

## DORSET LOCAL NATURE RECOVERY STRATEGY HABITAT ASSEMBLAGES

<b>Habitat assemblage:</b>	Species of rivers, streams and riparian habitats
<b>Broad Habitat type:</b>	Wetland
<b>S41 and Priority Habitat type:</b>	Rivers (of high ecological quality)
<b>Composite species assemblages:</b>	<p>Birds of lowland rivers</p> <p>Migratory fish</p> <p>Salmonid fish</p> <p>Fish dependant on clean gravels for spawning</p> <p>Bats of riparian habitats</p> <p>Riparian dragonflies and damselflies</p> <p>Invertebrates of muddy and gravelly river margins</p> <p>Invertebrates of chalk streams</p> <p>Plants of species-rich lowland rivers</p> <p>Plants of muddy pond, stream and river margins</p> <p>Bryophytes of riparian habitats</p>

<b>Habitat assemblage description:</b>	<p>Dorset is noted for its chalk streams and rivers which are a globally rare resource. There are also lowland clay rivers (Stour and its tributaries) and smaller more acidic waters arising from the Greensand in the west of the county and the Poole formation on the heaths. Each river type will have its own assemblages of flora and fauna. This assemblage includes the watercourse plus the margins and bank, smaller feeder-streams directly associated with the main river and smaller features such as riverside trees.</p> <p>While Dorset is a largely rural county many rivers have had their natural courses altered for drainage purposes and in urban areas for development. These sections lose their processes and reduce or eliminate some features and micro-habitats, the most natural parts of rivers in Dorset tends to be in the upper reaches and headwaters often within wet woodland.</p>
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<b>Other related assemblages:</b>	Species of ponds and lakes
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<b>Pressures and Threats</b>	
<b>PA07</b>	<b>Intensive grazing or overgrazing by livestock</b>
	<p>Many streams and rivers run through agricultural land that is grazed. If unfenced prolonged intensive grazing may cause localised erosion of the river bank releasing sediment into the river which is a particular issue for those water courses with a stony or gravelly base favoured by some fish. Grazing may also reduce the cover of marginal and emergent vegetation used by invertebrates and nesting birds, or in some cases the water-crowfoot (<i>Ranunculus</i>) beds that are an extremely important habitat within the river.</p>

<b>PA08</b>	<b>Extensive grazing or under-grazing by livestock</b>
	Rivers that are permanently fenced tend to be dominated by a few robust perennial species on the bank and at the margins and these can include invasive plants such as stinging nettle and Himalayan Balsam. These robust species out-compete smaller and less competitive species particularly annuals several of which are declining in Dorset.
<b>PA13</b>	<b>Application of natural or synthetic fertilisers on agricultural land</b>
	Regular applications of artificial fertilizers and slurry on land adjacent to watercourses can lead to run-off into the river and / or enrichment of marginal vegetation which can become homogenous and dominated by a few robust perennials tolerant of high levels of nitrogen such as stinging nettle, hogweed, hemlock, hemlock Water-dropwort and reed canary-grass.
<b>PA17</b>	<b>Agricultural activities generating pollution to surface or ground waters (including marine)</b>
	Run-off from field can cause pollution (enrichment) and add silt to watercourses both of which are detrimental to fish and invertebrates in particular.
<b>PF05</b>	<b>Sports, tourism and leisure activities</b>
	Watercourses are popular places for leisure activities if unmanaged this can have a detrimental impact on biodiversity. Disturbance is the most obvious pressure on nesting birds in marginal vegetation. Dogs treated with chemicals (flea treatments) to prevent external parasites such as ticks are entering ponds and lakes releasing toxic chemicals into the water that are harmful to aquatic invertebrates and amphibians.
<b>PF07</b>	<b>Residential and commercial activities and structures generating pollution to surface or ground waters</b>
	The expansion of hard, impermeable surfaces is leading to rapid and excessive run-off which will find its way in to ponds and water-courses leading to pollution and adding to the silt-load. Sewage outflows that release effluent during heavy rainfall increase the levels of nitrates and phosphates that encourage algal growth with a corresponding decline in macrophytes and invertebrates.
<b>PF17</b>	<b>Active abstraction of water for built-up areas</b>
	Water abstraction can lower water tables and can have a detrimental effect on rivers particularly in the headwaters and on seasonal (winterbourne) streams and chalk streams. Lower water levels can prevent some migratory fish from moving upstream to reach suitable spawning sites
<b>PG06</b>	<b>Freshwater fish and shellfish harvesting (professional)</b>
	Professional freshwater fishing and shellfish harvesting causing increased direct mortality, reduction of species and/or prey populations and disturbance to species.
<b>PG07</b>	<b>Freshwater fish and shellfish harvesting (recreational)</b>
	Recreational freshwater fishing and shellfish harvesting causing increased direct mortality, reduction of species and/or prey populations and disturbance to species.

<b>PG09</b>	<b>Management of fishing stocks and game</b>
	Activities related to management of fishing stocks and game such as stocking or restocking with native fish species (including illegal restocking) which could introduce disease.
<b>PG11</b>	<b>Illegal shooting/killing</b>
	Illegal and unlicensed targeting of certain declining fish species for illegal reduces the stock for breeding and may catch other species thus having a negative impact on the fish assemblage. Hunting of waterfowl out of the agreed season or during hard weather can impact on populations of both resident breeding and wintering species.
<b>PG13</b>	<b>Bycatch and incidental killing (due to fishing and hunting activities)</b>
	Bycatch and incidental killing due to fishing and hunting activities (e.g. 'accidentally' shooting of a non-target species, because of similarities with a target species, capture/drowning on long-lines and in fishing nets, entanglement in discarded/lost fishing gear).
<b>PG17</b>	<b>Active abstraction of water bodies for aquaculture</b>
	See PF17.
<b>PG18</b>	<b>Physical alterations of water bodies for aquaculture (including channels, weirs and dams)</b>
	Activities modifying the physical structure or hydrological functioning of water bodies triggered by freshwater aquaculture, and activities aimed at drying out the land to facilitate aquaculture (e.g. development and operation of dams and reservoirs and other changes to the physical structure of water bodies or hydrological flow triggered by freshwater aquaculture).
<b>PI02</b>	<b>Other invasive alien species</b>
	The few non-native plants found in ponds are among the most invasive and damaging to native species. Parrot's feather and New Zealand pygmyweed are the most widespread and grow quickly and can cover small ponds. Once established they are almost impossible to remove.
<b>PI03</b>	<b>Problematic native species</b>
	Most invasive species are related to management issues such as enrichment which encourages stinging nettle and hemlock water-dropwort. The non-native American signal crayfish has become naturalised in many Dorset rivers spreading a fungal disease called 'crayfish plague', that has decimated the populations of our native white-clawed crayfish; their burrowing can also destabilise river banks.
<b>PJ01</b>	<b>Temperature changes and extremes due to climate change</b>
	Several fish are sensitive to the water temperature preferring cooler temperatures. Encouraging trees, or planting trees, along the riverbank creating shade and a cooler micro-climate can mitigate this pressure.
<b>PJ03</b>	<b>Changes in precipitation regimes due to climate change</b>

	Changing rainfall patterns may impact the habitat in different ways. Prolonged droughts may lower the water table which favours the encroachment of scrub and other non-wetland species. Increased flooding events could result in enriched water and silt entering the site leading to enrichment and depositing silt into stony or gravel bottomed rivers that are favoured spawning areas for some fish.
<b>PJ10</b>	<b>Change of habitat location, size, and / or quality due to climate change</b>
	Climate change, particularly increased storm events and heavy rainfall can add silt to the water course remove features such as shingle banks and dead wood. In extreme cases it may change the main course of waterbody, although this can create ecologically important features such as ox-bow lakes.
<b>PJ13</b>	<b>Change of species distribution (natural newcomers) due to climate change</b>
	Warmer waters may favour new species, or accidentally introduced non-native species, that could out-compete native species or spread diseases.
<b>PL03</b>	<b>Old barriers or other obsolete infrastructures (mixed or unknown drivers)</b>
	Weirs, sluices and other structures can prevent migratory fish from moving upstream to suitable breeding locations. Fish passes can be constructed and are suitable for some, but not all, species.
<b>PL05</b>	<b>Modification of hydrological flow (mixed or unknown drivers)</b>
	Cutting of in-channel and marginal vegetation to improve flow removes breeding and resting habitat for many fish, invertebrates and molluscs.
<b>PL06</b>	<b>Physical alteration of water bodies (mixed or unknown drivers)</b>
	Many smaller streams and rivers in both urban areas and the wider countryside have been canalised increasing flow which reduces slow flowing or still-water niches preferred by some species. Often marginal emergent and bank vegetation is reduced or eliminated.

**Micro-habitat assemblage: Birds of lowland rivers**

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures								
Birds	<i>Alcedo atthis</i>	Common Kingfisher		n/a	n/a	5	.	.	.	.	.	.	.	.	.
Birds	<i>Cinclus cinclus</i>	Dipper	AMBER	n/a	n/a	2	.	.	.	.	.	.	.	.	.
Birds	<i>Egretta garzetta</i>	Little egret		n/a	n/a	4	.	.	.	.	.	.	.	.	.
Birds	<i>Emberiza schoeniclus</i>	Reed bunting	AMBER	n/a	n/a	2	.	.	.	.	.	.	.	.	.
Birds	<i>Motacilla cinerea</i>	Grey Wagtail	AMBER	n/a	n/a	2	.	.	.	.	.	.	.	.	.

**Micro-habitat assemblage: Bats of riparian systems**

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures								
Bats	<i>Myotis daubentonii</i>	Daubenton's Bat	LC	LC	n/a	4	.	.	.	.	.	.	.	.	.
Bats	<i>Myotis brandtii</i>	Brandt's Bat	DD	DD	n/a	4	.	.	.	.	.	.	.	.	.
Bats	<i>Myotis nattereri</i>	Natterer's Bat	LC	LC	n/a	4	.	.	.	.	.	.	.	.	.
Bats	<i>Nyctalus noctula</i>	Noctule	LC	LC	n/a	4	.	.	.	.	.	.	.	.	.
Bats	<i>Nyctalus leisleri</i>	Leisler's Bat	NT	NT	n/a	2	.	.	.	.	.	.	.	.	.
Bats	<i>Eptesicus serotinus</i>	Serotine	VU	VU	n/a	1	.	.	.	.	.	.	.	.	.
Bats	<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	LC	LC	n/a	4	.	.	.	.	.	.	.	.	.
Bats	<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	LC	LC	n/a	4	.	.	.	.	.	.	.	.	.
Bats	<i>Pipistrellus nathusii</i>	Nathusius' Pipistrelle	NT	NT	n/a	2	.	.	.	.	.	.	.	.	.
Bats	<i>Barbastella barbastellus</i>	Western Barbastelle	VU	VU	n/a	1	.	.	.	.	.	.	.	.	.
Bats	<i>Plecotus austriacus</i>	Grey Long-eared Bat	EN	EN	n/a	1	.	.	.	.	.	.	.	.	.

**Micro-habitat assemblages: Migratory fish, Salmonid fish and fish dependant on clean gravels for spawning**

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures								
Freshwater and Migratory Fish	<i>Salmo salar</i>	Salmon	n/a	n/a	VU (GRL)	1	PG01	PG06	PG07	PG09	PG11	PG13	PG17,	PG18	
Freshwater and Migratory Fish	<i>Salmo trutta subsp.fario</i>	Brown Trout	n/a	n/a	LC (GRL)	5	PG06	PG07	PG18	PG20	.	.	.	.	
Freshwater and Migratory Fish	<i>Salmo trutta subsp. trutta</i>	Sea Trout	n/a	n/a	LC (GRL)	5	PG06	PG07	PG18	PG20	.	.	.	.	
Freshwater and Migratory Fish	<i>Anguilla anguilla</i>	European Eel	n/a	n/a	CR (GRL)	1	PG06	PG07	PG18	PG20	.	.	.	.	
Freshwater and Migratory Fish	<i>Lampetra fluviatilis</i>	River Lamprey	n/a	n/a	LC (GRL)	5	PG06	PG07	PG18	PG20	.	.	.	.	
Freshwater and Migratory Fish	<i>Lampetra planeri</i>	Brook Lamprey	n/a	n/a	LC (GRL)	5	.	.	.	.	.	.	.	.	
Freshwater and Migratory Fish	<i>Petromyzon marinus</i>	Sea Lamprey	n/a	n/a	LC (GRL)	5	PG06	PG07	PG18	PG20	.	.	.	.	
Freshwater and Migratory Fish	<i>Cottus gobio</i>	Bullhead	n/a	n/a	LC (GRL)	5	.	.	.	.	.	.	.	.	
Freshwater and Migratory Fish	<i>Acipenser sturio</i>	European Sturgeon	n/a	n/a	CR (GRL)	6	.	.	.	.	.	.	.	.	
Freshwater and Migratory Fish	<i>Thymallus thymallus</i>	European Grayling	n/a	n/a	LC (GRL)	5	.	.	.	.	.	.	.	.	

**Micro-habitat assemblage:** Invertebrates of muddy and gravelly river margins

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures							
Beetles	<i>Agabus brunneus</i>	Sharp's Diving Beetle	VU	n/a	n/a	1	PL01	PL05	.	.	.	.	.	.
Beetles	<i>Macronychus quadrituberculatus</i>		NT	n/a	n/a	2	.	.	.	.	.	.	.	.
Beetles	<i>Saprinus virescens</i>	a hister beetle	NT	n/a	n/a	2	.	.	.	.	.	.	.	.
Beetles	<i>Stenelmis canaliculata</i>	a riffle-beetle	VU	n/a	n/a	1	.	.	.	.	.	.	.	.
Flies	<i>Erioptera limbata</i>	Brown-edged splay	VU	n/a	n/a	1	.	.	.	.	.	.	.	.

**Micro-habitat assemblage:** Riparian dragonflies and damselflies

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures							
Dragonflies and Damselflies	<i>Libellula fulva</i>	Scarce Chaser	NT	n/a	n/a	2	PA17	PK01	.	.	.	.	.	.
Dragonflies and Damselflies	<i>Oxygastra curtisii</i>	Orange-spotted Emerald	RE	n/a	n/a	6								

**Micro-habitat assemblage:** Plants of muddy pond, stream and river margins

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures							
Plants	<i>Catabrosa aquatica</i>	Whorl-grass	LC	VU	n/a	1	PA04	PA05	PI03	PK01	PL01	.	.	.
Plants	<i>Cyperus fuscus</i>	Brown Galingale	VU	VU	n/a	1	PA05	PA08	.	.	.	.	.	.
Plants	<i>Oenanthe fluviatilis</i>	River Water-dropwprt	LC	LC	n/a	3	PE05	PK01	.	.	.	.	.	.
Plants	<i>Persicaria minor</i>	Small Water-pepper	VU	LC	n/a	1	PA05	.	.	.	.	.	.	.
Plants	<i>Persicaria mitis</i>	Tasteless Water-pepper	VU	VU	n/a	1	PA04	PA05	PA08	.	.	.	.	.
Plants	<i>Potamogeton natans x lucens</i>	a hybrid pondweed	VU	LC	n/a	1	.	.	.	.	.	.	.	.
Plants	<i>Potamogeton nodosus</i>	Loddon Pondweed	VU	VU	n/a	1	PA17	PK01	.	.	.	.	.	.

**Micro-habitat assemblage:** Bryophytes of riparian habitats

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures							
Bryophytes - Mosses	<i>Fissidens rivularis</i>	River Pocket-moss	LC	n/a	n/a	4	PK01	.	.	.	.	.	.	.
Bryophytes - Mosses	<i>Myrinia pulvinata</i>	Flood-moss	NT	n/a	NT (Eur)	2	.	.	.	.	.	.	.	.