

## SUSCEPTIBILITY OF FISH SPECIES TO INFECTION WITH VIRAL HAEMORRHAGIC SEPTICAEMIA VIRUS (VHSV)

The following table shows the fish species assessed against the criteria for susceptibility to infection with viral haemorrhagic septicaemia virus and the outcomes of the assessments. For details about the specific assessment please refer to the link included in the source column of the table.

### Assessment Table Key:

N: Natural infection	Y: Demonstrates criterion is met	ND: Not determined
E: Experimental (non-invasive)	N: Criterion is not met	NS: Not scored
EI: Experimental invasive	I: Inconclusive	N/A: Not applicable

Family	Scientific name	Common name	Stage 1: Route of transmission	Stage 2: Pathogen identification	Stage 3: Evidence of infection				Outcome	References	Source	Year of adoption
					A	B	C	D				
Assessed as a susceptible species and included in Article 10.10.2. of Chapter 10.10. of the <i>Aquatic Code</i>												
Ammodytidae	<i>Ammodytes hexapterus</i>	Pacific sand lance	N/E	Cell culture	Y	Y	Y	Y	1	Kocan <i>et al.</i> , 2001	<a href="#">ad hoc Group report: September 2019</a>	2021
Carangidae	<i>Trachurus mediterraneus</i>	Mediterranean horse mackerel	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
Centrarchidae	<i>Ambloplites rupestris</i>	rock bass	N	Cell culture, RT-PCR	ND	Y	N	Y	1	Cornwell <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Lepomis gibbosus</i>	pumpkinseed	N	Cell culture, RT-PCR	ND	Y	N	Y	1	Cornwell <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Lepomis macrochirus</i>	bluegill	N	Virus isolation RT-PCR, IHC	Y	Y	Y	Y	1	Al-Hussinee <i>et al.</i> , 2011; Department of Wisconsin Natural Resources, 2007	<a href="#">ad hoc Group report: September 2019</a>	2021

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	<i>Micropterus dolomieu</i>	smallmouth bass	N	Virus isolation RT-PCR, IHC	Y	Y	Y	Y	1	Al-Hussinee <i>et al.</i> , 2011	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Micropterus salmoides</i>	largemouth bass	N/E	Virus isolation, RT-PCR, sequencing	ND	Y	ND	Y	1	Faisal, 2012; Throckmorton <i>et al.</i> , 2017	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Pomoxis nigromaculatus</i>	black crappie	N	Virus isolation, PCR, sequencing	ND	Y	ND	Y	1	Faisal, 2012; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
Clupeidae	<i>Alosa immaculata</i>	pontic shad	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Sardina pilchardus</i>	pilchard	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Clupea harengus</i>	Atlantic herring	N	Cell culture, ELISA, RT-PCR	ND	Y	N	Y	1	Dixon <i>et al.</i> , 1997; Mortensen <i>et al.</i> , 1999; King <i>et al.</i> , 2001a	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Clupea pallasii pallasii</i>	Pacific herring	N	Cell culture and neutralisation	N	Y	Y	Y	1	Meyers <i>et al.</i> , 1993; Meyers <i>et al.</i> , 1994	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Dorosoma cepedianum</i>	American gizzard shad	N	Virus isolation, RT-PCR, sequencing	ND	Y	Y	Y	1	Faisal 2012; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Sardinops sagax</i>	south American pilchard	N/E	Cell culture, PCR	ND	Y	Y	Y	1	Traxler <i>et al.</i> , 1999; Hedrick <i>et al.</i> , 2003	<a href="#">ad hoc Group report: September 2019</a>	2021

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	<i>Sprattus sprattus</i>	European sprat	N	Cell culture, ELISA and PCR	N	Y	N	Y	1	Mortensen <i>et al.</i> , 1999; Skall <i>et al.</i> , 2005	<a href="#">ad hoc Group report: September 2019</a>	2021
Cylopteridae	<i>Cyclopterus lumpus</i>	lumpfish	N/E	Virus isolation, RT-PCR, sequencing	y	Y	Y	Y	1	Guðmundsdóttir <i>et al.</i> , 2018	<a href="#">ad hoc Group report: September 2019</a>	2021
Cyprinidae	<i>Danio rerio</i>	zebra fish	E	VI, RT-PCR	ND	Y	Y	Y	1	Novoa <i>et al.</i> , 2006	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Notropis hudsonius</i>	spottail shiner	N/IP	Virus isolation, PCR, sequencing	ND	Y	N	Y	1	Faisal, 2012	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Notropis atherinoides</i>	emerald shiner	N	Cell culture, PCR	ND	Y	Y	Y	1	Boonthai <i>et al.</i> , 2018	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Pimephales notatus</i>	bluntnose minnow	N	VI, RT-PCR	ND	Y	N	Y	1	Fratini, 2011; Department of Wisconsin Natural Resources, 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Pimephales promelas</i>	fathead minnow	E	Virus isolation, RT-PCR, IHC	Y	Y	Y	Y	1	Al-Hussinee <i>et al.</i> , 2010	<a href="#">ad hoc Group report: September 2019</a>	2021
Embiotocidae	<i>Cymatogaster aggregata</i>	shiner perch	N	Neutralization, IFAT	ND	Y	Y	Y	1	Meyers & Winton, 1995	<a href="#">ad hoc Group report: September 2019</a>	2021
Engraulidae	<i>Engraulis encrasicolus</i>	European anchovy	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report:</a>	2021

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											<a href="#">September 2019</a>	
Esocidae	<i>Esox lucius</i>	northern pike	N	Virus isolation, RT-PCR, sequencing	ND	Y	Y	Y	1	Faisal, 2012	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Esox masquinongy</i>	muskellunge	N/E	Virus isolation, RT-PCR, IHC, cell culture	Y	Y	Y	Y	1	Al-Hussinee & Lumsden, 2011; Kim & Faisal, 2012	<a href="#">ad hoc Group report: September 2019</a>	2021
Fundulidae	<i>Fundulus heteroclitus</i>	mummichog	N	Virus identification, RT-PCR, sequencing, serum neutralization	ND	Y	Y	Y	1	Gagne <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Gadidae	<i>Gadus macrocephalus</i>	Pacific cod	N	Neutralization, immunoblot assay, DNA probe	ND	Y	N	Y	1	Meyers <i>et al.</i> , 1992; Meyers & Winton, 1995	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Gadus morhua</i>	Atlantic cod	N	Viral isolation, cell culture, ELISA	ND	Y	Y	Y	1	Smail, 2000; Skall <i>et al.</i> , 2005	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Merlangius merlangus</i>	whiting	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Micromesistius poutassou</i>	blue whiting	N	Cell culture, ELISA, PCR	N	Y	N	Y	1	Mortensen <i>et al.</i> , 1999; Brudeseth <i>et al.</i> , 2002	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Trisopterus esmarkii</i>	Norway pout	N	Cell culture, ELISA, PCR	N	Y	N	Y	1	Mortensen <i>et al.</i> , 1999; King <i>et al.</i> , 2001a	<a href="#">ad hoc Group report: September 2019</a>	2021

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Gasterosteidae	<i>Gasterosteus aculeatus</i>	three-spine stickleback	N	VI, RT-PCR, sequencing, serum neutralization	ND	Y	Y	Y	1	Gagne <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Gobiidae	<i>Neogobius melanostomus</i>	round goby	N	Cell culture, RT-PCR	ND	Y	Y	Y	1	Groocock <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Pomatoschistus minutus</i>	sand goby	N	Cell culture, ELISA	ND	Y	N	Y	1	Skall <i>et al.</i> , 2005a	<a href="#">ad hoc Group report: September 2019</a>	2021
Ictaluridae	<i>Ameiurus nebulosus</i>	brown bullhead	N	Virus isolation, RT-PCR, sequencing	ND	Y	N	Y	1	Faisal <i>et al.</i> , 2012; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
Labridae	<i>Centrolabrus exoletus</i>	rock cook wrasse	N	Virus isolation, ELISA, RT-PCR, sequencing	ND	Y	y	Y	1	Hall <i>et al.</i> , 2012; Munro <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Ctenolabrus rupestris</i>	goldsinny wrasse	N/E	Virus isolation, ELISA, RT-PCR, sequencing	Y	Y	Y	Y	1	Munro <i>et al.</i> 2015; Matejusova <i>et al.</i> , 2016	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Labrus bergylta</i>	ballan wrasse	N	Virus isolation, ELISA, RT-PCR, sequencing	ND	Y	y	Y	1	Hall <i>et al.</i> , 2012; Munro <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Labrus mixtus</i>	cuckoo wrasse	N	Virus isolation, ELISA, RT-PCR, sequencing	ND	Y	y	Y	1	Hall <i>et al.</i> , 2012; Munro <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Symphodus melops</i>	corkwing wrasse	N	Virus isolation, ELISA, RT-PCR, sequencing	ND	Y	y	Y	1	Hall <i>et al.</i> , 2012; Munro <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021

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Lotidae	<i>Gaidropsarus vulgaris</i>	three-bearded rockling	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
Moronidae	<i>Morone americana</i>	white perch	N	qRT-PCR, cell culture	N	Y	N	Y	1	Bain <i>et al.</i> , 2010; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Morone chrysops</i>	white bass	N	Virus isolation, sequencing	ND	Y	ND	Y	1	Bain <i>et al.</i> , 2010; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Morone saxatilis</i>	striped bass	N	VI, RT-PCR, sequencing, serum neutralization	ND	Y	N	Y	1	Gagne <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Mullidae	<i>Mullus barbatus</i>	red mullet	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
Osmeridae	<i>Thaleichthys pacificus</i>	eulachon	N	Cell culture, RT-PCR	ND	Y	N	N	1	Hedrick <i>et al.</i> , 2003	<a href="#">ad hoc Group report: September 2019</a>	2021
Paralichthyidae	<i>Paralichthys olivaceus</i>	bastard halibut	N	Viral isolation, PCR, cell culture	ND	Y	ND	Y	1	Isshiki <i>et al.</i> , 2001; Takano <i>et al.</i> , 2000 and 2001	<a href="#">ad hoc Group report: September 2019</a>	2021
Percidae	<i>Sander vitreus</i>	walleye	N	Virus isolation, PCR, sequencing	ND	Y	Y	Y	1	Faisal, 2012	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Perca flavescens</i>	yellow perch	N	Virus isolation, qRT-PCR	ND	Y	Y	Y	1	Olson <i>et al.</i> , 2013	<a href="#">ad hoc Group report: September 2019</a>	2021

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Petromyzontidae	<i>Lampetra fluviatilis</i>	river lamprey	N	VI, RT-PCR, sequencing	ND	Y	N	Y	1	Gadd <i>et al.</i> , 2010	<a href="#">ad hoc Group report: September 2019</a>	2021
Pleuronectidae	<i>Limanda limanda</i>	common dab	N	Cell culture, ELISA	ND	Y	N	Y	1	Eaton <i>et al.</i> , 1991	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Platichthys flesus</i>	European flounder	N	Cell culture, ELISA	ND	Y	N	Y	1	Skall <i>et al.</i> , 2005	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Pleuronectes platessus</i>	European plaice	N	Cell culture, ELISA, sequencing	ND	Y	N	Y	1	Skall <i>et al.</i> , 2005; Wallace <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
Rajidae	<i>Raja clavata</i>	thornback ray	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
Salmonidae	<i>Coregonus artedii</i>	lake cisco	N/E	Cell culture, PCR/sequence	Y	Y	Y	Y	1	Weeks <i>et al.</i> , 2011; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Coregonus clupeaformis</i>	lake whitefish	N	Virus isolation, RT-PCR, sequencing	ND	Y	Y	Y	1	Faisal 2012; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Coregonus lavaretus</i>	common whitefish	N/E	Virus isolation, ELISA, cell culture, neutralization	ND	Y	Y	Y	1	Meier <i>et al.</i> , 1986; Skall <i>et al.</i> , 2004	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Oncorhynchus kisutch</i>	coho salmon	N	Cell culture, neutralization, immunoblot assay	ND	Y	N	Y	1	Winton <i>et al.</i> , 1989; Meyers & Winton, 1995	<a href="#">ad hoc Group report: September 2019</a>	2021

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	<i>Oncorhynchus mykiss</i>	rainbow trout	E	Virus isolation, RT-PCR, IHC	Y	Y	Y	Y	1	Al-Hussinee <i>et al.</i> , 2010	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Oncorhynchus mykiss</i> X <i>O. kisutch</i> hybrids	rainbow trout X coho salmon hybrids	E	Cell culture	Y	Y	Y	Y	1	Ord <i>et al.</i> , 1976	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Oncorhynchus tshawytscha</i>	chinook salmon	N	Culture, sequencing	ND	Y	ND	Y	1	Faisal <i>et al.</i> , 2012; Garver <i>et al.</i> , 2013	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Salmo marmoratus</i>	marble trout	E	Cell culture, RT-PCR	ND	Y	Y	Y	1	Pascoli <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Salmo salar</i>	Atlantic salmon	N, E	Cell culture, ELISA, RT-PCR, IHC	Y	Y	Y	Y	1	King <i>et al.</i> , 2001b; Lovy <i>et al.</i> , 2013	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Salmo trutta</i>	brown trout	N	Virus isolation	ND	Y	Y	N	1	Ogut & Altunas, 2011; Jørgensen, 1980	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Salvelinus namaycush</i>	lake trout	N/E	Virus isolation, sequencing	ND	Y	Y	Y	1	Dorson <i>et al.</i> , 1991; USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Thymallus thymallus</i>	grayling	N/E	Cell culture, neutralization, IFAT	ND	Y	Y	ND	1	Meier & Wahli, 1988	<a href="#">ad hoc Group report: September 2019</a>	2021
Scophthalmidae	<i>Scophthalmus maximus</i>	turbot	N	Cell culture, ELISA, PCR	Y	Y	Y	Y	1	King <i>et al.</i> , 2001b; Snow & Smail, 1999	<a href="#">ad hoc Group report: September 2019</a>	2021



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Sciaenidae	<i>Aplodinotus grunniens</i>	freshwater drum	N	Virus Isolation, Rt-PCR, IHC	Y	Y	Y	Y	1	Lumsden <i>et al.</i> , 2007; Al-Hussinee & Lumsden, 2011	<a href="#">ad hoc Group report: September 2019</a>	2021
Scombridae	<i>Scomber japonicus</i>	Pacific Chub mackerel	N	Cell culture RT-PCR	ND	Y	N	Y	1	Hedrick <i>et al.</i> , 2003	<a href="#">ad hoc Group report: September 2019</a>	2021
Soleidae	<i>Solea senegalensis</i>	Senegalese sole	N	Cell culture, ELISA, PCR	ND	Y	Y	Y	1	Lopez-Vazquez <i>et al.</i> , 2011	<a href="#">ad hoc Group report: September 2019</a>	2021
Uranoscopidae	<i>Uranoscopus scaber</i>	Atlantic stargazer	N	Cell culture, ELISA, PCR	ND	Y	N	Y	1	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
Assessed as incomplete evidence and listed in Section 2.2.2. of Chapter 2.3.10. in the <i>Aquatic Manual</i>												
Adrianichthyidae	<i>Oryzias latipes</i>	Japanese rice fish	E	RT-PCR, cell culture	ND	Y	Y	Y	2	Ito & Olesen, 2013	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Oryzias dancena</i>	marine medaka	E	Ref. strain FYoesu05	ND	Y	Y	ND	2	Wi-Sik Kim <i>et al.</i> , 2013	<a href="#">ad hoc Group report: September 2019</a>	2021
Ammodytidae	<i>Ammodytes personatus</i>	sandeel	N	Cell culture, ELISA	ND	Y	N	Y	2	Skall <i>et al.</i> , 2005	<a href="#">ad hoc Group report: September 2019</a>	2021
Anguillidae	<i>Anguilla anguilla</i>	European eel	N	Viral isolation, neutralizing test	ND	Y	ND	ND	2	Jorgensen <i>et al.</i> , 1994	<a href="#">ad hoc Group report: September 2019</a>	2021
Argentinidae	<i>Argentina sphyraena</i>	lesser Argentine	N	Cell culture, ELISA, PCR	N	Y	N	Y	2	Mortensen <i>et al.</i> , 1999	<a href="#">ad hoc Group report:</a>	2021

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Belontiidae	<i>Belone belone</i>	garfish	N	Cell culture, ELISA, PCR	ND	Y	N	Y	2	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
Carangidae	<i>Seriola dumerili</i>	greater amberjack	N	PCR, cultured, IFAT	ND	Y	Y	Y	2	OIE World Animal Health Information System (WAHIS), 2013	<a href="#">ad hoc Group report: September 2019</a>	2021
Catostomidae	<i>Catostomus commersonii</i>	white sucker	N	RT-PCR, sequencing	ND	N	N	Y	2	Cornwell <i>et al.</i> , 2011	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Moxostoma anisurum</i>	silver redhorse	N	Virus isolation, RT-PCR, sequencing	ND	Y	Y	N	2	Faisal, 2012	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Moxostoma macrolepidotum</i>	shorthead redhorse	E	Virus isolation, RT-PCR, sequencing	ND	Y	Y	Y	2	Bowser, 2009	<a href="#">ad hoc Group report: September 2019</a>	2021
Centrarchidae	<i>Pomoxi annularis</i>	white crappie	N	Virus isolation RT-PCR, IHC	Y	Y	Y	Y	2	Al-Hussinee <i>et al.</i> , 2011	<a href="#">ad hoc Group report: September 2019</a>	2021
Clupeidae	<i>Alosa pseudoharengus</i>	alewife	N	RT-PCR	ND	N	N	Y	2	Cornwell <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
Cottidae	<i>Cottus pollux</i>	Japanese fluvial sculpin	E	RT-PCR, cell culture	ND	Y	Y	Y	2	Ito & Olesen, 2013	<a href="#">ad hoc Group report: September 2019</a>	2021

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Cyprinidae	<i>Semotilus corporalis</i>	fallfish	N	RT-PCR	ND	N	N	Y	2	Cornwell <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Notemigonus crysoleucas</i>	golden shiner	N	RT-PCR	ND	N	N	Y	2	Cornwell <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
Esocidae	<i>Esox lucius</i> X <i>E. masquinongy</i> hybrids	tiger muskellunge ( <i>Esox masquinongy</i> X <i>E. lucius</i> or <i>E. lucius</i> X <i>E. masquinongy</i> )	N	Cell culture, PCR	ND	Y	N	Y	2	Getchell <i>et al.</i> , 2013	<a href="#">ad hoc Group report: September 2019</a>	2021
Fundulidae	<i>Fundulus diaphanus</i>	banded killifish	N	qRT-PCR, cell culture	N	N	N	Y	2	Bain <i>et al.</i> , 2010	<a href="#">ad hoc Group report: September 2019</a>	2021
Gadidae	<i>Gadiculus argenteus</i>	silvery pout	N	RT-PCR, sequencing	ND	N	N	Y	2	Sandlund <i>et al.</i> , 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Melanogrammus aeglefinus</i>	haddock	N	Cell culture IFAT, ELISA	ND	Y	N	N	2	Smail, 2000	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Theragra chalcogramma</i>	Alaska pollock	N	Cell culture, PCR	ND	Y	Y	Y	2	Meyers <i>et al.</i> , 1999	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Trisopterus minutus</i>	poor cod	N	Virus isolation, cell culture, ELISA	ND	Y	ND	Y	2	King <i>et al.</i> , 2001a	<a href="#">ad hoc Group report: September 2019</a>	2021

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Ictaluridae	<i>Ictalurus punctatus</i>	channel catfish	N	Culture, sequencing	ND	Y	N	Y	2	USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
Liparidae	<i>Liparis tessellatus</i>	cubed snailfish	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Lotidae	<i>Lota lota</i>	burbot	N	Culture, sequencing	ND	Y	ND	Y	2	Department of Wisconsin Natural Resources, 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Enchelyopus cimbrius</i>	fourbeard rockling	N	Culture, ELISA	ND	Y	N	Y	2	Mortensen <i>et al.</i> , 1999	<a href="#">ad hoc Group report: September 2019</a>	2021
Merlucciidae	<i>Merluccius productus</i>	north Pacific hake	N	Cell culture, neutralisation	N	Y	Y	Y	2	Meyers <i>et al.</i> , 1999	<a href="#">ad hoc Group report: September 2019</a>	2021
Moronidae	<i>Dicentrarchus labrax</i>	European sea bass	E	Cell cultivation, ELISA	ND	N	N	Y	2	Ogut & Altuntas 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
Mugilidae	<i>Mugil cephalus</i>	flathead grey mullet	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007; Kim & Park, 2004	<a href="#">ad hoc Group report: September 2019</a>	2021
Ophidiidae	<i>Hoplobrotula armata</i>	armoured cusk	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Osmeridae	<i>Hypomesus pretiosus</i>	surf smelt	N/E	Cell culture, RT-PCR	ND	Y	Y	Y	2	Hedrick <i>et al.</i> , 2003	<a href="#">ad hoc Group report: September 2019</a>	2021

Family	Scientific name	Common name	Stage 1: Route of transmission	Stage 2: Pathogen identification	Stage 3: Evidence of infection				Outcome	References	Source	Year of adoption
					A	B	C	D				
Oxudercidae	<i>Rhinogobius sp.</i> (undescribed species)	Yoshinobori	N	Virus isolation, RT-PCR	ND	Y	Y	Y	2	Ito & Olesen, 2013	<a href="#">ad hoc Group report: September 2019</a>	2021
Percopsidae	<i>Percopsis omiscomaycus</i>	trout perch	N	Virus isolation, sequencing	ND	Y	ND	Y	2	USGS/NACSE database	<a href="#">ad hoc Group report: September 2019</a>	2021
Petromyzontinae	<i>Petromyzon marinus</i>	sea lamprey	N	Sequencing	ND	Y	ND	Y	2	Thompson <i>et al.</i> , 2011	<a href="#">Aquatic Animals Commission February 2021 Report Part A</a>	2021
Pleuronectidae	<i>Glyptocephalus stelleri</i>	blackfin flounder	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Hippoglossus hippoglossus</i>	Atlantic halibut	E	Cell Culture, ELISA	ND	Y	Y	Y	2	Bowden <i>e et al.</i> , 2003	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Reinhardtius hippoglossoides</i>	Greenland halibut	N	Cell culture, IFAT, RT-PCR	ND	Y	N	Y	2	Dopazo <i>et al.</i> , 2002	<a href="#">ad hoc Group report: September 2019</a>	2021
Salmonidae	<i>Oncorhynchus mykiss</i> X <i>Salvelinus alpinus</i> hybrids	rainbow trout X Arctic charr hybrids	E	Ref strains (07-71, 34-86, 23-75)	ND	Y	Y	Y	2	Dorson <i>et al.</i> , 1991	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Oncorhynchus mykiss</i> X <i>Salvelinus namaycush</i> hybrids	rainbow trout X lake trout hybrids	E	Ref strains (07-71, 34-86, 23-75)	ND	ND	Y	ND	2	Dorson <i>et al.</i> , 1991	<a href="#">ad hoc Group report: September 2019</a>	2021

Family	Scientific name	Common name	Stage 1: Route of transmission	Stage 2: Pathogen identification	Stage 3: Evidence of infection				Outcome	References	Source	Year of adoption
					A	B	C	D				
	<i>Oncorhynchus mykiss</i> X <i>Salmo trutta</i> hybrids	rainbow trout X brown trout hybrids	E	Ref strains (07-71, 34-86, 23-75)	ND	N	Y	N	2	Dorson <i>et al.</i> , 1991	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Salvelinus alpinus</i>	Arctic charr	N	Virus isolation, IFAT	N	Y	N	Y	2	Knuesel <i>et al.</i> , 2003	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Salvelinus fontinalis</i>	brook trout	E	Virus isolation, ELISA	ND	Y	N	N	2	Ogut & Altunas, 2011	<a href="#">ad hoc Group report: September 2019</a>	2021
Sciaenidae	<i>Larimichthys polyactis</i>	yellow croaker	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Scorpaenidae	<i>Scorpaena porcus</i>	black scorpionfish	N	Cell culture, ELISA, PCR	ND	Y	N	Y	2	Ogut & Altuntas, 2014	<a href="#">ad hoc Group report: September 2019</a>	2021
	<i>Scorpaena izensis</i>	Izu scorpionfish	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Scyliorhinidae	<i>Scyliorhinus torazame</i>	Claudy catshark	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Stromateidae	<i>Pampus argenteus</i>	silver pomfret	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021
Trichiuridae	<i>Trichiurus lepturus</i>	largehead hairtail	N	PCR	ND	N	N	Y	2	Lee <i>et al.</i> , 2007	<a href="#">ad hoc Group report: September 2019</a>	2021

Family	Scientific name	Common name	Stage 1: Route of transmission	Stage 2: Pathogen identification	Stage 3: Evidence of infection				Outcome	References	Source	Year of adoption
					A	B	C	D				
Triglidae	<i>Eutrigla gurnardus</i>	gray gurnard	N	Culture, ELISA, sequencing	ND	Y	N	Y	2	Wallace <i>et al.</i> , 2015	<a href="#">ad hoc Group report: September 2019</a>	2021
Assessed as having PCR positive results but no active infection and listed in the second paragraph of Section 2.2.2. of Chapter 2.3.10. in the <i>Aquatic Manual</i>												
Anoplopomatidae	<i>Anoplopoma fimbria</i>	sablefish	N	PCR	ND	ND	ND	Y	3	Hedrick <i>et al.</i> , 2003	<a href="#">ad hoc Group report: September 2019</a>	2021
Assessed as evidence of non-susceptibility (e.g. experimental invasive studies with no evidence of infection)												
none known												