

Sustainable management of streams through nature-based solutions

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Nature-based solutions (NBS) derive from mimicking nature's ways to substantially manage ecosystems in a cost-efficient way while providing environmental, economic and social benefits. The presented study is targeting the Black Sea area and is aiming in reducing pollutants that originate from the streams and rivers and end in the closed "Black Sea". Emphasis is given to nonpoint source pollutants that cause eutrophication in closed seas such as the Black Sea. Runoff plots and gerrach traps will estimate surface erosion at the plot scale. Indices developed in a GIS environment based on satellite images will identify the most vulnerable areas to erosion at the watershed scale. For stream bank erosion, traditional (e.g. erosion pins, cross-section surveys) and innovative methods (e.g. laser scanning) will be used at the local scale along with the GIS Stream Bank Erosion Index that utilizes satellite images at the watershed scale. Overall, the surface and stream bank erosion methods applied at the local and watershed scale will provide estimates of their potential contributions of nonpoint source pollutant to the Black Sea.

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Biography

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