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Fluvial remote sensing applied to catchment scale water resource management

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River ecologists and fluvial geomorphologists have been increasingly concerned with a holistic understanding of river systems. Since the 1980s, there has been a growing recognition that a full understanding of rivers and of the organisms that inhabit them can only be possible if we consider these systems as a whole. This concept has had an impact on freshwater management legislation. The EU Water Framework Directive (WFD), adopted in 2000, clearly states that rivers must be managed at whole river basin level. This legal framework has done much to unify the perceptions and objectives of river managers and academics working in fluvial sciences. These scientific and legal drivers have led to recent developments in remote sensing of fluvial environments that are allowing fluvial scientists to acquire data about river habitat and physical properties at very large scales. This emerging technology is gaining robustness and is currently making its' first steps into management applications. This paper will discuss a commercial implementation of fluvial remote sensing methods in a UK context. We will demonstrate how images acquired from a fixed wing aircraft can supply commercially viable continuous microhabitat assessments over catchment scales. It is hoped that this demonstration of the feasibility and commercial viability of fluvial remote sensing for river management will encourage further research and prompt government agencies to reconsider their standard methodologies for surface water management.