# Habitat Restoration and Natural Flood Management

Dr Roy Richardson
River Basin Planning Manager
Scottish Environment Protection Agency



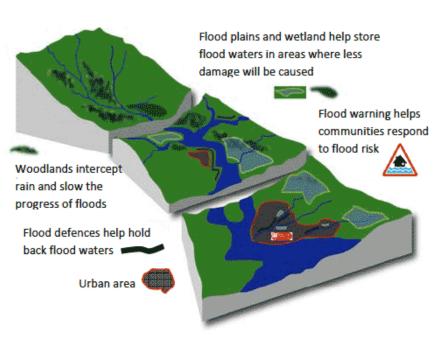
# Scotland







# Flood Risk Management Polices



- plan-led
- risk-based
- integrated across all sources
- considers all actions
- collaboration between responsible authorities
- public engagement



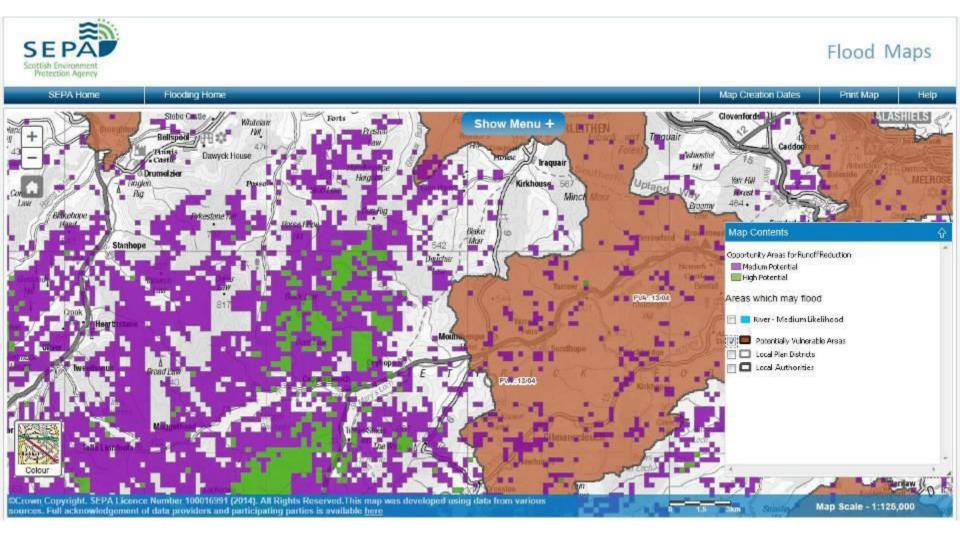
# FRM (Scotland) Act 2009

s20 – 'SEPA must assess whether alteration or restoration of natural features and characteristics could contribute to the management of flood risk...'

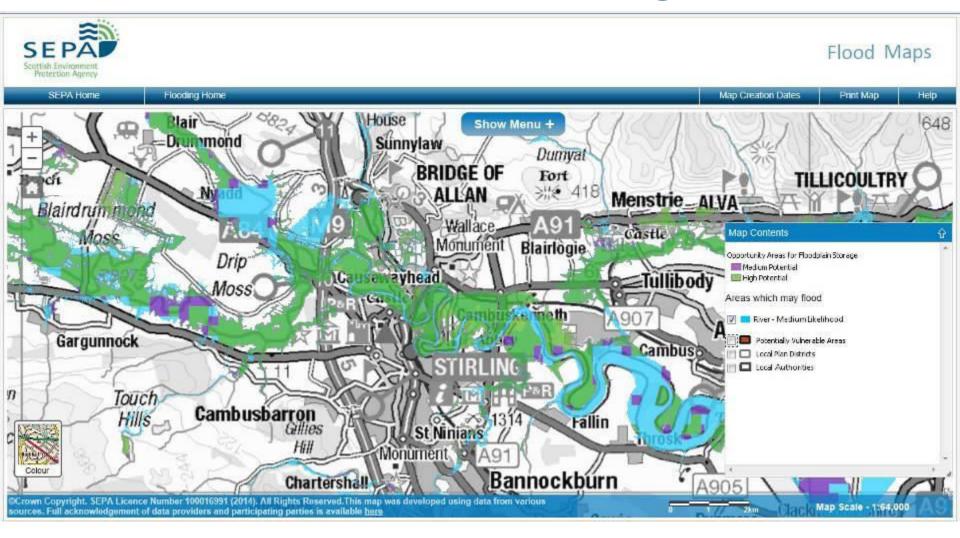
'include such features and characteristics which can assist in the retention of flood water, or in slowing the flow of water, those which contribute to the transporting and depositing of sediment, and the shape of rivers and coastal areas.'



# **Runoff Reduction**



# Floodplain Storage



# Sediment Management

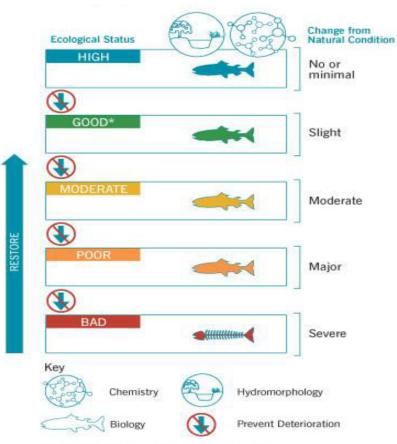


# Water Framework Directive

- Framework for management of water environment across Europe to:
  - protect, enhance and restore water bodies
  - reduce pollution
  - promote sustainable water use
  - contribute to mitigation of floods and droughts



# ecological status & objectives



### \* Good status also requires good water quality

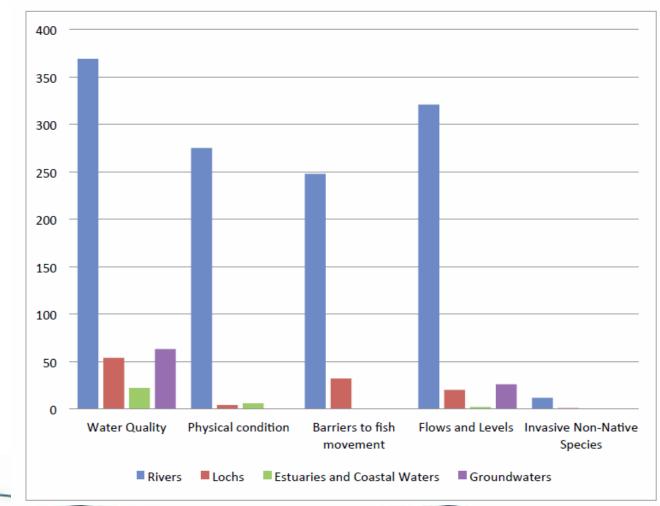
### Includes:

- Water Quality
- Physical Condition
- Fish Passage
- Flows and Levels
- Invasive Species



# River Basin Management Planning

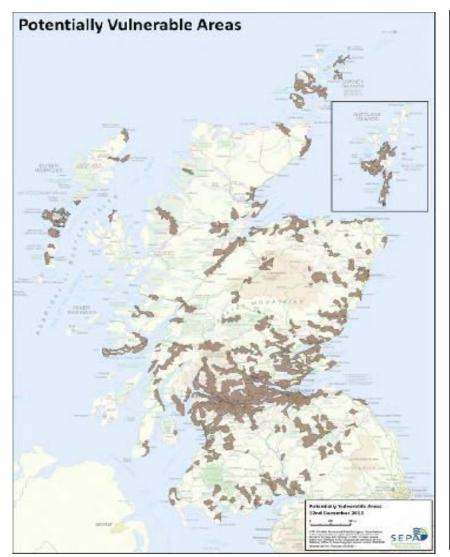


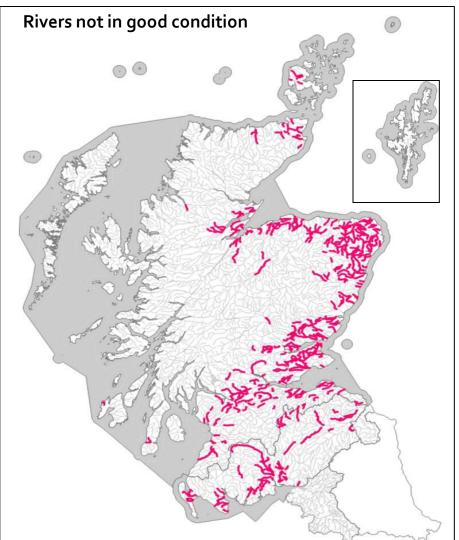


Scottish Environment

**Protection Agency** 











# **Eddleston Water**

- The main aim is to investigate if changes to land use management and the restoration of natural habitats can help improve the river valley for wildlife and help to reduce the risk of flooding in Eddleston and Peebles
- Working with local communities and farmers to ensure the proposals deliver multiple benefits and meet their requirements....



# **Eddleston Water**

















- 64 hectares of riparian woodland created
- 12,000 metres of fencing erected
- Over 1km of river remeandered
- 22 'flow restrictors' installed
- 4200 square metres of ponds created, and
- over 67,000 trees planted

### Comprehensive Monitoring Programme across whole catchment

Installed detailed baseline networks

### **Measuring:**

- Precipitation and weather
- Flows and river Levels
- Groundwater
- Physical stream habitats and hydrogeomorphology
- Ecology plants, fish, invertebrates





Protection Agency

# www.sepa.org.uk