

# *The role of sediment dynamics in river management legislation*

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- Sediment dynamics not directly addressed by EU specific legislation although fundamental in supporting ecological processes.
- Hydropower severely affecting hydromorphological processes and sediment dynamics, with detrimental consequences on their ecological status.
  - Hydrological alterations > reversible, compensable (e.g. env. Flows)
  - Morphological (+sed.) alteration > irreversible, profound
- **Impacts of hydropower on morphological processes to be properly evaluated before releasing any hydropower permits, through quantitative process-based methods**

## Local level (RBD, Territorial local authorities)

River sediment management plans + directives on permission for hydropower installations, requiring that present or future impacts of hydropower schemes on sediment dynamics be preliminarily assessed

## National level

WFD (+FD) morphological assessment: process based approach (sediment continuity, alteration of river geomorphological processes IDRAIM methodology\*. On-going development of the methodology to have a quantitative approach aimed to estimate alterations in sediment dynamics, in terms of budget and distribution, before and after the intervention.

\* [http://www.isprambiente.gov.it/site/en-GB/Publications/Handbooks\\_and\\_Guidelines/Documents/manuale\\_66\\_2011.html](http://www.isprambiente.gov.it/site/en-GB/Publications/Handbooks_and_Guidelines/Documents/manuale_66_2011.html)



- **Impacts of hydropower on morphological processes to be properly evaluated before releasing any hydropower permits, through quantitative process-based methods**
- **Sediments dynamics to be really considered in EU aquatic ecosystem protection policy similarly to water and biota.**
- **Hydromorphological criteria should have a more relevant and heavier weight in the WFD ecological assessment and a leading role in impact assessment.**