

# PRIORITY HABITATS FRESHWATER NATURALNESS RAPID ASSESSMENT GUIDE

Guidance written by Natural England.

This document is designed to be used by those with experience in naturalness assessments to aid the conducting of rapid surveys.



Further guidance can be found online:  
[priorityhabitats.org](http://priorityhabitats.org)

RIVERS/STREAMS ASSESSMENT

CLASS	PHYSICAL	HYDROLOGICAL
1	No evidence of physical modifications within the reach such as channel straightening, deepening, or widening, bank reprofiling or reinforcements, or impounding structures (weirs/dams). At least patchy cover (>1/3 of channel length) of riparian trees*, providing leaf litter and woody material to the channel. Tree roots strongly influencing channel dynamics. Riparian zone with semi-natural vegetation.	No evidence of impacts on the natural flow regime from abstraction, diversion, upstream impoundment or discharges (e.g., abstraction pipes or pumps, leats, discharge pipes, upstream artificial lakes). If the reach is in the headwaters it may naturally dry up in the summer months – such naturally intermittent stream sections are highly important for a range of specialist species.
2	Physical modifications of limited spatial extent within the reach - no more than 5% of surveyed length. No artificial impounding structures. At least patchy cover (>1/3 of channel length) of riparian trees*, providing leaf litter and woody material to the channel, some of which is retained. Tree roots having some influence on channel dynamics (patterns of erosion and deposition, channel sinuosity). Riparian zone with semi-natural vegetation.	Evidence of minor impacts on the natural flow regime from abstraction, diversion, upstream impoundment or discharges (e.g., abstraction or discharge points creating a discernible difference in flow).
3	Physical modifications of moderate spatial extent – no more than 30% of reach length. Artificial impounding structures may be present but rare and with limited impact on physical habitat or free movement of species.	Evidence of moderate impacts on the natural flow regime from abstraction, diversion, upstream impoundment or discharges. e.g. abstraction or discharge points creating an appreciable difference in flow.
4	Physical modifications extensive – more than 30% of reach length but still some segments of natural channel and bank. And/or artificial impoundments have a considerable impact on physical habitat.	Natural flows are heavily depleted by abstraction, upstream impoundment or water diversion.
5	Physically modified throughout the reach (i.e. 100% of reach length). Channel is uniformly straightened and oversized, or with reinforced banks.	The reach is dry for the majority of the year due to abstraction or water diversion.

\* Riparian trees should be present where natural environmental conditions allow, which includes higher altitudes up to at least 700 metres (Natural England 2018).

**RIVERS/STREAMS ASSESSMENT**

CLASS	CHEMICAL	BIOLOGICAL
1	<p>No evidence of pollution within the reach. No sewage fungus or substantial filamentous algal growths that are likely to be attributable to nutrient enrichment. No direct effluent discharges. If used, water quality test kits do not register any positive results. Biological sampling indicates no impacts on water or sediment quality.</p>	<p>No evidence of non-native species (plants or animals). As a minimum assessment this should include Himalayan Balsam, Japanese knotweed and Giant Hogweed.</p>
2	<p>Evidence of low-level pollution. Small amounts of sewage fungus in the reach, or patches of filamentous algal growth that are likely to be attributable to nutrient enrichment (e.g. downstream of effluent discharge). If used, water quality test kits register positive results but at low concentrations. Biological sampling indicates only minor impacts on water or sediment quality.</p>	<p>One or more non-native species are present in small numbers or spatial extent. Non-native plants should occupy no more than 5% of channel length. Non-native animals (e.g. signal crayfish) should rarely be encountered during searches.</p>
3	<p>There may be moderate levels of filamentous algal growth or sewage fungus through most of the reach. If used, water quality test kits register moderate levels of pollution. Biological sampling indicates moderate impacts on water or sediment quality.</p>	<p>One or more non-native species have a significant presence in the reach, occupying up to 25% of the reach.</p>
4	<p>There may be high levels of filamentous algal growth or sewage fungus through most of the reach. If used, water quality test kits register high levels of pollution. Biological sampling indicates high impact on water or sediment quality.</p>	<p>One or more non-native species are a major component of the flora or fauna, occupying up to 60% of reach length.</p>
5	<p>Major pollution issues. There may be very high levels of filamentous algal growth or sewage fungus throughout the reach, or chronically poor water clarity (not just after heavy rain). If used, water quality test kits register very high pollutant concentrations. Biological sampling indicates high impact on water or sediment quality - very few types of aquatic invertebrates present.</p>	<p>One or more non-native species are widespread in the reach, dominating the riparian zone or the channel.</p>



LAKES ASSESSMENT	CLASS	PHYSICAL NATURALNESS		
		SHORELINE CONDITION	RIPARIAN LAND USE	MORHOLOGY (ARTIFICIAL)
	<b>1</b>	No evidence of human physical modifications of the shoreline. A marginal fringing wetland is likely, particularly in lowland lakes.	Riparian land is all semi-natural.	The edges shelve gently allowing colonisation by plants.
	<b>2</b>	Physical modifications of limited spatial extent - no more than 5% of shoreline. A marginal fringing wetland is likely, particularly in lowland lakes.	Riparian land is predominantly semi-natural (90%).	Colonisation by plants should be possible at least 10m from the edge.
	<b>3</b>	Physical modifications and non-natural riparian land use of moderate spatial extent - no more than 1/3 of the shoreline. Marginal fringing wetlands are restricted in perimeter extent and depth.	Riparian land semi-natural for at least 2/3 of its extent.	Colonisation by plants should be possible at least 3m from the edge.
	<b>4</b>	Physical modifications extensive up to 2/3 of the shoreline.	Riparian land semi-natural for at least 1/3 of its extent.	The edges may be steep resulting in little habitat that can be colonised by plants. Only a very narrow strip of emergent, floating or submerged plants may exist.
	<b>5</b>	Modification of the shoreline is widespread with more than 2/3 of the shoreline reinforced. Marginal fringing wetlands are absent.	Riparian land semi-natural for less than 1/3 of its extent.	Edges may be steep resulting in little or no habitat that can be colonised by plants. Only a very narrow strip of emergent, floating or submerged plants may exist.

LAKES ASSESSMENT	CLASS	HYDROLOGICAL NATURALNESS		
		STRUCTURES	WATER LEVEL FLUCTUATIONS	INFLOWS & OUTFLOWS
	<b>1</b>	No structures affecting water levels or creating barriers.	Natural seasonal water level fluctuations are expected.	Any inflows and outflows are natural, the surrounding land is not drained and ditches are absent.
	<b>2</b>	Structures such as sluices and impoundments may be present, but are passable to most fish species, most of the time. This may be due to the presence of a fish pass or because the structure does not present an insurmountable obstacle.	Water levels naturally fluctuate or mimic a naturally fluctuating regime in a seasonal fashion (water levels higher in winter than in summer) and only moderate in extent. This may occur via active management of the water levels or naturally behind a structure if water levels can fall below its height in summer.	No additional ditches enter the lake, but inflows and outflows may have some modifications.
	<b>3</b>	A structure is present which is impassable to most fish species, most of the time.	Water levels fixed and unable to fluctuate naturally.	Outflows may have been modified to reduce lake extent. Alternatively surrounding land may have been drained with ditches forming artificial inflows.
	<b>4</b>	Large impassable (all fish species, at all times) structure is present.	Water levels are heavily depleted by abstraction resulting in considerable drawdown (but by less than 2m depth).	Outflows have been modified to reduce lake extent. Alternatively surrounding land has been drained with ditches forming artificial inflows.
	<b>5</b>	Very large impassable structures present.	Drawdown of more than 2m depth annually.	Lakes in this category are likely to be water supply reservoirs or part of hydro-electric schemes.

**LAKES ASSESSMENT**

CLASS	CHEMICAL NATURALNESS			
	WATER CLARITY	ALGAE	SUBMERGED PLANTS	WATER QUALITY
<b>1</b>	The lake substrate or Secchi disc will be visible through > 3m of water.	Algal growth of any type will be negligible.	Submerged plants will grow to at least 3m depth (or the max depth) and wherever the substrate is not too coarse to enable plant growth.	Water quality test kits do not register any positive results. Biological sampling indicates no evidence of pollution.
<b>2</b>	The lake substrate or Secchi disc will be visible through >1 ≤ 3m of water.	Noticeable algal growth may occasionally occur particularly in lowland lakes, but this will not be persistent or widespread. Filamentous and epiphytic algae will be rare.	Submerged plants may be limited to a depth of less than 3 m but greater than 1 m.	Water quality test kits register positive results but at low concentrations. Biological sampling indicates low levels of pollution.
<b>3</b>	The lake substrate or Secchi disc will be visible through >50 ≤1m of water. Water maybe clear at certain times of the year but not others.	There may be moderate extent of filamentous algae and algal blooms may occur particularly in spring and autumn, but will not be persistent. Plants may have a heavy epiphytic burden.	Some submerged plants will be present but these are unlikely to be abundant or grow to great depths unless they are species tolerant of nutrient enrichment. Alternatively there may be an abundance of submerged plant growth early in the growth season but this will have crashed by August.	Water quality test kits register moderate levels of pollution. Biological sampling indicates moderate impacts on water quality.
<b>4</b>	Water will be brown or green. The lake substrate or Secchi disc will be visible through >25≤50cm of water.	There may be frequent algal blooms or large extents of filamentous algae.	Submerged plants will be very sparse if present.	Water quality test kits register high levels of pollution. Biological sampling indicates high impacts on water quality.
<b>5</b>	Water will be brown or green. Unable to see the bottom under 25 cm of water.	Frequent algal blooms. There may be extensive filamentous algae.	No submerged plants are present.	Water quality test kits register very high pollutant concentrations. Biological sampling indicates major pollution issues.

LAKES ASSESSMENT	BIOLOGICAL NATURALNESS	
	CLASS	
		NON-NATIVE PLANT SPECIES
<b>1</b>	No evidence of non-native species in the lake or on the riparian land.	No evidence of non-native species in the lake or on the riparian land.
<b>2</b>	Non-native plants should occupy no more than 5% of shoreline or lake area.	Non-native animals should rarely be encountered and not be creating an obvious impact. For some species such as carp their impact may be more easily spotted than the individuals. When the water is constantly a muddy opaque brown, only floating plants remain and there is no other form of sediment disturbance such as boat traffic, carp are likely to be the cause.
<b>3</b>	Non-native plants occupy up to 25% of the shoreline.	At least one non-native animal found when appropriate search technique is used.
<b>4</b>	Non-native plants occupying up to 60% of the shoreline.	Multiple non-native animals found when searched for.
<b>5</b>	Non-native plants occupying more than 60% of the shoreline or lake area.	Non-native animals are numerous, individuals found with little effort.