

VALSOLINDUS

Valorisation et validation de solutions durables pour les Sédiments

The VALSOLINDUS project (partly funded by the Walloon region, Belgium, and by the European structural funds – Convergence program 2007-2013) intends to validate valorisation scenarios for dredged waterways sediments previously decontaminated by a mineral process, set up in the Solindus project (FEDER Convergence 2007-2013). Valsolindus and Solindus projects are thus closely linked.

The Solindus process consists of a combination of separation techniques (sieve size, gravimetric, magnetic and physicochemical separations) in order to separate the finest (and generally more contaminated fractions) from the coarser (and presumed less contaminated) ones, thus allowing an appropriate valorisation of the resulting fractions.

Valsolindus aims at valorizing the 15-63 μm and 63-250 μm fractions, obtained after separating the finest fraction (<15 μm). Waterways sediments in the Walloon region being constituted of fine particles, this size is expected to be abundant in dredged materials. The compatibility of a valorisation in landscaping has been studied by installing four 4 m² plots with growing proportion of sediment in an agricultural soil (0-50-100% of sediment). *Lolium perenne* ryegrass was sown at the start of the experiment (May 2014).

The sediment used for the experimentation has been reconstructed from three batches of sediment fractions: 2/3 of 15-63 μm fractions and 1/3 of 63-250 μm fraction. The concentrations of inorganic and organic contaminants in the artificial sediment are below the maximal acceptable limits (TMA) from the Walloon Government Order of November 30, 1995, classifying it as “unpolluted”. The concentrations in the agricultural soil used respect the limits of the Soil Management Decree of December 5, 2008 for an agricultural use. Samples collected in 50% sediments and 100% sediments plots show exceedance of allowed concentrations of the Soil Management Decree of December 5, 2008, for a recreational use for Zn and several PAHs.

For two years, insects and flora colonization on the plots have been recorded and concentrations in inorganic elements in the ryegrass have been followed. Ecotoxicity tests in laboratory on *Eisenia fetida*'s reproduction and on nitrification potential have been conducted in order to assess the habitat function of the reconstituted soils.

The VALSOLINDUS project (FEDER Convergence 2007-2013) ended on the 31th of December 2015. The experiment was conducted for 2 years.

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PLUS HAUT
ET PLUS PROCHE
LE FONDS EUROPÉEN DE DÉVELOPPEMENT RÉGIONAL
ET LA WALLONIE INVESTISSENT DANS VOTRE AVENIR

