

Scotland's Seas: Towards Understanding their State – Annex 3

ANNEX 3

REPORTS ON VARIOUS ASPECTS OF SCOTLAND'S SEAS PUBLISHED BY FRS, SEPA AND SNH, AS WELL AS EXAMPLES FROM OTHER ORGANISATIONS MONITORING SCOTLAND'S MARINE ENVIRONMENT

REPORTS FROM FRS, SNH and SEPA WITH EVIDENCE ON CLEAN AND SAFE SEAS

| Name of report | Date | Author(s) | Area covered | Comments |
|--|------|---|--|--|
| Review of Harmful Algal Blooms in Scottish coastal waters | 2002 | Tett, P. and Edwards, V. | Scottish coastal waters | Report to SEPA |
| The Interaction between Fish Farming and Algal Communities of the Scottish Waters - a Review Final Report | 2003 | Rydberg, L. Sjöberg, B. and Stigebrandt, A. | Scottish waters | Scottish Executive Environment Group paper 2003/04 |
| Assessment of TBT Impacts and Concentrations in Loch Ryan, Scotland | 2003 | Miller, B.S. and Boyle, J. | Loch Ryan | SEPA Technical Report, on SEPA web site |
| Harmful Algal Bloom Communities in Scottish Coastal Waters: Relationship to Fish Farming and Regional Comparisons – A Review | 2004 | Smayda, T.J. | Scottish coastal waters | Scottish Executive Environment Group paper 2006/3 [Also see Climate Change] |
| Phytoplankton and Nutrients, Loch Sunart & Teacuis, Argyll, Scotland | 2004 | SEPA | Loch Sunart & Teacuis, Argyll, Scotland | SEPA Technical Report |
| Stornoway WWTW Benthic Sampling August 2002 | 2004 | SEPA | Stornoway | SEPA Technical Report |
| A Suspended Solids Survey of the Forth Estuary | 2004 | SEPA | Forth Estuary | SEPA Technical Report |
| SE Scotland Imposex Survey - 2004 | 2004 | SEPA | SE Scotland | SEPA Technical Report |
| Soteag rocky shore monitoring programme. TBT contamination in Sullom Voe, Shetland. 2004 Dogwhelk survey. | 2005 | Gubbins, M.J., Harding, M. and Davies, I.M. | Sullom Voe and surrounding sea area | Fisheries Research Services Contract Report No: 02/05 |
| 2004 Annual report on the Scottish Monitoring Programme for the classification of shellfish harvesting sites | 2005 | Smith, E., Graham, J. and Heron, J. | Coastal, mainly west coast, Western Isles and Northern Isles | Fisheries Research Services Contract Report No: 03/05 |
| Correlation between algal presence in water and toxin presence in shellfish | 2005 | Bresnan, E. | Coastal | Fisheries Research Services Contract Report No: 04/05 |

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| Name of report | Date | Author(s) | Area covered | Comments |
|---|------|--|--|--|
| Sampling and analysis of scallops for trace metal contaminants from fishing Box NM12 | 2005 | McIntosh, A.D., Devalla, S., Robinson, C.D. and Davies, I.M. | Coastal, Summer Isles | Fisheries Research Services Contract Report No: 05/05 |
| Composition and concentration of hydrocarbons in sediment samples collected during 2003 from West Burra and St Magnus Bay, Shetland Islands | 2005 | Webster, L. McIntosh, A.D., Russell, M., Walsham, P., Packer, G., Dalgarno, E.J. and Moffat, C.F. | Coastal, south west Shetland | Fisheries Research Services Contract Report No: 06/05 |
| Measurement of trace metals in shellfish in support of the JAMBO Monitoring Programme | 2005 | McIntosh, A.D., Devalla, S., Robinson, C.D. and Davies, I.M. | Coastal, Summer Isles, Minches | Fisheries Research Services Contract Report No: 08/05 |
| Sampling and analysis of scallops for trace metal contamination from fishing Box NM12 | 2005 | McIntosh, A.D., Devalla, S., Robinson, C.D. and Davies, I.M. | Coastal, Summer Isles | Fisheries Research Services Contract Report No: 09/05 |
| Continued monitoring of polycyclic aromatic hydrocarbon (PAH) contamination in Loch Leven | 2005 | McIntosh, A.D., Russell, M., Webster, L. and Packer, G. | Loch Leven | Fisheries Research Services Contract Report No: 10/05 |
| Monitoring of algal toxins in shellfish in Scotland: 1 April 2004 to 31 March 2005 | 2005 | Megginson, C. and Petrie, J. | Coastal with a focus on west coast, Western Isles and Northern Isles | Fisheries Research Services Contract Report No: 11/05 |
| Development, evaluation and assessment of methods for the determination of ASP, DSP and PSP using LC-MS and LC-MS/MS | 2005 | Stobo, L.A., Webster, L., Smith, E.A., Cowles, J. and Gallacher, S. | | Fisheries Research Services Contract Report No: 12/05 |
| The effects of oil exploration and production in the Fladen ground: Composition and concentration of hydrocarbons in sediment samples collected during 2001 using a stratified random sampling design | 2005 | Ahmed, A.S., Webster, L., Fryer, R.J., Davies, I.M., Russell, M., Walsham, P., Packer, G., Moore, D.C., Moffat, C.F. and Pollard, P. | Offshore, Fladen Ground, North Sea | Fisheries Research Services Contract No: 14/05 |
| DSP Toxin Monitoring Programme in Scottish Shellfish: 1 April to 31 August 2005 | 2005 | Petrie, J. | Coastal with a focus on west coast, Western Isles and Northern Isles | Fisheries Research Services Contract No: 15/05 |
| Modelling the behaviour of nutrients in the coastal waters of Scotland – an update on inputs from Scottish Aquaculture and their impact on eutrophication status | 2005 | Heath, M., Patsch, J., Edwards, A., Turrell, W., Greathead, C. and Davies, I.M. | Coastal | Fisheries Research Services Contract No: 16/05 |
| Possible routes towards the assessment of endocrine disruption (ED) in the marine environment, including an overview of recent UK Government-funded marine ED research | 2005 | Robinson, C.D., Davies, I.M. and Moffat, C.F. | | Fisheries Research Services Internal Report No: 01/05 |

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| Name of report | Date | Author(s) | Area covered | Comments |
|---|------|---|--|---|
| Measurement of nutrients, contaminants and biological effects in Scottish waters as part of the UK National Marine Monitoring Programme (NMMP): 1999-2004 | 2005 | Webster, L., McIntosh, A., Phillips, L., Robinson, C., Walsham, P., Russell, M., Packer, G., Rose, M., Dalgarno, E., Devalla, S., Bredzinski, X., McKenzie, M., Davies, I.M. and Moffat, C.F. | Coastal, 6 primary sites around Scotland | Fisheries Research Services Internal Report No: 04/05 |
| Assessment of the quality of sediment polycyclic aromatic hydrocarbons and tributyl tin samples collected from Aberdeen Harbour and Aberdeen Sea Disposal Site | 2005 | Hayes, P., Russel, M. and Packer, G. | Coastal, North-East coast | Fisheries Research Services Internal Report No: 07/05 |
| Surveys of dredged material and wastewater sludge sea disposal sites for the East coast of Scotland | 2005 | Hayes, P., Russell., M. and Packer, G. | Coastal, east Scotland | Fisheries Research Services Internal Report No: 08/05 |
| An improved method for total digestion and ICP-MS determination of metals in sediment | 2005 | Robinson, C.D. and Devalla, S. | | Fisheries Research Services Internal Report No: 09/05 |
| The effects of oil exploration and production in the East Shetland Basin: Composition and concentration of hydrocarbons in sediment samples collected in 2002 using a stratified random sampling design and their comparison with historic data | 2005 | Russell, M., Webster, L., Walsham, P., Packer, G., Dalgarno, E.J., McIntosh, A.D., Fryer, R.J. and Moffat, C.F. | Offshore, East Shetland Basin | Fisheries Research Services Internal Report No: 13/05 |
| Seabed survey data report: Aberdeen disposal site, June 2002 | 2005 | Hayes, P.J., Davies, I.M. and Russell, M. | Coastal, north east Scotland | Fisheries Research Services Internal Report No: 14/05 |
| <i>Pseudomonas fluorescens</i> HK44: Microbial response to fish muscle tissue and the detection of crude oil in contaminated fish | 2005 | O'Neill, S., Craig, A., Megginson, C., Shanks, A.M. and Davies, I.M. | | Fisheries Research Services Internal Report No: 17/05 |
| Report on Imposex Work in SEPA North East Area - 2004 | 2005 | SEPA | NE Scotland | SEPA Technical Report |
| Progress report on the use of comet assay as a Measurement of single cell DNA damage: observations of DNA damage in gill cells of the mussel (<i>Mytilus edulis</i>) collected from the Firth of Forth | 2006 | O'Neill, S. and Selley, H. | Coastal, Firth of Forth | Fisheries Research Services Internal Report No: 03/06 |
| Seasonal variations in the relative importance of Aquaculture, land run-off and tidal exchange as sources of the nutrients in Scottish sea lochs | 2006 | Greathead, C., Jackson, J. and Davies, I.M. | Coastal | Fisheries Research Services Internal Report No: 05/06 |

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| Name of report | Date | Author(s) | Area covered | Comments |
|--|------|---|--|---|
| A review of brominated flame retardants (BFRS) in the Aquatic environment and the development of an analytical technique for their analysis in environmental samples | 2006 | Webster, L., Russell, M., Walsham, P. and Moffat, C.F. | | Fisheries Research Services Internal Report No: 06/06 |
| Description and evaluation of a sampling system for monitoring hydrocarbons in sediments | 2006 | Ahmed, A.S., Webster, L., Pollard, P., Davies, I.M. and Moffat, C.F. | | Fisheries Research Services Internal Report No: 09/06 |
| Qualitative review of the FRS shellfish toxin and Phytoplankton databases 1990-2002 | 2006 | Turrell, W.R. | Coastal, focus on shellfish production areas | Fisheries Research Services Internal Report No: 14/06 [Also see Productive] |
| An environmental assessment of organic contaminants In the Firth of Clyde 1992-2004 | 2006 | Webster, L., Phillips, L., Russell, M., Dalgarno, E., Packer, G. and Moffat, C. | Firth of Clyde | Fisheries Research Services Internal Report No: 17/06 |
| Comparison by liquid chromatography-mass Spectrometry of the efficiency of two extraction procedures in the recovery of okadaic acid and dinophysistoxin-2 from shellfish homogenates | 2006 | Megginson, C., Shanks, A.M., Stobo, L., Brown, N.A., Petrie, J., Turriff, J.J. and Gallacher, S. | | Fisheries Research Services Internal Report No: 21/06 |
| Sensory analysis of tainted fish: assessing the Assessors using mixed models | 2006 | Craig, A., Zuur, A.F., Fryer, R.J. and Davies, I.M. | | Fisheries Research Services Internal Report No: 24/06 |
| Sensory analysis of tainted fish: assessing the Assessors using mixed models. Supplement including 2004 data | 2006 | Craig, A., Zuur, A.F., Fryer, R.J. and Davies, I.M. | | Fisheries Research Services Internal Report No: 25/06 |
| 2005 annual report on the Scottish monitoring programme for the classification of shellfish harvesting sites | 2006 | Graham, J., Heron, J. and Turrell, E. | Coastal, west coast, Western Isles and Northern Isles | Fisheries Research Services Contract Report No: 05/06 |
| Development of methods for and survey of recently Discovered toxins in UK shellfish | 2006 | Stobo, L., Gallacher, S., Lewis, J., Quilliam, M. and Smith, E. | | Fisheries Research Services Contract Report No: 06/06 |
| Determination of Paralytic Shellfish Poisoning (PSP) Toxins in shellfish using Pre-chomatographic Oxidation and Liquid Chromatography (LC) with fluorescence detection: Analysis of shellfish extracts from the UK Jellet Rapid Test (JRT) Trial | 2006 | Turrell, E., Lacaze, J.-P. and Stobo, L. | | Fisheries Research Services Contract Report No: 08/06 |

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| Name of report | Date | Author(s) | Area covered | Comments |
|---|------|---|--|--|
| Draft OSPAR background document for biological Effects monitoring techniques: fish vitellogenin as a biomarker of exposure to xenoestrogens | 2006 | Robinson, C.D. and Scott, A.P. | | Fisheries Research Services Collaborative Report No: 09/06 |
| Hydrocarbons in sediments in the Fladden Ground: A comparison of grid and stratified random sampling regimes | 2006 | Ahmed, A.S., Webster, L., Pollard, P., Davies, I.M. and Moffat, C.F. | Offshore, Fladen Ground, North Sea | Fisheries Research Services Collaborative Report No: 11/06 |
| Collection and analysis of shellfish flesh from Scottish Inshore and offshore harvesting areas for chemical contaminants. FSA (Scotland) Project Code: S14026 | 2006 | McIntosh, A.D., Craig, A.E., Russell, M., Webster, L., Phillips, L.A., Dalgarno, E.J., Devalla, S., Robinson, C.D. and Davies, I.M. | Coastal and offshore around Scotland | Fisheries Research Services Contract Report No: 16/06 |
| RIFE 11 - Radioactivity in Food and the Environment, 2005 | 2006 | CEFAS (Scottish contribution from SEPA and Food Standards Authority) | UK | Food and Environment. Published. 2006 version should be available in 2007. |
| State of the Environment | 2006 | SEPA | Whole Scottish Environment including Scottish coastal seas | Marine case studies only a small proportion of whole report. Published |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | Clyde Estuary | Peer reviewed and submitted to EU |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | Firth of Clyde | Peer reviewed and submitted to EU |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | Forth Estuary | Peer reviewed and submitted to EU |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | Ythan Estuary | Peer reviewed and submitted to EU |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | South Esk Estuary | Peer reviewed and submitted to EU |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | Eden Estuary | Peer reviewed and submitted to EU |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | Tay Estuary | Peer reviewed and submitted to EU |
| OSPAR Eutrophication Assessment Report | 2006 | SEPA | Solway Firth | Peer reviewed and submitted to EU |
| Fish Impingement Monitoring at Longannet Power Station, 2004 | 2006 | SEPA | Forth Estuary | SEPA Technical Report |

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|---|------|---|---|---|
| Coastal Lagoon Survey - Benthic Sampling July -Sept 2004 | 2006 | SEPA | Scotland wide | SEPA Technical Report |
| Polybrominated diphenyl ethers (PBDEs) in the Scottish aquatic environment | 2007 | Webster, L., Russell, M., Adefehinti, F., Dalgarno, E.J. and Moffat, C.F. | Coastal, several sites around the coast | Fisheries Research Services Internal Report No: 10/07 |
| FRS Method for the determination of trace metals (including rare earth elements) in Freshwater Samples by Inductively Coupled Plasma Mass Spectrometry | 2007 | Robinson, C.D., Charles, S., Malcolm, I.A. and Devalla, S. | | Fisheries Research Services Internal Report No: 12/07 |
| Measurement of nutrients, contaminants and biological effects in Scottish waters as part of the UK clean seas environment monitoring programme (CSEMP): 1999-2006 | 2007 | Webster, L., Russell, M., Phillips, L., McIntosh, A., Robinson, C., Walsham, P., Packer, G., Rose, M., Dalgarno, E., Devalla, S., McKenzie, M., Davies, I. and Moffat, C.F. | Coastal, 6 primary locations | Fisheries Research Services Internal Report No: 19/07 |
| Algal toxins, their accumulation and loss in commercially important shellfish, including larval mortality and appraisal of accelerated depuration (Talisman) | 2007 | Turrell, E. and Stobo, L. | | Fisheries Research Services Contract Report No: 01/07 |
| 2006 Annual Report on the Scottish Monitoring Programme for the Classification of Shellfish Harvesting Sites | 2007 | Turrell, E., Graham, J., Heron, J., Kinnear, S., Morley, L. and Turriff, J. | Coastal, primarily west coast, Western Isles and Northern Isles | Fisheries Research Services Contract Report No: 03/07 |
| Analysis of sediment samples collected from the Kittiwake field following an oil spill. | 2007 | Webster, L., Russell, M., Walsham, P., Packer, G. and Moffat, C.F. | Offshore, Kittiwake | Fisheries Research Services Contract Report No: 12/07 |
| Significant Water management Issues in the Scotland River Basin District | 2007 | SEPA | Scottish River Basin District Coastal, Transitional and Fresh waters | SEPA's assessment of waters at risk as a consultation document based on criteria set out in the EU Water Framework Directive. Published |
| An interim overview of the significant water management issues in the Solway Tweed river basin district | 2007 | SEPA and the Environment Agency (EA) | Cross border River Basin District. Coastal, transitional and fresh waters | SEPA's and EA's assessment of waters at risk based on criteria set out in the EU Water Framework Directive. Published |

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| Name of report | Date | Author(s) | Area covered | Comments |
|---|------|--|---|--|
| A summary of significant water management issues in the Solway Tweed river basin district | 2007 | SEPA and the EA | Cross Border River Basin District. Coastal, transitional and fresh waters | SEPA's and EA's assessment of waters at risk as a consultation document based on criteria set out in the EU Water Framework Directive. Published |
| Scottish Environment Protection Agency Annual Report 2006/7 | 2007 | Scottish Environment Protection Agency (SEPA) | Whole Scottish Environment including Scottish coastal seas | Covers SEPA's interests in the Whole Environment but has examples of improvements in coastal and estuarine waters. Published |
| Scottish bathing waters 2006 | 2007 | SEPA | EU Identified bathing beaches in Scotland | Published. 2007 version should be available in 2008. |
| Common Procedure for the Identification of the Eutrophication Status of the OSPAR Maritime Area: UK National Report | 2007 | DEFRA (Scottish contribution from SEPA and FRS) | UK areas of concern | Peer reviewed before final version. Final version should be available in time. |
| Key Scottish environment statistics | 2007 | Scottish Government | Scotland | Data provided by SEPA, FRS, and others. * also see productive seas. |

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REPORTS FROM FRS, SNH and SEPA WITH EVIDENCE ON HEALTHY AND BIOLOGICALLY DIVERSE SEAS

| Name of report | Date | Author | Area covered | Comments |
|--|------|---|---|--|
| Remote survey and mapping of maerl beds of Rousay Sound and environs, Orkney | 1993 | Foster-Smith, R.L and Davies, J. | Rousay Sound, Orkney | SNH publication |
| Broadscale biotope mapping survey of the littoral and sublittoral coastal areas between Loch Laxford and Loch Eriboll | 1995 | Scottish Natural Heritage | Between Lochs Laxford and Eriboll | SNH publication |
| An evaluation of the RoxAnn system as a tool for mapping the distribution of kelp biotopes | 1995 | Davies, J. and Sotheran, I. | Loch Roag, Lewis | SNH publication |
| Broad scale survey and mapping of seabed and shore habitats and biota: Dornoch Firth pSAC | 1996 | Scottish Natural Heritage | Dornoch Firth | SNH unpublished |
| Broad scale habitat mapping of Intertidal and subtidal coast areas: Loch Maddy, North Uist | 1996 | Scottish Natural Heritage | Loch Maddy, North Uist | SNH Research, Survey and Monitoring (RSM) Report (76) |
| Broad scale habitat mapping of Intertidal and subtidal coastal areas: Busta Voe: sublittoral analysis report | 1996 | Scottish Natural Heritage | Busta Voe and Olna Firth, Shetland | SNH Research, Survey and Monitoring (RSM) Report (75) |
| Mapping the distribution of maerl in South Uist, Western Isles | 1996 | Davies, J. and Foster-Smith, R.L | South Uist, Western Isles | SNH publication |
| Mapping the distribution of benthic biotopes in the proposed Sound of Arisaig Special Area of Conservation | 1996 | Davies, J. and Hall-Spencer, J. | Sound of Arisaig | SNH publication |
| Mapping survey of the sublittoral and littoral biotopes of the Berwickshire Coast | 1996 | Foster-Smith, R.L., Sotheran, I., Foster-Smith, J.L. and Bunker, F. | Berwickshire Coast | SNH publication |
| Survey of the shallow sublittoral biotopes in Loch Sunart | 1996 | Howson, C.M. | Loch Sunart | Scottish Natural Heritage Research, Survey and Monitoring Report. No. 67 |
| The Solway Firth: broad scale habitat mapping | 1996 | Scottish Natural Heritage | Solway Firth | Scottish Natural Heritage Research, Survey and Monitoring Report. No. 46 & 46a |
| Survey, assessment and mapping of submerged and partly submerged sea caves in the Berwickshire and North Northumberland Coast cSAC | 1997 | Scottish Natural Heritage | Berwickshire and North Northumberland Coast | SNH publication |
| Baseline survey of the maerl beds in Wyre Sound, Orkney Islands | 1997 | Davies, J. | Wyre Sound, Orkney | SNH publication |
| Broadscale biological mapping of the Summer Isles | 1997 | Sotheran, I. | Summer Isles | SNH publication |

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| Name of report | Date | Author | Area covered | Comments |
|--|------|---|-------------------------------------|-----------------|
| Broad scale survey and mapping of the shore habitats and biota: Firth of Lorn, Western Scotland | 1998 | Scottish Natural Heritage | Firth of Lorn | SNH publication |
| Broad scale Mapping of the Reefs of Berwickshire and Northumberland | 1998 | Foster-Smith, R.L | Berwickshire & Northumberland Coast | SNH publication |
| Broad scale remote survey and mapping of the sublittoral habitats and their associated biota in the Firth of Lorn | 1999 | Scottish Natural Heritage | Firth of Lorn | SNH publication |
| Broad scale survey and mapping of the seabed and shore habitats and biota: Lochs Duich, Long and Alsh pSAC | 1999 | Scottish Natural Heritage | Lochs Duich, Long and Alsh | SNH publication |
| Solway Firth - Marine SAC mapping subtidal sediments and scars | 1999 | SeaMap Research Group | Solway Firth | SNH publication |
| Solway Firth: Intertidal scar grounds, biotope mapping | 1999 | Report to Scottish Natural Heritage | Solway Firth | SNH publication |
| A review of the status, ecology and conservation of horse mussel <i>Modiolus modiolus</i> beds in Scotland | 2000 | Mair, J.M., Moore, C.G., Kingston, P.F. and Harries, D.B. | Scotland | SNH publication |
| Broad scale survey and mapping of seabed and shore habitats and biota: Loch of Stenness cSAC | 2000 | Scottish Natural Heritage | Loch of Stenness | SNH publication |
| Broad scale survey and mapping of seabed and shore habitats and biota: Papa Stour cSAC, Shetland | 2000 | Scottish Natural Heritage | Papa Stour, Shetland | SNH publication |
| Broad scale survey and mapping of seabed biota: Loch Creran | 2000 | Scottish Natural Heritage | Loch Creran | SNH publication |
| Broad scale survey and mapping of the seabed and shore habitats and biota: St Kilda cSAC | 2000 | Scottish Natural Heritage | St Kilda | SNH publication |
| Broad scale survey and mapping of the shore habitats and biota: The Vadills cSAC, Shetland | 2000 | Scottish Natural Heritage | The Vadills, Shetland | SNH publication |
| Evaluation of Techniques for Monitoring the Abundance and Behaviour of Bottlenose Dolphins | 2000 | Scottish Natural Heritage | | SNH publication |
| Intertidal Survey of Loch Moidart | 2000 | Scottish Natural Heritage | Loch Moidart | SNH publication |
| Intertidal Survey of Sanday cSAC and SPA | 2000 | Scottish Natural Heritage | Sanday, Orkney | SNH publication |
| Loch Crinan Intertidal survey | 2000 | Scottish Natural Heritage | Loch Crinan | SNH publication |
| Trialling of AGDS & video sledge monitoring techniques in Loch Maddy (1999) and Loch Maddy Acoustic Monitoring Trials (2000) | 2000 | Scottish Natural Heritage | Loch Maddy, North Uist | SNH publication |

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|---|------|--|-------------------------------|-----------------|
| Trials of Monitoring Techniques for biotopes in the Sound of Arisaig cSAC | 2000 | Scottish Natural Heritage | Sound of Arisaig | SNH publication |
| Sanday kelp beds: broadscale survey and mapping of seabed biota | 2000 | White, W., Foster-Smith, R. and Sotheran, I. | Sanday, Orkney | SNH publication |
| Broad scale Intertidal Survey of Loch Laxford cSAC | 2001 | Scottish Natural Heritage | Loch Laxford | SNH publication |
| Broad scale intertidal survey of the Firth of Forth | 2001 | Scottish Natural Heritage | Firth of Forth | SNH publication |
| Potential impacts of climate change on sea levels around Scotland | 2001 | Scottish Natural Heritage | Scotland | SNH publication |
| The Forth Spatial Study: Broad Scale Biotope Mapping of The Isle of May cSAC | 2001 | Scottish Natural Heritage | Isle of May | SNH publication |
| Biotope Mapping and Survey of the Treshnish Isles cSAC | 2003 | Scottish Natural Heritage | Treshnish Isles | SNH publication |
| Broad scale mapping of Mousa cSAC | 2004 | Scottish Natural Heritage | Mousa, Shetland | SNH unpublished |
| Broad scale mapping of habitats in the Firth of Tay and Eden | 2004 | Bates, C.R., Moore, C.G., Malthus, T., Mair, J.M. and Karpouzli, E. | Firth of Tay and Eden | SNH publication |
| Broad scale mapping of sublittoral habitats in Loch Laxford | 2004 | Bates, C.R., Moore, C.G., Harries, D.B., Austin, W. and Mair, J. | Loch Laxford | SNH publication |
| Broad scale mapping of sublittoral habitats in Loch Sunart | 2004 | Bates, C.R., Moore, C.G., Harries, D.B., Austin, W. and Lyndon, A.R. | Loch Sunart | SNH publication |
| Broad scale mapping of sublittoral habitats in the Sound of Barra | 2004 | Bates, C.R., Moore, C.G., Malthus, T., Harries, D.B., Austin, W., Mair, J.M. and Karpouzli, E. | Sound of Barra, Western Isles | SNH publication |
| Factors influencing the condition of Loch of Stenness marine candidate Special Area of Conservation (SAC) | 2004 | Scottish Natural Heritage | Loch Stenness | SNH publication |
| Natural heritage trends: the seas around Scotland | 2004 | Scottish Natural Heritage | Coastal | SNH publication |
| Natural heritage trends: the seas around Scotland summary report | 2004 | Scottish Natural Heritage | Scotland | SNH publication |
| North West Scotland subtidal seagrass bed survey | 2004 | Scottish Natural Heritage | North West Scotland | SNH publication |
| Site Condition Monitoring of the intertidal sediment flats of the Loch Moidart and Sheil Woods cSAC | 2004 | Moore, C.G., Lyndon, A.R., Mair, J.M. and Edwards, D.C.B. | Loch Moidart | SNH publication |
| Site condition monitoring survey of intertidal mud and sandflats in Kentra Bay, Lochaber | 2004 | Lyndon, A.R., Moore, C.G., Mair, J.M. and Edwards D.C.B. | Kentra Bay | SNH publication |

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|---|------|--|--|--|
| Site Condition Monitoring: Berwickshire and North Northumberland Coast (BNNC) littoral and sublittoral caves | 2004 | Scottish Natural Heritage | Berwickshire and North Northumberland Coast | SNH publication |
| Site Condition Monitoring: review and baseline survey of specified saline lagoons in the Outer Hebrides | 2004 | Scottish Natural Heritage | Outer Hebrides | SNH publication |
| The establishment of Site Condition Monitoring of marine sedimentary habitats in Sound of Arisaig cSAC | 2004 | Moore, C.G., Lyndon, A.R. and Mair, J.M. | Sound of Arisaig | SNH publication |
| Biotope Mapping & Survey of the Sullom Voe SAC | 2005 | Mair, J.M., Lyndon, A.R., Moore, C.G. and Sotheran, I.S. | Sullom Voe | SNH unpublished |
| Site Condition Monitoring: Surveys of biogenic and rocky reefs in the Lochs Duich, Long and Alsh SAC | 2005 | Scottish Natural Heritage | Lochs Duich, Long and Alsh | SNH publication |
| Long term measurements of currents in the Faroe Shetland Channel (1994-2002) | 2005 | Hughes, S.L., Turrell, W.R., Hansen, B. and Osterhus, S. | Offshore, Faroe-Shetland Channel | Fisheries Research Services Collaborative Report No: 01/05 |
| Correlation between algal presence in water and toxin presence in shellfish | 2005 | Bresnan, E. | Coastal, focus on west coast, Western Isles and Northern Isles | Fisheries Research Services Contract Report No: 04/05 |
| Impacts of <i>Nephrops</i> trawling on the distribution of the sea pens <i>Virgularia Mirabilis</i> , <i>Pennatula Phosphorea</i> and <i>Funiculina Quadrangularis</i> in Scottish waters | 2005 | Fisheries Research Services | Coastal | Fisheries Research Services Internal Report No: 02/05 |
| Estimation of the parameters of von bertalanffy growth function for the main commercial species of the North Sea | 2005 | Kienzle, M. | | Fisheries Research Services Internal Report No: 05/05 |
| Epizootiological investigation into a case of suspicion of infectious salmon anaemia (ISA) in Scotland in November 2004 | 2005 | Anon | | Fisheries Research Services Internal Report No: 11/05 |
| Engineering performance of gears used by the Scottish fleet targeting <i>Nephrops</i> in ICES sub area IV | 2005 | Kynoch, R.J. | | Fisheries Research Services Internal Report No: 06/05 |
| Gear trials of a novel pelagic trawl for use in Atlantic salmon (<i>Salmo salar</i> L.) post-smolt surveys | 2005 | Maclean, J.C., Holst, J.C. and Shelton, R.G.J. | | Fisheries Research Services Internal Report No: 12/05 |

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| Name of report | Date | Author | Area covered | Comments |
|--|------|---|--------------------------------------|---|
| Revised estimated of annual discards-at-age for cod, haddock, whiting and Saithe in ICES sub-area IV and division Via | 2005 | Millar, C.P. and Fryer, R.J. | Offshore, west coast and North Sea | Fisheries Research Services Internal Report No: 15/05 |
| Annual cycles of physical chemical and biological parameters in Scottish waters (2005 update) | 2005 | Slessor, G. and Turrell, W.R. | Coastal and offshore | Fisheries Research Services Internal Report No: 19/05 |
| Status of research into species selection in NE Atlantic Fisheries | 2005 | Ferro, R.S.T | North East Atlantic | Fisheries Research Services Internal Report No: 03/05 |
| Site Condition Monitoring of the intertidal sediment flats of Loch Paible (Balranald Bog and Loch nam Feithean SSSI) | 2005 | Moore, C.G., Mair, J.M. and Edwards, D.C.B | Loch Paible | SNH publication |
| Site Condition Monitoring: Surveys of Marine Rocky Environments and Lagoons in Papa Stour cSAC and The Vadills Lagoon cSAC | 2005 | Scottish Natural Heritage | Papa Stour and The Vadills, Shetland | SNH publication |
| Seas the opportunity: a strategy for the long term sustainability of Scotland's coasts and seas | 2005 | Scottish Natural Heritage / Scottish Executive | Scotland | SNH publication |
| Dornoch Firth SAC site condition monitoring | 2006 | Scottish Natural Heritage | Dornoch Firth | SNH unpublished |
| Mapping Inshore Coral Habitats: the MInCH project | 2006 | Scottish Natural Heritage | The Minch | SNH unpublished |
| Site condition monitoring – The sublittoral sandbanks of the Solway Firth | 2006 | Scottish Natural Heritage | Solway Firth | SNH publication |
| Intertidal Habitat Survey: Portencross Coast (SSSI), North Ayrshire | 2006 | Scottish Natural Heritage | Portencross Coast, North Ayrshire | SNH unpublished |
| Biotope Mapping of the Sound of Harris | 2006 | Scottish Natural Heritage | Sound of Harris, Western Isles | SNH publication |
| Site condition monitoring: survey of rocky reefs in the Firth of Lorn marine Special Area of Conservation | 2006 | Scottish Natural Heritage | Firth of Lorn | SNH publication |
| Sublittoral biotope mapping & survey of the Moray Firth cSAC | 2006 | Scottish Natural Heritage | Moray Firth | SNH publication |
| The inauguration of site condition monitoring of marine features of Loch Maddy SAC | 2006 | Moore, C.G., Saunders, G.R., Mair, J.M. and Lyndon, A.R. | Loch Maddy | SNH publication |
| The nutrient status of Scottish coastal waters: 2001-2005 | 2006 | Webster, L., Rose, M., Walsham, P., Shaw, C., Davies, I. and Moffat, C. | Coastal, around Scotland | Fisheries Research Services Internal Report No: 01/06 |

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| Name of report | Date | Author | Area covered | Comments |
|---|------|--|--|---|
| Options for investigating whether benefits to wild Salmon and sea trout populations are derived from the relocation of marine Atlantic salmon aquaculture | 2006 | Raynard, R., Murray, S., Hay, D., Verspoor, E., Youngson, A., Penston, M. and Amundrud, T. | | Fisheries Research Services Internal Report No: 02/06 |
| Survey of Solway cockle grounds 2005 | 2006 | Davis, S.E.B., Howell, T.R.W., Drewery, J., Harding, M., Ward, B. and Campbell, R.J. | | Fisheries Research Services Internal Report No: 07/06 |
| Report of Marine Laboratory scallop stock assessments | 2006 | Howell, T.R.W., Davis, S.E.B., Donald, J., Dobby, H., Tuck, I. and Bailey, N. | | Fisheries Research Services Internal Report No: 08/06 |
| Current meter measurement east of Shetland October 2004-October 2005: monitoring oceanic exchanges with the North Sea – Data Report | 2006 | Hughes, S. L., Beaton, J. and Slessor, G. | Coastal, offshore, east of Shetland | Fisheries Research Services Internal Report No: 10/06 |
| Final report of ROAME AE1190 Oceanic transport Around Scotland April 2002 – March 2006 | 2006 | Hughes, S. L. and Turrell, W.R. | Coastal and offshore | Fisheries Research Services Internal Report No: 11/06 |
| A review of research and field data on relative louse Infection levels on wild salmon smolts and sea trout and the proximity of fish farms to river estuaries | 2006 | Cunningham, C. | | Fisheries Research Services Internal Report No: 12/06 |
| Qualitative review of the FRS shellfish toxin and Phytoplankton databases 1990-2002 | 2006 | Turrell, W.R. | Coastal, focus on shellfish production areas | Fisheries Research Services Internal Report No: 14/06 [Also see under Clean and Safe] |
| A summary of the effects of environmental factors on the simulated dispersal of sea lice larvae and the findings of the 04/06 plankton survey in the Loch Torridon system, Western Scotland | 2006 | Amundrud, T.L., Penston, M.J. and Murray, A.G. | Coastal, Loch Torridon (west of Scotland) | Fisheries Research Services Internal Report No: 15/06 |
| A review of research and field data on relative louse Infection levels on wild salmon smolts and sea trout and the proximity to river estuaries | 2006 | Cunningham, C. | | Fisheries Research Services Internal Report No: 16/06 |
| Deeside Monitoring Sites: Site Report 2005/2006 | 2006 | McLaren, I.S. | River, fresh water | Fisheries Research Services Internal Report No: 18/06 |
| Scaling up observations of in-redd egg survival from tributary streams to rivers. | 2006 | Youngson, A.F., McLaren, I.S. and Malcolm, I.A. | River, fresh water | Fisheries Research Services Internal Report No: 19/06 |

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| Name of report | Date | Author | Area covered | Comments |
|---|------|---|---|--|
| Patterns in sea lice infestation on wild Atlantic salmon returning to the North Esk river in eastern Scotland 2001-2003 | 2006 | Murray, A.G. and Simpson, I. | Coastal/riverine, north-easts Scotland | Fisheries Research Services Internal Report No: 20/06 |
| Engineering performance of gears used by the Scottish Fleet targeting whitefish species in ICES sub area IV | 2006 | Kynoch, R.J. and Penny, I. | | Fisheries Research Services Internal Report No: 22/06 |
| The selective performance of a 95 mm codend with a 120 mm square mesh panel in the North Sea mixed Nephrops/ Whitefish trawl fishery | 2006 | Kynoch, R.J., Ferro, R.S.T., and Fryer, R.J. | | Fisheries Research Services Internal Report No: 23/06 |
| Capacity building for ecosystem monitoring: the use of molecular probes in the study of phytoplankton in Scottish waters (ROAME AE1191) | 2006 | Turrell, E., Bresnan, E., Collins, C., Brown, L., Graham, J. and Grieve, M. | | Fisheries Research Services Internal Report No: 26/06 |
| The use and effect of manual signal validation on the fish counts collected on the River Helmsdale during the summer of 2004 | 2006 | Simpson, I. | | Fisheries Research Services Internal Report No: 27/06 |
| Fluxes of heat and salt through the Faroe Shetland Channel calculated using a decade of current measurements (1994-2005) | 2006 | Hughes, S., Turrell, W.R., Hansen, B. and Osterhus, S. | Offshore, Faroe Shetland Channel | Fisheries Research Services Collaborative Report No: 01/06 |
| Monitoring programme for toxin producing Phytoplankton in Scottish coastal waters 1 April 2004 – 31 March 2005 | 2006 | Fraser, S., Brown, L. and Bresnan, E. | Coastal, primarily west coast, Western isles and Northern Isles | Fisheries Research Services Contract Report No: 03/06 |
| Monitoring programme for toxin producing Phytoplankton in Scottish coastal waters 1 April 2005-30 June 2005 | 2006 | Fraser, S., Brown, L., McCollin, T. and Bresnan, E. | Coastal, primarily west coast, Western isles and Northern Isles | Fisheries Research Services Contract Report No: 04/06 |
| A horizontal panel to separate species in a mixed whitefish fishery. EU RECOVERY Project Status Report No 1 | 2006 | Ferro, R.S.T. and Kynoch, R.J. | | Fisheries Research Services Collaborative Report No: 13/06 |
| A square mesh panel in a species separating trawl to Improve the selectivity of cod | 2006 | Ferro, R.S.T. and Kynoch, R.J. | | Fisheries Research Services Collaborative Report No: 14/06 |
| A grid species separating trawl to improve the Selectivity of cod. | 2006 | Ferro, R.S.T. and Kynoch, R.J. | | Fisheries Research Services Collaborative Report No: 15/06 |

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| Name of report | Date | Author | Area covered | Comments |
|---|------|---|-------------------------------------|---|
| Performance of tow under ten metre <i>Nephrops</i> Trawlers. | 2007 | Penny, I. | | Fisheries Research Services Internal Report No: 01/07 |
| Spatially resolved monthly riverine fluxes of oxidised nitrogen (nitrate and nitrite) to the European Shelf Seas, 1960-2005 | 2007 | Heath, M. | | Fisheries Research Services Internal Report No: 02/07 |
| A review of analytical methodology used to determine Phytoplankton pigments in the marine environment and development of an analytical method to determine uncorrected chlorophyll A, corrected chlorophyll A and phaeophytin A in marine phytoplankton | 2007 | Smith, K., Webster, L., Bresnan, E., Fraser, S., Hay, S. and Moffat, C. | | Fisheries Research Services Internal Report No: 03/07 |
| A model of meta-population dynamics for northern European cod – the dynamic consequences of natal fidelity | 2007 | Heath, M.R., Kunzlik, P.A., Gallego, A., Holmes, S.J. and Wright, P.J. | | Fisheries Research Services Internal Report No: 04/07 |
| The use of cctv cameras to investigate the performance of the logie fish counter on the North Esk | 2007 | Simpson, I. | Riverine, North Esk, east Scotland | Fisheries Research Services Internal Report No:05/07 |
| Assessing the relative impact of a coastal fishery on Scottish salmon stocks | 2007 | Smith, G.W. | | Fisheries Research Services Internal Report No: 06/07 |
| The nutrient status of Scottish coastal waters: 2001-2006 | 2007 | Webster, L., Rose, M., Walsham, P. and Moffat, C. | Scottish coastline | Fisheries Research Services Internal Report No: 13/07 |
| Epzootic investigation into the presence of bacterial kidney disease (BKD) in rainbow trout farms in Scotland 2005 | 2007 | Bland, M. | | Fisheries Research Services Internal Report No: 14/07 |
| The Moray Firth Squid Fishery 2006 | 2007 | Campbell, R. and McLay, A. | Coastal, Moray Firth, east Scotland | Fisheries Research Services Internal Report No: 15/07 |
| The development of conservation limits (CLS) for Scottish salmon stocks: II – Extraction of wetted areas for the rivers, Helmsdale, Ness, Spey, Tay, Tweed and Ewe | 2007 | MacLean, J.C., Smith, G.W., Tulett, D. and Jackson, J. | Riverine, various | Fisheries Research Services Internal Report No: 07/07 |
| Sampling North Esk juvenile salmon populations by means of rotary screw traps (RSTS): 1. water of Mark, Spring 2002 | 2007 | MacKay, F. and Smith, G. | Riverine, North Esk, east Scotland | Fisheries Research Services Internal Report No: 08/07 |

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| Name of report | Date | Author | Area covered | Comments |
|---|------|---|------------------------------------|--|
| Species composition, diversity and biomass of the demersal fish community off the Scottish West Coast | 2007 | Fraser, H.M. and Greenstreet, S.P.R. | West coast of Scotland | Fisheries Research Services Internal Report No: 21/07 |
| Effect of introducing a species selective trawl gear in a Scottish <i>Nephrops</i> fishery | 2007 | Mehault, S., Kynoch, R.J., Fryer, R.J. and Ferro, R.S.T. | | Fisheries Research Services Internal Report No: 16/07 |
| Cod movements in relation to sub-stock structure in the North Sea and west of Scotland | 2007 | Wright, P.J., Neat, F.C., Gibb, F.M., Gibb, I.M. and Gallego, A. | North Sea | Fisheries Research Services Internal Report No: 17/07 |
| Temperature dependent growth and distribution of cod in the North Sea | 2007 | Neat, F. and Wright, P. | North Sea | Fisheries Research Services Internal Report No: 18/07 |
| Species composition, diversity, biomass and production of the epibenthic invertebrate community off the Scottish west coast | 2007 | Fraser, H., Greenstreet, S., Robertson, M., Jacob, N. and Robinson, L.A. | West coast of Scotland | Fisheries Research Services Internal Report No: 20/07 |
| Consumption of benthic prey by six common demersal fish Ppredators in the North Sea | 2007 | Fraser, H.M., Greenstreet, S.P.R. and Holland, G.J. | North Sea | Fisheries Research Services Internal Report No: 22/07 |
| Sampling North Esk juvenile salmon populations by means of rotary screw traps (RSTS): 2. Westwater, Spring 2003 | 2007 | Mackay, F. and Smith, G. | Riverine, North Esk, east Scotland | Fisheries Research Services Internal Report No: 09/07 |
| A square mesh panel in a <i>Nephrops</i> trawl, with an Inclined guiding panel, to improve whitefish selection | 2007 | Ferro, R.S.T. and Kynoch, R.J. | | Fisheries Research Services Collaborative Report No: 02/07 |
| The ecological disturbance caused by fishing in the North Sea | 2007 | Greenstreet, S., Robinson, L., Piet, G., Craeymeersch, J., Callaway, R., Reiss, H., Ehrich, S., Kroncke, I., Fraser, H., Lancaster, J., Jorgensen, L. and Goffin, A. | North Sea | Fisheries Research Services Collaborative Report No: 04/07 |
| Species composition, diversity, biomass and production Of the demersal fish community of the North Sea | 2007 | Greenstreet, S., Fraser, H., Piet, G., Robinson, L., Callaway, R., Reiss, H., Ehrich, S., Kroncke, I., Craeymeersch, J., Lancaster, J., Jorgensen, L. and Goffin, A. | North Sea | Fisheries Research Services Collaborative Report No: 07/07 |
| Review of theoretical community ecology: Implications for marine communities | 2007 | Greenstreet, S., Robinson, L., Reiss, H., Kroncke, I., Callaway, R., Snelgrove, P., Costello, M., Bergmann, M., Hiddink, J., Fraser, H., Craeymeersch, J., Degraer, S., | | Fisheries Research Services Collaborative Report No: 08/07 |

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| Name of report | Date | Author | Area covered | Comments |
|---|------|---|--------------|--|
| Variation in the abundance, distribution, diet and food consumption rates of gadoid predators in the Wee Bankie/Marr Bank region of the Northwestern North Sea, consequences for predator body condition, and the impact of closing the area to sandeel fishing | 2007 | Greenstreet, S., Holland, G., Fraser, H., Robertson, M., Doyle, K. and Li, R. | North Sea | Fisheries Research Services Collaborative Report No: 09/07 |
| Managing fisheries to conserve North Sea groundfish and benthic invertebrate species diversity | 2007 | Greenstreet, S., Robinson, L., Callaway, R., Reiss, H., Ehrich, S., Piet, G., Kroncke, I., Craeymeersch, J., Lancaster, J., Jorgensen, L., Degraer, S. and Goffin, A. | North Sea | Fisheries Research Services Collaborative Report No: 05/07 |
| Relationships between TACs, fish landings and fishing effort in the North Sea | 2007 | Greenstreet, S., Robinson, L., Callaway, R., Reiss, H., Ehrich, S., Piet, G., Craeymeersch, J., Kroncke, I., Fraser, H., Lancaster, J., Jorgensen, L. and Goffin, A. | North Sea | Fisheries Research Services Collaborative Report No: 06/07 |
| Species composition, diversity, biomass and production of the benthic invertebrate community of the North Sea | 2007 | Greenstreet, S., Fraser, H., Piet, G., Robinson, L., Callaway, R., Reiss, H., Ehrich, S., Kroncke, I., Craeymeersch, J., Lancaster, J., Jorgensen, L. and Goffin, A. | North Sea | Fisheries Research Services Collaborative Report No: 10/07 |
| Methodology for the combined sampling of marine groundfish and benthic invertebrate communities | 2007 | Callaway, R., Robinson, L., Greenstreet, S., Reiss, H., Fraser, H., Kroncke, I., Craeymeersch, J., deBoois, I., Robertson, M., Lancaster, J. and Goffin, A. | North Sea | Fisheries Research Services Collaborative Report No: 11/07 |

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REPORTS FROM FRS, SNH and SEPA WITH EVIDENCE ON PRODUCTIVE SEAS

| Name of report | Date | Author | Area covered | Comments |
|--|------|---|--------------------------------|---|
| A study of underwater noise generated during civil engineering works at Fraserburgh Harbour | 2005 | Urquhart, D. and Hall, C. | | Fisheries Research Services Collaborative Report No: 07/05 |
| Locational Guideline for Fish Farming: Tidal export of nutrients in the FRS ECE Model | 2005 | Amundrud, T. | Coastal | Fisheries Research Services Internal Report No: 10/05 |
| Fish & <i>Nephrops</i> stocks information 2006 | 2006 | Fisheries Research Services | ICES divisions around Scotland | Covers mackerel, herring, haddock, cod, whiting, saithe, monkfish, deep water fisheries west of Scotland, nephrops |
| Renovation of the Logie fish counting weir on the North Esk, 2005 | 2006 | Simpson, I. | | Fisheries Research Services Internal Report No: 04/06 |
| Disinfection guide version IV. Practical steps to prevent The introduction and minimise transmission of diseases of fish | 2006 | Fraser, D.I., Munro, P.D. and Smail, D.A. | | Fisheries Research Services Internal Report No: 13/06 |
| Locational guidelines for fish farming: impact of Seasonal resolution of nutrient input on ECE model | 2006 | Amundrud, T.L., Greathead, C., Gubbins, M.J. and Davies, I.M. | Coastal | Fisheries Research Services Internal Report No: 28/06 |
| Trends in fishing activity in the North Sea by UK Registered vessels landing in Scotland over the period 1960-1998 | 2006 | Greenstreet, S., Shanks, A. and Buckett, B. | | Fisheries Research Services Collaborative Report No: 02/06 |
| Freshness assessment of three fish species treated With Zyres U500 and Zyres Spray-Ice | 2006 | Craig, A.E. and McIntosh, A.D. | | Fisheries Research Services Contract Report No: 10/06 |
| A case study: desk-top sanitary survey for three Classified shellfish production areas in Argyll and Bute | 2006 | Turrell, E. and Graham, J. | Coastal | Fisheries Research Services Contract Report No: 07/06 |
| Scottish transport statistics No.25 | 2006 | Scottish Executive | All Scottish ports | Scottish Executive national statistics publication |
| Fish & <i>Nephrops</i> stocks information 2007 | 2007 | Fisheries Research Services | ICES divisions around Scotland | Covers mackerel, herring, haddock, cod, whiting, saithe, monkfish, deep water fisheries west of Scotland, nephrops. |
| Scottish fish farms annual production survey 2006 | 2007 | Fisheries Research Services | Scottish coastline | http://www.frs-scotland.gov.uk/Delivery/Information/Resources/information_resour |

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| Name of report | Date | Author | Area covered | Comments |
|--|------|--|------------------------|--|
| Scottish shellfish farm production survey 2006 | 2007 | Fisheries Research Services | Scottish coastline | ces view document.aspx?contentid=2220 |
| Scallop fishing in the Firth of Lorn Marine SAC: Review of Scientific Literature | 2007 | Leslie, B. and Shelmerdine, R. | West Coast of Scotland | Report by NAFC Marine Centre for SNH (Contract No. 19099) |
| UKCS Oil Production | 2007 | DBERR | UK Continental Shelf | Statistics main link http://www.og.dti.gov.uk/information/statistics.htm http://www.og.dti.gov.uk/information/bb_updates/appendices/Appendix9.htm |
| UKCS Gas Production | 2007 | DBERR | UKCS | http://www.og.dti.gov.uk/information/bb_updates/appendices/Appendix10.htm |
| Marine Aggregates The Crown Estate Licences - Summary of Statistics 2006 | 2007 | Crown Estate | All UK | http://www.thecrownestate.co.uk/43_landing_port_statistics_2006.pdf - demonstrates that no material extracted in Scotland in 2006. |
| Predicting the progression of the harmful dinoflagellate <i>Karenia mikimotoi</i> along the Scottish coast and the potential impact for fish farming | 2007 | Davidson, K., Gillibrand, P., Wilding, T., Miller, P. and Shuter, J. | Scottish west coast | Crown estate contract report |
| Key Scottish environment statistics | 2007 | Scottish Government | Scotland | Data provided by SEPA, FRS, and others [Also see under Clean and Safe seas] |

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REPORTS FROM FRS, SNH and SEPA WITH EVIDENCE ON CLIMATE CHANGE IN SCOTLAND'S SEAS

| Name of report | Date | Author | Area covered | Comments |
|--|------|---|-------------------------|--|
| Climate Change and Harmful Blooms <i>in</i> Harmful Algal Bloom Communities in Scottish Coastal Waters: Relationship to Fish Farming and Regional Comparisons – A Review | 2004 | Smayda, T.J. | Scottish coastal waters | Scottish Executive Environment Group paper 2006/3 [Also see Clean & Safe] |
| Scottish Ocean Climate Status Report 2002-2003 | 2005 | Fisheries Research Services | Coastal and offshore | |
| Marine Climate Change Impacts – Annual report Card 2006 | 2006 | Marine Climate Change Impacts Partnership | UK | Little detailed evidence of situation within Scottish waters, but relevant information should be available |
| Climate change and Scottish Fisheries | 2006 | Turrell, W.R. | | Fisheries Research Services Collaborative Report No: 12/06 |
| Scottish Ocean Climate Status Report 2004-2005 | 2007 | Hughes, S.L. | Coastal and offshore | Fisheries Research Services Internal Report No: 11/07 |

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EXAMPLES OF REPORTS FROM THE WIDER COMMUNITY WITH EVIDENCE ON CLEAN AND SAFE SEAS

| Name of report | Date | Author(s) | Area covered | Comments |
|--|------|---|--|---|
| Diversity, ecology and domoic acid production of <i>Pseudo-nitzschia</i> spp. in Scottish waters | 2004 | Fehling, J. | Western Scottish waters | SAMS/OU PhD thesis |
| Risk assessment of the FSA Scotland monitoring programme for biotoxins in shellfish harvested from classified inshore areas in Scotland: evaluation of the current scheme and development of improved alternatives based on historical data. | 2005 | Holtrop, G. and Horgan, G.W. Biomathematics and Statistics Scotland | Coastal with a focus on west coast, Western Isles and Northern Isles | FSA Scotland research contract S01026 |
| Harmful Phytoplankton in Shetland Waters | 2005 | Irvine, H. | Shetland | NAFC Marine Centre Fisheries Information Note No. 4 |
| Monitoring Programme for the Presence of Toxin Producing Plankton in Shellfish Production Areas in Scotland | 2006 | Swan, S.C. and Davidson, K. | Scotland | Food Standards Agency contract report |
| Profiles of lipid soluble biotoxins in common mussels from Scottish production areas during the summer and autumn of 2006 | 2006 | Cefas Biotoxin Team | Coastal with a focus on west coast, Western Isles and Northern Isles | FSA Scotland research contract S14033 |
| Pilot study on the incidence of algal toxins (ASP, DSP and PSP) in Scottish Brown Crab (<i>Cancer pagurus</i>). | 2006 | Vincent, D.O.C., Latif, Z., Williams, M., Ward, C. and McKenzie, J.D. Integrin Advanced Biosystems Ltd. | Coastal with a focus on west coast, Western Isles and Northern Isles | FSA Scotland research contract S14017 |
| Annual report on official control monitoring programme for presence of biotoxins (ASP) in live bivalve molluscs in Scotland 1 st April 2006-31 st March 2007 | 2007 | Integrin Advanced Biosystems Ltd. | Coastal with a focus on west coast, Western Isles and Northern Isles | FSA Scotland contract SO2007 |
| Biotoxin Monitoring Programme for Scotland Monitoring for PSP and lipophilic toxins-1 st April 2006-31 st March 2007 | 2007 | Cefas Biotoxin Monitoring Team | Coastal with a focus on west coast, Western Isles and Northern Isles | FSA Scotland contract SO2007 |
| Monitoring Programme for the presence of toxin producing plankton in shellfish production areas in Scotland 1 st April 2006-31 st March 2007 | 2007 | Swan, S.C. and Davidson, K. SAMS | Coastal with a focus on west coast, Western Isles and Northern Isles | FSA Scotland contract SO1007 |

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EXAMPLES OF REPORTS FROM THE WIDER COMMUNITY WITH EVIDENCE ON HEALTHY AND BIOLOGICALLY DIVERSE SEAS

| Name of report | Date | Author | Area covered | Comments |
|---|------|--|--|--|
| The benthic fauna of the Rockall Trough: regional distribution and bathymetric zonation | 1986 | Gage, J.D. | Rockall Trough. | Proceedings of the Royal Society of Edinburgh, 88B, 159-174 |
| RRS <i>Charles Darwin</i> cruise 101C Leg 2, 14 Jul-20 Aug 1996. Atlantic Margin Environmental Survey: seabed survey of the shelf edge and slope west of Shetland | 1997 | Bett, B.J. | Faroe-Shetland Channel | Southampton Oceanography Centre, Cruise Report No. 7, 127pp. & appendices. |
| Skin lesions and physical deformities in bottlenose dolphins in the Moray Firth: Population prevalence and age-sex differences | 1997 | Wilson, B., Thompson, P. M. and Hammond, P. S. | Moray Firth | <i>Ambio</i> 26(4): 243-247 |
| Survey photography. Section 4.2 in Environmental Surveys of the Seafloor of the UK Atlantic Margin, Atlantic Frontier Environmental Network | 2000 | Bett, B.J. and Axelsson, M. | | CD-ROM. Available from Geotek Limited, Daventry, Northants, NN11 5EA, UK. ISBN 09538399-0-7 |
| Macrobenthic Ecology of the West Shetland Slope | 2000 | Narayanaswamy, B.E | Faroe-Shetland Channel | PhD Thesis, University of Southampton, Southampton, U.K. |
| Environmental Surveys of the Seafloor of the UK Atlantic Margin | 2000 | AFEN | Faroe-Shetland Channel, Rockall Trough | CD-ROM. Available from Geotek Limited, Daventry, Northants NN11 5EA, UK. ISBN 09538399-0-7 |
| Changing occurrence of epidermal lesions in wild bottlenose dolphins | 2000 | Wilson, B., Grellier, K., Hammond, P. S., Brown, G. and Thompson, P. M. | Moray Firth | <i>Marine Ecology-Progress Series</i> 205: 283-290. |
| Exploratory Fishing for Deep Water Shrimp to the North and West of Scotland | 2001 | Bullough, L., Napier, I. and Riley, D. (NAFC) | West Coast of Scotland | Report on Biological Information Gathered from Scottish Fishing Vessels, Industry/Science Partnership, Vol. II, Sect. 5. |
| Where are the mature anglerfish? - The population biology of <i>Lophius piscatorius</i> in Northern European waters | 2001 | Laurenson, C., Priede, I.G., Bullough, L.W. and Napier, I.R. (NAFC) | Shetland | ICES CM 2001/J:27 |
| Abundance of harbour porpoises and other cetaceans in the North Sea and adjacent waters | 2002 | Hammond, P.S., Berggren, P., Benke, H., Borchers, D.L., Collet, A., Heide-Jørgensen, M.P., | North Sea (areas 7, 9, 10, 11, 12, 13, 14, 15) | Journal of Applied Ecology. 39 : 361-376. |

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| Name of report | Date | Author | Area covered | Comments |
|---|------|---|-----------------------------|---|
| | | Heimlich, S., Hiby, A.R., Leopold, M.F. and Øien, N. | | |
| Foraminifera associated with phytodetritus deposits at a bathyal site in the northern Rockall Trough (NE Atlantic): seasonal contrasts and a comparison of stained and dead assemblages | 2002 | Gooday, A.J. and Hughes, J.A. | Rockall Trough | Marine Micropaleontology, 46, 83-110 |
| The Darwin Mounds and the Dogger Bank – Case studies of the management of two potential Special Areas of Conservation in the offshore environment. Worldwide Fund for Nature Report | 2002 | Gubbay, S., Baker, M.C. and Bett, B.J. | Rockall Trough, Dogger Bank | Worldwide Fund for Nature Report. 63pp. |
| Fish and fisheries in the SEA4 area Report to the Department of Trade and Industry | 2003 | Gordon, J. D. M. | SEA 4 Area | www.offshore-sea.org.uk/sea/dev/html_file/pdf2.cgi/SEA4_TR_fish_sams.pdf |
| The deep-water fisheries of the Northeast Atlantic: I Description and current trends | 2003 | Gordon, J.D.M., Bergstad, O.A., Figueiredo, I. And Menezes, G. | NE Atlantic | Journal of Northwest Atlantic Fishery Science. 31: 137-150. |
| Diversity, ecology and domoic acid production of <i>Pseudo-nitzschia</i> spp. in Scottish waters | 2004 | Fehling, J. | Western Scottish waters | SAMS/OU PhD thesis |
| Do Discarded Velvet Crabs Survive? | 2005 | NAFC | Shetland | NAFC Marine Centre Report for the Shetland Shellfish Management Organisation |
| Growth dynamics of non-toxic <i>Pseudo-nitzschia delicatissima</i> and toxic <i>P. seriata</i> (Bacillariophyceae) under simulated spring and summer photoperiods | 2005 | Fehling, J., Davidson, K. and Bates, S.S. | Scotland | Harmful Algae 4: 763-769 |
| Seabird numbers and breeding success in Britain and Ireland, 2005 | 2006 | Mavor, R.A., Parsons, M., Heubeck, M. and Schmitt, S. | Britain & Ireland | http://www.jncc.gov.uk/pdf/pub06_Seabird_numbers2005.pdf |
| Scientific Advice on Matter Related to the Management of Seal Populations 2006 | 2006 | UK Special Committee on Seals | UK | http://www.smru.st-and.ac.uk/CurrentResearch.htm/sos.htm Annual publication; 2007 to be published in December. |
| Size variation in Populations of the Common Whelk, <i>Buccinum undatum</i> | 2006 | Shelmerdine, R., Adamson, J., Laurensen, C. and Leslie, B. (NAFC) | Shetland | NAFC Fisheries Development Note No. 24 |

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| Name of report | Date | Author | Area covered | Comments |
|--|------|---|--------------|---|
| A review of the 1988 and 2002 Phocine Distemper Virus seal epidemics in European Harbour Seals | 2006 | Härkönen, T., Dietz, R., Reijnders, P., Teilmann, J., Harding, K., Hall, A., Brasseur, S., Siebert, U., Goodman, S., Jepson, P., Dau Rasmussen, T. and Thompson, P.M. | Europe | Diseases in Aquatic Organisms, 68; 115-130 |
| UK Seabirds in 2006: results from the UK Seabird Monitoring Programme | 2007 | Joint Nature Conservation Committee | UK | http://www.jncc.gov.uk/pdf/pub07_ukseabirdsin2006.pdf |
| Distribution of the introduced amphipod, <i>Caprella mutica</i> Schurin, 1935 (Amphipoda: Caprellida: Caprellidae) on the west coast of Scotland and a review of its global distribution | 2007 | Ashton, G., Willis, K., Cook, E. and Burrows, M. | W Coast | Hydrobiologia, 590, 31-41 |
| Assessing the potential impact of salmon fisheries management on the conservation status of harbour seals in NE Scotland | 2007 | Thompson, P.M., Mackey, B.L., Barton, T.R., Duck, C. and Butler, J.R.A. | NE Scotland | Animal Conservation, 10: 48-56 |

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EXAMPLES OF REPORTS FROM THE WIDER COMMUNITY WITH EVIDENCE ON PRODUCTIVE SEAS

| Name of report | Date | Author | Area covered | Comments |
|---|------|--|------------------------------------|---|
| The Shetland Box | 2004 | NAFC | Shetland | Report by NAFC Marine Centre for the Shetland Islands Council |
| Effects of physical disturbance on the cold-water megafaunal communities of the Faroe-Shetland Channel | 2006 | Jones, D.O.B., Hudson, I.R., and Bett, B.J. | Faroe-Shetland Channel | Marine Ecology Progress Series. 319: 43-54 |
| Annual survey of reported discharges attributed to vessels and offshore oil & gas installations operating in the UK Pollution control zone - 2005 | 2006 | Advisory Committee on Protection of the Sea (ACOPS) | UK coastal seas | Survey conducted on behalf of the Maritime and Coastguard Agency http://www.mcga.gov.uk/c4mca/mcga-environmental/mcga-dops_cp_environmental-counter-pollution.htm |
| North Sea Stock Survey 2007 | 2007 | Laurenson, C. (NAFC) | North Sea | Report to ICES on behalf of the North Sea Commission Fisheries Partnership & Européche |
| The <i>Lophius budegassa</i> component of monkfish catches in Scottish waters | 2007 | Laurenson, C., Dobby, H. and McLay, H.A. | North Sea / West Coast of Scotland | ICES CM 2007/K:05 |
| Shetland Shellfish Stock Assessments 2007 | 2007 | Leslie, B., Laurenson, C., Shelmerdine, R. and Riley, D. | Shetland | NAFC Marine Centre Report |
| Effectiveness of separator grids during commercial single and pair trawling for mackerel | 2008 | Laurenson, C. and MacDonald, P. | | Report in prep. by NAFC Marine Centre - Scottish Industry Science Project |
| Relating Harmful Phytoplankton to Shellfish Poisoning and Human Health | 2008 | Davidson, K. and Bresnan, E. | Scottish & UK waters | NERC Workshop report, in preparation |

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EXAMPLES OF REPORTS FROM THE WIDER COMMUNITY WITH EVIDENCE ON CLIMATE CHANGE IN SCOTLAND'S SEAS

| Name of report | Date | Author | Area covered | Comments |
|--|------|--|-------------------------------|---|
| Parallel influence of climate on the behaviour of Pacific killer whales and Atlantic dolphins | 2004 | Lusseau D., Williams R., Wilson B., Grellier K., Barton T., Hammond P.S. and Thompson P.M. | | <i>Ecology Letters</i> , 7, 1068-1076. |
| Effect of wintering area and climate on the survival of adult Atlantic puffins <i>Fratercula arctica</i> in the eastern Atlantic | 2005 | Harris, M.P., Anker-Nilssen, T., McCleery, R.H., Erikstad, K.E., Shaw, D.N. and Grosbois, V. | Eastern Atlantic | Marine Ecology Progress Series, 297, 283-296. |
| A Preliminary Analysis of CPR and Other Environmental Data for the Waters Around Shetland | 2006 | Napier, I. (NAFC) | Shetland, northwest North Sea | NAFC Marine Centre Internal Report |
| On the Oceanographic Variability of the North-West European Shelf to the West of Scotland | 2007 | Inall, M., Gillibrand, P., Griffiths, C., MacDougal, N. and Blackwell, K. | Mid-shelf | Journal of Marine Systems <i>in press</i> |