

# Science for Environment Policy

## Better integration of temporary rivers into the Water Framework Directive

**Improvements to EU water policy** have been proposed in a recent study, to help ensure that temporary rivers and streams in the Mediterranean are adequately protected in line with the goals of the Water Framework Directive (WFD). The researchers suggest new classifications for river types, and highlight the importance of distinguishing between natural and human-derived causes of intermittent water flow.

**As part of the WFD's requirements<sup>1</sup>**, EU Member States must aim to reach good ecological status and good chemical status in inland and coastal [waters](#) by 2015. However, it now seems likely that this ambitious goal will not be achieved in time. In response, the European Commission published a 'Blueprint to Safeguard Europe's Waters<sup>2</sup>' in 2012 to take additional action to strengthen water policy and address the challenges of safeguarding Europe's water resources for all users.

One of the challenges to attaining this goal has been dealing with the special characteristics of rivers and streams which do not have continuous flows of water. Such temporary rivers are common in dry areas, such as the Mediterranean region, and are under increasing pressure from higher demands for water and climate change. The Blueprint addresses the challenge of managing the over-abstraction of water. It calls for the development of a common definition and method to calculate the ecological flows of water required to protect aquatic ecosystems and the services they provide, so that water management can be better linked to the sustainable development of the entire river basin and achieve the WFD objectives.

This study reports on the EU-funded MIRAGE<sup>3</sup> project, which has developed a framework for managing temporary rivers in the Mediterranean area. As a result of research carried out within the project, the researchers recommend additions to the Blueprint in order to take into account the specific characteristics of temporary rivers. These additions are relevant to four articles of the WFD as follows:

1. Article 2 point 4 (definition of "river"). A distinction should be made between temporary and perennial rivers when defining river types in order to decide which environmental standards should apply to assess the ecological quality of the water body. Four types of water bodies based on their hydrologic regimes are suggested: 1. P (permanent or perennial); 2. IP (intermittent-pools type); 3. ID (intermittent-dry type); and 4. E (episodic or ephemeral type).
2. Article 4 (environmental objectives and associated derogations). Environmental objectives of the WFD should be adapted to recognise the distinctive characteristics of temporary rivers, especially when setting reference conditions upon which evaluation of ecological status is based. Determining the hydrological conditions of temporary rivers is important in understanding the relevance of environmental pressures, such as pollution and water abstraction, when establishing the ecological status of a temporary river.
3. Article 5 (characterisation of the river basins). Member States are required to review the characteristics of their river basin district, including the impact of human activity on the status of surface waters by 22 December 2013. Temporary rivers have different flow regimes from permanent rivers and different approaches are required for assessing their water quality. Characterisation of temporary rivers needs to include the impact of droughts and floods and the specific features of such rivers.
4. Article 11 (programme of measures). The importance of differentiating the main causes of intermittent flow (natural or over-abstraction by people) when drawing up a programme of measures to meet objectives to improve and protect temporary rivers is crucial, as restoring water flow might be necessary to achieve good ecological status.

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1. <http://ec.europa.eu/environment/water/water-framework/>
2. [http://ec.europa.eu/environment/water/blueprint/pdf/COM-2012-673final\\_EN\\_ACT-cov.pdf](http://ec.europa.eu/environment/water/blueprint/pdf/COM-2012-673final_EN_ACT-cov.pdf)
3. MIRAGE (Mediterranean Intermittent River ManAGEment) was supported by the European Commission under the Seventh Framework Programme: [www.igb-berlin.de/mirage\\_en.html](http://www.igb-berlin.de/mirage_en.html)