



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

| | | | | | |
|---|---|-----------------|-------------------------|---|------------------|
| Date (Creation) | 2022-10-01 | | | | |
| Date (Publication) | 2022-10-01 | | | | |
| Edition | 01.00 | | | | |
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| Status | Superseded | | | | |
| Point of contact | Organisation name | Individual name | Electronic mail address | Website | Role |
| | European Environment Agency | | sdi@eea.europa.eu | http://www.eea.europa.eu | Point of contact |
| | European Environment Agency | | sdi@eea.europa.eu | | Custodian |
| Maintenance and update frequency | As needed | | | | |
| GEMET - INSPIRE themes, version 1.0 | <ul style="list-style-type: none">Species distributionSea regions | | | | |
| Keywords | | | | | |
| Keywords | | | | | |
| GEMET | <ul style="list-style-type: none">Marine Strategy Framework Directivemarine biodiversitymarine environmentspecies | | | | |
| Continents, countries, sea regions of the world. | <ul style="list-style-type: none">North Atlantic OceanBaltic SeaBlack SeaAdriatic SeaNorth SeaMediterranean Sea, Western BasinBay of BiscayMediterranean SeaMediterranean Sea, Eastern BasinCeltic Sea | | | | |

| Spatial scope | <ul style="list-style-type: none">European | | | | | | | | | | | | |
|-----------------------------|---|-----------------|---------|------|----------------|---|--|---------|---|-----------------|-------------------------|---|-------------|
| EEA Management Plan | <ul style="list-style-type: none">2022 1.0.7 | | | | | | | | | | | | |
| Access constraints | Other restrictions | | | | | | | | | | | | |
| Other constraints | no limitations to public access | | | | | | | | | | | | |
| Use constraints | Other restrictions | | | | | | | | | | | | |
| Other constraints | 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 (http://www.eea.europa.eu/legal/copyright). Copyright holder: European Environment Agency (EEA). | | | | | | | | | | | | |
| Spatial representation type | Text, table | | | | | | | | | | | | |
| Language of dataset | English | | | | | | | | | | | | |
| Topic category | <ul style="list-style-type: none">Environment | | | | | | | | | | | | |
| Begin date | 1200-01-01 | | | | | | | | | | | | |
| End date | 2020-12-31 | | | | | | | | | | | | |
| Additional Information | <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> | | | | | | | | | | | | |
| Distribution format | <ul style="list-style-type: none">Microsoft Excel (.xls, .xlsx) () | | | | | | | | | | | | |
| OnLine resource | <table><tr><th>Protocol</th><th>Linkage</th><th>Name</th></tr><tr><td>EEA:FOLDERPATH</td><td>https://sdi.eea.europa.eu/webdav/datastore/public/eea_t_marine-non-indigenous-species-msfd_p_1200-2020_v01_r00/</td><td></td></tr><tr><td>WWW:URL</td><td>https://sdi.eea.europa.eu/data/87064d6c-96b3-423e-a65c-d233596506fe</td><td>Direct download</td></tr><tr><td>WWW:LINK-1.0-http--link</td><td>https://www.eea.europa.eu/data-and-maps/data/marine-non-indigenous-species-in</td><td>EEA website</td></tr></table> | Protocol | Linkage | Name | EEA:FOLDERPATH | https://sdi.eea.europa.eu/webdav/datastore/public/eea_t_marine-non-indigenous-species-msfd_p_1200-2020_v01_r00/ | | WWW:URL | https://sdi.eea.europa.eu/data/87064d6c-96b3-423e-a65c-d233596506fe | Direct download | WWW:LINK-1.0-http--link | https://www.eea.europa.eu/data-and-maps/data/marine-non-indigenous-species-in | EEA website |
| Protocol | Linkage | Name | | | | | | | | | | | |
| EEA:FOLDERPATH | https://sdi.eea.europa.eu/webdav/datastore/public/eea_t_marine-non-indigenous-species-msfd_p_1200-2020_v01_r00/ | | | | | | | | | | | | |
| WWW:URL | https://sdi.eea.europa.eu/data/87064d6c-96b3-423e-a65c-d233596506fe | Direct download | | | | | | | | | | | |
| WWW:LINK-1.0-http--link | https://www.eea.europa.eu/data-and-maps/data/marine-non-indigenous-species-in | EEA website | | | | | | | | | | | |
| Hierarchy level | Dataset | | | | | | | | | | | | |

Conformance result

| | |
|---------------------------|---|
| Title | 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 |
| Date (Publication) | 2010-12-08 |
| Explanation | See the referenced specification |
| Statement | <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 (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</p> |

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 identifies 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

| | | | |
|---------------------------|--|-----------------|-------------------------------------|
| File identifier | 87064d6c-96b3-423e-a65c-d233596506fe XML | | |
| Metadata language | English | | |
| Character set | UTF8 | | |
| Hierarchy level | Dataset | | |
| Date stamp | 2024-10-15T10:54:53.163814Z | | |
| Metadata standard name | ISO 19115/19139 | | |
| Metadata standard version | 1.0 | | |
| Metadata author | Organisation name | Individual name | Electronic mail addressWebsite Role |
| | European Environment Agency | | sdi@eea.europa.euPoint of contact |

Overviews

| Species | Species >1970 | Species <1970 | List | Region | Nativity | STATUS | Group | VER-INV | Taxonon | NS stan | Y | Period | REL | EC | TC | TS-Other | TS-ball |
|--|--|---------------|------|-------------------------------|-----------------|-----------------|------------------|---------|------------|---------|-------|---------------------|-----|-------|-------|----------|---------|
| <i>Ablennes hians</i> (Valenciennes, 1846) | <i>Ablennes hians</i> (Valenciennes, 1846) | | mfdf | Central Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2018 | 2018-2020 | | | | | |
| <i>Abudefduf saxatilis</i> (Linnaeus, 1758) | <i>Abudefduf saxatilis</i> (Linnaeus, 1758) | | mfdf | Macaronesia | | range expanding | Vertebrate | VER | | | | 1989-1988-1993 | | | | | |
| <i>Abudefduf seifasciatus</i> (Lacépède, 1801) | <i>Abudefduf seifasciatus</i> (Lacépède, 1801) | | mfdf | Eastern Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2017 | 2017-2012-2017 | | 1 | | | |
| <i>Abudefduf</i> sp. | <i>Abudefduf</i> sp. | | mfdf | Adriatic Sea | genus level | non-indigenous | Vertebrate | VER | | | 2018 | 2018-2018-2020 | | | | | |
| <i>Abudefduf taurus</i> (Müller & Troschel, 1844) | <i>Abudefduf taurus</i> (Müller & Troschel, 1844) | | mfdf | Macaronesia | | questionable | Vertebrate | VER | | | | 2015-2012-2017 | | | | | |
| <i>Abudefduf vaigensis</i> (Quoy & Gaimard, 1825) | <i>Abudefduf vaigensis</i> (Quoy & Gaimard, 1825) | | mfdf | Central Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2013 | 2013-2012-2017 | | | | | 1 |
| <i>Abudefduf vaigensis</i> (Quoy & Gaimard, 1825) | <i>Abudefduf vaigensis</i> (Quoy & Gaimard, 1825) | | mfdf | Western Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2005 | 2005-2000-2005 | | | | | 1 |
| <i>Abudefduf hoefleri</i> (Steindachner, 1881) | <i>Abudefduf hoefleri</i> (Steindachner, 1881) | | mfdf | Central Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2014 | 2014-2012-2017 | | | | | 1 |
| <i>Abudefduf hoefleri</i> (Steindachner, 1881) | <i>Abudefduf hoefleri</i> (Steindachner, 1881) | | mfdf | Macaronesia | | range expanding | Vertebrate | VER | | | | 2014-2012-2017 | | | | 1 | |
| <i>Acanthaster planci</i> (Linnaeus, 1758) | <i>Acanthaster planci</i> (Linnaeus, 1758) | | mfdf | Western Mediterranean Sea | | non-indigenous | Invertebrate | INV | | | 2006 | 2006-2006-2011 | | | | | 1 |
| <i>Acanthopagrus bifasciatus</i> (Forsk.) | <i>Acanthopagrus bifasciatus</i> (Forsk.) | | mfdf | Western Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2019 | 2019-2018-2020 | | | | | 1 |
| <i>Acanthopagrus echinatus</i> (Harvey) A.M.Savole & G.W.Saunders, 2019 | <i>Acanthopagrus echinatus</i> (Harvey) A.M.Savole & G.W.Saunders, 2019 | | mfdf | Adriatic Sea | | non-indigenous | Primary producer | PP | | | 2018 | 2018-2018-2020 | | | | 1 | |
| <i>Acanthurus cf. gahhm</i> (Forsk.) | <i>Acanthurus cf. gahhm</i> (Forsk.) | | mfdf | Eastern Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2019 | 2019-2018-2020 | | 1 | | | |
| <i>Acanthurus coeruleus</i> Bloch & Schneider | <i>Acanthurus coeruleus</i> Bloch & Schneider, 1801 | | mfdf | Central Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2013 | 2013-2012-2017 | | 0.5 | | | |
| <i>Acanthurus coeruleus</i> Bloch & Schneider | <i>Acanthurus coeruleus</i> Bloch & Schneider, 1801 | | mfdf | Eastern Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2011 | 2011-2006-2011 | | 0.5 | | | |
| <i>Acanthurus coeruleus</i> Bloch & Schneider | <i>Acanthurus coeruleus</i> Bloch & Schneider, 1801 | | mfdf | Macaronesia | | non-indigenous | Vertebrate | VER | | | | 2013-2012-2017 | | | | 1 | |
| <i>Acanthurus sohai</i> (Forsk.) | <i>Acanthurus sohai</i> (Forsk.) | | mfdf | Eastern Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2017 | 2017-2012-2017 | | | | | |
| <i>Acanthurus bahianus</i> Castelnau, 1855 | <i>Acanthurus bahianus</i> Castelnau, 1855 | | mfdf | Macaronesia | | non-indigenous | Vertebrate | VER | | | | 2013-2012-2017 | | | | 1 | |
| <i>Acanthurus chirurgus</i> (Bloch, 1787) | <i>Acanthurus chirurgus</i> (Bloch, 1787) | | mfdf | Central Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2016 | 2016-2012-2017 | | 0.5 | | | 0.5 |
| <i>Acanthurus chirurgus</i> (Bloch, 1787) | <i>Acanthurus chirurgus</i> (Bloch, 1787) | | mfdf | Macaronesia | | non-indigenous | Vertebrate | VER | | | | 2012-2012-2017 | | | | 1 | |
| <i>Acanthurus chirurgus</i> (Bloch, 1787) | <i>Acanthurus chirurgus</i> (Bloch, 1787) | | mfdf | Western Mediterranean Sea | | non-indigenous | Vertebrate | VER | | | 2012 | 2012-2012-2017 | | 0.5 | | | 0.5 |
| <i>Acanthurus monroviae</i> Steindachner, 1876 | <i>Acanthurus monroviae</i> Steindachner, 1876 | | mfdf | 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 | | mfdf | Macaronesia | range expanding | range expanding | Vertebrate | VER | | | | 1988-1988-1993 | | | | | 1 |
| <i>Acartia</i> (<i>Acartia</i>) <i>omori</i> Bradford, 1976 | <i>Acartia</i> (<i>Acartia</i>) <i>omori</i> Bradford, 1976 | | mfdf | Greater North Sea | | non-indigenous | Invertebrate | INV | | | | 2004-2000-2005 | | | | | 1 |
| <i>Acartia</i> (<i>Acartia</i>) <i>omori</i> Bradford, 1976 | <i>Acartia</i> (<i>Acartia</i>) <i>omori</i> Bradford, 1976 | | mfdf | Western Mediterranean Sea | | absent | Invertebrate | INV | | | | 2004-2004-2000-2005 | | | | | |
| <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | | mfdf | Adriatic Sea | | non-indigenous | Invertebrate | INV | | | 1987 | 1987-1982-1987 | | | | | 1 |
| <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | | mfdf | Baltic Sea | | non-indigenous | Invertebrate | INV | | | | 1921-1921-1970 | | | | | 1 |
| <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | | mfdf | Bay of Biscay & Iberian Coast | | non-indigenous | Invertebrate | INV | | | <1977 | 1977-1976-1981 | | | | | 1 |
| <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | | mfdf | Black Sea | | non-indigenous | Invertebrate | INV | | | | 1976-1976-1981 | | | | | 1 |
| <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | | mfdf | Central Mediterranean Sea | | non-indigenous | Invertebrate | INV | | | 2005 | 2005-2000-2005 | | | | | 1 |
| <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | | mfdf | Greater North Sea | | non-indigenous | Invertebrate | INV | | | | 1921-1970 | | | | | 1 |
| <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | <i>Acartia</i> (<i>Acanthacartia</i>) <i>tonsa</i> Dana, 1849 | | mfdf | Western Mediterranean Sea | | non-indigenous | Invertebrate | INV | | | | 1986-1986-1982-1987 | | | | | 1 |
| <i>Achelia sawayai</i> Marcus, 1940 | <i>Achelia sawayai</i> Marcus, 1940 | | mfdf | Central Mediterranean Sea | | non-indigenous | Invertebrate | INV | | | 2016 | 2016-2012-2017 | | | | | |
| <i>Acipenser baeri</i> Brandt, 1869 | <i>Acipenser baeri</i> Brandt, 1869 | | mfdf | 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 | | mfdf | Greater North Sea | | non-indigenous | Vertebrate | VER | | | | 1985-1982-1987 | | 0.333 | 0.333 | | |
| <i>Acipenser gueldenstaedtii</i> Brandt & Ratzeburg, 1833 | <i>Acipenser gueldenstaedtii</i> Brandt & Ratzeburg, 1833 | | mfdf | Baltic Sea | | non-indigenous | Vertebrate | VER | | | 1962 | 1962-1970 | | 0.333 | 0.333 | | |
| <i>Acipenser gueldenstaedtii</i> Brandt & Ratzeburg, 1833 | <i>Acipenser gueldenstaedtii</i> Brandt & Ratzeburg, 1833 | | mfdf | 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 | | mfdf | 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 | | mfdf | Baltic Sea | | non-indigenous | Vertebrate | VER | | | 1999 | 1999-1994-1999 | | | 0.5 | | |
| <i>Acipenser transmontanus</i> Richardson, 1836 | <i>Acipenser transmontanus</i> Richardson, 1836 | | mfdf | 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 | | mfdf | 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 | | mfdf | 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 | | mfdf | 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 | | mfdf | 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 | | mfdf | 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 | | mfdf | Western Mediterranean Sea | partly native | non-indigenous | Primary producer | PP | | | 1998 | 1998-1994-1999 | | | | 1 | |
| <i>Acteodes tomentosus</i> (H. Milne Edwards) Acteodes tomentosus (H. Milne Edwards, 1834) | <i>Acteodes tomentosus</i> (H. Milne Edwards) Acteodes tomentosus (H. Milne Edwards, 1834) | | mfdf | Eastern Mediterranean Sea | | non-indigenous | Invertebrate | INV | | | 2013 | 2013-2012-2017 | | | | | |

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