

## Marine non-indigenous species in Europe's seas for MSFD D2 - tabular data, Feb. 2023

This metadata refer to the dataset containing the list of all-know and verified records of non-indigenous species (NIS) in Europe's seas, last updated in October 2022, and used to produce the EEA marine indicator on "Marine non-indigenous species in Europe's seas" ( <https://www.eea.europa.eu/ims/marine-non-indigenous-species-in>). MSFD D2: "Marine Strategy Framework Directive Descriptor 2". The data is updated with a cycle on six years.

### Simple

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<b>Date (Publication)</b>	2022-10-01		
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<b>Point of contact</b>	<b>Organisation name</b>	<b>Individual name</b>	<b>Electronic mail address</b> <b>Role</b>
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<b>Maintenance and update frequency</b>	As needed		
<b>GEMET - INSPIRE themes, version 1.0</b>	<ul style="list-style-type: none"> <li>• <a href="#">Species distribution</a></li> <li>• <a href="#">Sea regions</a></li> </ul>		
<b>Keywords</b>			
<b>Keywords</b>			
<b>GEMET</b>	<ul style="list-style-type: none"> <li>• Marine Strategy Framework Directive</li> <li>• marine biodiversity</li> <li>• marine environment</li> <li>• species</li> </ul>		
<b>Continents, countries, sea regions of the world.</b>	<ul style="list-style-type: none"> <li>• North Atlantic Ocean</li> <li>• Baltic Sea</li> <li>• Black Sea</li> <li>• Adriatic Sea</li> <li>• North Sea</li> <li>• Mediterranean Sea, Western Basin</li> </ul>		

	<ul style="list-style-type: none"> <li>• Bay of Biscay</li> <li>• Mediterranean Sea</li> <li>• Mediterranean Sea, Eastern Basin</li> <li>• Celtic Sea</li> </ul>
<b>Spatial scope</b>	<ul style="list-style-type: none"> <li>• European</li> </ul>
<b>Reporting obligations</b>	<ul style="list-style-type: none"> <li>• MSFD - Articles 8, 9 and 10 - XML data</li> </ul>
<b>EEA Management Plan</b>	<ul style="list-style-type: none"> <li>• 2022 1.0.7</li> </ul>
<b>Access constraints</b>	Other restrictions
<b>Other constraints</b>	<a href="#">no limitations to public access</a>
<b>Use constraints</b>	Other restrictions
<b>Other constraints</b>	EEA standard re-use policy: unless otherwise indicated, re-use of content on the EEA website for commercial or non-commercial purposes is permitted free of charge, provided that the source is acknowledged ( <a href="http://www.eea.europa.eu/legal/copyright">http://www.eea.europa.eu/legal/copyright</a> ). Copyright holder: European Environment Agency (EEA).
<b>Spatial representation type</b>	Text, table
<b>Language of dataset</b>	English
<b>Topic category</b>	<ul style="list-style-type: none"> <li>• Environment</li> </ul>
<b>Begin date</b>	1200-01-01
<b>End date</b>	2020-12-31
<b>Additional Information</b>	<p>The MSFD requires that 'The number of non-indigenous species which are newly introduced via human activity into the wild, per assessment period (6 years), is minimised and where possible reduced to zero' (Descriptor 2). Records range from 1200 to 2020. Species are reported by MSFD region and sub-region by the year first detected/identified; and grouped by main taxonomic group (Vertebrate – VER; Invertebrate – INV; Primary producer (plants and algae) – PP). The main mode(s) or pathway(s) of introduction of each species is reported. Where more than one mode is suspected or documented, these are weighted so that the total number of pathways equal to 1. The 'Status comment' includes any additional information on the of non-indigenous status of the species.</p> <p>'Period' refers to the detection year grouped by 6-year assessment cycles, as per the MSFD D2.</p>
<b>Distribution format</b>	<ul style="list-style-type: none"> <li>• ( )</li> </ul>

## OnLine resource

No information provided.

<b>Hierarchy level</b>	Dataset
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## Conformance result

<b>Date (Publication)</b>	2010-12-08
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<b>Explanation</b>	See the referenced specification
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## Statement

National inventories of NIS were collated, revised and updated with published data from biodiversity and hot-spot campaigns, academic surveys, and citizen science observed until December 2020 (reported until June 2022). AquaNIS (<http://www.corpi.ku.lt/databases/index.php/aquanis/>) and EASIN (<http://www.corpi.ku.lt/databases/index.php/aquanis/>) databases were also consulted. The revised list was validated with the contribution of national experts. For each regional sea, marine and estuarine species are grouped by selected taxonomic group: primary producers (plants and algae), invertebrates and vertebrates. Species sorting follows recommendations from Tsiamis et al. (2021a). Microalgae and parasite/pathogen species are identified but excluded from the MSFD D2 assessments. Cryptogenic, questionable and range-expanding species are identified and also excluded from the MSFD D2

assessments. Native, partly native species are identified and excluded for the EU level MSFD D2 assessments but included in regional and sub-regional assessments for (sub)regions where they have not been identified as native. Each species, the pathway(s) assigned to each species follows the EASIN method (also reported in Pergl et al. 2020).

Abbreviation Comment

REL: Release in nature

TC: Transport-contaminant

EC: Escape from confinement

TS: Transport-stowaway

TS-ballasts: Transport-stowaway, ship/boat ballast water

TS-hull: Transport-stowaway, ship/boat hull fouling

TS-other: Transport-stowaway, other means of transport

COR: Corridor

UNA: Unaided

UNK: Unknown

## Metadata

<b>File identifier</b>	87064d6c-96b3-423e-a65c-d233596506fe <a href="#">XML</a>		
<b>Metadata language</b>	English		
<b>Character set</b>	UTF8		
<b>Hierarchy level</b>	Dataset		
<b>Date stamp</b>	2023-02-22T08:33:51.283Z		
<b>Metadata standard name</b>	ISO 19115/19139		
<b>Metadata standard version</b>	1.0		
<b>Metadata author</b>	<b>Organisation name</b>	<b>Individual name</b>	<b>Electronic mail address</b> <b>Role</b>
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## Overviews

Species	Species >1970	Species <1970	List	Region	Nativity	STATUS	Group	VER-INV	Taxonom	NS stan	Y	Period	REL	EC	TC	TS-Other	TS-ball
<i>Ablennes hians</i> (Valenciennes, 1846)	<i>Ablennes hians</i> (Valenciennes, 1846)		mfd	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2018	2018-2020					
<i>Abudedefduf saxatilis</i> (Linnaeus, 1758)	<i>Abudedefduf saxatilis</i> (Linnaeus, 1758)		mfd	Macaronesia		range expanding	Vertebrate	VER				1989-1989					
<i>Abudedefduf seifasciatus</i> (Lacépède, 1801)	<i>Abudedefduf seifasciatus</i> (Lacépède, 1801)		mfd	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2017	2017-2017		1			
<i>Abudedefduf</i> sp.	<i>Abudedefduf</i> sp.		mfd	Adriatic Sea	genus level	non-indigenous	Vertebrate	VER			2018	2018-2020					
<i>Abudedefduf taurus</i> (Müller & Troschel, 1844)	<i>Abudedefduf taurus</i> (Müller & Troschel, 1844)		mfd	Macaronesia		questionable	Vertebrate	VER				2015-2017					
<i>Abudedefduf vaigianis</i> (Quoy & Gaimard, 1825)	<i>Abudedefduf vaigianis</i> (Quoy & Gaimard, 1825)		mfd	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2013	2013-2017					1
<i>Abudedefduf vaigianis</i> (Quoy & Gaimard, 1825)	<i>Abudedefduf vaigianis</i> (Quoy & Gaimard, 1825)		mfd	Western Mediterranean Sea		non-indigenous	Vertebrate	VER			2005	2005-2005					1
<i>Abudedefduf hoefleri</i> (Steindachner, 1881)	<i>Abudedefduf hoefleri</i> (Steindachner, 1881)		mfd	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2014	2014-2017					1
<i>Abudedefduf hoefleri</i> (Steindachner, 1881)	<i>Abudedefduf hoefleri</i> (Steindachner, 1881)		mfd	Macaronesia		range expanding	Vertebrate	VER			2014	2014-2017				1	
<i>Acanthaster planci</i> (Linnaeus, 1758)	<i>Acanthaster planci</i> (Linnaeus, 1758)		mfd	Western Mediterranean Sea		non-indigenous	Invertebrate	INV			2006	2006-2011					1
<i>Acanthopagrus bifasciatus</i> (Forsk.)	<i>Acanthopagrus bifasciatus</i> (Forsk.)		mfd	Western Mediterranean Sea		non-indigenous	Vertebrate	VER			2019	2019-2020					1
<i>Acanthosiphonia echinata</i> (Harvey) A.M.Savole & G.W.Saunders, 2019	<i>Acanthosiphonia echinata</i> (Harvey) A.M.Savole & G.W.Saunders, 2019		mfd	Adriatic Sea		non-indigenous	Primary producer	PP			2018	2018-2020				1	
<i>Acanthurus cf. gahhm</i> (Forsk.)	<i>Acanthurus cf. gahhm</i> (Forsk.)		mfd	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2019	2019-2020		1			
<i>Acanthurus coeruleus</i> Bloch & Schneider, 1801	<i>Acanthurus coeruleus</i> Bloch & Schneider, 1801		mfd	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2013	2013-2017		0.5			
<i>Acanthurus coeruleus</i> Bloch & Schneider, 1801	<i>Acanthurus coeruleus</i> Bloch & Schneider, 1801		mfd	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2011	2011-2011		0.5			
<i>Acanthurus sohal</i> (Forsk.)	<i>Acanthurus sohal</i> (Forsk.)		mfd	Macaronesia		non-indigenous	Vertebrate	VER			2013	2012-2017				1	
<i>Acanthurus sohal</i> (Forsk.)	<i>Acanthurus sohal</i> (Forsk.)		mfd	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2017	2017-2017					
<i>Acanthurus bahianus</i> Castelnau, 1855	<i>Acanthurus bahianus</i> Castelnau, 1855		mfd	Macaronesia		non-indigenous	Vertebrate	VER			2013	2012-2017				1	
<i>Acanthurus chirurgus</i> (Bloch, 1787)	<i>Acanthurus chirurgus</i> (Bloch, 1787)		mfd	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2016	2016-2017		0.5			0.5
<i>Acanthurus chirurgus</i> (Bloch, 1787)	<i>Acanthurus chirurgus</i> (Bloch, 1787)		mfd	Macaronesia		non-indigenous	Vertebrate	VER			2012	2012-2017				1	
<i>Acanthurus chirurgus</i> (Bloch, 1787)	<i>Acanthurus chirurgus</i> (Bloch, 1787)		mfd	Western Mediterranean Sea		non-indigenous	Vertebrate	VER			2012	2012-2017		0.5			0.5
<i>Acanthurus monroviae</i> Steindachner, 1876	<i>Acanthurus monroviae</i> Steindachner, 1876		mfd	Bay of Biscay & Iberian Coast	range expanding	range expanding	Vertebrate	VER			2007	2007-2006-2011		0.5			0.5
<i>Acanthurus monroviae</i> Steindachner, 1876	<i>Acanthurus monroviae</i> Steindachner, 1876		mfd	Macaronesia	range expanding	range expanding	Vertebrate	VER			1989	1989-1993					1
<i>Acartia (Acartia) omorii</i> Bradford, 1976	<i>Acartia (Acartia) omorii</i> Bradford, 1976		mfd	Greater North Sea		non-indigenous	Invertebrate	INV			2004	2004-2005					1
<i>Acartia (Acartia) omorii</i> Bradford, 1976	<i>Acartia (Acartia) omorii</i> Bradford, 1976		mfd	Western Mediterranean Sea		absent	Invertebrate	INV			2004	2004-2005					
<i>Acartia (Acartia) tonsa</i> Dana, 1849	<i>Acartia (Acartia) tonsa</i> Dana, 1849		mfd	Adriatic Sea		non-indigenous	Invertebrate	INV			1987	1987-1987					1
<i>Acartia (Acartia) tonsa</i> Dana, 1849	<i>Acartia (Acartia) tonsa</i> Dana, 1849		mfd	Baltic Sea		non-indigenous	Invertebrate	INV			1921	1921-1970					1
<i>Acartia (Acartia) tonsa</i> Dana, 1849	<i>Acartia (Acartia) tonsa</i> Dana, 1849		mfd	Bay of Biscay & Iberian Coast		non-indigenous	Invertebrate	INV			<1977	1977-1976-1981					1
<i>Acartia (Acartia) tonsa</i> Dana, 1849	<i>Acartia (Acartia) tonsa</i> Dana, 1849		mfd	Black Sea		non-indigenous	Invertebrate	INV			1976	1976-1976-1981					1
<i>Acartia (Acartia) tonsa</i> Dana, 1849	<i>Acartia (Acartia) tonsa</i> Dana, 1849		mfd	Central Mediterranean Sea		non-indigenous	Invertebrate	INV			2005	2005-2000-2005					1
<i>Acartia (Acartia) tonsa</i> Dana, 1849	<i>Acartia (Acartia) tonsa</i> Dana, 1849		mfd	Greater North Sea		non-indigenous	Invertebrate	INV			1921	<1970					1
<i>Acartia (Acartia) tonsa</i> Dana, 1849	<i>Acartia (Acartia) tonsa</i> Dana, 1849		mfd	Western Mediterranean Sea		non-indigenous	Invertebrate	INV			1986	1986-1982-1987					1
<i>Achelia sawayai</i> Marcus, 1940	<i>Achelia sawayai</i> Marcus, 1940		mfd	Central Mediterranean Sea		non-indigenous	Invertebrate	INV			2016	2016-2017					
<i>Acipenser baeri</i> Brandt, 1869	<i>Acipenser baeri</i> Brandt, 1869		mfd	Baltic Sea		non-indigenous	Vertebrate	VER			1960	1960-1970		0.333	0.333		
<i>Acipenser baeri</i> Brandt, 1869	<i>Acipenser baeri</i> Brandt, 1869		mfd	Greater North Sea		non-indigenous	Vertebrate	VER			1985	1982-1987		0.333	0.333		
<i>Acipenser gueldenstaedtii</i> Brandt & Rattzeburg, 1833	<i>Acipenser gueldenstaedtii</i> Brandt & Rattzeburg, 1833		mfd	Baltic Sea		non-indigenous	Vertebrate	VER			1962	1962-1970		0.333	0.333		
<i>Acipenser gueldenstaedtii</i> Brandt & Rattzeburg, 1833	<i>Acipenser gueldenstaedtii</i> Brandt & Rattzeburg, 1833		mfd	Greater North Sea		non-indigenous	Vertebrate	VER			2010	2006-2011		0.333	0.333		
<i>Acipenser ruthenus</i> Linnaeus, 1758	<i>Acipenser ruthenus</i> Linnaeus, 1758		mfd	Baltic Sea		non-indigenous	Vertebrate	VER			1887	1887-1970		0.333	0.333		
<i>Acipenser stellatus</i> Pallas, 1771	<i>Acipenser stellatus</i> Pallas, 1771		mfd	Baltic Sea		non-indigenous	Vertebrate	VER			1999	1999-1994-1999			0.5		
<i>Acipenser transmontanus</i> Richardson, 1836	<i>Acipenser transmontanus</i> Richardson, 1836		mfd	Greater North Sea		non-indigenous	Vertebrate	VER			1999	1994-1999			1		
<i>Acrochaetium catenulatum</i> M. A. Howe, 1914	<i>Acrochaetium catenulatum</i> M. A. Howe, 1914		mfd	Greater North Sea		non-indigenous	Primary producer	PP			1967	<1970					1
<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968	<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968		mfd	Adriatic Sea		non-indigenous	Primary producer	PP	Macroalgae		2007	2007-2006-2011		0.5			
<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968	<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968		mfd	Central Mediterranean Sea		non-indigenous	Primary producer	PP	Macroalgae		1997	1997-1994-1999		0.5			
<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968	<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968		mfd	Macaronesia		non-indigenous	Primary producer	PP	Macroalgae		2009	2006-2011					0.5
<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968	<i>Acrothamnion preissii</i> (Sonder) E.M. Wollaston, 1968		mfd	Western Mediterranean Sea		non-indigenous	Primary producer	PP	Macroalgae		1968	1968-1970		0.5			
<i>Acrothrix gracilis</i> Kylin, 1907	<i>Acrothrix gracilis</i> Kylin, 1907		mfd	Western Mediterranean Sea	partly native	non-indigenous	Primary producer	PP			1998	1998-1994-1999				1	
<i>Actaeodes tomentosus</i> (H. Milne Edwards) Actaeodes tomentosus (H. Milne Edwards), 1834	<i>Actaeodes tomentosus</i> (H. Milne Edwards) Actaeodes tomentosus (H. Milne Edwards), 1834		mfd	Eastern Mediterranean Sea		non-indigenous	Invertebrate	INV			2013	2013-2017					

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