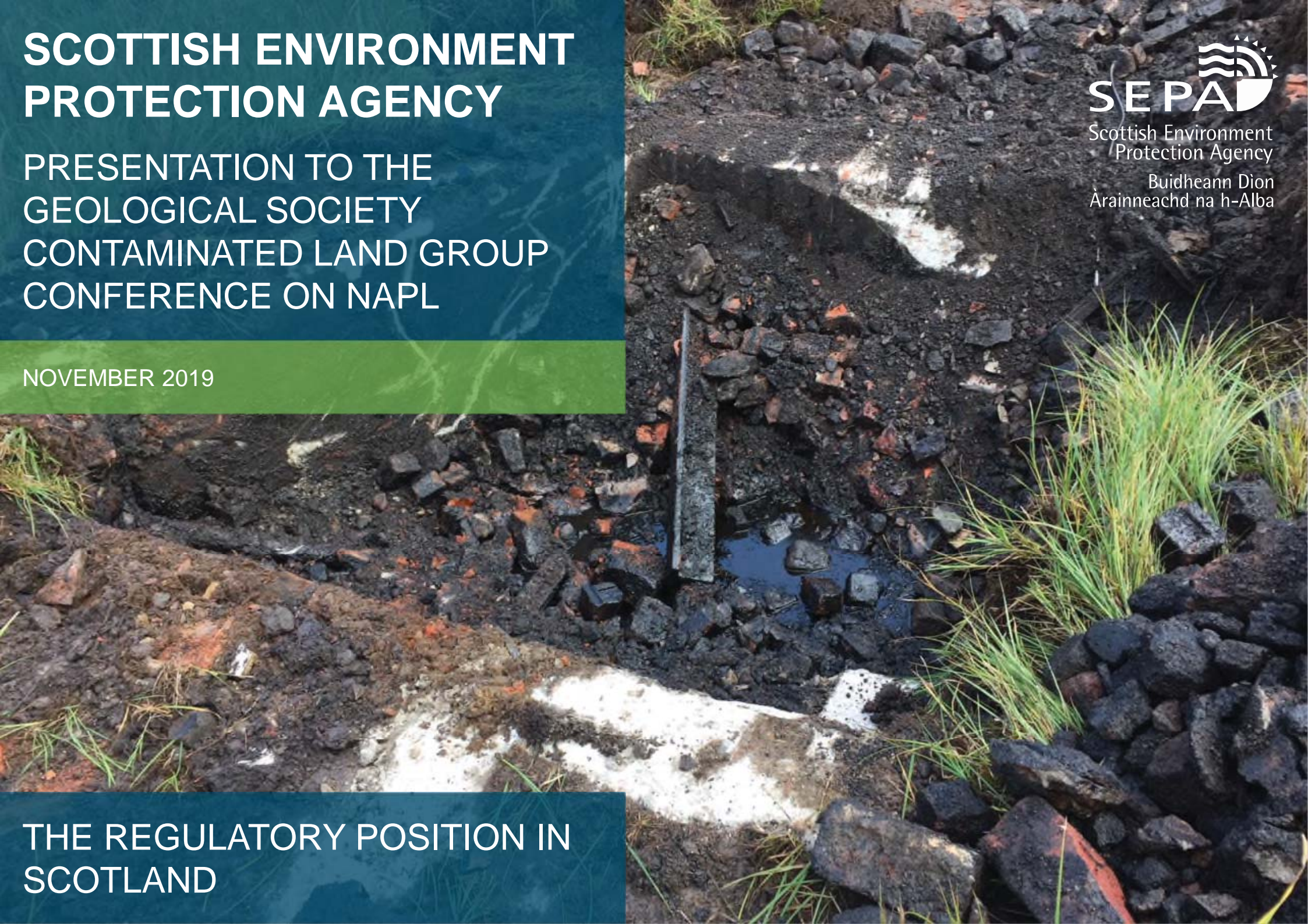
# SCOTTISH ENVIRONMENT PROTECTION AGENCY

## PRESENTATION TO THE GEOLOGICAL SOCIETY CONTAMINATED LAND GROUP CONFERENCE ON NAPL

NOVEMBER 2019



### THE REGULATORY POSITION IN SCOTLAND

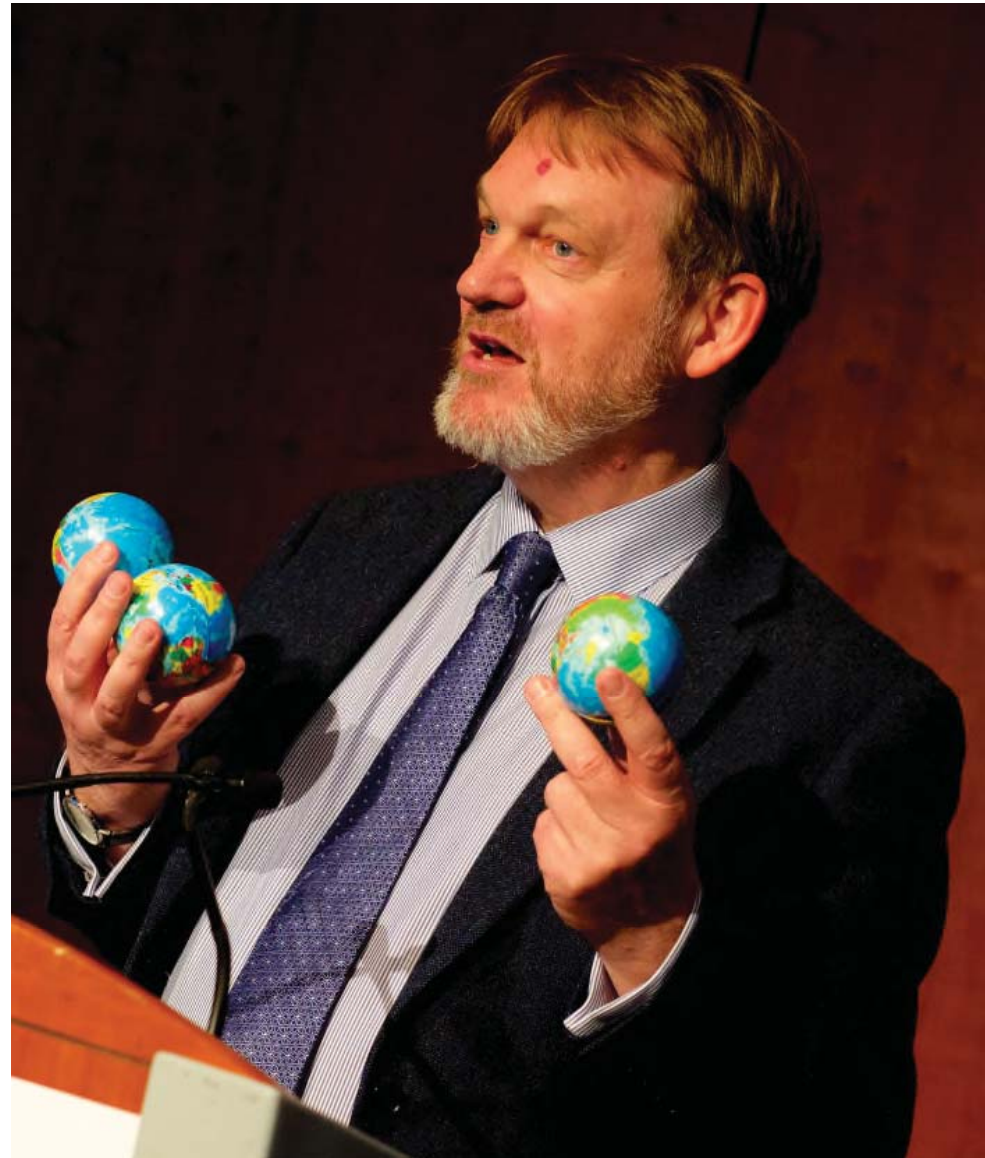


# ONE PLANET PROSPERITY

Every day SEPA works to protect and enhance Scotland's environment, helping communities and businesses thrive within the resources of our planet. We call this **One Planet Prosperity**.

In every sector we regulate, this means we will have two simple aims. We will:

1. ensure that every regulated business fully meets their compliance obligations;
2. ensure as many regulated businesses as possible will go beyond the compliance standards. Regulating across whole sectors will help to tackle compliance issues and identify opportunities.



## Regulations and Definitions in Scotland

- **Water Environment and Water Services (Scotland) Act 2003**
  - aka **WEWS**
  - introduces **RBMP** duties on **SEPA** and others. For example, in the context of brownfield land redevelopment the Planning Authority is the enforcing authority and they have statutory duties under the WEWS Act to implement the requirements of the WFD.
- **The Water Environment (Controlled Activities) (Scotland) Regulations 2011**
  - aka **CAR** – Directly regulated by **SEPA**.
- Enact EU WFD and others (including GW Directive) into Scottish Law
- **NB** – In Scotland it is the *activities* related to waters that are controlled rather than the water. The WEWS act defines ‘The Water Environment’ as:  
“*all surface water, groundwater and wetlands.*”

# SEPA Guidance



The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended)

A Practical Guide

A practical guide to the regulations, including:

- An overview
- Definitions of the regimes
- Levels of authorisation
- The General Binding Rules

Version 8.3 February 2019



- This is a reference document which clearly states how the regulations apply in different circumstances, and where licencing is required
- Of note to this conference are General Binding Rules 26, 27 & 28 which relate to storage of oil

# SEPA Guidance

## **Position Statement (WAT-PS-10-01)**

**Assigning Groundwater Assessment  
Criteria for Pollutant Inputs**

## **Supporting Guidance (WAT-SG-53)**

**Environmental Quality Standards and  
Standards for Discharges to Surface Waters**

## **Water Pollution Arising from Land Containing Chemical Contaminants**

2nd edition 2012

Land remediation and  
waste management guidelines

<https://www.sepa.org.uk/regulations/land/contaminated-land/technical-concepts/>

<https://www.sepa.org.uk/regulations/land/contaminated-land/remediation-activities/>

## Hazardous Substances (Sources)

- Most NAPLs contain Hazardous Substances (GWD definition)
- Assessment point for Hazardous Substances is at point of entry to GW
  - i.e. BEFORE dilution

NAPL type	Location	Entry to GW occurring / has potential to occur?
DNAPL	Saturated zone	Yes
LNAPL	At water table	Yes
NAPL	Unsaturated zone	Assume yes unless demonstrated otherwise

- If NAPL solubility very low (i.e. <MRV), entry to GW may be negligible

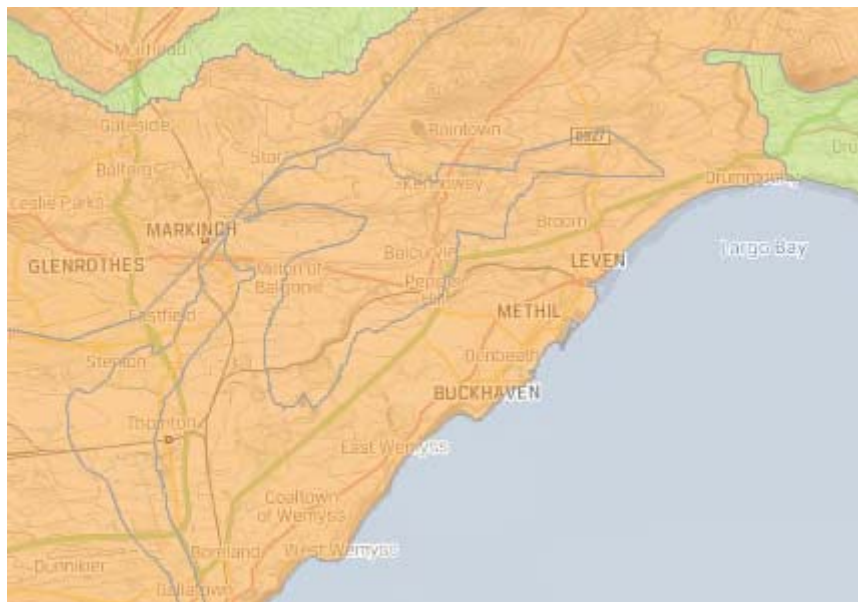


## Groundwater Resources (Receptors)

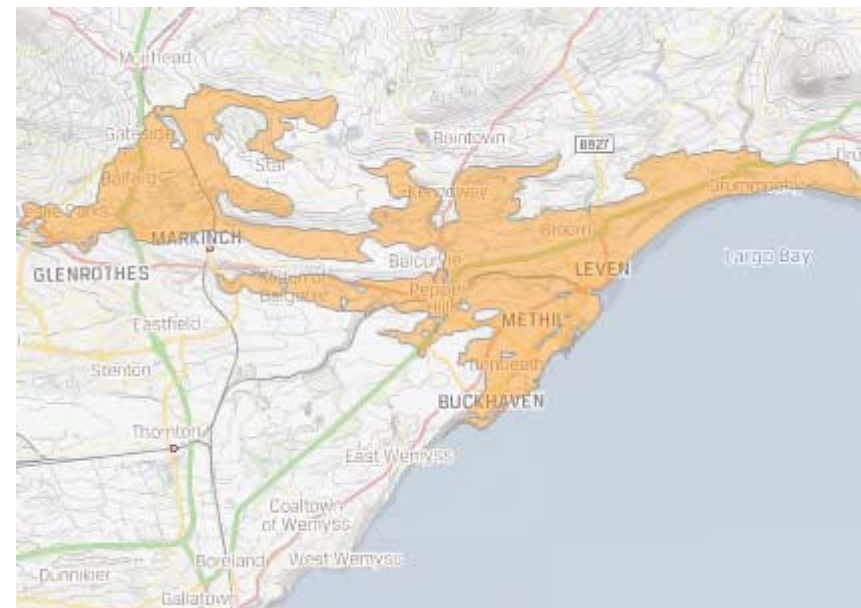
**CHECK OUR MAPS:** <https://www.sepa.org.uk/data-visualisation/water-classification-hub>

Where not mapped, assume aquifer is capable of supplying 10m<sup>3</sup>/day and refer to Annex 2 of WAT-PS-10-01.

### BEDROCK

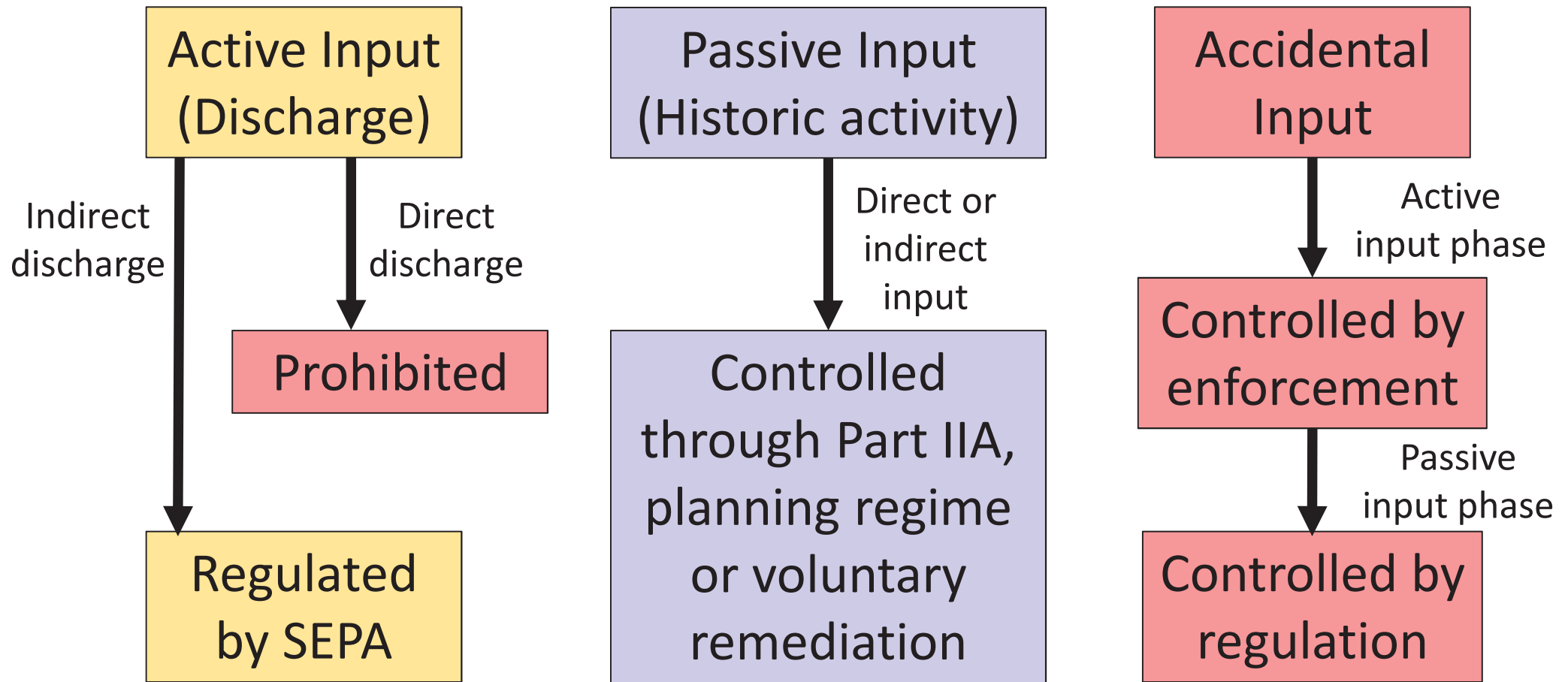


### SUPERFICIAL



All GW bodies are classed as Drinking Water Protected Areas

## Type of Input Informs Regulatory Approach





## Current Activities

- Direct discharge of NAPLs to groundwater prohibited
- Indirect discharges have potential to contain NAPLs, must be authorised & must not result in:
  - Harm to health of humans or other living organisms
  - Harm to the water environment
  - Entry of Hazardous Substances to groundwater
  - Offence to the senses of human beings
  - Damage to property
  - Impairment of, or interference with, amenities or other legitimate uses of the water environment

## Current Activities - Managing Pollution Risks

- **Prevention is better than cure!**
- SEPA can take enforcement action if an activity has caused, is causing, or is likely to cause environmental harm or a direct or indirect discharge into groundwater of any hazardous substance
- Exemption in the case of accidents or exceptional natural events only applies where these could not reasonably have been foreseen, avoided or mitigated
- SEPA expect operators to manage risk of pollution incidents during storage & use of NAPLs by adopting appropriate control & mitigation measures:
  - Design, construction and maintenance of structures and services
  - Procedures for handling & use
  - Inspection and monitoring
- **Compliance is non-negotiable**
  - SEPA encourage operators to go beyond compliance

## Historic Land Contamination

- Potential presence of NAPLs requires:
  - **Robust CSM**
    - Characterisation of source(s)
      - NAPL composition
      - NAPL saturation
      - Spatial distribution in subsurface
    - Identification of receptors
    - Characterisation of pathways
      - Consider all relevant phases (NAPL / aqueous / vapour)
  - **Site-specific risk assessment**
  - **Multiple lines of evidence for conclusions**
- For legacy contamination, assessments can include adopt the approach described in WAT-PS-10-01 for non-hazardous substances. However, substances that are hazardous in groundwater the relevant assessment criteria must still be applied.

## Remediation of Historic NAPL Contamination

- No matter what the context the WFD requires that all measures be taken to prevent entry of hazardous substances into groundwater and limit entry of non-hazardous substances to prevent pollution
- In theory, this would entail complete removal of NAPL with potential to enter groundwater
- SEPA recognise that it is not always feasible to achieve complete remediation of NAPLs
  - Remediation might increase risks to human health or the environment
  - It might be disproportionately costly or it might be technically infeasible to achieve 100% clean up.
- Less stringent remediation criteria may be agreed BUT multiple robust lines of evidence required



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[www.sepa.org.uk](http://www.sepa.org.uk)

ScottishEnvironmentProtectionAgency

 ScottishEPA

