

UKTAG Assessment Method Alien Species

Aquatic Alien Species

by

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It is also the responsibility of the user if seeking to practise the method outlined here, to gain appropriate permissions for access to water courses and their biological sampling.

UKTAG Guide to Aquatic Alien Species

Freshwater, transitional and coastal water assessment methods

1. Introduction

This method statement describes a system for assessing and classifying surface water bodies based on the presence of high impact alien species. As there is no dedicated monitoring programme for alien species, this statement describes the process for collating the necessary information for classification. The assessment procedure works by first assessing the presence of a high impact alien species in a waterbody. The WFD-UKTAG Aliens Species Group 'Guidance on the assessment of alien species pressures (Revised March 2013)' describes the process to assess the impact on the ecological status within a waterbody.

1.1. Method summary

The method is in two parts:

1. Collation of waterbody specific data from external bodies and agency systems
2. Classification assessment based on the UKTAG guidance on assessing alien species pressures (UKTAG 2013).

1.2. Geographic application of the method

The method can be applied to all water categories within UK Waters.

1.3. Quality element assessed by the method

The method enables the assessment of the condition of the quality element "Biological" listed in Table 1.2.1 of Annex V to the Water Framework Directive.

1.4. Environmental pressures to which the method is sensitive

The method has been designed to assess impacts on ecological status from invasive non-native species pressures resulting in displacement or disruption of native species and habitats.

2. Input data collection (parameters used to assess the quality element)

There is no specific tool for detecting alien species in WFD waters, nor is there a dedicated monitoring programme for detection of alien species, assessment of their impact, or spread. The classifying agency is almost entirely dependent on external organisations and sister agencies to provide information on alien species within waterbodies. These data come from a variety of sources including:

- direct surveys undertaken by agencies prompted by the appearance or spread of alien species
- ad-hoc finds during other surveillance work such as Natura monitoring or Site Condition Monitoring
- citizen science events such as 'Bioblitz' or 'Sea-Search'
- verified reports by members of the public reporting to local record centres and experts.

Some WFD tools can detect the presence of alien species where they occur within sampling localities and these verified records are entered onto the agencies' systems. The type of data required are firstly presence and location of the species (NGR, latitude/longitude or site location code) so that this can be linked to a coastal cell or waterbody. If there are additional information such as numbers, attached or

floating, density, or dominance, then greater confidence can be given to the assessment on whether the species is established. Any additional information may be used to provide evidence of impact to the ecology.

2.1 Data for classification method

2.1.1 Data needs and survey methods

The assessment requires information on the presence and abundance of high impact alien species within WFD water bodies and coastal cells. This information is gained through requesting information from reliable external contacts, and querying internal data storage systems and on-line data holdings. Data sources included are show in Table 1.

Table 1: Alien species data sources used for classification

Reporting Agency data	Sister agencies data	Public sourced data (TraC)	Other
Statutory monitoring -data on internal systems	Statutory monitoring - data on internal systems	National Biodiversity Network	The GB NNSIP (Non-native Species Information Portal)
Incidental reporting during routine monitoring - data on internal systems	Incidental reporting during routine monitoring	Alien Apps websites	
Verified reports from public	Verified reports from public	National Biodiversity Network, inputs from events ('Bioblitz', 'Sea-Search' Big sea)	

2.1.2 'High Impact' species categories for classification

The UKTAG Alien Species Group (ASG) have [categorised invasive non-native species](#) known to be present in UK waters based on the potential level of adverse impact it poses to the water environment. This is undertaken via risk assessments or expert judgement to allocate the species to one of four impact categories:

- **High Impact:** alien species, known to be invasive, which have caused documented harm in habitats where they have become established.
- **Low Impact:** alien species known on the basis of stringent criteria to have a low probability of becoming invasive, and where field observations have shown no adverse impacts over many years of establishment.
- **Unknown Impact:** alien species whose probability of becoming invasive is unknown, and for which a full risk assessment is required.

(**NB:** Species which clearly fall between the low and the high impact categories are assigned to the **Moderate Impact** category.)

The high impact species list used within classification is fixed at the start of each river basin planning cycle and published in the standards documents and directions. However, the impact lists are continually updated according to new impact information on alien species, with a view to inclusion in classification in the next river basin planning cycle. Species may arrive in the country and hence be added, and species may move between impact classes on the basis of new evidence or

observations. If conditions change (e.g. through climate change) then species on the low-impact list may be moved to the high-impact list until there is sufficient evidence to support a continued low-impact classification. Species of unknown impact (the great majority of alien species) are those for which adequate ecological information is unavailable and where the potential impacts on recipient habitats and biota are not yet known. Species will remain as unknown until there is sufficient scientific justification to classify them as either high or low impact. It's important to note that the WFD impact lists are not a comprehensive list of all aquatic alien species, or of all alien species that may affect aquatic ecosystems.

2.1.3 Assessment of alien species data

The records of high impact species include information that can be used to identify the coastal cell or waterbody where these alien species are located. Any details supplied regarding the establishment or density of the species are also noted and used for classification. These data are tabulated for each year and used for classification.

3. Applying class boundaries to generate a classification

3.1 Classification Methods

The assessment method is based on UKTAG's high impact list (UKTAG 2013).

3.2 Using the alien species 'High Impact' list

Across the UK for the purpose of assessment under the WFD, alien species assigned high impact are used for classification. UKTAG accepts the premise that the presence of high impact aliens, where detected, are having an impact on the waterbody and will reduce the classification by one class (e.g. from High to Good). This is because high impact species are likely to become established and cause problems in any habitat in which they persist. Their propensity to spread rapidly means that prevention is the only effective way of dealing with problems, as control is likely to be prohibitively expensive and/or unsuccessful.

3.3 Classification limits

The procedure for using data on alien species in classifying ecological status is described in Figure 1.

Where the lack of established alien species, the lack of observed impacts from alien species, or any other related criterion constitute an environmental objective for a water body designated as an SAC or SPA (a 'Protected Area' under the WFD) it will be at risk of failing to achieve its environmental objectives where these criteria are not met.

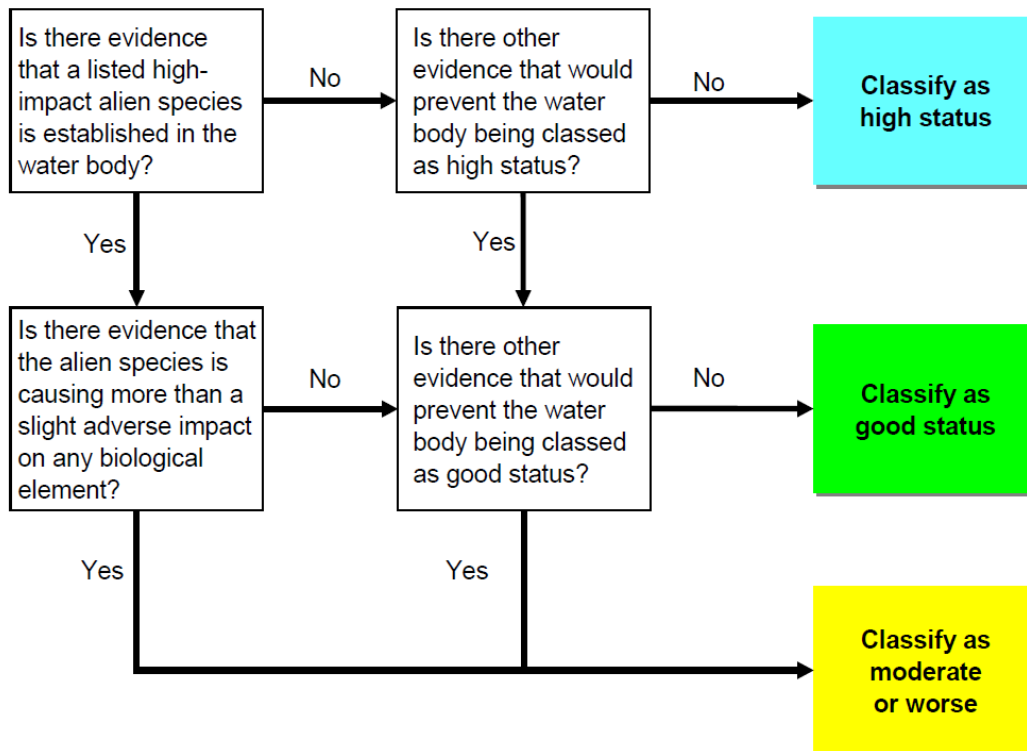


Figure 1: Procedure for using alien species data in assessing ecological status

4. Worked examples to generate a classification

4.1 Transitional and Coastal Waters:

Water body coastal cell 200023 contains records of the Leathery Seasquirt (*Styella*) and Wireweed (*Sargassum*). Both records were received from SNH in 2011, with high confidence and their persistence verified by SEPA and other external data in 2013. The records show that both of these species are attached and in the case of *Sargassum*, has formed dense patches. No other information is available, but both species are on UKTAG's [high impact list](#). Using the rules in Figure 1 this coastal cell was demoted from high to good in 2012. It remains at good status in the 2013 classification because the high impact species are still present.

4.2 Standing waters

Routine macrophyte surveys carried out by SEPA and SNH identified *Elodea canadensis* at Loch Leven, waterbody 100269. This species has been present in all surveys since 1910 (SNH data), but is not too abundant and from the most recent surveys there is no significant evidence that it is increasing. The waterbody was downgraded from high to good.

4.3 Rivers

Information on the presence of North American signal crayfish (*Pacifastacus leniusculus*) was provided by a member of the public on waterbody 6001, Dighty Water. SEPA staff confirmed the presence of a well established population, with many sightings reported subsequently within the waterbody. The waterbody was downgraded from high to moderate for alien species, with high confidence, due to the well-established population of North American signal crayfish.

5. References

UKTAG (2013) *Guidance on the assessment of alien species pressures*. March 2013. <http://www.wfduk.org/resources%20/guidance-assessment-alien-species-pressures>

UKTAG (2014) *Revised classification of aquatic alien species according to their level of impact*. Working paper. <http://www.wfduk.org/resources/classification-alien-species-according-their-level-impact-revised-list>