

WFD and sediments: putting the 'morph' into hydromorphology

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What do we think of when we think about sediments?

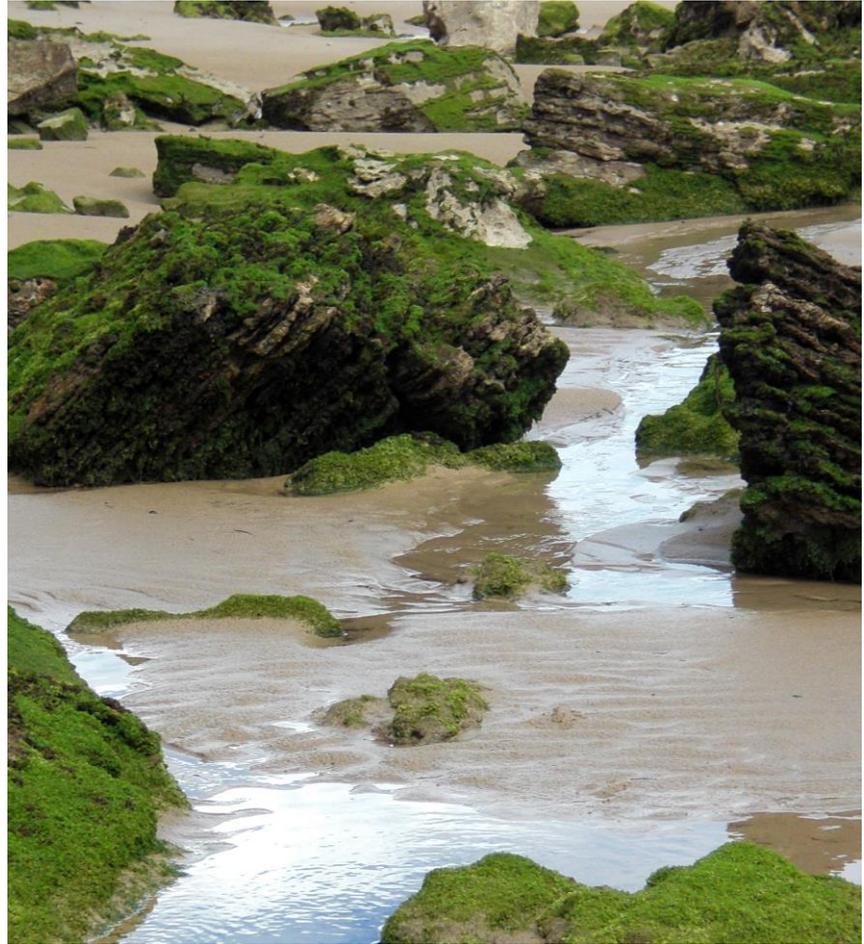


Annex VIII of the WFD lists 'materials in suspension' on the Indicative List of Main Pollutants



...maybe this is why?

This presentation paints a different picture of sediments...



A picture...



...paints a thousand words



...paints a thousand words



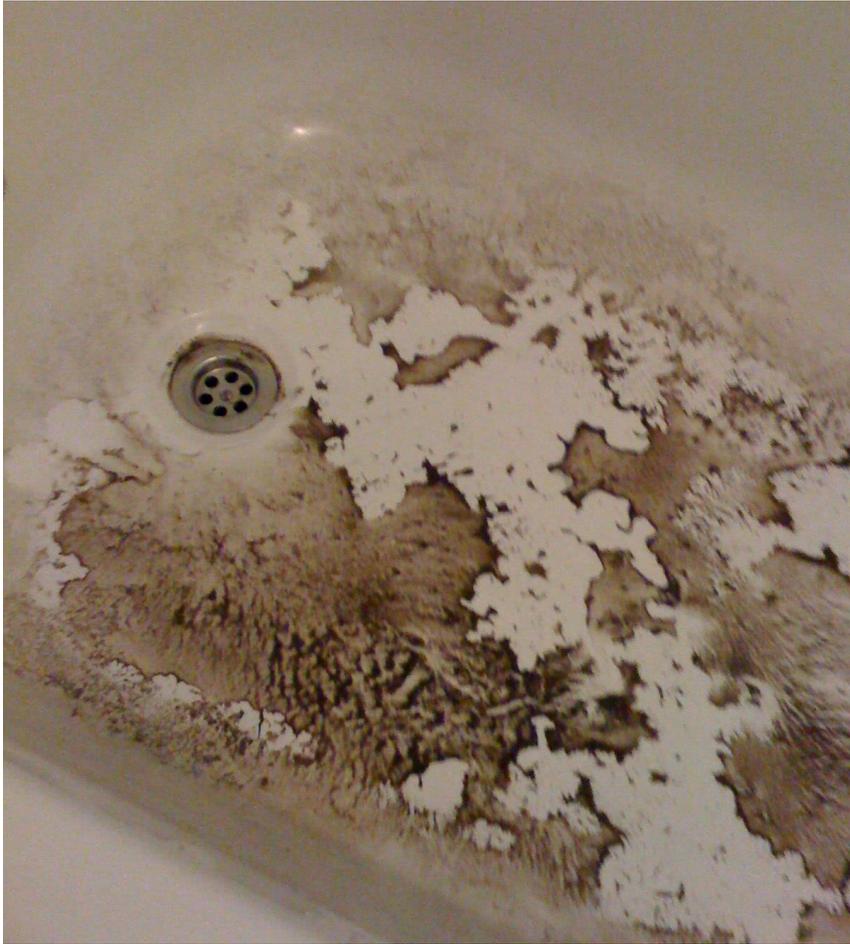
...paints a thousand words



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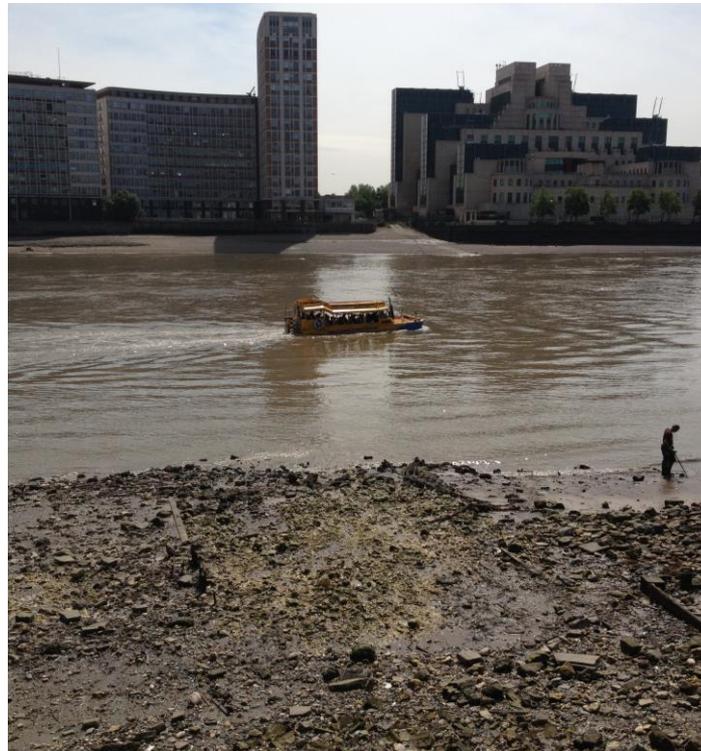


...paints a thousand words



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Why do sediments matter to the WFD?



In a natural system,



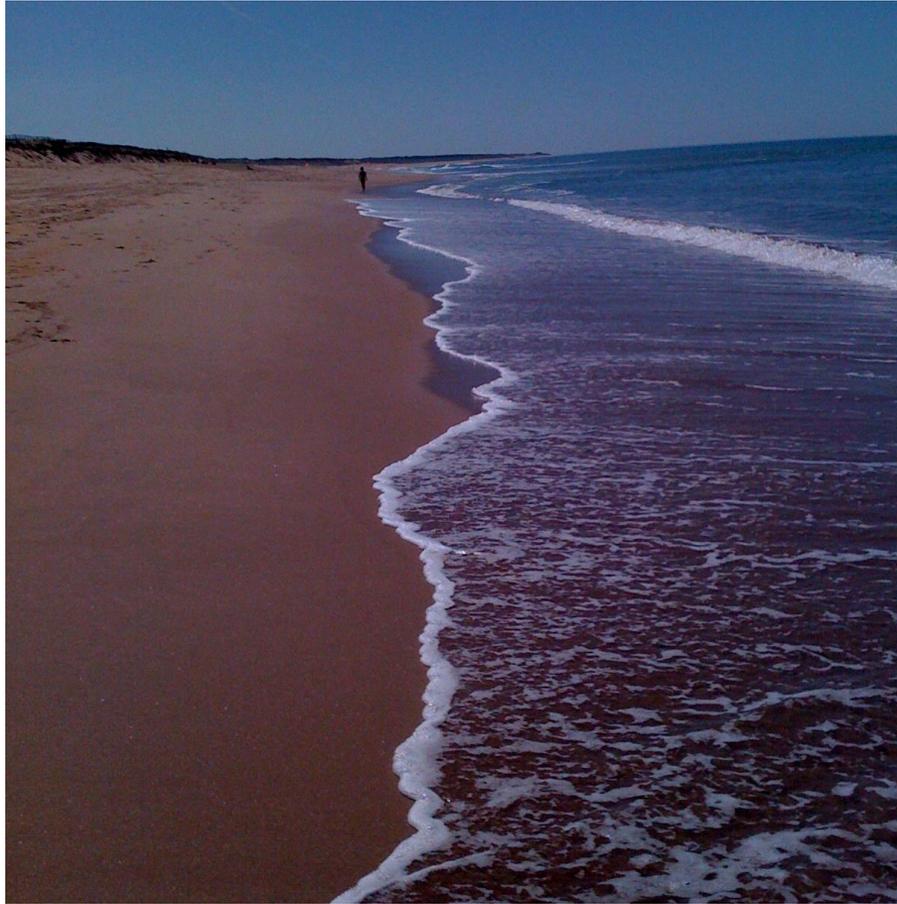
upstream erosive processes ...



... supply sediment to support habitats like
this downstream

Natural coastal erosion provides sediment ...



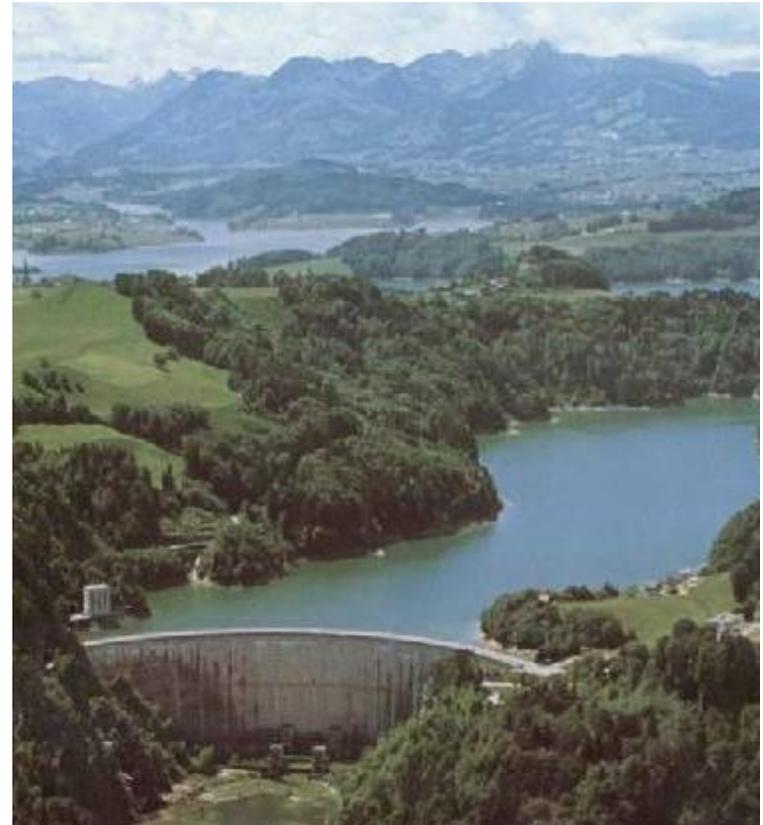


...to support beaches and dunes downdrift

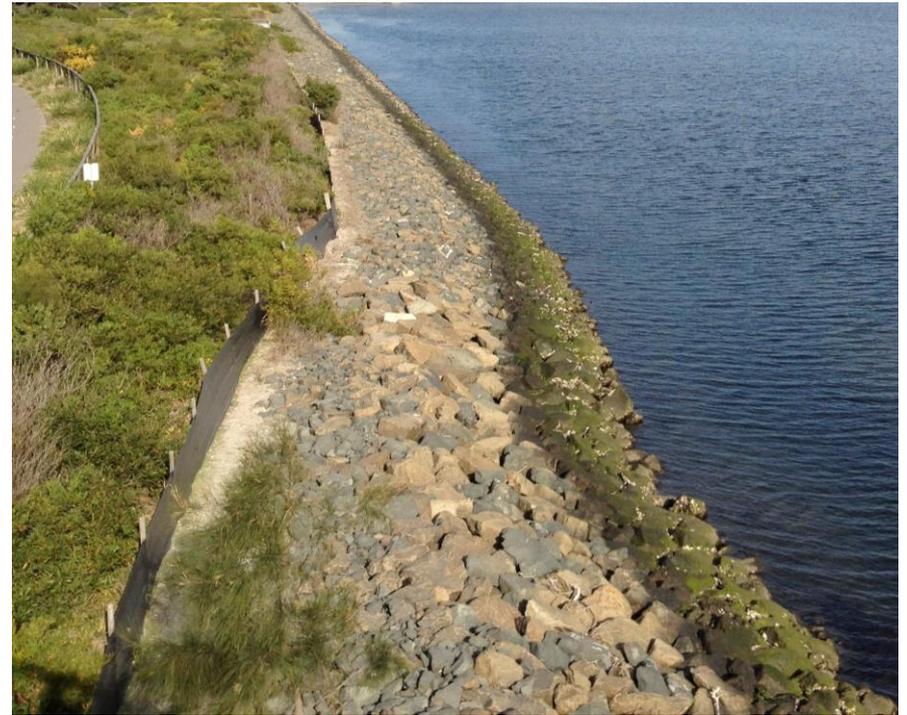
When we build structures like this ...



...we not only prevent fish migration upstream and affect water flow downstream...



...we also starve riparian habitats



...of their sediment supply

If we interrupt/cut-off the sediment supply by constructing dams, breakwaters and groynes...



...instead of this ...

...we can get this



Sediments are an
intrinsic element of
water systems.

They link the
mountains with...





...the sea.

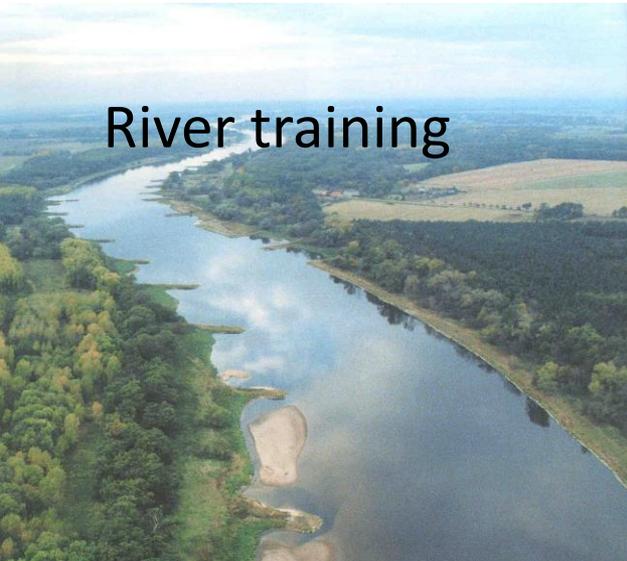
They shape the
land.

= morphology

So, what about the WFD Programmes of Measures?



Which interventions impact on sediments?



Sediment management solutions...

Beneficial use of dredged material



Habitat creation



Habitat enhancement



Soft engineering solutions



Beach management

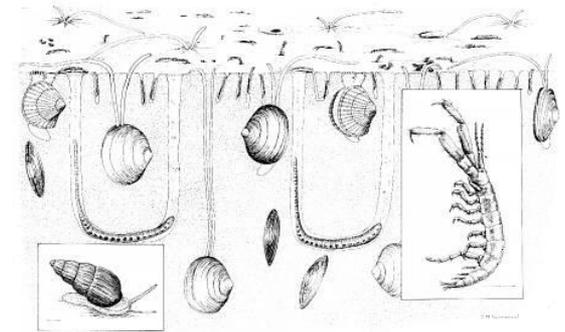


Working with Nature



The importance of sediment (Martin, 2002)

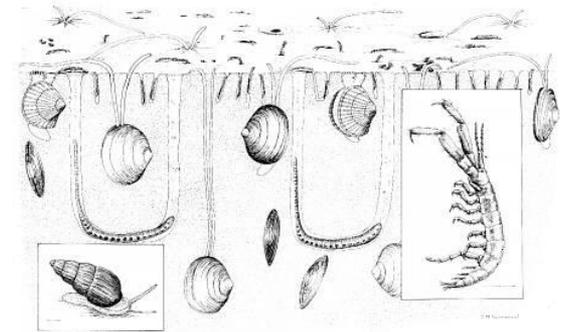
Too much sediment	Too little sediment	Sediment as resource
Obstruction of channels Rivers fill and flood Reefs get smothered Turbidity	Beaches erode Riverbanks erode Wetlands are lost River profile degradation	Construction material Sand for beaches Soil enrichment Wetland nourishment Habitat and food for life



Sediment, an essential and integral part of our river basins

The importance of sediment (Martin, 2002)

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Sediment, an essential and integral part KTM5, KTM6 and KTM7

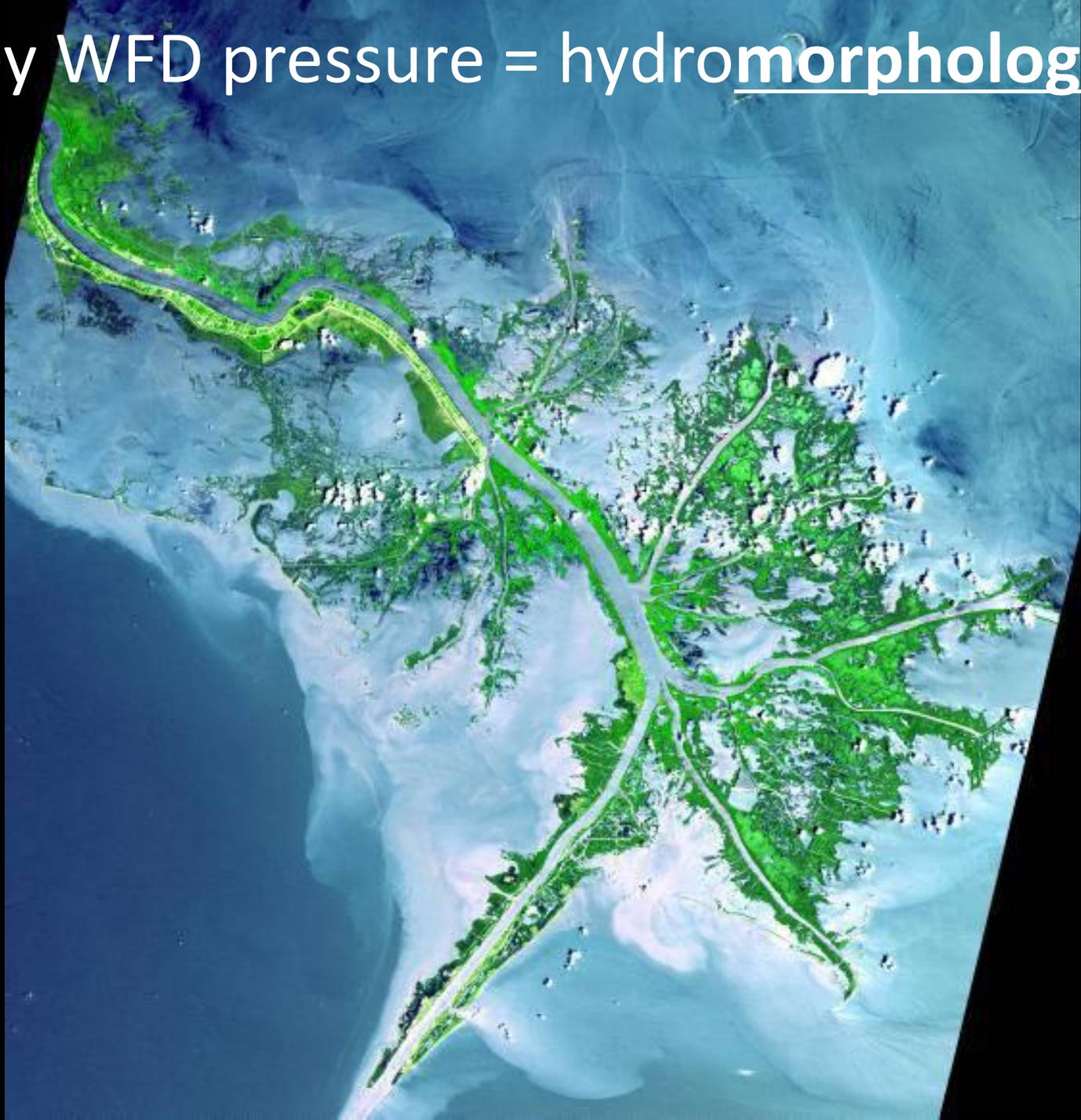
Sediments shape the environment



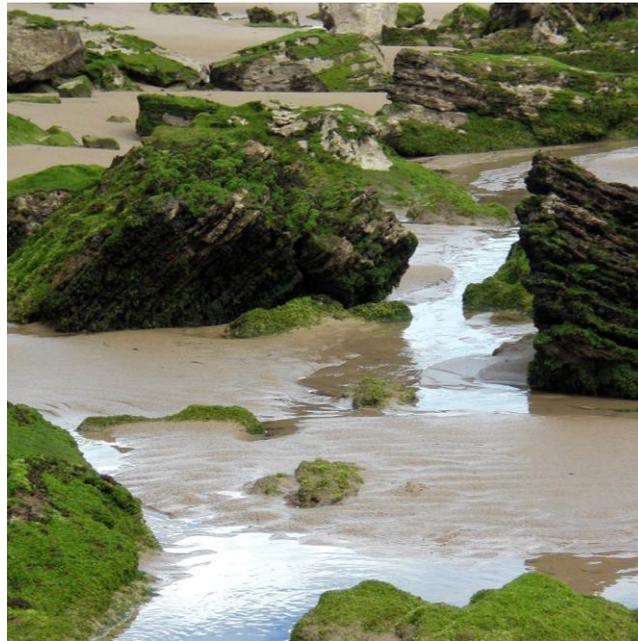
Shaping the environment = **morphology**



A key WFD pressure = hydromorphology



And a concluding thought...



When we think about the patterns of nature...





Do sediments come to mind?



If your teenage
son plays rugby,
YES! 😊