



Code of Practice for Marine Scientific Research at Irish Coral Reef Special Areas of Conservation

September 2006

1. How did Irish coral reefs gain protection?

The stated aim of Council Directive 92/43/EEC of 21 May 1992 as amended (the Habitats Directive) is to contribute towards ensuring biodiversity through conservation of natural habitats and of wild fauna and flora in the European territory of the Member States of the Community. The primary means of fulfilling this aim is through the creation of Natura 2000, a network of sites hosting natural habitat types and habitats of species. The Habitats Directive was transposed into Irish domestic law on 26 February 1997 with the enactment of the European Communities (Natural Habitats) Regulations 1997 (Statutory Instrument No. 94 of 1997) (the 1997 Regulations). In October 2002, the European Council of Ministers decided that the Habitats Directive applies within Member States' exclusive economic zone (the EEZ).

In 2003, the National Parks and Wildlife Service of the Department of the Environment, Heritage & Local Government (the Department) in association with the Irish Marine Institute undertook a comprehensive review of the distribution of cold water coral reefs in Irish waters. The purpose of this review was to identify representative sites that were suitable for designation and protection, and the national and international scientific communities were requested to facilitate this process through the provision of information and data.

This review concluded in 2005 and, as a result, Ireland identified four sites for consideration as Special Areas of Conservation under the Habitats Directive to conserve their resident cold water coral reefs which are regarded as biogenic forms of the Annex I habitat *Reefs*. The four sites, namely the North-West Porcupine Bank, the South-West Porcupine Bank, the Hovland Mound Province and the Belgica Mound Province encompass over 2,500 km² within the Irish EEZ.

On 1 June, 2006 the Irish Minister for the Environment, Heritage and Local Government (the Minister) formally announced his intention to propose these four marine sites off the west and south-west coasts of Ireland as Special Areas of Conservation.

2. What is the basis for management measures at these SACs?

In the four candidate Special Areas of Conservation (cSACs), the overarching conservation objective (and legal obligation) for Ireland will be to maintain at, or restore to, favourable conservation status the resident coral reef habitats. Specifically, this is achieved when

- their natural range and area covered within that range is stable or increasing, and
- the specific structure and functions which are necessary for their long term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of their typical species is favourable.

The conservation status of the typical species will be taken as favourable when

- population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of the habitat, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is and will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.

Article 6 is one of the most important articles of the Habitats Directive in determining the relationship between conservation and site use. Article 6(3) requires that “*Any plan or project not directly connected with or necessary to the conservation of a site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the sites conservation objectives.*” In Ireland, the provisions of this Article are implemented through marine licensing administration or by consent from the Department under the 1997 Regulations.

Management arrangements have already been discussed with the respective licensing authorities for several types of operations or activities (including commercial fishing and petroleum exploitation) that are likely to alter, damage, destroy or interfere with the integrity of the cold water corals situated in the four cSACs. A series of other plans or projects that are not currently licensable will require the consent of the Minister. It is through this consent regime - to be administered by the Department of Environment, Heritage and Local

Government - that marine scientific research (MSR) as a plan/project not directly connected with or necessary to the conservation of the site will be administered.¹

The Irish Authorities regard MSR as an operation or activity that would be likely to alter, damage, destroy or interfere with the integrity of the cold water coral situated within these four cSACs. By designating MSR conducted by Irish and foreign flagged vessels as an operation or activity requiring consent from the Minister under the 1997 Regulations, Ireland is of the view that this

- i. complies with the State's obligations under EU law,
- ii. is consistent with the State's international legal obligations, and in particular the relevant provisions of Parts XIII (entitled 'Marine Scientific Research') and XII (entitled 'Protection and Preservation of the Marine Environment') of the United Nations Convention on the Law of the Sea (UNCLOS) in relation to Ireland's right to regulate, authorise and conduct such research in Irish territorial waters, EEZ and continental shelf, and
- iii. contributes to commitments provided to the OSPAR Commission for the Protection of the Marine Environment in the North-East Atlantic.

¹ This consent regime under the 1997 Regulations (namely obtaining consent from the Minister for the Environment, Heritage and Local Government) has been incorporated into the existing MSR consent regime under which foreign states (and their vessels) or competent international organisations wishing to conduct MSR in Irish territorial waters, EEZ or continental shelf must, under Part XIII of UNCLOS, obtain the consent of the relevant Irish authorities through official channels by submitting an application form to the Irish Department of Foreign Affairs.

It is therefore clear that the foreign state or organisation is not required to submit two separate applications (1) for consent to conduct MSR (in accordance with Part XIII of UNCLOS) and (2) for consent from the Minister for the Environment under the 1997 Regulations to conduct MSR in any of the four cSACs.

A separate consent regime for Irish researchers wishing to conduct MSR within the four cSACs has also been devised and is available from the National Parks and Wildlife Service of the Department (contact details set out in Appendix 1).

The development of this code of practice in parallel with the consent regime is not designed to prevent or restrict MSR from being conducted within the designated areas. However, it will provide a transparent framework for the adoption of best environmental practices that will ensure that the activity is pursued on a sustainable basis and to the highest operating standards.

3. What is the role of the MSR code of practice in site management?

The conduct of MSR in cSACs will require consent from the Minister. The Minister is obliged through the first part of Article 6(3) of the Habitats Directive to decide whether the proposed plan or project in or adjacent to the cSACs is likely to have a significant effect on the conservation status of the protected habitat or species or on the integrity of the site itself. If the proposed activity is unlikely to have a significant effect, consent may be granted immediately. However, if there is a likelihood of significant effect arising in relation to a proposal, the Minister is obliged under the second part of Article 6(3) to seek an appropriate assessment of the implications of the plan or project for the site's conservation before granting consent.

The development of this code is specific to those four cSACs that have been proposed for designation on the basis of cold water coral reefs. Recognising the level of forward planning involved in organising and executing MSR cruises, it was decided to offer some transparency and guidance to the national and international scientific community in the MSR consent process. Essentially, where MSR operations planned for a cSAC that has been designated for cold water coral protection are to be conducted in a manner that complies with the relevant operating conditions outlined in this code, the Department may form the view that the operation would be unlikely to have a significant effect. Under such circumstances, there should be no undue delay in finalising the MSR consent. However, if a proposed MSR operation, either by its nature or scale, is not consistent with the operating conditions outlined in the code, the Department may seek an appropriate assessment from the applicant prior to a final decision concerning access approval. This may result in lengthening the decision-making process.

In any case, researchers are advised to make early contact with the Department to ensure that applications can be administered without undue delay.

4. How was the code developed?

This code was developed through a process of

- i. Risk identification,
- ii. Risk assessment, and
- iii. Risk management.

It is clear that although a multitude of different existing and emerging technologies and/or techniques may be implemented across several offshore MSR disciplines, there is some degree of commonality in the actual risks posed to coral reef habitat. Accordingly, the possible types of risk associated with MSR activities conducted in the offshore sector are identified in Table 1 below. For ease of reference, the potential categories of MSR that the respective risk may be associated with are also identified. An assessment of how serious the impact might be if the risk was to actually happen is multiplied by an assessment of the likelihood of the impact happening in the first place. This provided an overall characterisation of the risk and a transparent approach to prioritisation in terms of risk management. This assessment informed the technical measures in the code designed to mitigate against the potential risks.

A draft of the code was circulated to the national and international scientific community for consultation and was revised on the basis of observations received.

It is also noted that, over time, there is a risk that knowledge may be under-utilised or lost leading to a repeat in research effort. It is imperative that the value of data gathered within the four cSACs is fully maximised and to avoid any redundancy. In this regard, it should be noted that the relevant Irish authorities intend to fully implement Article 249 of UNCLOS which provides that States and competent international organisations when undertaking MSR in another State's EEZ or continental shelf are obliged to comply with certain conditions including ensuring that the Coastal State is, at its request, granted full access to, and copies of, data collected as well as assessments of such data. It also requires that research results are made internationally available through appropriate channels as soon as is practicable.

Table 1 Assessment of MSR-related risk to deep water coral reefs

Risk	Potential Category of MSR	Impact ¹ (1-5)	Probability ² (1-5)	Rank ³
Equipment projecting beyond an ROV damages reef structures	ROVs	3	1	Low
Poor control of ROV leading to increased physical contact with reefs	ROVs	3	1	Low
Accidental deployment of benthic equipment (including landers) or moorings onto reefs causing breakage/abrasion	Benthic sampling Moorings deployment	3	4	Medium
Targeted removal of species impinges population/reef integrity	Benthic sampling ROVs Fishing gear	4	3	Medium
Complete loss of equipment onto reef due to mechanical failure	General	3	1	Low
Physical impact on reef structures using sampling gear	Benthic sampling Fishing gear Near-bottom towing	4	4	High
Smothering of reefs through sedimentation	Benthic sampling Fishing gear	4	3	Medium
Snagging of umbilical/warp on reefs causing breakage/abrasion	ROVs Moorings deployment Fishing gear	3	1	Low
Disturbance or injury of marine mammals	Seismic survey	4	3	Medium

Sampling equipment or moorings being accidentally towed across a reef	Benthic sampling Moorings deployment Near-bottom towing	4	3	Medium
Research results are not published leading to repetition of sampling effort over time	General	3	3	Medium

¹**Impact**

- 1 Insignificant
- 2 Minor
- 3 Moderate
- 4 Major
- 5 Catastrophic

²**Probability**

- 1 Rare
- 2 Unlikely
- 3 Possible
- 4 Likely
- 5 Almost certain

³**Rank** (= Impact * Probability)

- > 14 High
- 5 - 14 Medium
- < 5 Low

5. Code of Practice

General

- (1) MSR consents must be carried aboard research vessels and presented for inspection upon request by a member of An Garda Síochána, the Irish Naval Service, or an Authorised Officer for the purposes of the EC (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997).
- (2) Approved operations must be conducted in a manner consistent with consent specifications, the provisions of the United Nations Convention on the Law of the Sea, 1982, and this code of practice.
- (3) Authorised Officers must be provided with full access to ensure compliance with consent specifications.
- (4) Authorised Officers may immediately suspend, amend or revoke consents if, in their view, MSR operations will adversely affect the conservation status of the cSAC.
- (5) Where equipment is being deployed within cSACs, every effort should be made to avoid equipment loss or stranding. This includes the use of well-maintained, high quality materials, incorporating as many backups as possible into sampling systems and ensuring all knots/splices/shackles are checked by experienced personnel.

Remotely Operated Vehicles (ROVs)

- (6) ROVs may only be utilised in cSACs when controlled by operators with at least 1 year of direct ROV experience.
- (7) Nothing may be allowed to hang freely or protrude unduly from the ROV during operations.
- (8) The accumulation of ROV umbilical or warp close to or on the seafloor should be avoided.

Benthic Sampling

- (9) Use of towed bottom sampling equipment or drilling technologies are not specifically precluded in the sites. However, researchers are strongly encouraged to contact the National Parks and Wildlife Service of the Department at the earliest possible opportunity (contact details are set out in Appendix 1) to discuss the (i) proposed sampling techniques, (ii) likely impacts that may arise and (iii) available biological and physical knowledge of the proposed target site. In acknowledging the range of sampling technologies available and their differing impacts, such discussions will inform whether a prior site assessment is necessary and, if so, the appropriate scale and content of such an assessment.
- (10) Physical contact between benthic sampling equipment (including landers) and coral reefs should be minimised. To that end, all available measures necessary to ensure accurate navigation on known coral habitats should be adopted.

- (11) Numbers of extractive samples or specimens should be kept to a minimum and retrieved using visually assisted methodologies, where feasible.
- (12) Opportunities to maximise the value of samples collected should be fully exploited including the lodgement of specimens in natural history museums, collaboration with other workers, etc.
- (13) Where specimens are lodged in a natural history museum the National Parks and Wildlife Service of the Department must be notified of what was lodged, the location and the catalogue number (contact details are set out in Appendix 1).
- (14) Where particular species of fauna are being targeted, consideration should first be given to the use of alternative sites outside cSACs where possible.

Moorings Deployment

- (15) Avoid the accumulation of mooring warp close to or on the seafloor.
- (16) Physical contact between moorings and coral reefs should be minimised. To that end, all available measures necessary to ensure accurate navigation on known coral habitats should be adopted.

Fishing Gears

- (17) Use of fishing gears for scientific purposes is not specifically precluded in the sites. However, researchers are strongly encouraged to contact the National Parks and Wildlife Service of the Department at the earliest possible opportunity (contact details are set out in Appendix 1) to discuss the (i) proposed fishing techniques, (ii) likely impacts that may arise and (iii) available biological and physical knowledge of the proposed target site. In acknowledging the range of fishing techniques available and their differing impacts, such discussions will inform whether a prior site assessment is necessary and, if so, the appropriate scale and content of such an assessment.

Seismic Survey ¹

- (18) The minimum acoustic source level to achieve the desired results should be used. The acoustic frequencies should be chosen to minimise impacts on marine mammals. Use of pulsed as opposed to continuous sounds should be employed, where possible.
- (19) A qualified and experienced marine mammal observer (MMO) should be present on board the research vessel during seismic survey operations. The MMO should survey the area for 60 minutes before the onset of soft start. If marine mammals are seen within 2000 metres of the centre of the sound source the start of the sound source(s) should be delayed until they have moved away, allowing adequate time after the last sighting for the animals to leave the area (60 minutes). If the cetaceans do not leave the area, it is recommended that the survey vessel alter course to ensure that the animals are outside the 2000 metre exclusion zone when soft start commences.

¹ Possible impacts of other acoustic survey techniques (e.g., multibeam, side scan sonar) are currently being reviewed with a view to developing mitigation measures, where necessary.

- (20) Soft starts should achieve the maximum (or desired) output after 40 to 60 minutes. Power should be built up slowly from a low energy start-up (e.g., starting with the smallest airgun in the array and gradually adding in others) over at least 20 minutes to give adequate time for marine mammals to leave the vicinity. This build up of power should occur in uniform stages to provide a constant increase in output from the sound source.
- (21) There should be a 'soft start' every time the sound source(s) is used, even if no marine mammals have been seen. Soft starts must occur during daylight hours so that MMO's can carry out the required pre-soft start scan.
- (22) If, for any reason, firing of the sound source has stopped and not restarted for at least 5 minutes a full 'soft start' should be carried out. After any break in firing of any duration a visual check should be made for marine mammals within the 'exclusion zone' for that depth. If a marine mammal is present then re-commencement of shooting should be delayed as per the instructions above.
- (23) Once the sound source has achieved its maximum output (post-soft start) the survey need not be halted should cetaceans approach the vessel.
- (24) With the sound source running, if the turn-around time between sample lines or stations is greater than the start-up time then a soft start should be used.
- (25) If a break in output greater than 5 minutes is required whilst sampling then a full start-up is required.

Near-Bottom Towing

- (26) Any towed near-bottom equipment must be flown at a sufficient height so as to avoid accidental impacts with the reef. Tows should be parallel or shallow oblique to slopes.

Reporting

- (27) Access to all data and imagery, both in a processed and unprocessed form, collected during a research cruise must be provided to National Parks & Wildlife Service of the Department upon request (contact details are set out in Appendix 1).
- (28) Where a MMO is utilised, a short report from the MMO summarising activities undertaken, positions, and sightings should also be included with the preliminary report of the Chief Scientist.
- (29) Research results must be published and/or made internationally available within 3 years of the relevant cruise unless otherwise agreed with National Parks & Wildlife Service of the Department. National Parks & Wildlife Service will utilise (and not publish) such knowledge/information for management purposes as necessary thereafter whilst fully acknowledging the data collectors/processors entitlements.
- (30) Research publications should acknowledge the co-operation of the Irish Government in providing access to the sites and a copy of all publications arising from research

conducted in cSACs must be provided free of charge to National Parks & Wildlife Service of the Department (contact details are set out in Appendix 1).

Appendix 1

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