

9.3 Habitat Descriptions

Appendix 9.3 Detailed Instream Habitat Descriptions

Site	EPA name	Habitat Description (Field Target Note)	Fisheries Value	Biological Water Quality (Q-value)	WFD status
M1	Transitional Moy 34	Bankside vegetation on both sides of the river downstream of the "Lower Bridge" is quite 'natural' and largely undisturbed. Riparian habitat pertains to FS2 Tall-herb swamp, grading locally into FS1. Species include <i>Phalaris</i> , purple loosestrife, meadow sweet, <i>Potentilla anserina</i> , water figwort, as well as occasional angelica, marsh ragwort, marsh valerian, narrow leaved ribwort plantain, tufted vetch, hemlock water dropwort, several grasses, <i>Rumex</i> spp., rushes, with scattered stunted alder and willow present at intervals. At the river-side face of the bank and toward its base, <i>Elyocharis palustris</i> , <i>Caltha palustris</i> , <i>Myosotis</i> and <i>Mentha</i> frequently occurred, along with loose stands of <i>Sparganium erectum</i> at intervals. Instream, just below the bridge at the RHS, substrates comprise scattered angular cobbles over slightly silted medium and coarse sand. There were extensive rafts of <i>Potamogeton x zizii</i> and <i>P. perfoliatus</i> and occasional amounts of the submerged form of <i>Schoenoplectus lacustris</i> . The cobbles had <i>Cinclidotus</i> and <i>Fissidens</i> sp. Freshwater sponge was abundant under the Lower Bridge and immediately below.	Flow during sampling (low tide) was mod-slow at the margins and habitat is not suitable for salmonid spawning, although an important migration route. Lamprey ammocoetes (juveniles) present (likely sea lamprey) in some of the softer marginal sediments, both banks.	Sampled fauna under and on stones included <i>Bithynia</i> , zebra mussels, <i>Theodoxus</i> , abundant swan mussel shells, <i>Polycentropus</i> etc. <i>Calopteryx</i> sp. on the wing. Transitional Water - EPA rating of Moderate Status (2022)	Moderate
M2	Transitional Moy 34	Immediately upstream of the Lower Bridge, RHS side, a drain enters (clearly enriched/polluted in July 2021). RHS grassland above the hard quay wall is of lower ecological value compared to M1. The vertical quay wall itself is covered with <i>Cinclidotus</i> above with <i>Fontinalis antipyretica</i> below but also probably other smaller amounts of other mosses. Instream was occasional <i>Myriophyllum spicatum</i> and <i>Ranunculus</i> spp., plus wispy FGA heavily covered in diatoms.	Important salmonid and lamprey migration route (no spawning, no lamprey nursery). Valuable recreational fishing area.	As for M1	Moderate
M3 & M4	Transitional Moy 34	Paired Boulder Deflectors on both sides of the river running upstream from the Lower Bridge as far as the Salmon Weir. Covered with <i>Cinclidotus</i> and FGA, with coarse sand between boulders. They are in place to cause pools to develop downstream thereby encouraging salmon to rest up on their inward migration allowing anglers a chance to catch them as well as affording anglers a fishing platform extending into the channel. The RHS has a sloping, engineered bank which has a band of <i>Vaucheria</i> and <i>Cinclidotus</i> . Backwaters between deflectors have <i>Ranunculus</i> and <i>P. x zizii</i> and occasional <i>Fontinalis antipyretica</i> .	Important salmonid and lamprey migration route (no spawning, no lamprey nursery). Valuable recreational fishing area.	As for M1	Moderate
M5 & M6	Transitional Moy 34	Large RHS side boulder deflector: <i>Ranunculus</i> sp. landward, <i>Cinclidotus</i> and FGA on small cobble on main body of the deflector and with heavy FGA and <i>Cinclidotus</i> on the tip (channel end) of the deflector. Slack, more laminar flow occurs upstream of 'natural' rock weir.	Important salmonid and lamprey migration route (no spawning, no lamprey nursery). Valuable recreational fishing area.	As for M1	Moderate
M7 & M8	River Moy 34	RHS quay walls dominated by <i>Cinclidotus</i> . Instream - very slack flow over FGA and moss-covered cobble (<i>Cinclidotus</i>). Ivy and bramble in places above along with alder and sycamore 'bushes', and clumps of <i>Sparganium erectum</i> and <i>Phalaris</i> below.	Important salmonid and lamprey migration route. Sea lamprey spawning and nursery (See Appendix 9.6 for lamprey habitat details). Valuable recreational fishing area.	EPA rating (2022) - 50m u/s Salmon Weir [34M021050] = Q3-4 (Moderate Status)	Moderate
M9	River Moy 34	RHS existing wall - <i>Myriophyllum spicatum</i> and <i>Ranunculus</i> sp. in shallow, marginal slack-flow areas. Also, large clumps of <i>P. x zizii</i> closer to the bridge downstream and occasional <i>Fontinalis</i> and <i>Ranunculus</i> with a band of <i>Phalaris</i> close to the wall.	Important salmonid and lamprey migration route. Potential lamprey nursery habitat at margin near	As for M7/8	Moderate

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			Upper Bridge (see Appendix 9.6 for details). Valuable recreational fishing area.		
M10	River Moy 34	Heavy steel culvert flap - RHS wall (stormwater outlet). Slack pool/glide at outfall close to wall with bedrock, loose cobble and fine silt layer signifying slack flow beneath outfall.	~	As for M7/8	Moderate
M11 / 12	Transitional Moy 34	LHS of river below the "Upper Bridge". School of grey mullet observed in July 2022.	Important salmonid and lamprey migration route (no spawning, no lamprey nursery habitat). Valuable recreational fishing area.	As for M1	Moderate
M13	Transitional Moy 34	LHS side of the Lower Bridge - just upstream of Knockenelo Stream culvert confluence. Low boulder and cobble 'berm' protecting base of LHS bankside embankment, which is topped with <i>Phalaris</i> , purple loosestrife and meadow sweet, with a wide belt of <i>Potamogeton x zizzi</i> and <i>P. perfoliatus</i> . Well-developed plant community including buddleia on and just inside the roadside backing wall dominated by <i>Phalaris</i> , purple loostrife, marsh ragwort, meadow sweet, <i>Potentilla anserina</i> , <i>Ranunculus repens</i> , scattered water figwort, scattered <i>Iris pseudacorus</i> , occasional common valerian (<i>V. officinalis</i>) with <i>Eliocharis</i> , <i>Caltha</i> and <i>Myosotis</i> , <i>Mentha</i> further down the bank and a fringe of instream <i>Ranunculus</i> at the base of the bank.	Important salmonid and lamprey migration route. Lamprey ammocoetes present in slack margins (silt deposits).	As for M1	Moderate
M14	Transitional Moy 34	Instream: marginal 'belt' of <i>Ranunculus</i> stretching from the boulder base of the bank into the edge of the channel, with a wide belt of mixed <i>P. perfoliatus</i> and <i>P. x zizzi</i> . Some Fontinalis on boulders also, with <i>Eliocharis</i> , <i>Mentha</i> , occasional clumps of <i>Apium</i> , <i>O. crocata</i> and very occasional stands of <i>S. erectum</i> , v. occasional <i>Lycopodium</i> , Water plantain (<i>Alisma plantago-aquatica</i>) and Amphibious bistort.	Important salmonid and lamprey migration route. Lamprey ammocoetes present in slack margins (silt deposits).	As for M1	Moderate
M15	Transitional Moy 34	Floating dock - inner side had very slack water and FGA. Similar to M14 but <i>S. erectum</i> more common in slack flows. Small amounts of <i>S. emersum</i> and <i>S. erectum</i> present, <i>Elodea canadensis</i> and very occasional <i>Callitriche</i> spp.	Important salmonid and lamprey migration route. Lamprey ammocoetes present in slack margins (silt deposits).	As for M1	Moderate
TE1	Tullyegan 34	Small, drained stream within deepened field boundary ditch. Uniformly sloping banks overgrown with tall herb community of meadowsweet, watermint, water speedwell (<i>Veronica anagallis-aquatica</i>) figwort, bindweed, Great willowherb and grasses. Scarce instream plant community, with mainly marginal species including <i>S. erectum</i> , <i>Myosotis scorpiodes</i> , <i>Callitriche</i> spp. and both <i>Lemna minor</i> and <i>L. trisulca</i> . Shallow riffle-run over mainly coarse and fine gravel / pebble with occasional cobble. Heavy fine silt deposits at margins /slacks. Suitable for trout, brook lamprey spawning and nursery, although regular drainage and low summer flows, with a lack of deeper pools may militate against their presence. Eel and stickleback likely. 30-minute crayfish search conducted - no evidence of crayfish.	Trout and brook lamprey spawning / nursery potential throughout this stream although impaired water quality and apparently regular dredging would militate against this. Eel, stickleback likely.	Kick sample taken 12/07/2022 = Q3-4 – (poor end of the moderate status band possibly owing to hydromorphology alterations and siltation)	*Moderate
TE2	Tullyegan 34	Culverted beneath local road. Evidence of drainage downstream with drainage spoil deposited on RHS bank. Similar habitat to TE1 with greater proportion of cobble. Suitable trout nursery with pockets of trout and likely brook lamprey spawning habitat.	As for TE1	Infer Q3-4 from TE1 and TE3	*Moderate

Site	EPA name	Habitat Description (Field Target Note)	Fisheries Value	Biological Water Quality (Q-value)	WFD status
TE3	Tullyegan 34	Moderate sized stream with reasonable flow even in summer (possibly spring fed). Modified by recent drainage - deepened, widened, channelized. Steep, unstable clay banks. Cobble (40%) and pebble/gravel (50%) with silt (10%). Mainly uniform riffle/run. Long trailing <i>Cladophora</i> (35% cover) instream, indicative of nutrient enrichment. Slightly turbid during sampling. Trout nursery with potential pockets of spawning habitat, but generally low-quality salmonid habitat (not suited to salmon). Trout, stickleback, stone loach, brook lamprey and eel are likely. 30-minute crayfish search conducted - no evidence of crayfish.	As for TE1	Kick sample Q3-4	*Moderate
TE4	Tullyegan 34	N26 crossing (upstream of Moy confluence). Highly modified through urban reach with high concrete flood defence walls and deepened / widened channel.	As for TE1	Infer Q3-4 from TE1 and TE3	*Moderate
BN1	Bunree	This upper reach of the Bunree is drained, forming a field boundary ditch. There was no visible flow (during summer) - mainly dry with occasional small pools. Deepened channel lined with damp soft sediments overgrown with <i>Equisetum fluviatile</i> , rushes, bramble and occasional trimmed willow, hawthorn and alder.	Low, if any fisheries value.		*Poor
BN2	Bunree	Deeply drained and realigned from this point downstream and along the L5132 road. Trickle flow over substrates of silty gravel and cobble. Not accessible for kick-sample.	Low, if any fisheries value.	Infer Q3 from BN3	*Poor
BN3	Bunree	The stream is realigned alongside the L5132 road and has modified banks that appeared recently herbicide sprayed. Slow riffle/run over fine gravel substrates with silty deposits at margins and slacks. 5% cover of FGA (<i>Spirogyra</i> spp.), clear, but very low volume.	Low potential for any fish presence owing to limited water volume and impaired water quality.	Kick sample taken 11/07/2022 = Q3	*Poor
BN4	Bunree	Extensively culverted from this point down to BN5. Stepped culvert entrance forms a fish passage barrier.	No fisheries value (culverted)	Infer Q3 from BN3	*Poor
BN5	Bunree	Lower Bunree Stream just upstream confluence of River Moy. Glide flow over embedded cobble substrates with overlying soft sediment. Bank habitat appears to be a diverse reed swamp area with reed canary grass, meadowsweet, butterbur, figwort, marsh ragwort, <i>Rumex</i> spp., <i>Angelica</i> spp.	Low fisheries value, although fish may forage up from Moy main channel	Infer Q3 from BN3	*Poor
QG1	Quignamanger	Small woodland stream. Trickle flow, run-glide over silty sediments with embedded calcareous gravel/cobble (10%) and abundant woody debris. Otter prints noted along stream margin. Trout and brook lamprey cannot be ruled out, but habitat is not ideal and this site is upstream of culvert works. Stickleback present. 30-minute crayfish search conducted - no evidence of crayfish.	Stickleback, possibly eel if they can negotiate culverts	Q3 inferred from QG2	*Poor
QG2	Quignamanger	Calcareous concretions with patches of loose gravel/cobble attest to high alkalinity and likely spring fed nature of this stream. 15% cover of leafy liverwort (<i>Pellia epiphylla</i>). Stickleback present. The stream is culverted from 20m downstream of this point all the way to point QG5.	Stickleback; possibly eel if they can negotiate culverts. Calcareous concretions in any riffle /run sections mean that habitat is largely unsuitable for trout spawning	Kick sample taken 11/07/2022 = Q3 (low diversity, not ideal for sampling)	*Poor
QG3	Quignamanger	Stream culverted - road side channel for stormwater only	No fisheries value (culverted)	N/A	N/A
QG4	Quignamanger	Stream culverted - road side channel for stormwater only	No fisheries value (culverted)	N/A	N/A

Site	EPA name	Habitat Description (Field Target Note)	Fisheries Value	Biological Water Quality (Q-value)	WFD status
QG5	Quignamanger	Short section of open channel upstream of Quay Road pipe/culvert and River Moy confluence. Stony substrates with calcareous silty /sand deposits in slack flows, riffle-run habitat with small cascades that have tufa formation (calcareous deposition) on masses of filamentous green algae (<i>Vaucheria</i> spp.) and stony substrates. The channel is 1.5m in width (10cm depth at low flow), confined within vertical stone walls along the open reach between the active culvert flap valve and the Quay Road culvert. The diversion culvert was inactive during low flows, meaning the channel was dry upstream of the outfall of the active culvert.	Low fisheries value, although fish may forage up from Moy main channel	Q3 inferred from QG2	*Poor
QG6	Quignamanger	Tributary outfall is culverted under Quay Road first within a low box culvert, then merging into a 900mm pipe and conveyed out to the River Moy beneath the Quay. The piped outfall to the Moy is not visible at high tide.	Conduit for salmonids and eel into the lower reach of the Quignamanger	Q3 inferred from QG2	N/A
BR1	Brusna /Glenree	Same instream habitat as for BR2. LHS bank has low, set-back wall next to R294 road.	Good salmonid spawning/nursery habitat. Very little nursery habitat for brook lamprey	Q4-5 inferred from BR2	*High
BR2	Brusna /Glenree	Riffle-run over cobble / pebble/gravel with bryophyte community (<i>Schistidium</i> , <i>Chiloscyphus</i>) and <i>Hildenbrandia</i> common. Both banks have boulder old riprap, overgrown with broadleaved trees (alder, sycamore) on RHS and mainly tall herb, bramble and grasses on LHS. Excellent salmonid spawning/nursery habitat. 30-minute crayfish search conducted - no evidence of crayfish.	Good salmonid spawning/nursery habitat. Very little nursery habitat for brook lamprey	Kick-sample taken 11/09/2023 = Q4-5	*High
BR3	Brusna /Glenree	Similar habitat to BR2, but low weir causes slight impoundment. Narrow strip of tall herb on LHS backed by mowed field. Relatively natural hydromorphology in spite of proximity to urban area.	Good salmonid spawning/nursery / holding habitat. Very little nursery habitat for brook lamprey	Q4-5 inferred from BR2	*High
BR3a	Brusna /Glenree	River width 9-10m, depth 40cm (average). Eroding concrete/conglomerate bed protection extending 6m upstream and downstream of existing bridge faces. Fast-flowing riffle run extending from c.50m upstream of bridge to the downstream end of bed protection. Bed protection is eroded and broken at downstream end where there has formed a scour pool, which merges to a long glide for c.90m downstream before merging to riffle/run again. The bed protection had eroded mid-channel, forming a low flow channel with habitat similar to that merging from upstream: cobble (20%), pebble/gravel (60%), coarse sand (20%). Bryophyte community dominated by <i>Schistidium rivulare</i> (20% cover) with smaller amounts of <i>Fissidens</i> and <i>Chiloscyphus</i> . The bed protection area is not suitable for spawning, but upstream comprises good spawning and nursery for salmonids. Downstream of bridge is a scour pool which forms excellent salmonid holding habitat.	Good salmonid spawning/nursery / holding habitat. No nursery habitat for brook lamprey (too swift).	Q4-5 inferred from BR2	*High
BR4	Brusna /Glenree	Glide/pool on bend in river with overhanging trees and marginal reed swamp. Good salmonid holding habitat.	Good salmonid spawning/nursery habitat. Very little nursery habitat for brook lamprey	Q4-5 inferred from BR2	*High
BR5	Brusna /Glenree	Footbridge over river. Similar habitat to BR2, but with finer substrates. Excellent salmonid spawning/ nursery habitat. 30-minute crayfish search conducted - no evidence of crayfish.	Good salmonid spawning/nursery habitat. Very little nursery habitat for brook lamprey	Q4-5 inferred from BR2	*High

Site	EPA name	Habitat Description (Field Target Note)	Fisheries Value	Biological Water Quality (Q-value)	WFD status
BR6	Brusna /Glenree	Fast rapid/cascade over bedrock substrates. Almost certainly a migration barrier to sea/river lamprey, but salmon should have no problem passing. This series of cascades continues upstream for about 200m. Another, engineered, cascade/weir occurs about 250m upstream of the natural cascades.	Migration channel for salmon and eel. Lamprey nursery in this lower reach (sea lamprey and <i>Lampetra</i> spp.)	Q4-5 inferred from BR2	*High
DH1	Downhill	Deeply drained channel with stagnant, standing water supporting floating and emergent macrophytes (<i>Callitriche</i> spp., <i>P. natans</i> ; <i>Apium nodiflorum</i> ; <i>Alisma plantago aquaticum</i>). Culverted from R294 road down to Brusna confluence.	Possible stickleback and eel	Not suitable for kick-sample	N/A

*Note – ‘WFD status’ marked with asterisk are considered “representative”, as they are the result of field sampling and not part of the formal EPA monitoring programme.