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**REPORT OF THE ECS-ASCOBANS WORKSHOP:
TOWARDS MEANINGFUL CONSERVATION ACTION FOR RISSO'S DOLPHINS IN THE
NORTH ATLANTIC**

(Prepared by the Secretariat)



REPORT
OF THE ECS-ASCOBANS WORKSHOP:
TOWARDS MEANINGFUL CONSERVATION ACTION FOR
RISSE'S DOLPHINS IN THE NORTH ATLANTIC



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This report is available on the workshop page: <https://www.ascobans.org/meeting/ecs-ascobans-workshop-towards-meaningful-conservation-action-rissos-dolphins-north-atlantic>

REPORT

OF THE ECS-ASCOBANS WORKSHOP: TOWARDS MEANINGFUL CONSERVATION ACTION FOR RISSO'S DOLPHINS IN THE NORTH ATLANTIC

Opening of the Workshop

Jenny Renell (ASCOBANS Secretariat) opened the workshop and welcomed attendees. A tour-de-table of introductions took place. Mark Simmonds (Chair of the Workshop) outlined the aims of the workshop: to synthesize current knowledge on Risso's dolphins (*Grampus griseus*) in the North Atlantic, identify priority conservation actions, and lay the groundwork for a potential ASCOBANS Species Action Plan (SAP) for the species.

Risso's dolphins are widely distributed across the North Atlantic yet remain poorly understood in terms of population status, ecological requirements, and vulnerability to human pressures. The workshop brought together researchers, conservation practitioners, and policy experts to foster dialogue across disciplines and jurisdictions, and to translate research findings into meaningful conservation actions.

Discussion raised the question of whether Risso's dolphins in the eastern North Atlantic should be treated as a single population. From a genetic perspective, the answer was 'yes', although photo-ID and other data indicate finer-scale sub-structuring. Samples for genetic analysis came from stranded individuals and have been predominantly from the British Isles and, separately, the Azores.

Synthesising Current Knowledge

Genetics and Population Structure (by Nicola Hodgins)

Current knowledge of Risso's dolphin population structure remains geographically limited, with genetic analyses conducted only in a small number of regions. Whereas analyses in the North Pacific have identified multiple genetically distinct populations, providing evidence that population structuring can occur within the species, available data from the North Atlantic are far more restricted.

Within the ASCOBANS region, mitochondrial DNA analyses of samples from British waters indicate that Risso's dolphins form a single, genetically cohesive population, with no evidence of further subdivision at this scale. However, this population appears to be genetically isolated from other North Atlantic groups, including both the Mediterranean and the Azorean populations, which have been identified as separate and closed populations. However, sample sizes remain small, and several parts of the region have not been sampled.

Recent research suggests that Risso's dolphins from around the British Isles descend from a distinct historical lineage, with limited or no contemporary genetic exchange with neighbouring regions. This lack of connectivity has important conservation implications, as declines in local populations would not be replenished through immigration.

Discussion highlighted that these genetic findings potentially contrast with photo-identification which, at least in some areas, suggest evidence of fine-scale structuring and possible ecological sub-units within the wider population. There is some evidence from around Great Britain of long-distance movements, however, there is also strong evidence of site fidelity by a significant number of individuals. It remains to be determined whether the population comprises a portion that are more or less resident (or at least) semi-resident and ones that are much more mobile, or whether the same individuals may change their movement ecology over time. Until there are larger samples of individuals with known life histories, it will be difficult to establish which is occurring. The occurrence

of hybridisation with bottlenose dolphins was also noted as a potential issue, although its long-term significance remains uncertain.

Life History and Behaviour (by Oihana Olhasque and Karin Hartmann)

Long-term photo-identification studies (spanning 17 years) conducted in French waters provide new insights into population dynamics and spatial structuring. Two focal study areas in Brittany show contrasting patterns: the north-east site is characterised by high site fidelity and repeated sightings of individuals over multiple years, while the north-west site appears to function as a transit area, with larger group sizes and fewer recaptures.

The north-east site also showed a higher occurrence of groups containing calves and juveniles, suggesting its role as a potential nursery area. Demographic modelling based on long-term data indicates relatively high adult survival (approximately 0.92) but markedly lower apparent juvenile survival (~0.42), likely reflecting dispersal rather than true mortality. A decline in recruitment was observed over time.

Existing knowledge of Risso's dolphin life history is limited and largely derived from stranded individuals. Available data indicate a gestation period of approximately 14 months, with weaning occurring between one and three years, though field observations suggest that calves may remain associated with their mother for significantly longer. Sexual maturity is reached at approximately 10–12 years in females and around 7 years in males, with maximum recorded age estimates exceeding 30 years based on necropsy data, and potentially higher based on field-based assessments.

Risso's dolphins display complex social structures, with group sizes typically ranging from 5 to 30 individuals. Males may form long-term associations or alliances, while females are often observed in nursery groups when rearing calves. Juveniles and subadults may form mixed groups. Behavioural observations indicate considerable variation, including both cooperative and aggressive interactions, such as calf protection, babysitting behaviour, and infanticide.

Feeding occurs primarily at depth (50–600 m), with dives lasting several minutes, and includes both daytime and nocturnal foraging. The species exhibits a broad behavioural repertoire, including resting, travelling, foraging, and socialising, with behaviour varying according to ecological conditions.

Discussion emphasised that the observed decline in recruitment may reflect movement of individuals rather than a true population decline, highlighting the limitations of site-based analyses. The considerable significance of scarification patterns was also highlighted, scars are typically thought to reflect longevity but may be considered a symbol of male social status (analogous to silverback gorilla status markers).

Distribution, Abundance, and Ecology (by Peter Evans and Gemma Veneruso)

Risso's dolphins are widely distributed across the North Atlantic, with a preference for temperate waters and shelf-edge habitats, particularly along continental slopes. They occur over a wide depth range (approximately 20–2000 m), though density modelling consistently highlights the importance of outer shelf and slope habitats.

Abundance estimates from large-scale surveys such as SCANS suggest a population of approximately 13,000–14,000 individuals in the wider north-west European region, with additional estimates for Irish waters. However, these figures remain uncertain due to limited survey coverage in offshore areas and a low number of encounters from which the estimates were derived.

Spatial analyses show the presence of persistent hotspot areas, including regions around Brittany, southwest England, Wales, Ireland, western and northern Scotland. These areas appear to be used repeatedly over time, suggesting their ecological importance. At the same time, photo-identification studies demonstrate that at least some individuals are capable of long-distance movements between

regions, indicating a degree of connectivity across the broader population – supported by recent genetic analysis.

This combination of wide-ranging movements and strong site fidelity suggests a complex population structure, in which individuals may either adopt sedentary or more mobile strategies, although this remains unresolved.

Passive acoustic monitoring has provided additional insights into temporal patterns of presence. Results from North Wales indicate that Risso's dolphins show strong nocturnal acoustic activity, likely linked to foraging behaviour, with reduced daytime detections potentially reflecting decreased vocal activity rather than absence. Seasonal patterns also vary between sites, further highlighting the importance of local ecological drivers.

In discussion it came up that although present in the region year-round, typically Risso's dolphins in some locations at least come close to the coast in April (at the earliest) and move offshore again in November, travelling in small groups to and from areas such as the Isle of Man. Coastal presence is associated with prey availability rather than breeding, though calves are brought inshore. The species remains present offshore outside this season. Integration with Irish survey data is a future goal.

It was also discussed that verification against visual survey data from colleagues at Bangor University is a priority for future work to discriminate diel patterns between presence, vocalization, and foraging behaviour.

Acoustics (by Thomas Webber)

Risso's dolphins rely heavily on echolocation clicks and produce relatively few whistles compared to other delphinid species. Their echolocation clicks exhibit distinctive spectral characteristics that allow for species-specific identification in passive acoustic datasets.

Recent work has led to the development of an automated classifier for Risso's dolphin clicks, based on waveform characteristics rather than spectrogram features. This classifier has been trained on datasets from multiple regions and shows promising performance when applied to long-term passive acoustic monitoring data.

Application of this approach to acoustic datasets across Scotland indicates that Risso's dolphins can be detected year-round, with strong evidence of site-specific seasonal variation and increased nocturnal detection probability for those sites where the diel cycle was a significant predictor in the modelling. These differences between sites suggest that temporal patterns of habitat use are highly variable, potentially reflecting local prey dynamics or environmental conditions. The increased detection probability at night at certain sites, complements information on Risso's dolphin presence obtained from visual survey. Continued development of automated classification tools and integration with visual datasets are therefore expected to significantly improve understanding of spatial and temporal distribution.

The relative balance of clicks versus whistles in Risso's dolphins was discussed: the ratio may relate to diet and social behaviour. Welsh data also showed more whistling than clicking. A historical observation from the Isle of Lewis was noted, where two groups of Risso's dolphins coming together produced considerable whistling.

Another factor that may be important is predator avoidance. In the Minches, a group of Risso's was observed to fall silent shortly before a pod of orcas were observed (Evans pers obs).

Contaminants (by Mark Simmonds)

Contaminant exposure represents a significant and likely under-recognised threat to Risso's dolphins. Analyses of stranded individuals indicate that approximately 48% of sampled animals in

the UK exceed established toxicity thresholds for persistent organic pollutants, with around one-third exceeding levels associated with adverse biological effects.

These contaminants, particularly polychlorinated biphenyls (PCBs), persist in the marine environment despite regulatory controls and continue to accumulate through trophic transfer. As apex predators feeding predominantly on cephalopods, Risso's dolphins are vulnerable to bioaccumulation of both organic pollutants and heavy metals.

There is also emerging evidence of interacting effects between contaminants and environmental change, with increased sea surface temperature and contaminant load jointly associated with higher mortality from infectious disease. Overall, contaminant exposure is likely to have sub-lethal and potentially population-level effects, although data remain limited, and further investigation is required.

Discussion highlighted the issue of mercury accumulation: in Scotland, the primary prey of Risso's dolphins is a species of octopus known to be a high accumulator of mercury, creating an exposure pathway that has received insufficient attention given the expectation that smaller fish would be the primary vector. This pattern of prey preference may reflect climate-driven or other ecosystem-level changes in prey availability. Sex-specific patterns in bioaccumulation were noted: males tend to accumulate contaminants throughout their lives, while females can transfer some of their contaminant load to calves.

Underwater Noise (by Nienke van Geel)

Risso's dolphins possess a broad hearing range extending across low to very high frequencies, overlapping with a wide range of anthropogenic noise sources, but audiograms (i.e. hearing sensitivity across frequencies) exist for three individuals only. Nevertheless, frequencies audible to the species include both impulsive sounds (e.g. seismic surveys, construction, explosions) and continuous noise (e.g. vessel traffic, offshore infrastructure). More generally, anthropogenic noise has the potential to cause behavioural disturbance, displacement from important habitats, and auditory damage (either temporary or permanent).

Available evidence suggests no clear behavioural change in response to military sonar and seismic activity, although sample sizes are extremely small and not representative of both individual and population-level impacts. This evidence base is therefore insufficient to assess population-level impacts, highlighting a major knowledge gap in understanding noise as a threat to this species.

Discussion noted that for many species, including Risso's dolphins, impact on individuals as well as the population-level significance of anthropogenic noise remains poorly understood.

Disturbance (by Peter Evans)

Direct disturbance, particularly from vessel traffic, can influence the behaviour of Risso's dolphins, although responses vary depending on context. Observations indicate that dolphins may show little or no response to some vessels, particularly those operating predictably or at low speed. In contrast, high-speed or erratically moving vessels, such as jet skis, consistently elicit strong avoidance behaviour, including rapid movement away from the area and tail-slapping.

In some cases, individuals exhibit attraction to specific vessels, particularly those encountered regularly, suggesting that responses are influenced by prior experience. However, disturbance may still have energetic or behavioural consequences, particularly if it disrupts foraging or social interactions. Evidence of vessel strikes has also been recorded, including individuals showing signs of blunt trauma, indicating that collisions represent an additional risk.

Overall, disturbance is likely to be context-dependent but potentially significant, particularly in areas with increasing vessel traffic. An unusual case was discussed in which an individual animal had been struck by a boat on four or five occasions. This was considered highly atypical, though parallels with pilot whale responses were noted.

Bycatch (by Peter Evans)

Bycatch has been documented across multiple gear types, including demersal trawls, static gillnets, and longline fisheries, although overall levels remain poorly quantified. Evidence from the Mediterranean suggests that bycatch in longline fisheries can occur at measurable rates, but data from the North Atlantic are limited. Prior to 2018, bycatch/entanglement was the leading cause of Risso's strandings in Scotland.

Risk mapping indicates that bycatch is most likely to occur in areas where fishing effort overlaps with high-density Risso's dolphin habitats, particularly along the continental shelf edge. A major challenge is the lack of adequate monitoring, especially in offshore fisheries where observer coverage is low or absent. As a result, reliable estimates of bycatch rates are not currently available for most regions.

The absence of targeted management measures further increases uncertainty regarding the level of risk. Overall, bycatch is considered a significant but data-deficient threat. Discussion confirmed that there are currently no closed seasons for fishing within the relevant distribution range, representing a significant gap in management provisions.

Prey (by Peter Evans)

Risso's dolphins feed primarily on cephalopods, with over 80 prey species identified across their range. Diet composition varies regionally, reflecting differences in prey availability rather than strong prey selectivity.

In some areas, such as the Isle of Man and western UK waters, octopus species may dominate the diet, with observations showing a clear spatial and temporal overlap between dolphin occurrence and prey distribution. These findings suggest that Risso's dolphin distribution is strongly influenced by prey dynamics, particularly the availability of cephalopod species associated with specific habitats.

Habitat Loss & Degradation (by Nicola Hodgins)

Knowledge of habitat loss and degradation impacts on Risso's dolphins remains limited, but available evidence suggests that the species may be particularly vulnerable due to its reliance on specific prey species and habitats. In areas such as the west coast of Scotland, key habitats overlap with intensive human activities, including bottom trawling, offshore renewable energy development, and aquaculture expansion. These activities may alter or remove critical foraging areas, particularly those associated with cephalopod spawning or aggregation.

Observations indicate that Risso's dolphins are closely linked to prey availability, with increased presence in areas experiencing octopus blooms or spawning events. This suggests that habitat degradation affecting prey species may have indirect but significant effects on dolphin distribution and feeding opportunities. Given the apparent specificity of habitat use, habitat degradation may represent a more significant threat than currently recognised, although further data are needed to assess its full impact.

In discussion it was found that a recent octopus bloom in the English Channel has been anecdotally correlated with increased Risso's dolphin presence, and areas experiencing octopus incursions into crab and lobster traps have similarly seen increased Risso's dolphin activity. Coordinating with crab and lobster fisherman to track rises in octopus presence could be a future avenue for predicting Risso's presence.

Other Threats (by Mark Simmonds and Nicola Hodgins)

Additional threats include climate-driven changes in distribution and prey availability, as well as the emergence of new contaminants or anthropogenic pressures.

Recent observations indicate a northward expansion in range, with increasing sightings in higher latitude regions such as Norway, the Faroe Islands and Iceland. While this may reflect changing environmental conditions, it also raises concerns about potential interactions with new threats, including fisheries and hunting practices in previously unoccupied regions.

The possibility of emerging contaminants and other novel pressures highlights the need for continued monitoring and adaptive management approaches.

Developing a Conservation Plan

ASCOBANS Guidelines and Species Action Plan Framework (by Jenny Renell and Peter Evans)

The ASCOBANS framework for Species Action Plans (SAPs) was introduced as a key mechanism for coordinating conservation action across Range States. SAPs are designed as practical management tools, requiring clearly defined objectives, prioritised and achievable actions, and mechanisms for monitoring, reporting, and coordination. They are typically multilateral in scope and are intended to balance scientific knowledge with the precautionary principle, ensuring that action is taken even where uncertainties remain.

It was outlined that SAPs generally include actions under several categories, including coordination, research, public awareness, monitoring, and mitigation measures, all of which aim to contribute to improved conservation status. Existing action plans for species such as harbour porpoises and common dolphins were presented as examples, demonstrating how actions are structured and tracked across countries.

The development of an action plan is usually done by a consultant, and covering those fees relies on contributions from ASCOBANS Parties. Each action plan is typically overseen by a coordinator, and progress is reviewed regularly through structured reporting.

Reference was made to the approach in the progress report on the implementation of the North Sea Plan¹, in which a progress-on-implementation chart had been developed, countries with the species in their range are listed, and annual progress on implementation tracked for each action, with colour-coded ratings used to maintain accountability. It was noted that for Risso's dolphins, many cells in such a matrix would initially appear red (indicating lack of action), but that this transparency is itself a useful motivator.

It was also highlighted that existing frameworks, such as the ICES Working Group on Marine Mammal Ecology, conducts threat assessments by ecoregion for regularly occurring marine mammals, including Risso's dolphins. However, concern was raised that these frameworks may underrepresent threats in data-poor species, as lack of evidence may lead to threats being scored as low rather than uncertain.

Discussion

It was noted that while SAPs are usually developed involving multiple Range States, this does not represent a formal barrier to developing a plan for Risso's dolphins, despite the limited number of ASCOBANS Parties currently covering the species' range. The involvement of non-Party Range States and external organisations (such as NGOs) was identified as an important mechanism to support and strengthen implementation – especially in light of the potential for distributional change for the species.

Further discussion emphasised that the workshop represented a good opportunity to pool expertise and develop something tangible. It was acknowledged that Risso's dolphins do not yet have a

¹ ASCOBANS Conservation Plan for Harbour Porpoises in the North Sea

sufficiently high public or policy profile, and that developing an SAP is itself a step in the right direction to raise awareness and demonstrate the case for targeted protection.

A number of practical considerations were discussed. In relation to prioritisation of threats, a gap analysis approach was proposed as a starting point, recognising that many pressures remain poorly quantified. It was also suggested that the SAP could incorporate a mapping of previous and ongoing actions for the species.

With respect to timelines, it was noted that SAPs are typically ongoing documents, although individual actions may have specific target dates. Effective implementation was recognised as being dependent on coordination and the identification of individuals or organisations willing to act as champions for specific actions.

A suggestion was made to include explicit flagging of unknown or data-poor areas within threat assessments, rather than treating absence of evidence as evidence of absence. In this context, the progress-on-implementation chart was identified as more immediately useful for SAP development than the threat matrix alone.

Conclusion

The workshop brought together current knowledge on Risso's dolphins in the North-east Atlantic and highlighted the significant gaps that remain in understanding their population structure, ecology, and exposure to anthropogenic pressures. While progress had been made in areas such as distribution and certain threats, the overall evidence base remained limited and uneven across regions.

A key theme throughout was the complexity of the species' ecology, including strong site fidelity alongside wide-ranging movements and a reliance on specific prey resources, suggesting potential vulnerability to localised impacts. The discussion of threats emphasised that, although pressures such as contaminants and disturbance are increasingly recognised, others (including bycatch, underwater noise and the impacts of climate change) remain poorly quantified, with uncertainty largely driven by data limitations.

The workshop also highlighted the need for greater integration of existing datasets and research efforts, particularly across visual, acoustic, and genetic approaches. Within this context, participants recognised the potential high value of developing a Species Action Plan under ASCOBANS as a means to consolidate knowledge, identify key gaps, and support more coordinated conservation efforts. Its potential importance in awareness raising of this species was also noted.

Overall, the workshop highlighted both the advances made and the substantial work that remains, underlining the importance of continued collaboration and the need for a more integrated approach to research and conservation for Risso's dolphins in the region.

Close of the Workshop

The workshop closed on Monday, 20 April 2026 at 18:37 CEST.

Annex: List of Participants

Last name	First name
Babey	Lucy
Brazil	Sunita
Bruno	Elisa
Canbolat	Gökcen
Evans	Peter
Ferguson	Catriona
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Hague	Emily
Hartman	Karin
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Hodgins	Nicola
Kamsteeg	Suzanne
Kirkland	Maisie
Langford	Nadia
Marsh	Stephen
Moss	Phoebe
Neave-Webb	Emma
Ní Cheallaigh	Siún
Nunny	Laetitia
Olhasque	Oihana
Renell	Jenny
Simmonds	Mark
Sinclair	Rona
Symes	Josh
Torres	Joana
Van Geel	Nienke
Veneruso	Gemma
Walters	Alice
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