**Identification of a set of indicators of aquatic ecosystems for evaluating management effectiveness of a natural protected area on river Tiber**

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The Tevere-Farfa Natural Reserve (Latium - Italy) is a Ramsar and Natura 2000 site of 2000 ha, established for the protection of semi-natural habitats generated after the construction of an hydroelectric dam. The area was used as case study to: (1) verify the consistency among monitoring results for the assessment of the ecological status and conservation status of aquatic species and habitats (according to UE Water Framework Directive, Habitats and Bird Directives); (2) to identify a set of indicators on pressures and threats to biodiversity; (3) to develop an integrated monitoring method (using data gained through the different Directives) to assess the management effectiveness of the protected area.

47 sampling stations were used to gain data to estimate 8 indexes based on physico-chemical and ecological status (macrobenthos, diatoms, macrophytes, fish) and on birds and aquatic habitats status. Results show that ecological status differ on the basis of the type of index utilized. For only seven stations the result status was consistent for all criteria (good/excellent quality), while for all the other stations the status was found to be poor, good or excellent depending on the considered criteria. This discordance is connected to: differences on biotic elements response (diatoms, macrophytes and fish) to environmental pressures; different weight given to biotic integrity or ecological functionality on each index.

The pressures identified through the monitoring were compared with those recognized according to "expert judgment" approach (as defined by IUCN / WCPA) and used to evaluate the management effectiveness of the protected area.