

Computation methods of minimum and optimal instream ecological flow for the upper Huaihe River, China

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Abstract Hydrological processes are a key driver of the presence and absence and structure of aquatic communities. In this paper relationships between river ecosystem processes and the hydrological regime of the upper Huaihe River, China, are investigated, and computation methods for determining minimum and optimal ecological flows are proposed. A series of minimum and optimal instream ecological flows are proposed for three hydrological stations and these are compared to that obtained by the Tennant Method. The results provide a reference for preserving river hydrological processes and maintenance of river ecosystem stability and health.

Key words minimum instream ecological flow; optimal instream ecological flow; the upper Huaihe River, China