

Environment and Rural Affairs Monitoring & Modelling Programme

ERAMMP Year 1 Report 19TA1: Review of Monitoring at the Land-Sea Interface - Technical Annex

Garbutt, R.A.¹, Alexander, M.², Ballinger, R.², Bowgen, K.³, Cooper, D.¹, Frost, N.⁴, Hull, S.⁴, Jones, L.¹ & Mant, J.⁵

¹ Centre for Ecology & Hydrology, ² Cardiff University, ³ British Trust for Ornithology, ⁴ ABPMarine, ⁵ Ricardo

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CEH contact details Bronwen Williams
Centre for Ecology & Hydrology, Environment Centre Wales, Deiniol Road, Bangor, Gwynedd, LL57 2UW
t: 01248 374500
e: erammp@ceh.ac.uk

Corresponding Author Angus Garbutt, CEH

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Approved by James Skates

Signed

Version History

Version	Updated By	Date	Changes
0.1	PMO	30/4/19	Initial draft.
0.11	PMO	8/5/19	Mainly formatting edits – draft for SG
0.12-0.13	PMO	4/9/19	Formatting edits
0.14	PMO	27/9/19	Approved for publication
1.0	PMO	30/9/2019	As published

This document has been formatted to print on A3 paper (landscape).

Abbreviations and some of the technical terms used in this report are expanded in the project glossary:
<https://erammp.wales/en/glossary> (English) and <https://erammp.cymru/geirfa> (Welsh)

1 Technical Annex: Overview of monitoring and reporting mechanisms at the Land-Sea Interface

ID	Monitoring Programme	Monitoring organisation/data source	Reporting organisation	Driving mechanism(s) (please give details e.g. what legislation or policy requires this?)	Scale of data collection / monitoring	Scale of reporting	Overview of methods used for data collection	Start date	DPSIR category	Mountains, Moorlands and Heaths	Semi-Natural Grassland	Enclosed Farmland	Woodland	Urban	Freshwater	Coastal margins	Marine
1	(DOME) Contaminants and biological effects of contaminants in biota.	ICES	ICES	International law / conventions.	International	International	Biological sampling and laboratory analysis.	1982-2016	Pressure								x
2	2003-2004, Centre for Marine and Coastal Studies CMACS, Gwynt y Môr Offshore Wind Farm, Marine Mammal Surveys, Location of Timing Porpoise Detectors TPOD Moorings.	TCE	TCE		Sub-national: Catchment	Sub-national: Catchment	Passive acoustic monitoring device.	2002-2004	State - Extent								x
3	2008 CCW / ASML Carmarthen Bay Special Area of Conservation (SAC). Cockle Bed Survey.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Estuary	Sub-national: Estuary	Invertebrate sampling	2008-2008	State - Extent							x	x
4	2008 EMU, Skerries Tidal Site, Marine Geophysical Survey.	TCE	TCE	Wales, only: Policy (non-statutory).	Sub-national: Estuary	Sub-national: Estuary	Bathymetric survey	2008-2008	State - Supporting services								x
5	2010 Countryside Council for Wales, Intertidal habitat diversity.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Policy (non-statutory).	National: Wales	National: Wales	Intertidal habitat survey	1968-2008	State - Extent							x	x
6	A comparison of macrobenthic fauna and sediment characteristic from Hamon grab and Day grab samples taken at Hinkley Point, 2010.	Cefas	Cefas	Practice (but not specified through law or policy instruments).	Sub-national: Local	Sub-national: Local	Grab samples	2010	State - Extent								x
7	Acoustic Monitoring of the Extent of the North Llŷn Modiolus Reef.	NRW Library Catalogue	NRW Library Catalogue	Practice (but not specified through law or policy instruments).	Sub-national: Local	Sub-national: Local	Acoustic monitoring	1998-2013	State - Extent								x
8	Across Wales Bays and Banks Subtidal Soft Sediment Surveys.	NRW Library Catalogue	NRW Library Catalogue	Practice (but not specified through law or policy instruments).	National: Wales	National: Wales	Sediment surveys	2007-Present	State - Extent								x
9	Across Wales Drop-Down Video Monitoring 2004 - 2005 (multiple locations).	NRW Library Catalogue	NRW Library Catalogue	Practice (but not specified through law or policy instruments).	National: Wales	National: Wales	Drop-down video	2004-2012	State - Extent								x

10	Across Wales Intertidal Monitoring Survey.	NRW Library Catalogue	NRW Library Catalogue	Practice (but not specified through law or policy instruments).	National: Wales	National: Wales	Intertidal habitat survey	2004-2009	State - Extent									x	x
11	Across Wales Sea Bottom Temperature Time Series Data.	NRW Library Catalogue	NRW Library Catalogue	Practice (but not specified through law or policy instruments).	National: Wales	National: Wales	Subsea temperature recording	2000-2015	State - Supporting services										x
12	Across Wales Subtidal Soft Sediment Surveys.	NRW Library Catalogue	NRW Library Catalogue	Practice (but not specified through law or policy instruments).	National: Wales	National: Wales	Sediment surveys	2007-Present	State - Extent										x
13	Afon Teifi Special Area of Conservation (SAC). Population attribute condition assessment for brook, river and sea lamprey population 2014. Habitats Directive third reporting cycle 2013 – 2016.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish survey	2014-2014	State - Extent									x	x
14	Analysis of long-term effort-related land-based observations to identify whether coastal areas of harbour porpoise and bottlenose dolphin have persistent high occurrence and abundance.	JNCC	JNCC		International	International	Land based observations	1965-2015	State - Extent										x
15	Anglesey Invasive Species, Non-native Species and <i>Sabellaria spinulosa</i> Survey 2016.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Invertebrate survey	2016-2016	State - Extent										x
16	Atlas of Cetacean distribution.	JNCC	JNCC		International	International	Cetacean surveys	1979-1997	State - Extent										x
17	Atlas of the Marine Mammals of Wales.	NRW Library Catalogue	NRW Library Catalogue		International	International	Cetacean surveys	1990-2009	State - Extent										x
18	Bangor University Acoustic Multibeam Echosounder Survey of the North Llŷn Modiolus Bed 2008.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Acoustic survey	2008-2008	State - Extent										x
19	Bardsey island cetacean survey 2004.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Cetacean surveys	2004	State - Extent										x
20	Bardsey Seal Counts.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Seal surveys	2007 - 2013	State - Extent									x	x
21	Bathing Waters Monitoring Programme (Wales).	UKDMOS	UKDMOS	EU law	National: Wales	National: Wales	Water monitoring	1988 - Present	State - Supporting services									x	x
22	Bedwyn Sands and North Middle Ground Monitoring: Sediment and Benthic Surveys.	ABPmer	ABPmer		Sub-national: Local	Sub-national: Local	Sediment and benthic surveys	2012-2014	State - Extent										x

23	Benthic characterisation of Area 526 Culver Extension.	RMA	RMA		Sub-national: Local	Sub-national: Local	Sediment and benthic surveys	2017	State - Extent									x
24	Birdlife Species Distribution Maps.	Birdlife	Birdlife		International	International	Bird surveys		State - Extent									x
25	Bottlenose Dolphin and Harbour Porpoise Monitoring in Cardigan Bay and Pen Llŷn a'r Sarnau Special Areas of Conservation (SAC)..	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Cetacean monitoring	2011-2013	State - Extent									x
26	British Geological Survey (BGS).	BGS	BGS		International	International	Substrata surveys	2017	State - Extent									x
27	Callaway 2014 Swansea Bay.	SEACAMS Swansea	SEACAMS Swansea		Sub-national: Local	Sub-national: Local	Benthic surveys	2014	State - Extent									x
28	Cardigan Bay Marine Wildlife Centre Welsh Bottlenose Dolphin (<i>Tursiops truncatus</i>) Photo-identification Catalogue (2005-2012) (3rd Party Data).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Photo-ID mammal surveys	2005-2013	State - Extent									x
29	Carmarthen Bay Intertidal Attributes and Monitoring Techniques - Monitoring of Piddocks.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Monitoring of piddocks	2004 - 2004	State - Extent								x	x
30	Carmarthen Bay Intertidal Attributes and Monitoring Techniques - Saltmarsh Boundaries.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Saltmarsh survey	2004 - 2004	State - Extent								x	x
31	Carmarthen Bay Special Area of Conservation (SAC). Intertidal Sediment Flats Monitoring 2005.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Benthic surveys	2004 - 2004	State - Condition								x	x
32	Celtic and North Seas Current Energy.	JNCC	JNCC		National: UK	National: UK		2010	Pressure									x
33	Celtic and North Seas Wave Energy.	JNCC	JNCC		National: UK	National: UK		2012	Pressure									x
34	Celtic Explorer Underway.	Marine Institute Ireland	Marine Institute Ireland		International	International	Sea surface temperature recording	2003 - 2017	State - Supporting services									x
35	Cemlyn Lagoon Soft Sediment Infauna Survey (2006 - 2012).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Benthic surveys	2006 - 2012	State - Extent									x
36	Clean Seas Evidence Monitoring Programme (CSEMP).	BODC	BODC	International law / conventions.	International	International	Contaminants (not heavy metals)	2010 - 2016	Pressure									x
37	Coastal Saline Lagoons and Pools in Wales.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Benthic surveys	1998	State - Condition									x

38	Coastal Saltmarsh Monitoring.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Saltmarsh survey	2006 - 2006	State - Condition										x
39	Coastal Temperature Network.	UKDMOS	UKDMOS		International	International	Sea surface temperature recording	1903 - Present	State - Supporting services										x
40	CODA (Cetacean Offshore Distribution and Abundance).				International	International	Mammal surveys	2005 - 2008	State - Extent										x
41	Collated Zostera Seagrass Bed Habitat Boundaries for Wales.	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Seagrass survey	1996 - 2008	State - Extent									x	x
42	Combined Seabed Habitat Region.	NRW	NRW				Benthic surveys		State - Extent										x
43	Condition monitoring of Special Areas of Conservation (SACs) in Wales.	NRW Library Catalogue	NRW Library Catalogue	EU law	National: Wales	National: Wales	Benthic surveys	2001 - 2006	State - Condition										x
44	Consented Discharges.	NRW	NRW		International	International	Nutrients	2013 - 2017	Pressure										x
45	Continuous Plankton Recorder Survey.	UKDMOS	UKDMOS		International	International	Plankton samples	1931 - Present	State - Condition										x
46	CSEMP Benthic Invertebrates and Sediment Contaminants Programme.	UKDMOS	UKDMOS	International law / conventions.	International	International	Benthic and sediment surveys	1990 - 2018?	State - Extent										x
47	CSEMP Fish Disease Monitoring.	UKDMOS	UKDMOS	International law / conventions.	International	International	Fish surveys	1982 - 2018	State - Extent										x
48	CSEMP Sediment Contaminants Programme.	UKDMOS	UKDMOS	International law / conventions.	National: Wales	National: Wales	Contaminants (not heavy metals) sediment sampling		Pressure										x
49	Dangerous Substances Monitoring Programme (England and Wales).	UKDMOS	UKDMOS		National: England and Wales	National: England and Wales	Contaminants (not heavy metals) sediment sampling	1990 - 2018	Pressure										x
50	Digital Elevation Model (DEM).	EMODnet	EMODnet		International	International	Bathymetry/Topography survey	2009 - 2011	State - Supporting services										x
51	Disposal Site Monitoring (England and Wales).	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Contaminants (not heavy metals) sediment sampling	1974 - Present	Pressure										x
52	Disposal Sites.	Cefas	Cefas		Sub-national: Local	Sub-national: Local	Contaminants (not heavy metals) sediment sampling	2012 - Present	Pressure										x
53	Drop Down Video Data Caernarfon Bay, Tremadog Bay, Cardigan Bay and west Anglesey (2012).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Drop-down video	2012 - 2012	State - Extent										x
54	Drop-Down Video North Wales Survey 2012.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Drop-down video	2012 - 2012	State - Extent										x

55	Drop-Down Video of Historical Native Oyster (<i>Ostrea edulis</i>) Habitat in Pembrokeshire, South Wales (2010).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Drop-down video	2010 - 2010	State - Extent										x
56	EMODnet habitat mapping (multiple datasets).	EMODnet	EMODnet		Sub-national: Local	Sub-national: Local	Benthic mapping	1972 - 2011	State - Extent										x
57	EQSD-CSEMP Shellfish Contaminants Programme.	UKDMOS	UKDMOS	International law / conventions.	International	International	Biological sampling and laboratory analysis	1990 - Present	Pressure										x
58	EU Sea Map Atlantic Habitats.	EMODnet	EMODnet		International	International	Benthic mapping	2009-2016	State - Extent										x
59	EUNIS Habitat Map MESH Atlantic.	EMODnet	EMODnet		International	International	Benthic mapping	2004-2008	State - Extent										x
60	EUSaMap2 (2016) Broad-Scale Predictive Habitat Map.	EMODnet	EMODnet		International	International	Benthic mapping	2016	State - Extent										x
61	Extent and Distribution of Saline Lagoons in Wales (2009).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Habitat surveys	2009 - 2009	State - Extent									x	x
62	FAME (Future of the Atlantic Marine Environment).	RSPB	RSPB		International	International	Birds	2010 - 2018	State - Extent										x
63	Field observations on the disturbance of grey seals in North Wales.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Mammal observations	2003 - 2003	Pressure									x	x
64	Furoid Extent Macroalgae Monitoring.	UKDMOS	UKDMOS		International	International	Seaweed survey	2007 - Present	State - Extent									x	x
65	Grey seal breeding census : Skomer island (multiple years).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Seal survey	2012-2016	State - Extent									x	x
66	Grey Seal Census for North Wales 2001.	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Seal survey	2001 - 2002	State - Extent									x	x
67	Grey Seal (<i>Halichoerus grypus</i>) Phenology at Skomer and Marloes Peninsula.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Seal survey	1983 - 2015	State - Extent									x	x
68	Grey Seal Haul Out Sites.	NRW	NRW		National: Wales	National: Wales	Seal survey		State - Extent									x	x
69	Habitat Mapping for Conservation and Management of the Southern Irish Sea (HABMAP).	NRW Library Catalogue	NRW Library Catalogue		International	International	Benthic mapping	2007 - 2010	State - Extent										x
70	HABMAP Predictive Habitat Maps of the Irish Sea.	NRW Library Catalogue	NRW Library Catalogue		International	International	Benthic habitat modelling	2004 - 2010	State - Extent										x
71	Harbour Porpoise Occurrence Carmarthen Bay - Gower Peninsula - Swansea Bay.	JNCC	JNCC		Sub-national: Local	Sub-national: Local	Mammal surveys	2002 - 2004	State - Extent										x

72	Harbour porpoise sightings data.	JNCC	JNCC		International	International	Mammal surveys	1994-2013	State - Extent									x	
73	Historic Aerial Imagery to Monitor Temporal Change in Intertidal Habitats.	NRW Library Catalogue	NRW Library Catalogue		National	National	Historic aerial imagery	1969 - 2013	State - Extent									x	
74	Imposex in Marine Gastropods.	UKDMOS	UKDMOS		International	International	Invertebrate sampling and analysis	1991-2014	Pressure									x	x
75	INSPIRE Bathymetry Archive.	UKHO	UKHO		International	International	Bathymetry/Topography	2014 - 2018	State - Supporting services									x	
76	Intertidal Designated Site Assessment Documents and Data.	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Intertidal site assessment and data	1996 - 2005	State - Extent									x	x
77	Intertidal Mapping Project (Updating Marine Intertidal Phase 1 Biotope Mapping Survey).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Intertidal habitat mapping	2007 - 2010	State - Extent									x	x
78	Intertidal monitoring and underboulder communities in the Menai Strait and Conwy Bay SAC 2004/5.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2005	State - Condition									x	x
79	Intertidal Monitoring of Bedrock at Porth Oer in Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). 2012.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2012 - 2012	State - Condition									x	x
80	Intertidal Monitoring of Boulders Habitat in the Menai Strait and Colwyn Bay Special Area of Conservation (SAC). 2009.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2009 - 2010	State - Condition									x	x
81	Intertidal Monitoring of Eelgrass (<i>Zostera marina</i>) Beds in Pen Llŷn a'r Sarnau Special Areas of Conservation (SACs).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2010	State - Condition									x	x
82	Intertidal Monitoring of Eelgrass (<i>Zostera noltii</i>) Beds at Angle Bay in Pembrokeshire Marine Special Areas of Conservation (SACs) 2008.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2008 - 2008	State - Condition									x	x

83	Intertidal Monitoring of Eelgrass (<i>Zostera</i>) Beds in Carmarthen Bay and Estuaries Special Areas of Conservation (SACs) 2009.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2004 - 2009	State - Condition										x	x	
84	Intertidal Monitoring of Eelgrass (<i>Zostera noltii</i>) Beds in the Menai Strait and Conwy Bay Special Areas of Conservation (SACs) 2004 and 2005.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2005	State - Condition											x	x
85	Intertidal Monitoring of Hydroid-dominated Rockpools in Carmarthen Bay and Estuaries Special Areas of Conservation (SAC). 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2004 - 2004	State - Condition											x	x
86	Intertidal Monitoring of LR.Rkp.SwSed Pools in the Cardigan Bay Special Area of Conservation (SAC). 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2004	State - Condition											x	x
87	Intertidal Monitoring of Muddy Gravel [Sediments and Rocky Shore] in Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). 2007.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2005 - 2008	State - Condition											x	x
88	Intertidal Monitoring of Open Coast Sediment (Sandflats and Mudflats) in Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). 2009.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2009 - 2009	State - Condition											x	x
89	Intertidal Monitoring of <i>Ophelia bicornis</i> in Carmarthen Bay and Estuaries Special Area of Conservation (SAC). in 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Cross-border: Estuary	Intertidal habitat monitoring	2004 - 2004	State - Condition											x	x
90	Intertidal Monitoring of <i>Pectenogammarus planicrurus</i> in Cardigan Bay and Pen Llŷn a'r Sarnau Special Area of Conservation (SACs) 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2003 - 2009	State - Condition											x	x

91	Intertidal Monitoring of <i>Pectenogammarus planicrurus</i> in Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). 2007 – Onwards.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2007 - 2010	State - Condition									x	x
92	Intertidal Monitoring of Piddock Beds in Carmarthen Bay and Estuaries Special Areas of Conservation (SACs) 2009.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2009 - 2009	State - Condition									x	x
93	Intertidal Monitoring of Rockpools in Cardigan Bay Special Area of Conservation (SAC)..	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2007 - 2008	State - Condition									x	x
94	Intertidal Monitoring of Rockpools in Pembrokeshire Marine Special Area of Conservation (SAC). 2007-2013.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2007 - 2013	State - Condition									x	x
95	Intertidal Monitoring of Rockpools, Caves and Overhangs in Carmarthen Bay and Estuaries Special Area of Conservation (SAC)..	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2007 - 2008	State - Condition									x	x
96	Intertidal Monitoring of Rocky Reefs in Pembrokeshire Marine Special Area of Conservation (SAC)..	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2005 - 2010	State - Condition									x	x
97	Intertidal Monitoring of <i>Ruppia maritima</i> in Carmarthen Bay and Estuaries Spatial Area of Conservation (SAC). 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2004 - 2004	State - Condition									x	x
98	Intertidal Monitoring of <i>Sabellaria</i> Reef in Cardigan Bay Special Area of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2008	State - Condition									x	x
99	Intertidal Monitoring of <i>Sabellaria alveolata</i> Reefs in Pen Llŷn a'r Sarnau Special Area of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2012	State - Condition									x	x

100	Intertidal Monitoring of Saltmarsh Extent in Carmarthen Bay and Estuaries Special Areas of Conservation (SAC). 2009.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2009 - 2009	State - Condition										x	x	
101	Intertidal Monitoring of Sediment Communities in Carmarthen Bay and Estuaries Special Areas of Conservation (SACs) 2009.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2010 - 2009	State - Condition											x	x
102	Intertidal Monitoring of Sediment Flats in Menai Strait and Conwy Bay Special Area of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2007 - 2008	State - Condition											x	x
103	Intertidal Monitoring of Sediment Transects in Carmarthen Bay and Estuaries Special Area of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2007 - 2008	State - Condition											x	x
104	Intertidal Monitoring of the Biotope SLR.FserX.T in Carmarthen Bay and Estuaries Special Areas of Conservation (SACs) 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2004 - 2004	State - Condition											x	x
105	Intertidal Monitoring of the Biotope SLR.FserX.T in the Menai Strait and Colwyn Bay Special Areas of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2009 - 2010	State - Condition											x	x
106	Intertidal Monitoring of the Dyfi Estuary in Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). 2007.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2007 - 2007	State - Condition											x	x
107	Intertidal Monitoring of the Mawddach Estuary Biotopes in Pen Llŷn a'r Sarnau Special Areas of Conservation (SACs) 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2004 - 2004	State - Condition											x	x

108	Intertidal Monitoring of the Mawddach Estuary Sediments in Pen Llŷn ar Sarnau Special Area of Conservation (SAC). 2012.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal habitat monitoring	2012 - 2012	State - Condition									x	x
109	Intertidal Monitoring of the Number and Extent of Sea Caves, Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). 2004.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2004	State - Condition									x	x
110	Intertidal Monitoring of Tide-Swept Boulder Habitat in the Menai Strait and Conwy Bay Special Area of Conservation (SAC). 2007.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2007 - 2008	State - Condition									x	x
111	Intertidal Monitoring of Underboulder Communities in the Menai Strait and Conwy Bay Special Area of Conservation (SAC). 2004/2005.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2004 - 2005	State - Condition									x	x
112	Intertidal monitoring Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). 2013.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2013 - 2013	State - Condition									x	x
113	Intertidal Phase 1 Habitat Survey.	Lle Geoportal	Lle Geoportal		Sub-national: Local	Sub-national: Local	Intertidal habitat survey	1996 - 2005	State - Extent									x	x
114	Intertidal Special Area of Conservation (SAC). monitoring Menai Strait and Conwy Bay (2012): Evaluating intertidal seagrass beds – field survey versus remote sensing.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat monitoring	2012 - 2012	State - Condition									x	x
115	Intertidal Survey Mapping (phase 1) from Pen-ychain to Criccieth, Pen Llŷn a'r Sarnau Special Areas of Conservation (SAC). 2010.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Intertidal habitat survey	2010 - 2010	State - Condition									x	x
116	Investigation into Musculus discors Beds in Pen Llŷn a'r Sarnau (2011).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Invertebrate survey	2011 - 2011	State - Extent									x	x

117	Irish Sea Observatory.	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Tides/Waves	2001 - Present	State - Supporting services										x
118	JNCC Acoustic multibeam echosounder survey of selected sites off the north coast of Anglesey as part of the Mapping European Seabed Habitats (MESH) project (3rd Party Data).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Bathymetry survey	2005 - 2005	State - Extent										x
119	JNCC UK Art17 habitat/species distribution/range.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat/species surveys	2013	State - Condition										x
120	LiDAR Archive - CCO	CCO	CCO				LiDAR survey												x
121	LiDAR Archive - NRW	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	LiDAR survey	2015	State - Supporting services										x
122	Macrofaunal Community Monitoring on Inlets across Wales.	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Species survey	2007 - Present	State - Extent									x	x
123	Macrofaunal Community Monitoring on Saline Lagoons across Wales.	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Species survey	2006 - Present	State - Extent									x	x
124	Marine Article 17 Reporting Habitat Features.	NRW Library Catalogue	NRW Library Catalogue	EU law	National: Wales	National: Wales	Feature condition report	1899 - 2015	State - Condition										x
125	Marine Biodiversity Action Plan (BAP) Habitats and Species in Wales (Archived).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Habitat/species survey/report	1847/1899 - 2007 (archive) 2007-2018	State - Condition										x
126	Marine Biodiversity and Climate Change.	MARCLIM	MARCLIM		International	International	Habitat/species survey/report	2001-2005	State - Extent										x
127	Marine Habitat Vulnerability Assessment of the Welsh Coast - Phase 1.	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Habitat/species survey/report	2012 - 2012	State - Extent										x
128	Marine Habitats and Species Spatial Layers for Biodiversity Action Plan (BAP), NERC Act, OSPAR Convention Across Wales - GIS Dataset.	NRW Library Catalogue	NRW Library Catalogue	UK policy (statutory).	National: Wales	National: Wales	Habitat/species survey/dataset	1899 - 2015	State - Condition										x
129	Marine Intertidal Phase 1 Habitat/Species Survey Data.	NRW Library Catalogue	NRW Library Catalogue	UK law	National: Wales	National: Wales	Intertidal survey	1996 - 2005	State - Extent									x	x
130	Marine Licencing Band 1 - Habitat/SPA Sensitivity.	NRW Library Catalogue	NRW Library Catalogue	UK law	National: Wales	National: Wales		2017 - 2018	State - Extent										x

131	Marine Mammal and Marine Turtle Strandings (Welsh Coast) (3rd Party Data).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Mammal strandings	2006 - 2007	State - Extent										x
132	Marine Monitoring Drop-Down Video around North Llŷn Special Area of Conservation (SAC). 2012.	NRW Library Catalogue	NRW Library Catalogue	EU law	National: Wales	National: Wales	Drop-down video	2012 - 2012	State - Extent										x
133	Marine Non Native Species (NNS) records from Natural Resources Wales (NRW) monitoring research and ad-hoc sightings (extracted from Marine Recorder).	NRW Library Catalogue	NRW Library Catalogue		International	International	Ad-hoc monitoring - Non-native species	1998 - 2016	State - Extent									x	x
134	Marine Recorder Snapshot – Species.	JNCC	JNCC		International	International	Database	2018 - 2018	State - Extent										x
135	Marine Regulation 35 Feature Maps.	NRW Library Catalogue	NRW Library Catalogue	UK law	National: Wales	National: Wales	Feature mapping	1899 - 2015	State - Extent										x
136	Marine Renewables Atlas.	ABPmer	ABPmer		International	International	Tides/waves data collection	2001 - 2008	State - Supporting services										x
137	Marine Species Records from Skomer Marine Conservation Zone (MCZ) Marine Monitoring Programme.	NBN	NBN		International	International	Mammal surveys	1994 - 2015	State - Extent										x
138	MCS Basking Shark Watch Project.	UKDMOS	UKDMOS		International	International	Basking shark surveys	1987- 2016	State - Extent										x
139	Mean Tidal Amplitude.	Marine Institute Ireland	Marine Institute Ireland		International	International	Tide data collection	2002 - 2004	State - Supporting services										x
140	Menai Strait and Conwy Bay Special Area of Conservation (SAC). muddy gravel survey (2013).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Benthic surveys	2013 - 2013	State - Condition										x
141	Milford Haven and Daugleddau Estuary Tidally Exposed Seabed and Shores (2002).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Benthic surveys	2002 - 2002	State - Extent									x	x
142	Modelling the Sensitivity of Seabed Habitats to Combined Fishing Effects around Anglesey, North Wales (2011-2013).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Modelling	2011 - 2014	State - Extent										x
143	Monitoring of Algal Diversity and Richness on the Glacial Moraine of Sarn Badrig.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Seaweed survey	2005 - 2009	State - Extent										x

144	Monitoring of Area 392/393 Hilbre Swash.	RMA	RMA	UK law	Sub-national: Local	Sub-national: Local	Benthic surveys	2017	State - Extent										x	
145	Monitoring of Area 472 Culver Sands.	RMA	RMA	UK law	Sub-national: Local	Sub-national: Local	Benthic surveys	2017	State - Extent											x
146	Monitoring of Carbonate Reef Extent and Fish Population at Holden's Reef (2003 - 2010).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Reef and fish surveys	2004 - 2008	State - Extent											x
147	Monitoring of Invasive Non Native Species (INNS) Chinese Mitten Crabs (<i>Eriocheir sinensis</i>) on the River Dee 2007 – 2016.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Catchment	Sub-national: Catchment	Non-native species survey	2007 - 2015	State - Extent										x	x
148	Monitoring of Kelp Depth as an Indication of Turbidity in Pen Llŷn a'r Saranac Special Area of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Benthic surveys	2004 - 2009	State - Extent											x
149	Monitoring of marine mammals in the Cardigan Bay SAC: surveys from May 2003 to April 2005.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Mammal surveys	2003 - 2005	State - Extent											x
150	Monitoring of Subtidal Rocky Reef in Pembrokeshire Marine Special Area of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Subtidal survey	2005 - 2010	State - Extent											x
151	Monitoring the Dynamics of the North Llŷn Modiolus Reef.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local		2004 - 2009	State - Extent											x
152	Monitoring the Health of the North Llŷn Modiolus Reef.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local		1999 - 2009	State - Extent											x
153	Monitoring Tide-Swept Sponge Communities in the Menai Strait, Anglesey and Warrior, Pembrokeshire.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Species monitoring	2004 - 2010	State - Extent											x
154	Morfa Gwyllt Lagoon Soft Sediment Infauna Survey (2006 - 2012).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Benthic species monitoring	2006 - 2012	State - Extent											x
155	MSFD Predominant Habitat Confidence/Type.	Marine Institute Ireland	Marine Institute Ireland	EU law	International	International	Habitat mapping/analysis		State - Extent											x
156	National Tide and Sea Level Facility.	UKDMOS	UKDMOS		International	International	Tide gauge	1915 - Present	State - Supporting services										x	x
157	Non-native Species Secretariat.	UKDMOS	UKDMOS		International	International	Non-native species database	2008 - Present	State - Extent										x	x

158	North West Anglesey tidally exposed seabed and shores (2003-2004).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Intertidal surveys	2003 - 2003	State - Extent									x	x
159	NRW Benthic Rock Monitoring.	UKDMOS	UKDMOS		National: Wales	National: Wales	Benthic surveys	1998 - Present	State - Extent										x
160	NRW Benthic Subtidal Sediment Monitoring Survey.	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Subtidal surveys	2004 - Present	State - Extent										x
161	NRW Evidence Report No. 194 - Grey Seal Breeding Census Skomer Island 2016.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Seal survey	2016	State - Extent									x	x
162	NRW Evidence Report No. 195 - Skomer MCZ Grey Seal Survey Marloes Peninsula 1992-2016.	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Seal survey	1992 - 2016	State - Extent										x
163	NRW Grey Seal Monitoring.	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Seal survey	1974 - Unknown	State - Extent									x	x
164	NRW Intertidal Monitoring Surveys.	UKDMOS	UKDMOS		National: Wales	National: Wales	Intertidal surveys	2004 - 2018	State - Extent									x	x
165	NRW Lagoon soft sediment survey.	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Sediment surveys	2006 - 2018	State - Extent									x	x
166	NRW Shellfish Stock (bird food) Monitoring.	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Shellfish survey	2004 - 2009	State - Extent									x	x
167	NRW Skomer Marine Nature Reserve Monitoring.	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Habitat and species monitoring	1974 - Unknown	State - Condition										x
168	NRW_Across_Wales_drop_down_video_monitoring.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Drop-down video	2007 - 2010	State - Extent										x
169	OBIS Seemap	OBIS	OBIS		International	International	Bird mapping		State - Extent										x
170	Opportunistic Macroalgae Monitoring.	UKDMOS	UKDMOS		International	International	Seaweed survey	2007 - 2017	State - Extent									x	x
171	OSPAR Habitats	EMODnet	EMODnet	International law / conventions.	International	International	Habitat surveys/mapping	2015 - 2017	State - Extent										x
172	Pembrokeshire Marine / Sir Benfro Forol Special Area of Conservation (SAC). Grey Seal (<i>Halichoerus grypus</i>) Monitoring 2005.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Local	Sub-national: Local	Seal survey	1995 - 2005	State - Extent									x	x
173	Phase 2 Saltmarsh Survey of Wales.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Saltmarsh survey	1993 - 2003	State - Condition									x	x

174	Priority Marine Habitats of Wales: Blue Mussel Beds (<i>Mytilus edulis</i>).	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1982 - 2009	State - Extent										x	x
175	Priority Marine Habitats of Wales: Carbonate Reefs.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	2002 - 2010	State - Extent											x
176	Priority Marine Habitats of Wales: Coastal Saltmarsh.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1993 - 2006	State - Extent										x	x
177	Priority Marine Habitats of Wales: Estuarine Rock.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1978 - 2011	State - Extent										x	x
178	Priority Marine Habitats of Wales: Fragile Sponge and Anthozoan.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1978 - 2009	State - Extent											x
179	Priority Marine Habitats of Wales: Honeycomb Worm (<i>Sabellaria</i>) Reefs.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	2005 - 2010	State - Extent										x	x
180	Priority Marine Habitats of Wales: Horse Mussel (<i>Modiolus modiolus</i>) Beds.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1966 - 2009	State - Extent											x
181	Priority Marine Habitats of Wales: Intertidal Mudflats.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	2003 - 2004	State - Extent										x	x
182	Priority Marine Habitats of Wales: Intertidal Underboulder.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1982 - 2008	State - Extent										x	x
183	Priority Marine Habitats of Wales: Maerl.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1985 - 2005	State - Extent											x
184	Priority Marine Habitats of Wales: Oyster Beds (<i>Ostrea edulis</i>).	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1998 - 1998	State - Extent											x
185	Priority Marine Habitats of Wales: Peat and Clay.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1995 - 2005	State - Extent											x
186	Priority Marine Habitats of Wales: Saline Lagoons.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	2001 - 2001	State - Extent											x
187	Priority Marine Habitats of Wales: Seagrass Beds.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1935 - 2009	State - Extent										x	x
188	Priority Marine Habitats of Wales: Sheltered Muddy Gravel.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1985 - 2004	State - Extent											x

189	Priority Marine Habitats of Wales: Subtidal Mixed Muddy Sediments.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1982 - 2011	State - Extent									x
190	Priority Marine Habitats of Wales: Subtidal Sand and Gravels.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1960 - 2012	State - Extent									x
191	Priority Marine Habitats of Wales: Tideswept Channels.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	National: Wales	National: Wales	Species/habitat survey	1977 - 2009	State - Extent									x
192	Priority Marine Habitats of Wales: Sea Pens.	NRW Library Catalogue	NRW Library Catalogue	Wales, only: Legislation	Sub-national: Local	Sub-national: Local	Species/habitat survey	1997 - 2014	State - Extent									x
193	Radioactivity Monitoring Programme (England and Wales).	UKDMOS	UKDMOS		Sub-national: Local	Sub-national: Local	Contaminants (not heavy metals) sampling	1969 - Present	Pressure									x
194	Review of Side-Scan Sonar Results from North Llŷn Modiolus Reef.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Side-scan sonar	2007 - 2007	State - Extent									x
195	Revised Phase III Data Analysis of Joint Cetacean Protocol.	JNCC	JNCC		International	International	Cetacean survey analysis	2016	State - Extent									x
196	Risso's Dolphin (<i>Grampus griseus</i>) Surveys Conducted in North Wales (2012).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Risso's dolphin survey	2012 - 2012	State - Extent									x
197	Rocky Shore Macroalgae Monitoring.	UKDMOS	UKDMOS		National: Wales	National: Wales	Seaweed survey	2005 - Present	State - Extent								x	x
198	SAC Monitoring: Afon Tywi Shad Egg Survey (2012).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish egg survey	2012 - 2014	State - Extent								x	x
199	SAC Monitoring: Lamprey in the River Dee (2011).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish survey	2011 - 2011	State - Extent								x	x
200	SAC Monitoring: Lamprey in the River Usk (2011).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish survey	2011 - 2011	State - Extent								x	x
201	SAC Monitoring: Lamprey Monitoring Data for River Teifi 2012/2013.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish survey	2012 - 2013	State - Extent								x	x
202	SAC Monitoring: Lamprey Monitoring for the Afon Cleddau (2012).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish survey	2012 - 2012	State - Extent								x	x
203	SAC Monitoring: Lamprey Monitoring for the River Wye (2012).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish survey	2007 - 2013	State - Extent								x	x
204	SAC Monitoring: Otter in the Afon Gwyrfa and the Dyfi Estuary (2006).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Otter survey	1991 - 2002	State - Extent								x	x

205	SAC Monitoring: Otter in the Afon Mawddach catchment area (2006).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Otter survey	1991 - 2006	State - Extent									x	x
206	SAC Monitoring: Otter in the Afon Teifi Catchment Area (2004).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Otter survey	2004	State - Extent									x	x
207	SAC Monitoring: Otter in the Afon Tywi Catchment Area (2005).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Otter survey	2004 - 2004	State - Extent									x	x
208	SAC Monitoring: Otter in the River Usk Catchment Area (2005).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Otter survey	2005 - 2004	State - Extent									x	x
209	SAC Monitoring: Otter in the River Wye SAC and catchment area (2006).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Otter survey	1981 - 2006	State - Extent									x	x
210	SAC Monitoring: Shad Egg Survey on the River Usk (2013 - 2018).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish egg survey	2012 - 2018	State - Extent									x	x
211	SAC Monitoring: Shad Egg Survey on the River Wye (2011).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish egg survey	2011 - 2011	State - Extent									x	x
212	SAC Monitoring: Shad Egg Survey on the River Wye (2017).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish egg survey	2012 - 2018	State - Extent									x	x
213	SAC Monitoring: Shad Egg Survey River Usk and River Wye (2012).	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish egg survey	2012 - 2012	State - Extent									x	x
214	SAC Monitoring: Twaite (<i>Alosa fallax</i>) and Allis (<i>Alosa alosa</i>) Shad egg survey of the River Usk.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Catchment	Sub-national: Catchment	Fish egg survey	2010 - 2011	State - Extent									x	x
215	Saltmarsh Extents.	Environment Agency	Environment Agency		International	International	Saltmarsh survey	2009 - 2014	State - Extent									x	x
216	Sarns Cynfelyn to the Dyfi Estuary : habitat and cetacean survey 2006 / 2007.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Cetacean survey	2006 - 2007	State - Extent										x
217	SCANS	SCANS	SCANS		International	International	Cetacean survey	2016	State - Extent										x
218	Seabed Substrate	EMODnet	EMODnet		International	International	Substrata surveys	2016	State - Extent										x
219	Seabird 2000	JNCC	JNCC		International	International	Bird survey	1998 - 2002	State - Extent										x
220	Seabird colony full data	JNCC	JNCC		International	International	Bird survey	1986 - 2010	State - Extent										x
221	Seabird Monitoring Programme	UKDMOS	UKDMOS		International	International	Bird survey	1986 - 2018	State - Extent										x
222	Seabirds at Sea	UKDMOS	UKDMOS		International	International	Bird survey	1979 - 2002	State - Extent										x
223	Seabirds at Sea Evidence Base	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Bird survey	1980 - 2009	State - Extent										x
224	Seal pelage and Photo ID monitoring Wales (2005-2013).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Seal photo-ID	2005 - 2014	State - Extent									x	x

225	Sediment Core Sampling of Seagrass (<i>Zostera</i>) Bed and Sediment Areas in Porth Dinllaen.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Sediment core sampling	2012 - 2012	State - Extent									x	x
226	Severn Estuary SAC Monitoring.	Data.gov.uk	Data.gov.uk	EU law	Sub-national: Estuary	Sub-national: Estuary	Habitat/species monitoring	2016 - 2016	State - Condition									x	x
227	Severn Estuary Special Area of Conservation (SAC). and Special Protection Area (SPA): Intertidal Mudflats and Sandflats Condition Assessment 2012.	NRW Library Catalogue	NRW Library Catalogue	EU law	Sub-national: Estuary	Sub-national: Estuary	Intertidal monitoring	2012 - 2012	State - Condition									x	x
228	Shellfish Biotoxin Monitoring Programme England/Wales (Shellfish Hygiene).	UKDMOS	UKDMOS		National: England and Wales	National: England and Wales	Biological sampling Contaminants (not heavy metals) analysis	2001 - Present	Pressure										x
229	Shellfish Classification Monitoring England/Wales - Microbiological Contamination (Shellfish Hygiene).	UKDMOS	UKDMOS		National: England and Wales	National: England and Wales	Biological sampling Microbial (coliforms) analysis	1992 - 2018	Pressure										x
230	Skomer Marine Conservation Zone (MCZ) - Marine Monitoring Programme Overview.	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1975 - 2013	State - Condition										x
231	Skomer Marine Conservation Zone (MCZ) - Monitoring Grey Seals (<i>Halichoerus grypus</i>).	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1985 - 2008	State - Condition									x	x
232	Skomer Marine Conservation Zone (MCZ) - Monitoring Littoral Communities Macro scale.	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1987 - 2009	State - Condition									x	x
233	Skomer Marine Conservation Zone (MCZ) - Monitoring Littoral communities Meso scale.	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1979 - 2009	State - Condition									x	x
234	Skomer Marine Conservation Zone (MCZ) - Monitoring of King Scallop (<i>Pecten maximus</i>).	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1979 - 2017	State - Condition										x
235	Skomer Marine Conservation Zone (MCZ) - Monitoring of nudibranch species.	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1975 - 2010	State - Condition										x

236	Skomer Marine Conservation Zone (MCZ) - Monitoring of Red Sea Fingers (<i>Alcyonium glomeratum</i>).	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1982 - 2009	State - Condition									x
237	Skomer Marine Conservation Zone (MCZ) - Monitoring Scarlet and Gold Cup Coral (<i>Balanophyllia regia</i>).	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1985 - 2008	State - Condition									x
238	Skomer Marine Conservation Zone (MCZ) - Subtidal Monitoring Project - Animal Communities on Stones.	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1987 - 1988	State - Condition									x
239	Skomer Marine Conservation Zone (MCZ) - <i>Zostera marina</i> (Eelgrass). Monitoring.	NRW Library Catalogue	NRW Library Catalogue	UK law	Sub-national: Local	Sub-national: Local	Habitat/species monitoring	1982 - 2006	State - Condition								x	x
240	Spawning and Nursery Grounds of Selected Fish in UK Waters.	Cefas	Cefas		International	International	Fish survey	2011 - 2012	State - Condition									x
241	St. George's Pier, Menai Strait (Irish Sea) data set (1955 -).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Tides/Waves monitoring	1955 - Present	State - Supporting services									x
242	STAR (Seabird Tracking and Research).	RSPB	RSPB		International	International	Bird tracking	2010 - 2018	State - Extent									x
243	Subtidal habitat diversity layer (2010).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Habitat data layer	1968 - 2008	State - Extent									x
244	Surveys of Sea Caves in Welsh Special Areas of Conservation (SAC).	NRW Library Catalogue	NRW Library Catalogue	EU law	National: Wales	National: Wales	Sea cave survey	2000 - 2002	State - Condition									x
245	TCE Meteorological Equipment.	TCE	TCE		Sub-national: Local	Sub-national: Local	Wind measurements	2018	State - Supporting services									x
246	The Dee Estuary Biotope Survey.	Natural England	Natural England		Sub-national: Estuary	Sub-national: Estuary	Biotope survey	2004 - 2004	State - Extent								x	x
247	The identification of discrete and persistent areas of relatively high harbour porpoise density in the wider UK marine area.	JNCC	JNCC		International	International	Harbour porpoise density analysis	1994 - 2011	State - Extent									x
248	Towed Video Surveys off the Coastline of the Llŷn Peninsula North Wales (2013).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Drop-down video	2013 - 2013	State - Extent									x
249	Toxic Phytoplankton Monitoring Programme England/Wales (Shellfish Hygiene).	UKDMOS	UKDMOS		International	International	Phytoplankton/zooplankton survey	1975 - Present	Pressure									x

250	Twite (<i>Carduelis flavirostris</i>) Breeding Season Survey, Wales 2008.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Fish survey	2008 - 2008	State - Extent									x	
251	UK Article 17 Habitats: Annual vegetation of drift lines.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	1989	State - Condition									x	x
252	UK Article 17 Habitats: Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>).	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	1987 - 2010	State - Condition									x	x
253	UK Article 17 Habitats: Coastal lagoons.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	2006 - 2010	State - Condition									x	x
254	UK Article 17 Habitats: Estuaries.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	2007 - 2012	State - Condition									x	x
255	UK Article 17 Habitats: Large shallow inlets and bays.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	2007 - 2012	State - Condition									x	x
256	UK Article 17 Habitats: Mudflats and sandflats not covered by seawater at low tide.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	1996 - 2010	State - Condition									x	x
257	UK Article 17 Habitats: Reefs.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	2007 - 2012	State - Condition									x	x
258	UK Article 17 Habitats: Salicornia and other annuals colonising mud and sand.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	1989 - 2004	State - Condition									x	x
259	UK Article 17 Habitats: Sandbanks which are slightly covered by sea water all the time.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	2007 - 2012	State - Condition										x
260	UK Article 17 Habitats: Submerged partially submerged sea caves.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	1975 - 2011	State - Condition									x	x
261	UK Article 17 Habitats: Vegetated sea cliffs of the Atlantic and Baltic coasts.	JNCC	JNCC	EU law	National: Wales	National: Wales	Habitat surveys/reporting	1987 - 2011	State - Condition									x	x
262	Volunteer Diver Seagrass <i>Zostera marina</i> Surveys Porth Dinllaen (2009).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Diver surveys	2009 - 2009	State - Extent									x	x
263	Volunteer Diver Seagrass <i>Zostera marina</i> Surveys, Llŷn Peninsula and Milford Haven (2008).	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Diver surveys	2008	State - Extent									x	x
264	Water Framework Directive (WFD) Acid Sensitive Waterbodies Cycle 2.	NRW Library Catalogue	NRW Library Catalogue	EU law	International	International	Contaminants (not heavy metals) sampling	2013 - 2015	Pressure									x	x

265	Water Framework Directive (WFD) Coastal Waterbodies Cycle 1.	NRW Library Catalogue	NRW Library Catalogue	EU law	International	International	Contaminants (not heavy metals) sampling	2008 - 2013	Pressure									x	x
266	Water Framework Directive (WFD) Coastal Waterbodies Cycle 2.	NRW Library Catalogue	NRW Library Catalogue	EU law	International	International	Contaminants (not heavy metals) sampling	2013 - 2015	Pressure									x	x
267	Water Framework Directive (WFD) Ground Waterbodies Cycle 2.	NRW Library Catalogue	NRW Library Catalogue	EU law	International	International	Contaminants (not heavy metals) sampling	2014 - Present	Pressure									x	x
268	Water Framework Directive (WFD) Saltmarsh monitoring.	UKDMOS	UKDMOS	EU law	International	International	Habitat/species surveys	2007 - Present	State - Extent									x	x
269	Water Framework Directive (WFD) Seagrass Monitoring.	UKDMOS	UKDMOS	EU law	International	International	Habitat/species surveys	2007 - Present	State - Extent									x	x
270	Water Framework Directive (WFD) TraC Benthic Invertebrate Monitoring Programme.	UKDMOS	UKDMOS	EU law	International	International	Habitat/species surveys	2006 - Present	State - Extent									x	x
271	Water Framework Directive (WFD) TraC fucoid extent.	Environment Agency	Environment Agency	EU law	International	International	Habitat/species surveys	2015 - Present	State - Extent									x	x
272	Water Framework Directive (WFD) TraC opportunistic macroalgae.	Environment Agency	Environment Agency	EU law	International	International	Habitat/species surveys	2015 - Present	State - Extent									x	x
273	Water Framework Directive (WFD) TraC rocky shore.	Environment Agency	Environment Agency	EU law	International	International	Habitat/species surveys	2007 - 2015	State - Extent									x	x
274	Water Framework Directive (WFD) Transitional Fish Population Monitoring.	UKDMOS	UKDMOS	EU law	International	International	Fish surveys	2006 - 2018	State - Extent									x	x
275	Water Framework Directive (WFD) Transitional Waterbodies Cycle 1.	NRW Library Catalogue	NRW Library Catalogue	EU law	International	International	Contaminants (not heavy metals) sampling	2008 - 2013	Pressure									x	x
276	Water Framework Directive (WFD) Transitional Waterbodies Cycle 2.	NRW Library Catalogue	NRW Library Catalogue	EU law	International	International	Contaminants (not heavy metals) sampling	2013 - 2015	Pressure									x	x
277	Wave Buoy Data.	CCO	CCO				Tides/wave monitoring		State - Supporting services										x
278	WaveNet.	UKDMOS	UKDMOS		National: Wales	National: Wales	Tides/wave monitoring	2002 - 2018	State - Supporting services										x
279	Welsh coastal habitats as calving and nursery grounds for the harbour porpoise (<i>Phocoena phocoena</i>).	NRW Library Catalogue	NRW Library Catalogue		National: Wales	National: Wales	Harbour porpoise habitat analysis	1989 - 1999	State - Extent										x

280	West Coast International Bottom Trawl Survey Quarter 4.	UKDMOS	UKDMOS		International	International	Bottom trawl survey	2004 - 2007	State - Extent										x	
281	West Wales Grey Seal Census 1991 to 1994.	NRW Library Catalogue	NRW Library Catalogue		Sub-national: Local	Sub-national: Local	Seal survey	1991 - 1994	State - Extent										x	
282	Western Approaches International Bottom Trawl Groundfish Survey - Qtr 4.	UKDMOS	UKDMOS		International	International	Bottom trawl survey	2002 - 2018?	State - Extent										x	
283	Wetland Bird Survey (WeBS).	UKDMOS	UKDMOS		International	International	Bird survey	1953 - 2018	State - Extent										x	x
284	When aerial surveys will not do: Grey seal pup production in cryptic habitats of Wales.				Sub-national: Local	Sub-national: Local	Seal survey	2004 - 2004	State - Extent										x	x
285	Seabird Monitoring Program.	JNCC	JNCC (Partners = BTO, Birdwatch Ireland, CEH, NRW, DEFRA (IoM), DEHLG (RoI), States of Guernsey Gov, Manx Birdlife, Manx National Heritage, National Trust, DAERA NI, RSPB, SNH, The seabird group, Shetland Oil Terminal Env Adv Group, SWT)	tbd	Annual monitoring program in Britain and Ireland	National: UK & Ireland	Samples data on breeding number and success of seabirds by monitoring whole colonies and counts of sample plots (that are representative of the colony as a whole). Breeding success, adult survival & diet collected.	2007	State - Diversity										x	x
286	Waterbird roost count survey.	British Trust for Ornithology	BTO (Partners = NRW)	Policy relevant but not policy driven (SPA and SACs covered).	16 SSSIs and 5 SPAs	National: Wales	High tide waterbird roosts in SPAs and SSSIs will be counted by WeBS recorders (species, tidal state, habitat, activities). Not started yet.	Not started yet	State - Diversity										x	
287	GMEP	British Trust for Ornithology (birds)	Welsh Government/CEH/BTO + others in consortium for other species/habitats	tbd	300 1km Squares covered in Wales with ~24 on the coast	National: Wales	300 Squares (for which we had access to varied proportions of land) were divided up over the four years and 4 visits (reduced to 3 later on) were made to counts all species seen within 50m of every point in the square plus habitat between late March and mid-July.	2013-2016	State - Diversity	x	x	x	x	x	x	x	x			
288	WeBS - Wetland Bird Survey.	British Trust for Ornithology	BTO (Partners = RSPB/JNCC/WWT)	Policy relevant but not policy driven (SPA and SACs covered).	425 coastal sites in UK and 48 for Wales in 2016	National: UK	WeBS sectors allocated and surveys of all waterbirds seen or heard are made on pre-determined dates at high tide each month. Principally during non-breeding season.	1947 (as National Wildfowl Counts)	State - Diversity										x	x
289	WeBS Low Tide Counts - Wetland Bird Survey.	British Trust for Ornithology	BTO (Partners = RSPB/JNCC/WWT)	Policy relevant but not policy driven (SPA and SACs covered).	51 in UK 11 sites in Wales	National: UK	Same for Core counts in WeBS sectors but at low tide and not on specific dates but once per month November-February.	1992	State - Diversity										x	x

290	NEWS - Non-estuarine waterbird survey.	British Trust for Ornithology	BTO (Partners = RSPB/JNCC/WWT/Birdwatch Ireland)	Policy relevant but not policy driven (SPA and SACs covered).	In latest survey period 53% of UK (9183 of 17377 km) but 1084 of 1185 km covered (91%) of Wales	National: UK	2km sectors of non-estuarine coastline were surveyed for all birds and mammals in conjunction with the Wetland Bird Survey with a single visit to their chosen sector(s) between 1st December and 31st January (extended one year due to adverse conditions)	1997	State - Diversity										x	
291	BBS - Breeding Bird Survey.	British Trust for Ornithology	BTO (Partners = RSPB/JNCC)	Policy relevant but not policy driven.	3941 1km squares in UK total. 337 in Wales of which ~50 within LSI zone	National: UK	1km squares allocated and 2 x 1km transects walked during early morning with all birds counted by sight and sound 4 weeks apart. Mammals and habitat recorded at most sites, butterflies at some.	1994	State - Extent	x	x	x	x	x	x	x	x			
292																				
293	WBBS - Waterways Breeding Bird Survey.	British Trust for Ornithology	BTO (Partners = Environment Agency)	Policy relevant but not policy driven.	300 canal and river sites in UK. 23 in Wales of which ~8 near LSI	National: UK	Two counting visits between April and June (1 before and after Mid May) on a 500m section plus habitat. For 24 selected species.	1998	State - Diversity										x	x
294	Heronries Census	British Trust for Ornithology	BTO	Ongoing regular monitoring program (not linked to policy).	2605 historical sites in UK, with 233 of those in Wales. 94 heronries were checked in 2018 with 70 occupied.	National: UK	Heronries are allocated and 2-3 visits are made to count the number of nests/pairs of Grey Herons and Little Egrets and their habitats. Many sites are historical and are being now being checked for new occupancy - any vacant for many years will be removed.	1928	State - Extent					x	x	x	x			
295	BirdTrack	British Trust for Ornithology	BTO (Partners = RSPB/Birdwatch Ireland/SOC/WOS/BirdLife International)	Ongoing regular record collection programme (not linked to policy).	6million records per year for whole of UK	Worldwide, 90% from UK	Recordings of bird species made on an adhoc basis into database via app/website, with complete lists encouraged to provide context/recording effort. Date, time, weather, count of birds and location all recorded as well.	Started with Migration Watch in 2002, renamed BirdTrack in 2004 (NB. historic records also being input)	State - Diversity	x	x	x	x	x	x	x	x	x		
296	Bird Atlas	British Trust for Ornithology	BTO (Partners = SOC/BirdWatch Ireland)	Policy relevant but not policy driven.	Whole of UK & Ireland covered by 3844 10km squares. In Wales almost all the coast was covered	National: UK & Ireland	Over 4 winters and 4 breeding seasons timed tetrad visits and roving records recorded all birds by sight or sound. A pair in the winter and a pair in the summer. 10km squares with 25 2x2km tetrads within them (minimum 8).	2007	State - Extent	x	x	x	x	x	x	x	x	x		
297	Urban Gull Survey	British Trust for Ornithology	BTO/DEFRA	Policy relevant but not policy driven.	Will be carried on North Wales coast but final locations undecided	England and Wales (specific locations)	Comparisons of aerial surveys from planes vs. vantage point surveys from the ground. Birmingham complete and North Wales to come.	2018	State - Diversity						x		x			
298																				
299																				

300	Chough	Cross & Stratford Welsh Chough Project	Cross & Stratford Welsh Chough Project	Research agendas	Yearly monitoring from Ceredigion, Merionethshire, Caernarvonshire & Anglesey	National: Wales	Yearly monitoring of all known breeding chough colonies/nests in the survey area. Ringing, colour ringing and biometrics of all chicks and some adults. >50% chick in mid and north Wales covered.	1991	State - Extent										x		
301	Great Orme	RSPB	RSPB	?	Annually	Sub-national: Local	?	?	State - Diversity		x								x	x	
302	Skerries Islands	RSPB	RSPB	?	Annually	Sub-national: Local	?	?	State - Diversity										x	x	
303	Puffin Island	SCAN ringing group/Liverpool University	SCAN ringing group/Liverpool University	Research agendas	Yearly monitoring with supplemental visits	Sub-national: Local	Several ringing and monitoring trips made to the island each summer for all seabirds.	~1975	State - Extent										x	x	
304	Skomer Island	SWWT	SWWT/Oxford and Sheffield Universities	Research agendas	Yearly monitoring with supplemental visits	Sub-national: Local	Annual monitoring whilst wardens and scientists on the islands, as a Bird Observatory it takes additional surveys and runs bird ringing too.	~1946	State - Diversity		x								x	x	
305	Skolkholm Island	SWWT	SWWT	?	Yearly monitoring	Sub-national: Local	Annual monitoring whilst wardens and scientists on the islands	?	State - Diversity		x								x	x	
306	Cemlyn Bay	NWWT	NWWT	?	Yearly monitoring	Sub-national: Local	?	?	State - Diversity										x	x	
307	National well-being indicators: Indicator 32 - Number of properties (homes and businesses) at medium (1:30 to 1:100 annual flooding) or high risk (greater than 1:30 chance of annual flooding) of flooding from rivers and the sea.	NRW	NRW	Well-being of Future Generations (Wales) Act 2015.	County	Wales	National Flood Risk Assessment (NaFRA) and National Property Dataset used to determine number of properties at risk, taking into account type, location and condition of flood defences and chance of these being overtopped or breached.	Last updated January 2017, next update due 2019	State - Diversity										x		
308	National well-being indicators: Indicator 43 - Areas of healthy ecosystems in Wales.	NRW	NRW	Well-being of Future Generations (Wales) Act 2015.	Wales	Wales	Satellite imagery (2016-17 imagery) - experimental methodology. Extent of terrestrial semi-natural habitat, presented as losses and gains of broad habitat group by area (hectares).	2018	State - Diversity	x	x	x	x	x	x	x	x	x	x	x	x
309	National well-being indicators: Indicator 44 - Status of biological diversity in Wales.			Well-being of Future Generations (Wales) Act 2015.		Wales	Measured using the methodology for the 'UK biodiversity indicator C4b: status of priority species (distribution)'. Indicator compiled by JNCC. Work commissioned via ERAMMP programme to explore the potential of the available (and primarily terrestrial) Welsh data on biodiversity to develop an appropriate Welsh biodiversity	Indicator under development	State - Diversity	x	x	x	x	x	x	x	x	x			

							indicator for using future monitoring.											
310	National well-being indicators: Indicator 45 - percentage of surface water bodies and groundwater bodies achieving good or high overall status.		NRW	Water Framework Directive (The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017). Also reinforced through national well-being indicators required through the Well-being of Future Generations (Wales) Act 2016l.		Wales	Indicator is derived from the River Basin Management Plans for Wales (as required by the Water Framework Directive). Note that 'surface water' includes rivers, canals, lakes, estuaries and coastal water bodies	see WFD entry below	State - Condition								x	x
311	OSPAR convention 1998 - Oslo and Paris Conventions: contaminant monitoring.	NRW	NRW?	OSPAR - Oslo and Paris Conventions to protect the marine environment of the North-East Atlantic (with the objective to take all possible steps to prevent and eliminate pollution entering the sea). The programme monitors principle rivers, as well as estuaries and coastal waters. The OSPAR Commission is also promoting the establishment of a network of well-managed Marine Protected Areas (MPAs) in the North-East Atlantic. OSPAR MPAs in the UK therefore form all or part of an existing UK protected area, up to mean high water.			The OSPAR Convention provides standard methods for estimating the inputs of selected pollutants to the sea by using fixed sampling schedule and a standard input calculation. The substances controlled under OSPAR are: Mercury, Cadmium, Copper, Zinc, Lead, PCB, gamma-HCH, Orthophosphate, Phosphorous (total), Nitrate, Nitrogen (total) and suspended particulate material. The load of contamination to the sea is measured at over 300 sites around the coast of England and Wales. These sites have been grouped into thirty two coastal zones. OSPAR data is updated annually approximately 6 months through the year for the previous year. Data held ranges from 1998 to the present. It's high/low based on twelve annual samples. This product provides a pair of annual estimates for each sampling point, known as high load, and low load. [see Ospar Govt dataset ¹].	1998	State - Condition									x

¹ <https://data.gov.uk/dataset/afbd42-1a5a-4a6f-b9a9-e118a692f3a9/ospar>

312	Skomer Marine Conservation Zone.	NRW	NRW	Driven by the Marine and Coastal Access Act 2009. This is the only stretch of water in Wales with Marine Conservation Zone status, established 2014 (previously a Marine Nature Reserve for 24yrs). Byelaws are also in place.			Mainly biological monitoring of seabed organisms. An extensive research and monitoring programme operates that aims to broaden our knowledge and understanding of the marine species, communities and habitats found in the MCZ and an annual summary report and annual scientific reports are produced. Includes e.g. scallop survey, grey seal breeding, nudibranch diversity and <i>Echinus esculentus</i> and selected starfish species etc. (See Skomer Marine Conservation Zone ²)		State - Diversity						x	x
313	Natura 2000 network in Wales - SACs and SPAs.			Designated and managed under terms of the Birds Directive 1979 (Special Protection Areas) and Habitats Directive 1992 (Special Areas of Conservation). In the UK, SACs and SPAs are established through the Conservation of habitats and species regulations 2017 and the Conservation of offshore marine habitats and species Regulations 2017. Further support through the LIFE Natura 2000 Programme for Wales (2012-2015), which set out the requirements for the management and restoration of the Natura 2000 network (led by NRW), outlining a prioritised programme of actions to 2020.			Wide range of habitat and species features designated under Natura 2000 and associated monitoring varies. This includes coastal and island sites and Marine and estuarine sites. There are 13 marine habitats and 8 marine species present in the UK that are listed on Annexes I and II of the Habitats Directive (See SAC Marine Habitats ³).		State - Diversity						x	x

² <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/skomer-marine-conservation-zone/?lang=en>

³ <http://jncc.defra.gov.uk/page-4166>

314	European Marine Sites			<p>EMS (as defined by the Habitats Regulations) refers to those marine areas of both Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), which are protected under the EC Habitats and Birds Directives. These areas range from entirely subtidal to exclusively intertidal (the landward boundary should be considered the limit of intermittent cover by tides at the extreme top of the shore). ‘European Marine Site’ is not a statutory site designation: these areas are essentially management units for those parts of Natura 2000 sites which extend beyond the Site of Special Scientific Interest (SSSI) designations in the UK. Intertidal European Marine Sites are often managed through underlying SSSI/ASSI designations as they lie above the low water mark and/or within local planning authority boundaries. Regulation 33 (GB) of the Habitats Regulations, and Regulation 18 of the Offshore Habitats Regulations requires that the appropriate nature conservation body (i.e. NRW) communicate the conservation objectives for the site to the relevant/competent authorities. They must also advise the relevant/competent authorities of operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, for which the European Marine Site has been designated. (source</p>		See SSSI and SPA (Natura 2000) monitoring		State - Diversity							x	x
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				JNCC - see Management of the UK's EMS⁴ .														
315	Sites of Special Scientific Interest (SSSIs).			Legally protected under the Wildlife and Countryside Act 1981 (as amended). The Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way. Schedule 5 lists animals (other than birds) which are specially protected, and Schedule 8 lists plants (vascular plants, bryophytes, lichens and fungi) which are specially protected (there is a statutory five-yearly review of these Schedules). Many SSSIs are also designated under other schemes too (e.g. European Marine Sites, Natura 2000).					State - Condition	x	x	x	x	x	x	x	x	x
316	Ramsar sites x10 in Wales.			Wetlands of international importance designated under the Ramsar Convention. Many are SSSI sites and legally protected under the Wildlife and Countryside Act 1981, or are Special Protection Areas (SPAs) classified under the Birds Directive.			See SSSI and SPA (Natura 2000) monitoring		State - Condition						x	x		

⁴ <http://jncc.defra.gov.uk/page-4215>

317	The Dyfi Biosphere Wales.			UNESCO's Man and the Biosphere programme is an intergovernmental science programme focused on sustainable development. X1 reserve in Wales. The UK Man and the Biosphere Committee oversees the activities in the UK. The designation is voluntary rather than statutory. From 2014 to 2016, Natural Resources Wales worked with stakeholders in the Dyfi to help them develop a vision for how to manage the area's natural resources. This was one of three pilots of Wales' new joined-up approach.			It's not clear what direct monitoring takes place		State - Condition	x	x	x	x	x	x	x	
318	Biogenetic Reserve in Wales – Rhinog, north west Wales.			The Biogenetic Reserves network aims to conserve examples of European flora, fauna and natural areas. This means that a wild 'store' of genetic material - the genes of plants and animals - is kept for the future, hence the term biogenetic.			It's not clear what direct monitoring takes place		State - Diversity	x	x	x	x		x		

319	Water Framework Directive - Transitional waters (estuaries) and coastal waters.	NRW manage the Western Wales RBD and there is joint management between NRW and the EA for the transboundary river basins districts for the Dee and Severn.		Water Framework Directive- In the UK this was transposed through the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 and subsequently amended and consolidated in The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. Aim to halt deterioration in the status of EU water bodies and achieve 'good status' for Europe's inland surface waters (rivers, lakes), transitional waters (estuaries), coastal waters and groundwater. River Basin Management Plans must be produced (and reviewed every 6 years) for River Basin District - the area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters . The first RBMPs were produced in 2009, then 2015 (with the next iterations due in 2021). Monitoring is outlined in the The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Part 4).		River Basin District	Monitoring for <i>ecological status</i> (an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters); and chemical status to monitor concentrations of pollutants. Numerous quality elements are listed under distinct categories for biological elements, hydromorphological and chemical and physico-chemical elements. For the <i>surveillance monitoring</i> period, the frequencies for monitoring parameters indicative of physico-chemical quality elements are outlined; for biological or hydromorphological quality elements monitoring shall be carried out at least once during the surveillance monitoring period (see section 1.3.4). For <i>operational monitoring</i> , the frequency of monitoring required for any parameter shall be determined by Member States (as a guideline, monitoring should take place at intervals not exceeding those shown in the table). Methods used for the monitoring of type parameters shall conform to the international standards listed in the Directive (section 1.3.6).		State - Condition							x	x
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320	Bathing waters	NRW	NRW	<p>EC Bathing Water Directive (76/160/EEC) and revised Bathing Waters Directive 2006/7/EC, to preserve, protect and improve the quality of the environment and protect human health. It also seeks to improve management practices at all bathing waters and to standardise the information available to all bathers across Europe. Transposed into domestic law via The Bathing Water Regulations 2008 and subsequently replaced with The Bathing Water Regulations 2013. There are 104 designated bathing waters in Wales. Local authorities that control a bathing water must ensure that the following information is made available to the public during the bathing season.</p>			<p>2015 was the first year for reporting water quality compliance under the new Bathing Water Directive 2006/7/EC. The Bathing Waters classifications became an Official Statistic for Natural Resources Wales in 2016, with the publication of the 'Bathing Waters in Wales 2015' report. Monitoring for the revised Directive began in 2012. The Directive requires that at <i>least</i> four samples per season are taken. Currently in Wales sixteen samples are taken per season. Bathing waters are assigned one of four classifications (excellent, good, sufficient, poor), based on a dataset using 4 years of water quality data measured against the microbial standards in the Directive. Revised standards use two microbiological parameters - Escherichia coli (E. coli) and intestinal enterococci – and are to be based on 95th and 90th percentile values, which are calculated from four years of sampling data.</p>		State - Condition						x	x
321	UK biodiversity indicators		JNCC	<p>Driven by the Convention on Biological Diversity (CBD) and the biodiversity goals and targets ('the Aichi targets') agreed in 2010 and set out in the Strategic Plan for Biodiversity 2011-2020. 24 UK biodiversity indicators published by JNCC on behalf of Defra; the latest publication date was 19 January 2016. The UK indicators have a specific purpose for international reporting and were selected following consultation and agreement between the devolved administrations.</p>			<p>The biodiversity indicator B5b, Marine pollution shows changes in the relative input of six of the most hazardous substances to the UK marine environment; five heavy metals (cadmium, copper, lead, mercury, and zinc) and one organic compound, lindane (also known as gamma-hexachlorocyclohexane) (linked to OSPAR). Other relevant indicators at the land-sea interface include - B6b Marine (coastal) invasive species; C1c condition of Areas/SSSIs; C5d seabirds;</p>		State - Diversity							x

322	National Habitat Creation Programme.	NRW (behalf of WG)	NRW	Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) (Wales' Natura 2000 sites) have protection under EU Directives (Habitats and Water Framework Directives), which means plans and projects, including flood defence works, can only be undertaken and maintained if adverse effects on the designated Natura 2000 sites have been ruled out or accounted for. The creation of intertidal habitat therefore addresses the statutory need to offset the impacts from coastal squeeze on these designated conservation sites.			Offers a strategic and integrated approach to habitat creation, working alongside other NRW teams (NHCP, Area Protected Sites, Biodiversity and Flood and Operational Risk Management) to identify opportunities for compensatory habitat. <i>It's not clear how monitoring is delivered (locally at identified-sites?).</i>		State - Extent						x	
323	Intertidal Phase 1 Habitat Survey.	NRW		Survey data obtained from different intertidal communities (biotopes) in Wales and compiled into map products to provide a snap-short in time. - Survey methodology is based on 'Handbook for Marine Intertidal Phase 1 Biotope Mapping Survey'. Biotopes are based on the JNCC report 'Marine Nature Conservation Review. Further site information, including site descriptions, geomorphology, uses, impacts, target notes and habitat information is held in an accompanying database Intertidal mapped data provides an integrated information resource for Local Authority structure and development plans on the coast and for the consideration of planning applications.			The maps give important regional information about habitat and biotope distribution. They are used in the production and evaluation of Environmental Impact Assessments, assessment of sites as possible Sites of Special Scientific Interest (SSSI), as a basis for the development of sensitivity mapping, and as a baseline for developing monitoring of intertidal features in marine Special Areas of Conservation (SAC).. - Working at a scale of 1:5,000, field survey is based on using a combination of aerial photographs and Ordnance Survey (OS) maps as a template on to which the substratum and biotopes (habitat and associated biological community) are drawn. Features and other information that are not map-able are described in target notes, a site description provides general information on the whole site and further information on biotopes and species are recorded on the survey form.		State - Condition					x		

324	Marine Strategy Framework Directive - good environmental status of marine waters.	NRW (inshore) / JNCC leads on operational monitoring of MPAs in UK offshore waters (beyond 12 nautical miles).	The Marine Strategy Framework Directive 2008 (Directive 2008/56/EC) requires Member States to achieve Good Environmental Status of EU marine waters by 2020 - through the protection of marine species and habitats, prevention of human-induced decline of biodiversity and ensuring diverse biological components function in balance. In the UK, this is transposed in the Marine Strategy Regulations 2010, with further strategic direction provided in the UK Marine strategy and UK Marine Policy Statement. Requirements included the i) characterisation of what constitutes good environmental status for UK waters, including the establishment of relevant targets and indicators was required by 2012, ii) monitoring programmes required by 2014 and iii) the development (by 2015) and implementation (by 2016) of programmes of measures to achieve good environmental status by 2020. In estuaries and coastal waters there are similar requirements under the WFD for Member States to achieve good ecological status/potential by 2015. In coastal waters, which extend out to one nautical mile, both the WFD and the MSFD apply. However, in these areas the MSFD only applies for aspects of good environmental status that are not already addressed by the WFD (e.g. impacts of marine noise and litter and certain aspects of biodiversity). MSFD in coastal waters extends to 12nm for chemical status. MSFD includes coastal waters (as defined in WFD) but not WFD transitional waters (e.g. estuaries). For	UK-wide	<p>A wide-ranging descriptors which Member States must use as the basis for their more detailed characterisation of good environmental status are outlined in the Directive (Annex 1). Descriptor 1. Biodiversity is maintained • Descriptor 2. Non-indigenous species do not adversely alter the ecosystem • Descriptor 3. The population of commercial fish species is healthy • Descriptor 4. Elements of food webs ensure long-term abundance and reproduction • Descriptor 5. Eutrophication is minimised • Descriptor 6. The sea floor integrity ensures functioning of the ecosystem • Descriptor 7. Permanent alteration of hydrographical conditions does not adversely affect the ecosystem • Descriptor 8. Concentrations of contaminants give no effects • Descriptor 9. Contaminants in seafood are below safe levels • Descriptor 10. Marine litter does not cause harm • Descriptor 11. Introduction of energy (including underwater noise) does not adversely affect the ecosystem. Monitoring programmes proposed in the UK Marine Strategy refer to the period 2014-2020 (to be reviewed) (see Defra, 2014 - <i>Marine Strategy Part Two: UK Marine Monitoring Programmes</i>). The WFD is used to monitor (and deliver) certain aspects of MSFD (e.g. monitoring pollution contaminants, eutrophication and benthic habitats).</p>	State - Condition						x	x
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				estuaries, the boundary between the two Directives is the 'bay closing line' which is the seaward limit of transitional waters (as defined in WFD). Also strong links to OSPAR (for North East Atlantic) for coordination across the Marine Region).																
325	Marine Monitoring Strategy			To fulfil national and international obligations for clean, healthy and productive seas. The JNCC in cooperation with the Country Conservation Bodies developed the UK Marine Biodiversity Monitoring Strategy in order to help design a scheme for monitoring the different biodiversity components in a cost-efficient and integrative way.			Options are developed for the various biodiversity components (benthic habitats, plankton, fish & cephalopods, seals, seabirds, cetaceans and ecosystem processes & functions) which have been identified for the development of Marine Strategy Framework Directive (MSFD) biodiversity descriptors. Because monitoring can fulfil different objectives (e.g., what is the state/is there a change in the state of a species/area to be monitored, or do existing management measures fulfil their objectives?) a set of Monitoring Types was developed. Each type answers different objectives and is best suited to different survey designs. (See JNCC Marine Monitoring Strategy ⁵)		State - Condition										x	
326	Benthic habitats			The EU Marine Strategy Framework Directive requires monitoring programmes to be in place across the whole marine environment. As part of the UK-wide Marine Biodiversity Monitoring R&D Programme (which aims to develop advice on monitoring options marine biodiversity within UK territorial and offshore waters), JNCC are <i>developing options</i> for monitoring of benthic habitats in the wider environment outside of protected sites, as well as within them. See			JNCC has been asked by UK Governments to present them with different ways in which monitoring of benthic habitats could be tackled in order to fulfil our numerous requirements. Currently trying to understand what monitoring is currently going on and to determine how it could be further developed to cover this broad biological and geographical scope. The long term goal is to build a fully integrated and cost effective monitoring programme for benthic marine habitats (<i>could be useful for ERAMMP</i>). See Monitoring guidance for marine benthic habitats ⁶ published 2017		State - Diversity										x	x

⁵ <http://jncc.defra.gov.uk/page-7198%20>

⁶ <http://jncc.defra.gov.uk/page-7336>

				http://jncc.defra.gov.uk/page-7048															
327	Marine habitat mapping products.	JNCC		Numerous datasets that the JNCC maintains available at Marine Habitat Mapping Products ⁷ . Products focused on seabed habitat (classified to the EUNIS habitat classification system and Habitats Directive).			Not monitoring per se, but useful context.		State - Extent										x
328	Monitoring of inshore fisheries.			2009 Marine and Coastal Access Act. Welsh Government as the regulator of Welsh marine fisheries / NRW as statutory nature conservation advisor.					State - Diversity										x

⁷ <http://jncc.defra.gov.uk/page-6639>

329	Food safety of molluscs: Sanitary Survey.	Cefas		European food legislation requires that bivalve mollusc production areas are subject to a pollution assessment, known as a sanitary survey, are monitored for faecal contamination and classified accordingly. Requirements for regular monitoring for naturally occurring algal toxins, phytoplankton and chemical contaminants. European food safety legislation requires Member States to designate a National Reference Laboratory (NRL) to co-ordinate laboratory testing , ensure testing quality and provide scientific support. Cefas is designated as the NRL for monitoring bacteriological and viral contamination of bivalve molluscs for the UK. The Food Standards Agency (FSA) and Food Standards Scotland (FSS) has statutory responsibility for ensuring that monitoring and classification programmes are in place to meet legal requirements. Cefas manages the microbiological monitoring programme in England and Wales, on behalf of the FSA and according to an agreed protocol.			All new harvesting areas are required to have a full sanitary survey /Provisional Representative Monitoring Point (PRMP) assessment prior to the preparation of a sampling plan. The plan identifies appropriate monitoring points for the site(s) in question. (See Cefas - England and Wales Classification and Monitoring ⁸). The following information is reviewed and assessed in a sanitary survey: location and extent of the bivalve mollusc fishery type of shellfishery (species, method of harvest, seasonality of harvest) location, type and volume of sewage discharges location of river inputs and other potentially contaminated water courses (from OS maps/nautical charts) location of harbours and marinas (from OS maps/nautical charts) hydrographic and hydrometric data existing microbiological data from water quality or shellfish monitoring undertaken in the same area or adjacent areas.	State - Condition								x
330	Food safety of molluscs: Classification and microbiological monitoring.	Cefas		As above	Representative monitoring point		Bivalve mollusc (shellfish) harvesting areas are classified according to the extent of contamination shown by monitoring of E. coli in shellfish flesh (flesh sampling). The last five years' worth of E. coli data is viewable in list and graphical form for each representative monitoring point (RMP). Sampling plans are initially determined by the sanitary survey (above). (See Cefas - England and Wales Classification and Monitoring ⁹), e.g. For	State - Condition								x

⁸ <https://www.cefas.co.uk/cefas-data-hub/food-safety/classification-and-microbiological-monitoring/england-and-wales-classification-and-monitoring>

⁹ <https://www.cefas.co.uk/cefas-data-hub/food-safety/classification-and-microbiological-monitoring/england-and-wales-classification-and-monitoring>

							biotoxin monitoring in the Swansea area flesh sampling and water sampling are recorded fortnightly (1st April to 30th Sept) and then 4-weekly (1st Oct to 31st March).										
331	Food safety: Biotoxin monitoring.	Cefas (on behalf of FSA)		HABS Surveillance Programmes and Monitoring. Driven by Regulation (EC) No 854/2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption - this prescribes the legal controls that are placed on the production and marketing of live bivalve shellfish to ensure that contaminated shellfish are not placed on the market.			In the EU there are currently three major shellfish biotoxin groups that can be detected in shellfish and which across the EU are subject to statutory testing to protect human health. These are paralytic shellfish poisoning (PSP) toxins, lipophilic toxins, including those responsible for diarrhetic shellfish poisoning (DSP) and amnesic shellfish poisoning (ASP) toxins.		State - Condition								x
332	Great British beach clean	MCS / citizens	MCS	Great British Beach Clean via the Marine Conservation Society and surveying of beach litter, (see Great British Beach Clean ¹⁰).			Data is recorded on litter sources, amounts and trends (increase/decrease compared to previous year). 2018 was the 25th Beach Clean (report available from MCS Great British Beach Clean Report ¹¹).		State - Condition								x

¹⁰ <https://www.mcsuk.org/beachwatch/greatbritishbeachclean>

¹¹ <https://www.mcsuk.org/media/gbbc-2018-report.pdf>

333	Radioactivity in Food and the Environment RIFE.		Food Standards Agency	<p>The Food Standards Agency and Environment Agency monitor radioactivity in land and marine environments for the Governments. Results are published in Radioactivity in Food and the Environment (RIFE) report - an annual independent report of radioactivity in food covering the whole of the UK. The report combines FSA radiological monitoring results with those of the Environment Agency, NRW, the Northern Ireland Environment Agency and the Scottish Environment Protection Agency. All radioactive discharges in the UK are regulated under the Environmental Permitting (England and Wales) Regulations 2010 to ensure that radioactivity discharged remains well within internationally agreed levels which are designed to protect both human health and the environment. Another driver is OSPAR - radioactive substances is a key area. The 2009 Radioactive Discharges Strategy alongside the OSPAR Radioactive Substances Strategy, aims to prevent pollution of the OSPAR maritime area (the North East Atlantic) from radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances. See <i>UK strategy for radioactive discharges - 2018 Review of the 2009 Strategy</i>.</p>		<p>Report brings together our data on food from habits surveys and data on environmental sources of radioactivity to provide a comprehensive picture for people who live close to nuclear sites and eat locally produced food. Reports show the public's exposure to authorised discharges and direct radiation around the 39 nuclear sites in the UK. Habits surveys are conducted to establish the habits of people living and working near nuclear sites in the United Kingdom. This includes the food they eat and the activities they carry out in the area around nuclear sites. The information from the surveys and data on the levels of radioactivity found in food and the environment are used to calculate the level of radiation they are exposed to. Habitat surveys carried out at nuclear licensed sites (e.g. Hinkley Point). (See Radioactivity in Food and the Environment¹²)</p>		State - Condition							x
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¹² <https://www.food.gov.uk/research/radioactivity-in-food-and-the-environment/radioactivity-in-food-and-the-environment-rife-report-2017>

334	Aggregates Monitoring (AM) Surveys.			Regional Aggregate Working Party (operate at regional scale) - e.g. North Wales see NWRAP Aggregate Monitoring Surveys ¹³ . South Wales also see South Wales Aggregates Working Party ¹⁴		Aggregates Monitoring Surveys are undertaken by the RAWPs to provide details of the regional and national production and consumption of aggregates. Main surveys are undertaken on a four yearly cycle for England and Wales and also provide information on the regional distribution of aggregates production. The last completed survey was carried out for 2001. The information is collected from minerals producers by the mineral planning authorities in a survey collated regionally by the Regional Aggregates Working Parties. The RAWPs also undertake annual surveys of aggregates production and reports summarising aggregates production and reserves in each mineral planning authority are published each year (see http://www.grhgca-cymru.org.uk/html/publications.html).		State - Condition							x
335	Geological Conservation Review programme	NRW		A major initiative to identify and describe the most important geological sites in Britain began in 1977, with the launch of the Geological Conservation Review (GCR). The GCR was designed to identify those sites of national and international importance needed to show all the key scientific elements of the Earth heritage of Britain. These sites display sediments, rocks, fossils, and features of the landscape that make a special contribution to our understanding and appreciation of Earth science and the geological history. Over 3,000 GCR sites were selected for around 100 categories (GCR 'Blocks'), encompassing the range of geological and geomorphological features		Although the main phase of the GCR was concluded in 1990, but updates are ongoing (<i>not monitoring per se</i>). JNCC has developed the GCR site database, which contains basic site information for the 3,000 GCR sites already selected, together with some fuller reports. Search for a GCR site by name or list sites by local authority, GCR block or choose a site from a list on the search page; select a 100 x 100 km square on the UK map to list sites geographically.		State - Condition							x

¹³ http://www.nwrawp-wales.org.uk/html/what_does_it_do.html

¹⁴ <http://www.swrawp-wales.org.uk/.%20>

				of Britain (see JNCC Geological Conservation Review ¹⁵). The sites selected – GCR sites – form the basis of statutory geological and geomorphological site conservation in Britain.															
336	Shoreline Management Plans - Action Plans.			SMP2s are non-statutory documents. The purpose of the SMP2 Action Plan is to identify the steps that need to be taken in order to put the SMP2 policies into practice. The revised National Flood and Coastal Erosion Risk Management Strategy will apparently include a requirement for coastal groups to report on the progress of these Action Plans.			In the Swansea and Carmarthen Bay SMP2 this includes an extension of the strategic coastal monitoring programme in place within Swansea Bay and Carmarthen Bay (Lavernock Point to St Govans Head) along the Pembrokeshire coast (between St Govans Head and St Ann’s Head) and up to the tidal limits of estuaries (in particular Loughor, Gwendraeth, Towy, Taf and Milford Haven) (under the supervision of the Wales Coastal Monitoring Centre). The Cardigan Bay coastal group similarly calls for sea level rise monitoring via the WCMC, as well as other more local based actions such as monitoring beach profiles and cliff stability. Note that these are planned monitoring actions ; it's not clear how many of these actions have been delivered.		State - Connectivity										x
337	Wales Coastal Monitoring Centre			Original Wales Coastal Monitoring Centre (WCMC) in 2010 (and referred to in the National FCERM strategy for Wales, 2011), but did not include the provision of any data collection which at that time was funded through Coastal Groups or individual authorities. Recent WG commitment towards a three year programme of coastal monitoring around the Welsh coastline to establish the new centre (funding secured via a Flood Risk Management Grant).			The principal monitoring and analytical tasks to be undertaken by the WCMC are as follows: <ul style="list-style-type: none"> • Bi-annual beach survey and data collection; • Data management and quality control in partnership with Channel Coastal Observatory or Lle portal; • Online data dissemination; • Analysis and reporting of data; • Integration of data to deliver national objectives and • Programme performance review. The proposed programme is designed to monitor the predicted impacts of Climate Change relating to flood and coastal erosion risk management		State - Condition										x

¹⁵ <http://jncc.defra.gov.uk/page-2947>

338	Citizen science monitoring: COASTodians.	National Trust Wales via Citizens		National Trust Wales-wide initiative launched 2015. Partially driven by Shifting Shores report, as well as learning from previous initiatives e.g. Neptune Coastline (launched 1965, focused on development and land use on the coast).			Focus on condition of paths and monitoring wildlife, pollution etc.	2015	State - Condition								x	
339	Citizen science: Wildlife Trust	Wildlife Trust via citizens		Survey volunteer schemes (e.g. Swift conservation project and the Living Seas Wales project (Living Seas Champion's to help coastal surveying). See https://www.northwaleswildlifetrust.org.uk/living-seas			Varies across projects.		State - Diversity								x	
340	Areas of Outstanding Natural Beauty	NRW	NRW	Under National Parks and Access to the Countryside Act 1949.	National: England and Wales	Wales and cross boundary	Mapping and key features - boundaries	?	State - Extent	x	x	x	x				x	
341	Country Parks	N/A	NRW	Practice (but not specified through law or policy instruments).	National: Wales	North and South coasts mainly	Map of extent	one off in 1990s	State - Extent	x	x		x				x	
342	Water Framework Directive (various cycles) see below.	NRW	NRW	EU law	National: UK	Water bodies (rivers, lakes and transitional waters)	Extent of water bodies and condition. Chemical quality, hydrology, geomorph biological , quality of environment	2003 - initial identification of districts only.	State - Condition								x	x
343	Conservation area boundaries (SSSI/SAC etc.	NRW	NRW	EU law	National: England and Wales	National	Map of extent		State - Extent	x	x		x				x	
344	Flood mapping	NRW	NRW	Practice (but not specified through law or policy instruments).	National: UK	Wales and cross boundary	Modelling of extent		State - Extent					x	x	x		
345	Bathing Water Quality at Designated Beaches.	NRW	NRW	EU law	National: England and Wales	All bathing	<i>Esherichia coli</i> and intertinal enterococci data collected	2007	State - Condition								x	
346	Water quality	NRW	NRW	EU law	National: UK	National UK	Water samples sent to lab for analysis of water properties (pH, DO) and pollutants.	1990	State - Condition								x	
347	Invertebrates	NRW	NRW	EU law	National: UK	National but what, extent and timing varies	Sampling to determine biota	1990	State - Condition								x	
348	Macrophytes	NRW	NRW	EU law	National: UK	National but what, Extent and timing varies		1996	State - Condition								x	
349	Diatoms	NRW	NRW	EU law	National: UK	National but what, Extent and timing varies		2006	State - Condition								x	

350	Fish	NRW	NRW	EU law	National: UK	National but what, Extent and timing varies		2006	State - Condition								x	x
351	Invasive Non-Native Species (INNS).	NRW Marine Strategy Framework Directive Wildlife and Countryside Act 1981 WFD UKTAG	NRW Marine Strategy Framework Directive	EU law	Sub-national: Local	Varies	?	?			x	x	x	x	x	x	x	x
352	Consented discharges	NRW	NRW	UK policy (statutory)	National: UK												x	
353	Environmental Pollution Incidents.	NRW	NRW	Wales, only: Policy (non-statutory).	National: Wales	National: Wales	Collation of Reported Incidents	2001									x	
354	CCW/NE Sand dune survey	CEH/NRW/NE	CEH/NRW/NE	One-off survey to detect signals of N deposition in UK, 11 sites of which 5 in Wales.	Sub-national: Sites	National: Wales + England	Vegetation, soil and groundwater chemistry, biomass, plant tissue chemistry	2002 only	Pressure, State									x
355	Defra Sand dune survey	CEH	CEH	One-off survey to detect signals of N deposition in UK, 25 sites of which 3 in Wales.	Sub-national: Sites	National: Wales + England + Scotland	Vegetation, soil and tissue chemistry	2009 only	Pressure, State									x
356	Groundwater (level) monitoring	CEH + NRW + Snowdonia NP + NT	CEH + NRW + Snowdonia NP + NT	Monitoring groundwater levels in coastal dunes. Multiple initiatives at multiple sites. Data not currently collated.	Sub-national: Sites	Sub-national: Sites	Monthly measurements of water table (most sites); Hourly recording using dataloggers at selected sites	Various, some records go back to ~1971 (Kenfig)	Pressure, State								x	x
357	Sand dune restoration monitoring.	NRW + CEH	NRW + CEH	Restoration monitoring.	Sub-national: Sites	Sub-national: Sites	Repeat monitoring of vegetation quadrats	2014	State									x
358	Ecosystem services modelling.	CEH	CEH	Ecosystem services and natural capital modelling, in Conwy catchment.	Sub-national: Catchment	Sub-national: Catchment	Modelling of ecosystem services in Conwy & wider Wales, including land-sea transfers of nutrients, pathogens etc.	?	State	x	x	x	x	x	x	x		
359	Conwy catchment monitoring and modelling platform.	CEH	CEH	Monitoring land use change land-sea transfers of water quality and flow.	Sub-national: Catchment	Sub-national: Catchment	Monitoring land-sea transfers of nutrients, particulates, pathogens, DOC		State	x	x	x	x	x	x	x	X	
360	Countryside Survey/GMEP	CEH	CEH	24 1km squares with coastal habitats recorded as part of Countryside Survey or GMEP.	Sub-national: Sites	Sub-national: Sites	Plots covering saltmarsh, dunes, strandline/vegetated shingle, and maritime cliffs and slopes, as well as other more widespread habitats.	1978 - 2016										
361	Saltmarsh survey	CEH	CEH	One off survey to determine carbon content of saltmarsh sediments.	Sub-national: Sites	Sub-national: Sites	Plots recording vegetation and associated sediment properties	2014 - 2018										

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Enquiries to:
ERAMMP Project Office
CEH Bangor
Environment Centre Wales
Deiniol Road
Bangor
Gwynedd
LL57 2UW
T: + 44 (0)1248 374528
E: erammp@ceh.ac.uk

www.erammp.cymru
www.erammp.wales