



## 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

#### Identification info

<b>Date (Creation)</b>	2022-10-01				
<b>Date (Publication)</b>	2022-10-01				
<b>Edition</b>	01.00				
<b>Citation identifier</b>	eea_t_marine-non-indigenous-species-msfd_p_1200-2020_v01_r00				
<b>Status</b>	Superseded				
<b>Point of contact</b>	<b>Organisation</b>	<b>Individual</b>	<b>Electronic mail address</b>	<b>Website</b>	<b>Role</b>
	European Environment Agency		sdi@eea.europa.eu	<a href="http://www.eea.europa.eu">http://www.eea.europa.eu</a>	Point of contact
	European Environment Agency		sdi@eea.europa.eu		Custodian
<b>Spatial representation type</b>	Text, table				
<b>Topic category</b>	<ul style="list-style-type: none"> <li>Environment</li> </ul>				
<b>Extent</b>					
<b>Temporal extent</b>					
<b>Time period</b>	1200-01-01 2020-12-31				
<b>Extent</b>					
<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>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> </ul>				

	<ul style="list-style-type: none"> <li>• Mediterranean Sea, Western Basin</li> <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>EEA Management Plan</b>	<ul style="list-style-type: none"> <li>• 2022 1.0.7</li> </ul>

## Resource constraints

<b>Access constraints</b>	Other restrictions
<b>Other constraints</b>	<a href="#">no limitations to public access</a>

## Resource constraints

<b>Use constraints</b>	Other restrictions
<b>Other constraints</b>	License CC-BY 4.0 ( <a href="https://creativecommons.org/licenses/by/4.0/">https://creativecommons.org/licenses/by/4.0/</a> ). Copyright holder: European Environment Agency (EEA).

<b>Language</b>	English
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<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>
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## Distribution Information

<b>Distribution format</b>	<ul style="list-style-type: none"> <li>• Microsoft Excel (.xls, .xlsx)</li> </ul>
<b>OnLine resource</b>	<a href="https://sdi.eea.europa.eu/webdav/datastore/public/eea_t_marine-non-indigenous-species-msfd_p_1200-2020_v01_r00/">https://sdi.eea.europa.eu/webdav/datastore/public/eea_t_marine-non-indigenous-species-msfd_p_1200-2020_v01_r00/</a>
<b>OnLine resource</b>	<a href="#">Direct download</a>
<b>OnLine resource</b>	<a href="#">EEA website</a>

## Data quality info

<b>Hierarchy level</b>	Dataset
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## Report

### Result

<b>Title</b>	Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services
<b>Date (Publication)</b>	2010-12-08
<b>Explanation</b>	See the referenced specification

## Resource lineage

<b>Statement</b>	<p>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 ( <a href="http://www.corpi.ku.lt/databases/index.php/aquanis/">http://www.corpi.ku.lt/databases/index.php/aquanis/</a>) and EASIN ( <a href="http://www.corpi.ku.lt/databases/index.php/aquanis/">http://www.corpi.ku.lt/databases/index.php/aquanis/</a>) 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).</p> <p>Abbreviation Comment</p> <p>REL: Release in nature</p> <p>TC: Transport-contaminant</p> <p>EC: Escape from confinement</p> <p>TS: Transport-stowaway</p> <p>TS-ballasts: Transport-stowaway, ship/boat ballast water</p> <p>TS-hull: Transport-stowaway, ship/boat hull fouling</p> <p>TS-other: Transport-stowaway, other means of transport</p> <p>COR: Corridor</p> <p>UNA: Unaided</p> <p>UNK: Unknown</p>
<b>Hierarchy level</b>	Dataset

## Metadata

<b>Metadata identifier</b>	87064d6c-96b3-423e-a65c-d233596506fe								
<b>Language</b>	English								
<b>Character encoding</b>	UTF8								
<b>Contact</b>	<table border="1"><thead><tr><th>Organisation</th><th>Individual</th><th>Electronic mail address</th><th>Website Role</th></tr></thead><tbody><tr><td>European Environment Agency</td><td></td><td>sdi@eea.europa.eu</td><td>Point of contact</td></tr></tbody></table>	Organisation	Individual	Electronic mail address	Website Role	European Environment Agency		sdi@eea.europa.eu	Point of contact
Organisation	Individual	Electronic mail address	Website Role						
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## Type of resource

<b>Resource type</b>	Dataset
<b>Metadata linkage</b>	<a href="https://sdi.eea.europa.eu/catalogue/srv/api/records/87064d6c-96b3-423e-a65c-d233596506fe">https://sdi.eea.europa.eu/catalogue/srv/api/records/87064d6c-96b3-423e-a65c-d233596506fe</a>
<b>Date info (Creation)</b>	2023-02-15T09:21:21.1Z
<b>Date info (Revision)</b>	2025-10-09T11:01:32.256199Z

## Metadata standard

<b>Title</b>	ISO 19115/19139
<b>Edition</b>	1.0

## Overviews

Species	Species >1970	Species <1970	List	Region	Nativity	STATUS	Group	VER-INV	Taxonom	NS stan	V	Period	REL	EC	TC	TS-Other	TS-ball
Ablennes hians (Valenciennes, 1846)	Ablennes hians (Valenciennes, 1846)		mfdf	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2018	2018	2018-2020				
Abudedefduf savatilis (Linnaeus, 1758)	Abudedefduf savatilis (Linnaeus, 1758)		mfdf	Macaronesia		range expanding	Vertebrate	VER				1989	1988-1993				
Abudedefduf seifasciatus (Lacépède, 1801)	Abudedefduf seifasciatus (Lacépède, 1801)		mfdf	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2017	2017	2012-2017	1			
Abudedefduf sp.	Abudedefduf sp.		mfdf	Adriatic Sea	genus level	non-indigenous	Vertebrate	VER			2018	2018	2018-2020				
Abudedefduf taurus (Müller & Troschel, 1844)	Abudedefduf taurus (Müller & Troschel, 1844)		mfdf	Macaronesia		questionable	Vertebrate	VER				2015	2012-2017				
Abudedefduf vaigensis (Quoy & Gaimard, 1825)	Abudedefduf vaigensis (Quoy & Gaimard, 1825)		mfdf	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2013	2013	2012-2017				1
Abudedefduf vaigensis (Quoy & Gaimard, 1825)	Abudedefduf vaigensis (Quoy & Gaimard, 1825)		mfdf	Western Mediterranean Sea		non-indigenous	Vertebrate	VER			2005	2005	2000-2005				1
Abudedefduf hoefleri (Steindachner, 1881)	Abudedefduf hoefleri (Steindachner, 1881)		mfdf	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2014	2014	2012-2017				1
Abudedefduf hoefleri (Steindachner, 1881)	Abudedefduf hoefleri (Steindachner, 1881)		mfdf	Macaronesia		range expanding	Vertebrate	VER				2014	2012-2017			1	
Acanthaster planci (Linnaeus, 1758)	Acanthaster planci (Linnaeus, 1758)		mfdf	Western Mediterranean Sea		non-indigenous	Invertebrate	INV			2006	2006	2006-2011				1
Acanthopagrus bifasciatus (Forsk.)	Acanthopagrus bifasciatus (Forsk.)	1775	mfdf	Western Mediterranean Sea		non-indigenous	Vertebrate	VER			2019	2019	2018-2020				1
Acanthopagrus echinata (Harvey)	Acanthopagrus echinata (Harvey)	A.M. Saviole & G.W. Saunders, 2019	mfdf	Adriatic Sea		non-indigenous	Primary producer	PP			2018	2018	2018-2020			1	
Acanthurus cfr. gahhm (Forsk.)	Acanthurus cfr. gahhm (Forsk.)	1775	mfdf	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2019	2019	2018-2020	1			
Acanthurus coeruleus Bloch & Schneider	Acanthurus coeruleus Bloch & Schneider, 1801		mfdf	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2013	2013	2012-2017	0.5			
Acanthurus coeruleus Bloch & Schneider	Acanthurus coeruleus Bloch & Schneider, 1801		mfdf	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2011	2011	2006-2011	0.5			
Acanthurus coeruleus Bloch & Schneider	Acanthurus coeruleus Bloch & Schneider, 1801		mfdf	Macaronesia		non-indigenous	Vertebrate	VER			2013	2013	2012-2017			1	
Acanthurus sohal (Forsk.)	Acanthurus sohal (Forsk.)	1775	mfdf	Eastern Mediterranean Sea		non-indigenous	Vertebrate	VER			2017	2017	2012-2017				
Acanthurus bahianus Casteleau, 1855	Acanthurus bahianus Casteleau, 1855		mfdf	Macaronesia		non-indigenous	Vertebrate	VER				2013	2012-2017			1	
Acanthurus chirurgus Bloch, 1787	Acanthurus chirurgus Bloch, 1787		mfdf	Central Mediterranean Sea		non-indigenous	Vertebrate	VER			2016	2016	2012-2017	0.5			0.5
Acanthurus chirurgus Bloch, 1787	Acanthurus chirurgus Bloch, 1787		mfdf	Macaronesia		non-indigenous	Vertebrate	VER				2012	2012-2017			1	
Acanthurus chirurgus Bloch, 1787	Acanthurus chirurgus Bloch, 1787		mfdf	Western Mediterranean Sea		non-indigenous	Vertebrate	VER			2011	2011	2012-2017	0.5			0.5
Acanthurus monroviae Steindachner, 1876	Acanthurus monroviae Steindachner, 1876		mfdf	Bay of Biscay & Iberian Coast	range expanding	range expanding	Vertebrate	VER			2007	2007	2006-2011	0.5			0.5
Acanthurus monroviae Steindachner, 1876	Acanthurus monroviae Steindachner, 1876		mfdf	Macaronesia	range expanding	range expanding	Vertebrate	VER				1988	1988-1993				1
Acartia (Acartia) omorii Bradford, 1976	Acartia (Acartia) omorii Bradford, 1976		mfdf	Greater North Sea		non-indigenous	Invertebrate	INV				2004	2004-2005				1
Acartia (Acartia) omorii Bradford, 1976	Acartia (Acartia) omorii Bradford, 1976		mfdf	Western Mediterranean Sea		absent	Invertebrate	INV			2004	2004	2000-2005				
Acartia (Acartia) tonsa Dana, 1849	Acartia (Acartia) tonsa Dana, 1849		mfdf	Adriatic Sea		non-indigenous	Invertebrate	INV			1987	1987	1982-1987				1
Acartia (Acartia) tonsa Dana, 1849	Acartia (Acartia) tonsa Dana, 1849		mfdf	Baltic Sea		non-indigenous	Invertebrate	INV			1921	1921	<1970				1
Acartia (Acartia) tonsa Dana, 1849	Acartia (Acartia) tonsa Dana, 1849		mfdf	Bay of Biscay & Iberian Coast		non-indigenous	Invertebrate	INV			<1977	1977	1976-1981				1
Acartia (Acartia) tonsa Dana, 1849	Acartia (Acartia) tonsa Dana, 1849		mfdf	Black Sea		non-indigenous	Invertebrate	INV			1976	1976	1976-1981				1
Acartia (Acartia) tonsa Dana, 1849	Acartia (Acartia) tonsa Dana, 1849		mfdf	Central Mediterranean Sea		non-indigenous	Invertebrate	INV			2005	2005	2000-2005				1
Acartia (Acartia) tonsa Dana, 1849	Acartia (Acartia) tonsa Dana, 1849		mfdf	Greater North Sea		non-indigenous	Invertebrate	INV				1921	<1970				1
Acartia (Acartia) tonsa Dana, 1849	Acartia (Acartia) tonsa Dana, 1849		mfdf	Western Mediterranean Sea		non-indigenous	Invertebrate	INV			1986	1986	1982-1987				1
Achelia sawaya Marcus, 1940	Achelia sawaya Marcus, 1940		mfdf	Central Mediterranean Sea		non-indigenous	Invertebrate	INV			2016	2016	2012-2017				
Acipenser baerii Brandt, 1869	Acipenser baerii Brandt, 1869		mfdf	Baltic Sea		non-indigenous	Vertebrate	VER			1960	1960	<1970	0.333	0.333		
Acipenser baerii Brandt, 1869	Acipenser baerii Brandt, 1869		mfdf	Greater North Sea		non-indigenous	Vertebrate	VER			1985	1982-1987		0.333	0.333		
Acipenser gueldenstaedtii Brandt & Ratzeburg, 1833	Acipenser gueldenstaedtii Brandt, 1833		mfdf	Baltic Sea		non-indigenous	Vertebrate	VER			1962	1962	<1970	0.333	0.333		
Acipenser gueldenstaedtii Brandt & Ratzeburg, 1833	Acipenser gueldenstaedtii Brandt, 1833		mfdf	Greater North Sea		non-indigenous	Vertebrate	VER			2010	2010	2006-2011	0.333	0.333		
Acipenser ruthenus Linnaeus, 1758	Acipenser ruthenus Linnaeus, 1758		mfdf	Baltic Sea		non-indigenous	Vertebrate	VER			1887	1887	<1970	0.333	0.333		
Acipenser stellatus Pallas, 1771	Acipenser stellatus Pallas, 1771		mfdf	Baltic Sea		non-indigenous	Vertebrate	VER			1999	1999	1994-1999			0.5	
Acipenser transmontanus Richardson, 1836	Acipenser transmontanus Richardson, 1836		mfdf	Greater North Sea		non-indigenous	Vertebrate	VER			1999	1999	1994-1999			1	
Acrochaetium catenulatum M.A. Howe, 1914	Acrochaetium catenulatum M.A. Howe, 1914		mfdf	Greater North Sea		non-indigenous	Primary producer	PP				1967	<1970				1
Acrothamnion preissii (Sonder) E.M. Wollaston, 1968	Acrothamnion preissii (Sonder) E.M. Wollaston, 1968		mfdf	Adriatic Sea		non-indigenous	Primary producer	PP	Macroalgae		2007	2007	2006-2011	0.5			
Acrothamnion preissii (Sonder) E.M. Wollaston, 1968	Acrothamnion preissii (Sonder) E.M. Wollaston, 1968		mfdf	Central Mediterranean Sea		non-indigenous	Primary producer	PP	Macroalgae		1997	1997	1994-1999	0.5			
Acrothamnion preissii (Sonder) E.M. Wollaston, 1968	Acrothamnion preissii (Sonder) E.M. Wollaston, 1968		mfdf	Macaronesia		non-indigenous	Primary producer	PP	Macroalgae		2009	2009	2006-2011				0.5
Acrothamnion preissii (Sonder) E.M. Wollaston, 1968	Acrothamnion preissii (Sonder) E.M. Wollaston, 1968		mfdf	Western Mediterranean Sea		non-indigenous	Primary producer	PP	Macroalgae		1968	1968	<1970	0.5			
Acrothrix gracilis Kylin, 1907	Acrothrix gracilis Kylin, 1907		mfdf	Western Mediterranean Sea	partly native	non-indigenous	Primary producer	PP			1998	1998	1994-1999			1	
Actaeodes tomentosus (H. Milne Edwards)	Actaeodes tomentosus (H. Milne Edwards, 1834)		mfdf	Eastern Mediterranean Sea		non-indigenous	Invertebrate	INV			2013	2013	2012-2017				

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