

# UK Technical Advisory Group on the Water Framework Directive

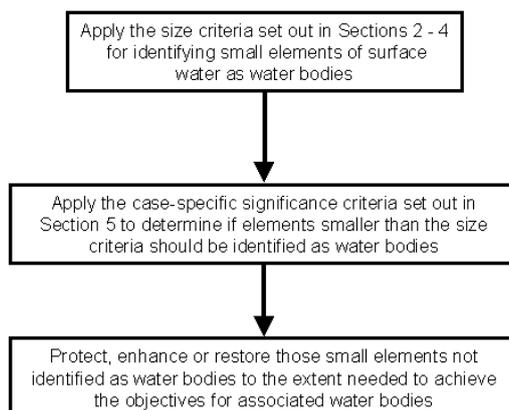
## Guidance on the identification of small surface water bodies (Final)

**This Guidance Paper is a working draft defined by the UKTAG. It documents the principles to be adopted by agencies responsible for implementing the Water Framework Directive (WFD) in the UK. This method will evolve as it is tested, with this working draft amended accordingly.**

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### 1. Purpose

- 1.1 The Common Implementation Strategy (CIS) Horizontal Guidance on Water Bodies establishes a common framework for the identification of small surface water bodies. The relevant text is reproduced in Annex 1. This paper sets out UKTAG’s advice on the application of the framework in the UK. The advice is designed to ensure that the implementation of the Directive focuses management on the protection and improvement of significant elements of the water environment and thereby helps deliver the greatest possible benefits. The identification of minor elements of surface water, such as garden ponds and artificial drainage ditches, as separate water bodies would cause significant logistical difficulties, and stretch the resources available to improve more significant elements of surface water. A balance is needed which takes account of the position expressed in the Horizontal Guidance on Water Bodies that the purposes of the Water Framework Directive apply to all surface waters but which also ensures that the management process is not overloaded and disabled by the creation of large numbers of very small management units.
- 1.2 To achieve this balance, UKTAG recommends that simple size criteria be used for the initial identification of those elements of surface water that should always be identified as water bodies. Elements of surface water smaller than these size criteria should be identified as individual water bodies on a case-by-case basis, depending on whether they meet one or more of the criteria set out in Section 5 of this paper (see flow diagram below).



1.3 Given the limited extent of information on many small elements of surface water, it is unlikely that it will be possible to identify all small water bodies, or assess risks to them, by the end of 2004. The completion of the identification of, and initial analysis of pressures and impacts on, small water bodies will need to be continued into the next stages of the planning cycle.

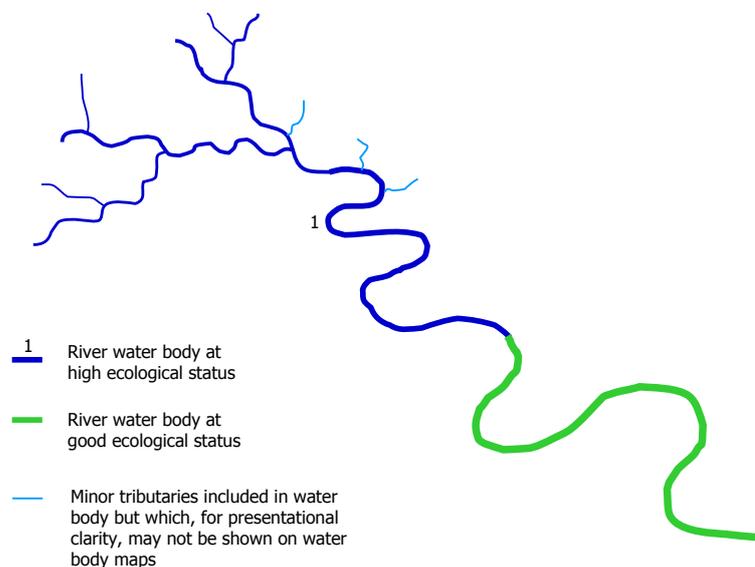
## 2. Headwater streams and coastal streams

2.1 Rivers should be identified as river water bodies if:

- (a) Their catchment area is greater than 10 km<sup>2</sup>; or
- (b) One or more of the criteria set out in Section 5 apply.

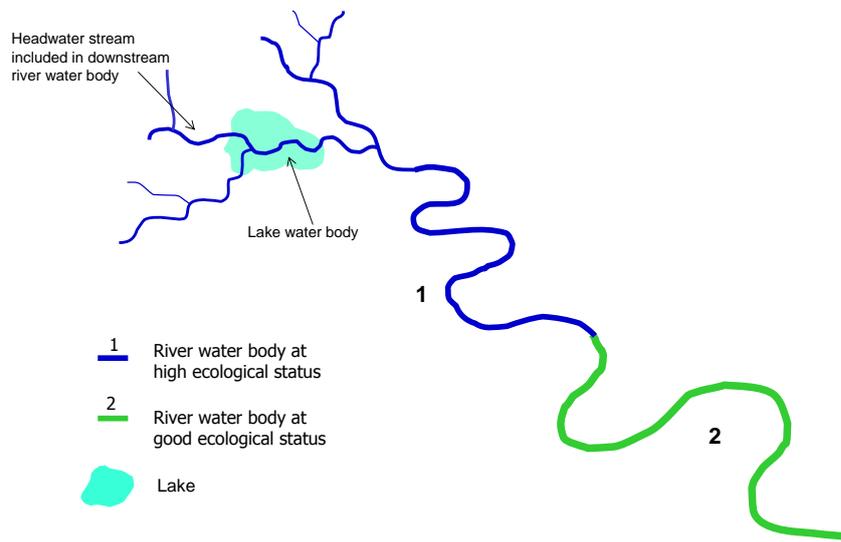
2.2 The CIS Horizontal Guidance on Water Bodies proposes that, where possible, small elements of surface water are incorporated within a contiguous larger water body of the same surface water category and of the same type. The application of this principle in relation to headwater streams is illustrated in Figure 1.

Where necessary to simplify the mapping of river water bodies, the minor tributaries that are included within the water body in accordance with this principle need not be shown.



**Figure 1: Small headwater streams included within single river water body.**

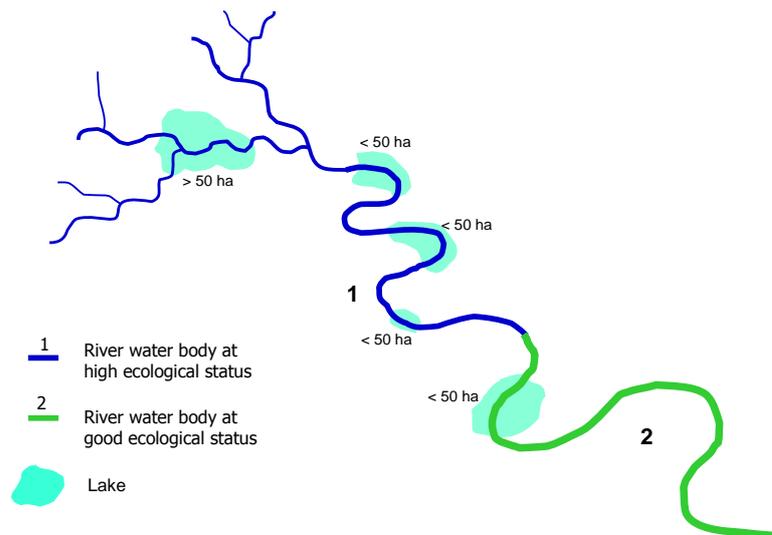
2.3 To avoid unnecessarily excluding small headwater streams that have catchments above their confluence with a lake water body of less than 10 km<sup>2</sup>, such streams should be considered as contiguous with the river water body downstream of the lake (see Figure 2).



**Figure 2: River map showing headwater streams included in downstream river water body by 'running' the lines of the streams through the lake water body**

2.4 Similarly, creating river water body boundaries at every confluence with standing water could lead to the establishment of an unnecessarily large number of small river water bodies. In addition, where standing waters are separated from each other by short stretches of river, these river stretches might be too small to justify identification as a water body, leading to gaps in the coverage of the status maps. To overcome these potential problems, rivers draining into standing waters may be considered as contiguous with the downstream river water body (see

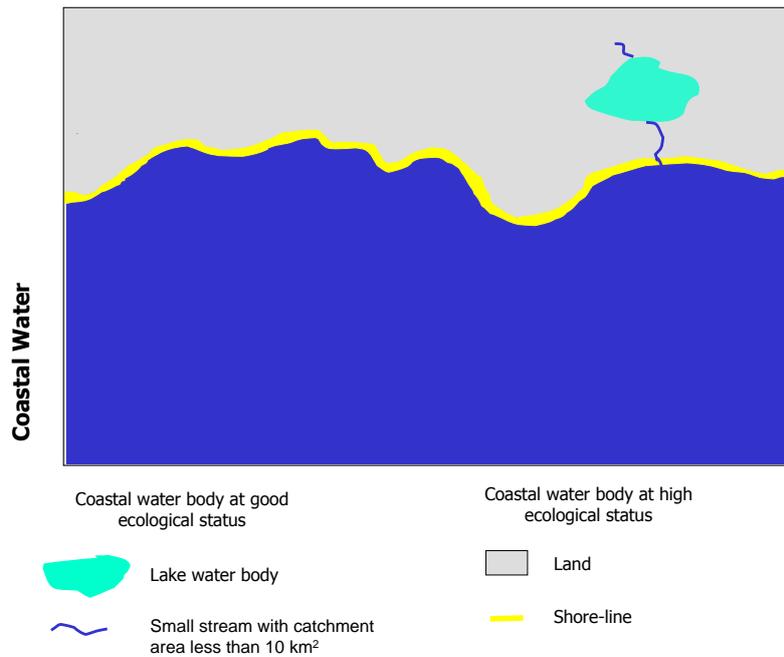
2.5 Figure 3).



**Figure 3: River map showing small flowing waters sandwiched between standing waters mapped as part of a contiguous river water body passing through the standing waters**

Some lake water bodies (see Section 3) may be connected to a coastal water body or transitional water body by a short river with a catchment area of less than 10 km<sup>2</sup> (see

2.6 Figure 4). Unless such a river is identified as a separate river water body according to the criteria set out in Section 5 of this paper, it should not be identified as a river water body but should be included, for management purposes, as part of the lake water body.

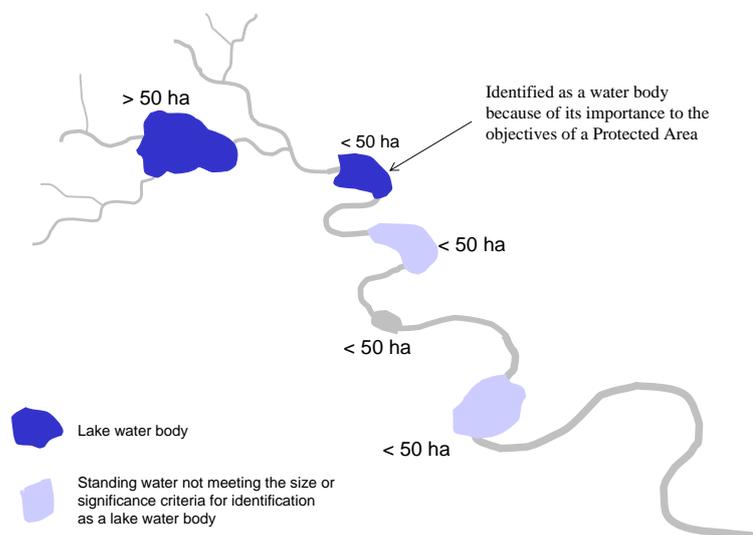


**Figure 4: Lake water body connected by a short stretch of river to a coastal water body. The river does not qualify as a river water body in its own right, so is incorporated into the lake water body for management purposes**

### 3. Small standing waters

3.1 Standing waters (see Figure 5) should be identified as lake water bodies if:

- (c) Their surface area is greater than 0.5 km<sup>2</sup>; or
- (d) One or more of the criteria set out in Section 5 apply.



**Figure 5: Lake map showing standing waters meeting the size or significance criteria for identification as lake water bodies**

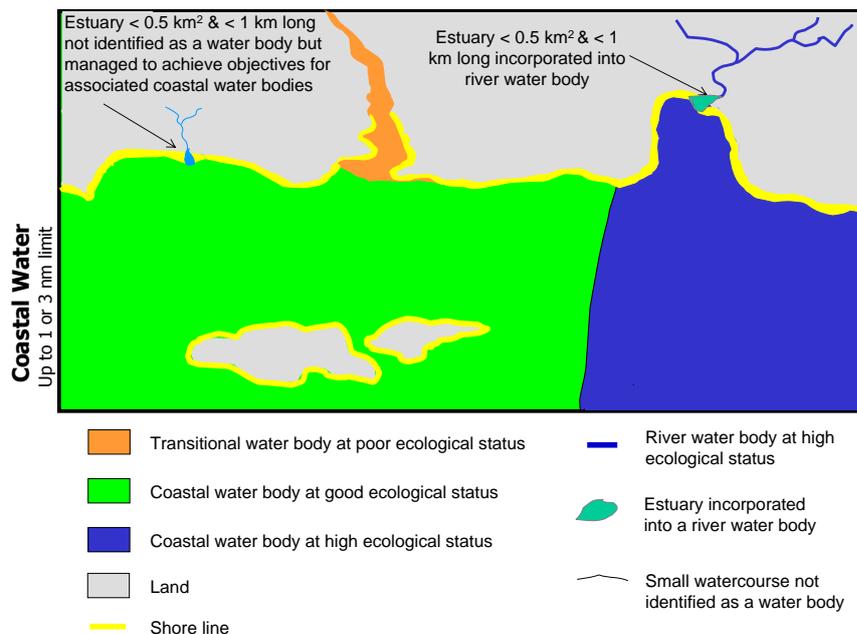
- 3.2 Where small standing waters do not meet either of the criteria referred to in Section 3.1 and a contiguous downstream river water body is present, they should be incorporated, along with any connecting water courses, into that downstream river water body in order to avoid unnecessary gaps in the coverage of the status maps.
- 3.3 For some small standing waters that do not meet either of the criteria set out in paragraph 3.1, there will be no contiguous downstream river water body into which they can be incorporated. For example, the watercourse downstream may be a small coastal stream with a catchment area of less than 10 km<sup>2</sup> or the standing water itself may have no surface water outlet. Such small standing waters will not be identified as water bodies.

## 4. Small estuaries

4.1 Small estuaries should be identified as water bodies if:

- (a) Their surface area is greater than 0.5 km<sup>2</sup>;
- (b) They are longer than 1 km; or
- (c) One or more of the criteria set out in Section 5 apply.

4.2 Where a small estuary does not meet any of the above criteria (see Figure 6) but is located between a coastal water body and a river water body, to avoid gaps in the continuity of the status maps it should be incorporated into the adjacent river water body or, where more appropriate, into the adjacent coastal water body.



**Figure 6: Small estuaries not identified as separate water bodies**

## 5. Identification of small elements of surface water as surface water bodies

5.1 Where a small element of surface water is not identified as a water body on the basis of the relevant size thresholds set out in points (a) of Sections 2.1; 3.1; or 4.1, it may still be identified as a separate water body if one or more of the criteria set out in points (i) – (vii) below is applicable. In addition, elements of surface water, which would otherwise simply be included in a larger surface water body, may be identified as separate surface water bodies if deemed appropriate in the context of the criteria set out in points (i) – (vii) below or in relation to Section 6 of this guidance paper.

- (i) Where the element of surface water is used, or intended to be used, for the abstraction of water intended for human consumption providing more than 10 m<sup>3</sup> day as an average or serving more than 50 persons, it should be identified as a water body, and hence as Drinking Water Protected Area under Article 7 of the Directive if there are significant risks to the quality of the drinking water source (see Figure 7).
- (ii) The achievement of any standards and objectives for an SPA or candidate SPA identified under Directive 79/409/EEC, or an SAC or candidate SAC identified under Directive 91/271/EEC depend on the maintenance or improvement of the status of the element of surface water (see Figure 8);
- (iii) The achievement of the standards and objectives for an SSSI depend on the maintenance or improvement of the status of the element of surface water, and the element is thus of ecological significance within the river basin district (see Figure 9);
- (iv) It is determined within the river basin management planning process that the maintenance or improvement of the status of the element of surface water is important to the achievement of national or international biodiversity targets and the element is thus of ecological significance within the river basin district;
- (v) The small element of surface water is of such significance in the river basin district that (a) impacts, or risks of impacts, on it are liable to result in a failure to achieve the objectives for a body, or bodies, of water in the river basin district, and (b) the competent authority deems the identification of the small element as a water body the most effective way of highlighting and managing the risks. Note that a risk of failure to achieve the objectives of a water body, or bodies, must be managed whether or not such small elements of surface water are identified as water bodies; or
- (vi) The element of surface water is selected for identification as a water body within the river basin management planning process to provide an overview of the general condition of small elements of surface water within the river basin district.
- (vii) The element of surface water is designated as:
  - a nutrient-sensitive area, or part of such an area, under the Urban Waste Water Treatment Directive or the Nitrates Directive;
  - a bathing water under the Bathing Waters Directive; or

UK TAG Work Programme Task 3a (02) Identification of small surface water bodies

- an area for the protection of economically significant aquatic species under the Shellfish Waters Directive or the Freshwater Fish Waters Directive

AND the competent authority deems that the identification of the small element as a water body will assist in the achievement of the objectives for the Protected Area.

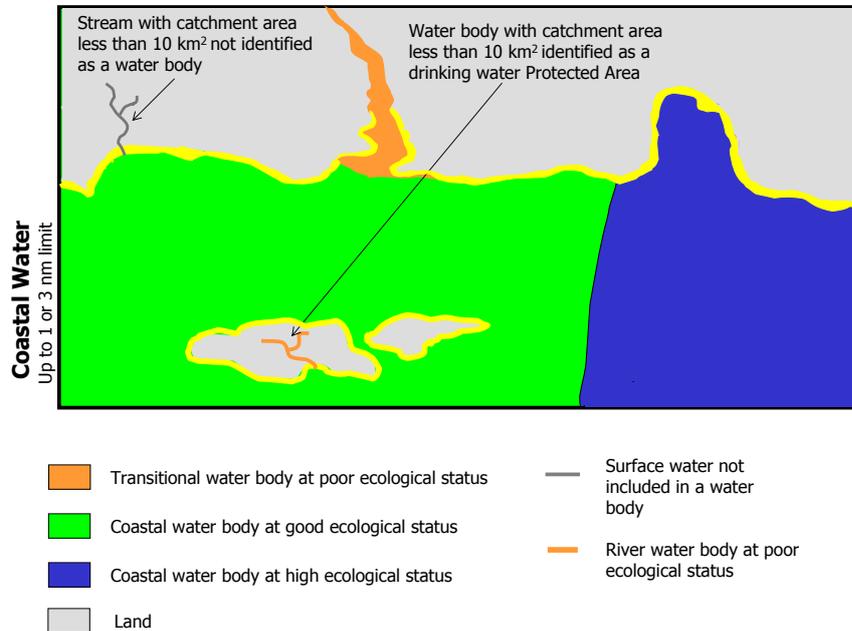


Figure 7: Small element of surface water identified as a drinking water Protected Area, and therefore a water body

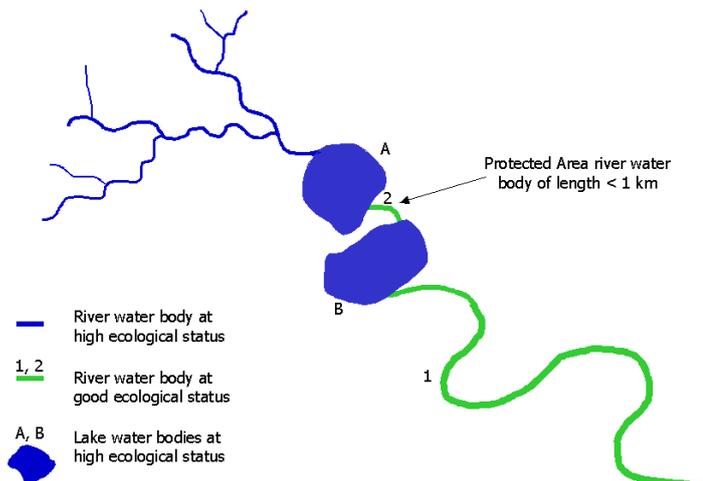
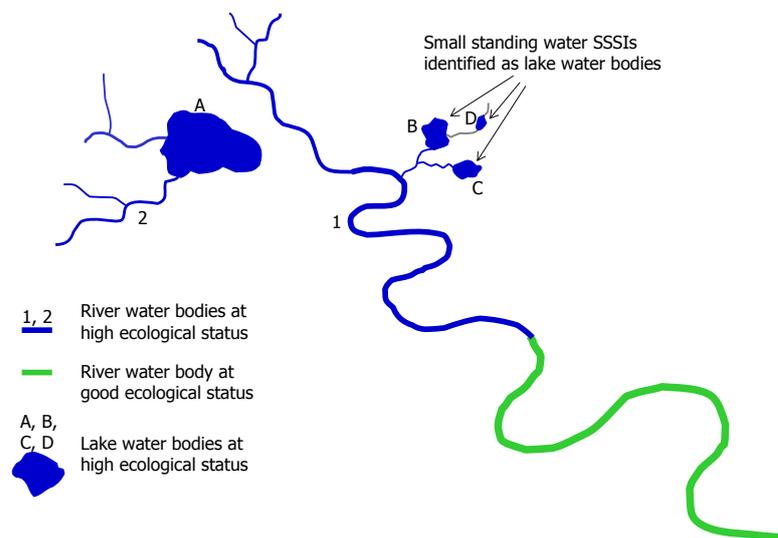


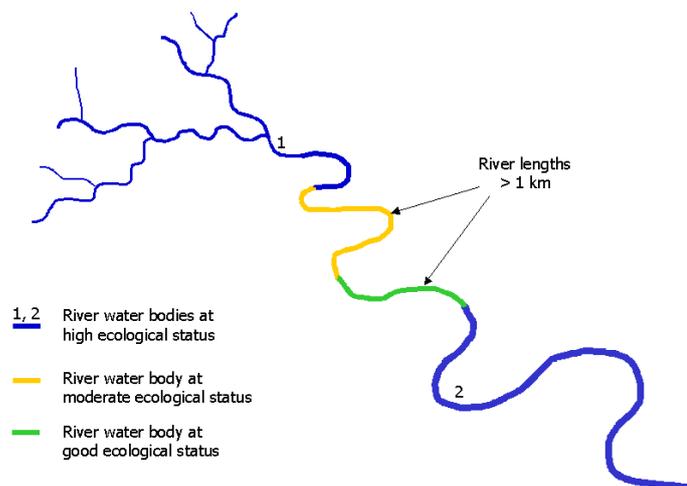
Figure 8: Small element of water identified as a water body because of its significance to the achievement of the objectives of a Natura 2000 site.



**Figure 9: Small standing waters identified as water bodies because of their ecological significance within the river basin, determined on the basis of their importance to the achievement of the objectives of SSSIs.**

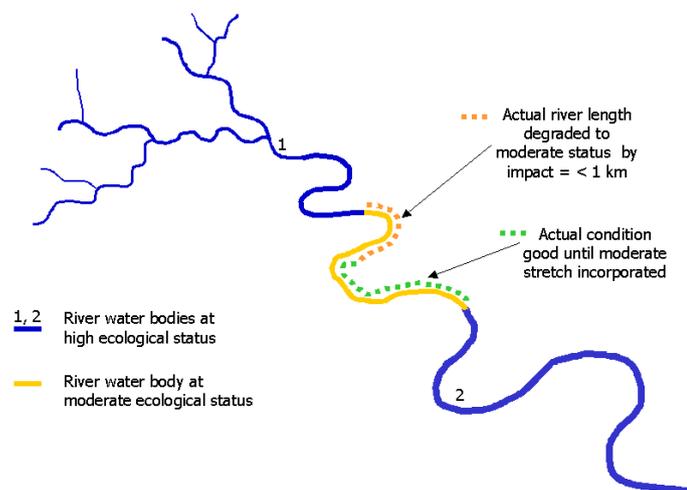
## 6. Sub-division of surface waters to reflect the status of the water environment

- 6.1 The CIS Horizontal Guidance on Water Bodies specifies that the key purpose of identifying water bodies is to enable an accurate description of the status of aquatic ecosystems. However, it also recognises that it would be possible to progressively subdivide waters into smaller and smaller units, and thereby create significant logistic burdens. It suggests that the extent of sub-division is a matter for Members States to decide based on the characteristics of each River Basin District and the need to reconcile the objective of adequately describing water status with the risk of fragmenting surface waters into unmanageable numbers of water bodies.
- 6.2 This section of the guidance paper provides recommendations on the lower limits for subdivision. It should be noted that water bodies should be as large as possible within the constraints imposed by typology and other geographical imperatives for subdivision unless contra-indicated by differences in the status of the aquatic ecosystems. However, the priority should be to ensure that status differences are reflected in the identification of water bodies in such a way as to enable the effective operation of the Directive's objectives. The process of sub-dividing surface waters to reflect differences in status is an iterative process dependent on information from the pressures and impacts analysis and eventually from the monitoring programmes. It will not be complete by the end of 2004 and should be kept under review during the planning cycle.
- 6.3 Rivers with catchments greater than 10 km<sup>2</sup> may be sub-divided to reflect status changes (see Figure 10) provided none of the subdivisions is less than 1 km in length (see Figure 11).



**Figure 10: Status differences within a river reflected by subdivision into 4 water bodies. None of the subdivisions created is less than 1 km in length.**

6.4 The identification of impacted lengths of river of less than 1 km as individual water bodies could result in unmanageably large numbers of very small water bodies. Impact lengths of less than 1 km should be taken into account within a larger water body. In the example in Figure 11, a stretch of river downstream of an impacted length of less than 1 km is downgraded to moderate status by the inclusion of the impacted length in the same water body. Measures to remedy the impacted stretch are therefore indicated.



**Figure 11: Impacted lengths of less than 1 km**

6.5 In the example illustrated in Figure 12, three near-shore stretches of coastal water have been identified as water bodies to reflect differences in the impact of shore zone development on the status of coastal ecosystems. Further off-shore, less variation in status allows the identification of just two large coastal water bodies. The near-shore water bodies include the intertidal zone (e.g. salt-marshes, beaches, rocky-shores etc).

6.6 Figure 12 also illustrates a zone of impact in the middle shore zone water body, which is less than 0.5 km<sup>2</sup> and less than 1 km long. In such cases, the impacted area should be taken into account within a larger water body to avoid the creation of unmanageably large numbers of very small water bodies. In the example, this results in the larger body being downgraded from good to moderate status. Measures to remedy the impact are therefore indicated.

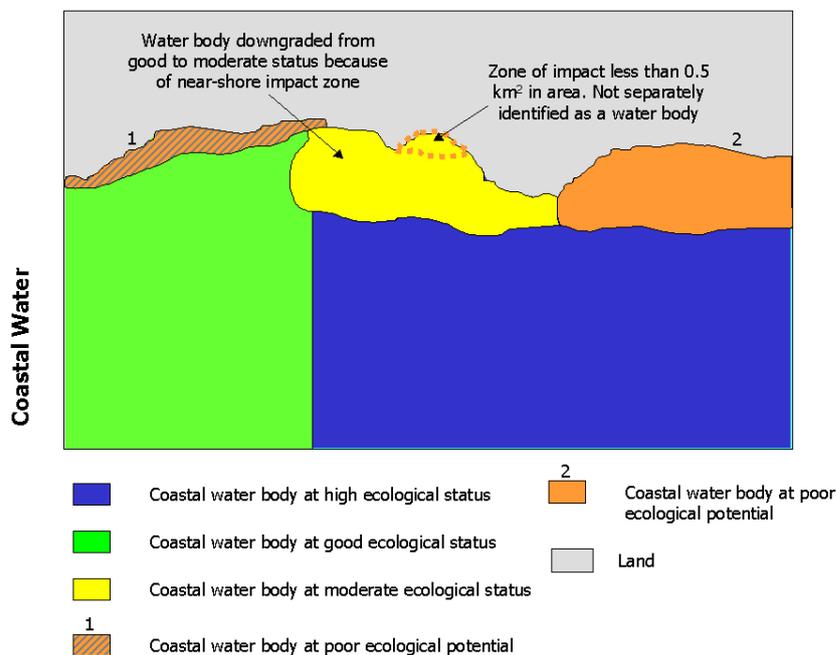
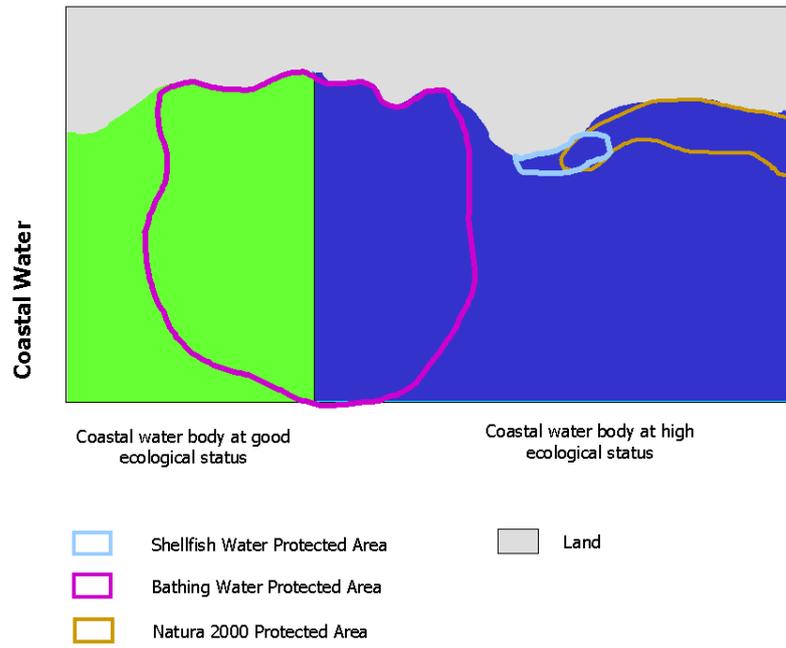


Figure 12: Water bodies reflecting status differences in coastal water

## 7. Water Bodies and Protected Areas

- 7.1 With the exception of drinking water Protected Areas identified under Article 7 of the Water Framework Directive, the Horizontal Guidance on Water Bodies recognises that the boundaries of water bodies and Protected Areas will, in most cases, not automatically coincide. The Common Implementation Strategy guidance leaves it to Member States to decide whether to fit surface water body boundaries to those of the existing Protected Areas.
- 7.2 UKTAG's advice is that the primary purpose of the identification of water bodies should remain the provision of an accurate description of water status. Existing Protected Area boundaries may be followed if doing so would not compromise the description of surface water status (see Figure 13). In many cases, it is likely that Protected Areas will be nested within or cut-across the boundaries of water bodies. Protected Areas will thus overlay additional standards and objectives on top of the status objectives for water bodies. These additional standards and objectives may be applicable to parts of, or all of, a water body depending on the boundaries and requirements of the relevant Protected Areas.
- 7.3 In the example illustrated in Figure 13, the use of the boundary of the shellfish water in delineating a water body was contra-indicated because it would have resulted in a water body with 'mixed' high and good status zones. Similarly, following either the Bathing Water Protected Area or the (overlapping) Natura Protected Area boundaries would have resulted in unnecessarily small coastal water bodies – both at high ecological status. From a management point of view, the simplest option in this example was to create two coastal water bodies with multiple objectives, the relevant Protected Area objectives being applicable only to specific zones within each body.



**Figure 13: Protected Areas nested within coastal water bodies**

## Annex 1:

### EU Common Implementation Strategy guidance on the selective identification of small water bodies

“The purpose of the Directive is to establish a framework for the protection of **all** waters including inland surface waters, transitional waters, coastal waters and groundwater<sup>1</sup>. Member States must ensure that the implementation of the Directive’s provisions achieves this purpose. However, surface waters include a large number of very small waters for which the administrative burden for the management of these waters may be enormous.”

“The Directive does not include a threshold for very small “water bodies”. However, the Directive sets out two systems for differentiating water bodies into types<sup>2</sup>, System A and System B. Only the System A typology specifies values for size descriptors for rivers and lakes. The smallest size range for a System A river type is 10 – 100 km<sup>2</sup> catchment area<sup>3</sup>. The smallest size range for a System A lake type is 0.5 – 1 km<sup>2</sup> surface area<sup>4</sup>. No sizes for small transitional and coastal waters are given. The application of system B must achieve, at least, the same level of differentiation as system A. It is therefore recommended to use the size of small rivers and lakes according to system A. However, it is recognised that in some regions where there are many small water bodies, this general approach will need to be adapted. Having said that, it may be appropriate to aggregate water bodies into groups for certain purposes as outlined in chapter 5 in order to avoid unnecessary administrative burden.”

“However, there are still large numbers of discrete rivers and lakes that are smaller than these thresholds. A possible approach for the protection of these waters is outlined below.”

**“Member States have flexibility to decide whether the purposes of the Directive, which apply to all surface waters, can be achieved without the identification of every minor but discrete and significant element of surface water as a water body.”**

“A suggested approach (see Figure 14) is to:

- include small elements of surface water as part of a contiguous larger water body of the same surface water category and of the same type, where possible.
- where this is not possible, screen small elements of surface water for identification as water bodies according to their significance in the context of the Directive’s purposes and provisions (e.g. ecological importance; importance to the objectives of a Protected Area, significant adverse impacts on other surface waters in the river basin district). In such a case, small elements; (1) belonging to the same category and type, (2) influenced by the same pressure category and level and (3) having an influence on another well-delimited water body, may be grouped for assessment and reporting purposes.

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<sup>1</sup> Article 1

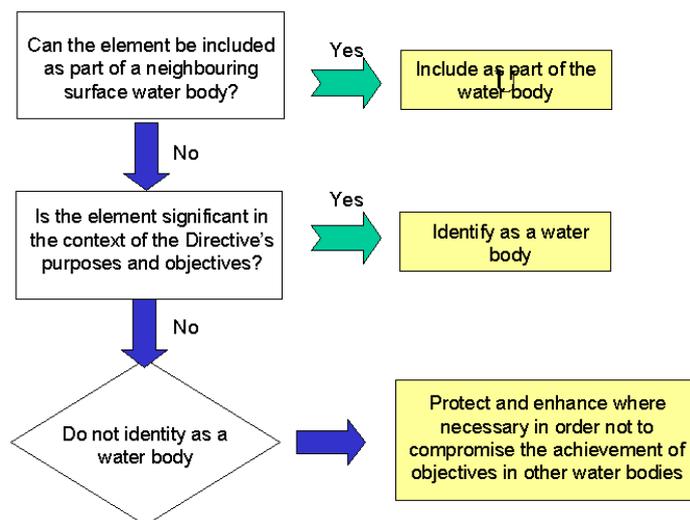
<sup>2</sup> Annex II 1.2

<sup>3</sup> Annex II 1.2.1

<sup>4</sup> Annex II 1.2.2

## UK TAG Work Programme Task 3a (02) Identification of small surface water bodies

- for those small elements of surface water not identified as surface water bodies, protect, and where necessary improve them to the extent needed to achieve the Directive's objectives for water bodies to which they are directly or indirectly connected (i.e. apply the necessary basic control measures under Article 11)<sup>5</sup>."



**Figure 14: A suggested approach to ensuring appropriate protection of smallest surface waters”**

<sup>5</sup> The Article 4.1(a)(iii) priority substances objectives apply to all surface waters regardless of whether they are identified as surface water bodies.