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Incidental sightings of harbour porpoises in Norwegian waters

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ABSTRACT

We present distributional maps of incidental sightings of harbour porpoises in Norwegian waters. The species is commonly observed in near coastal waters, archipelagoes and fjord systems along all the Norwegian coast. Although sightings have been made throughout the year, most of the observations are recorded during the season April-September. The data presented here do not support a change in distribution over the years.

HARBOUR PORPOISE, INCIDENTAL SIGHTINGS, DISTRIBUTION, NORWEGIAN WATERS

INTRODUCTION

In the North Atlantic, the harbour porpoise, *Phocoena phocoena*, is widely distributed although considered to be a shelf species which inhabits coastal waters with associated fjord systems. Norway has conducted offshore surveys with minke whales as the target species for many years, but these surveys do not cover the preferred coastal habitats for harbour porpoises in Norwegian waters. Bjørge & Øien (1995) presented information available at the time and concluded that in summer there was apparaently a divided offshore distribution with a northern component from Lofoten and northwards and a southern component associated with the North Sea.The population structure in Norwregian waters is not fully understood, but genetic analyses (Tolley et al. 1999) seem to partly support this overall impression. From satellite tagging experiments of harbour porpoises in Varangerfjord, North Norway, around 2000 (unpublished) some individuals showed very local movements and some could make longer trips both along the coastline and to nearby offshore banks but apparently not beyond approximately the 200 m depth contour. In general the movements was considered of limited range.

Recently, Bjørge et al. 2013 estimated an annual bycatch rate of 6,900 harbour porpoises in the Norwegian coastal gillnet fleet targeting monkfish and cod. Since there are no surveys dedicated to covering the coastal population of harbour porpoises, we present data here which may give additional information on the presence and distribution of harbour porpoises in Norwegian waters.

DATA

At the Institute of Marine Research, information on incidental sightings of cetaceans have been collected from various sources since 1968; research vessels, reports from fishing and whaling vessels and, especially in recent years, reports from coastguard vessels. These reports include date and position of the observations, school size and more irregularly, comments about for example behaviour. The incidental observations may be prone to errors for example in species identification since reports are from sources with a variable background with regards to species knowledge of marine mammals, and we have not put a status to the reported observations other than recording the source type. In some cases photographic evidence is available but this is rather an exception than the rule.

It is important to note that these records are not associated with any kind of effort measures and thus not feasible to use for consideration of absolute or relative abundance as such.

INCIDENTAL SIGHTINGS

There are 2246 records of harbour porpoises in Norwegian and adjacent waters in the incidental observations database over the period 1964-2012. These observations have been plotted in Figure 1. In Figure 2 the coastline between 65°N and 70°N has been enlarged to demonstrate that the apparent hiatus observed in distributions of harbour porpoises earlier most probably has been due to artefacts caused by data shortage.

Since about 1990 this database has received relatively uniform numbers of approximately 800-1000 records in total annually. In Figure 4 is plotted the number of observations of harbour porpoises by year. In addition, the distribution of all sightings in the database in realtive terms have also been shown as a rough measure of effort. By and large these two distributions follow each other regarding trends, however, there is an additional tendency that there is an increased number of porpoise observations in relative terms during the period 1996-2008. If this is the case, one reason could be that porpoises in that period have been more coastal than otherwise, meaning that they have been more observable in inshore waters as this species is hard to spot in other than quite good conditions. However, the distributions shown in Figure 3 do not give support to that interpretation.

Most of the harbour porpoises have been recorded in the months April to September, as about 84% of the observations have been made in that period (Figure 5).

In Figure 6 is shown the northermost latitude for harbour porpoise observation recorded by month. These results must be supposed to be relevant primarily for northern Norway and the Barents Sea and indicate that porpoises apparently have a northward movement during the annual season, with the northernmost migration in September.

In 29 % of the observations only a single individual was reported. In 24 % of the cases a group size of 2 was reported, and in 12 % of the cases 3 individuals.The mean group size taking into account those reported as [1-10] was 3.0 individuals.

REFERENCES

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Tolley KA, Rosel PE, Walton MJ, Bjørge A, Øien N. 1999. Genetic population structure of harbour porpoises (Phocoena phocoena) in the North Sea and Norwegian waters. *J.Cetacean Res. Manage. 1:226-274.*

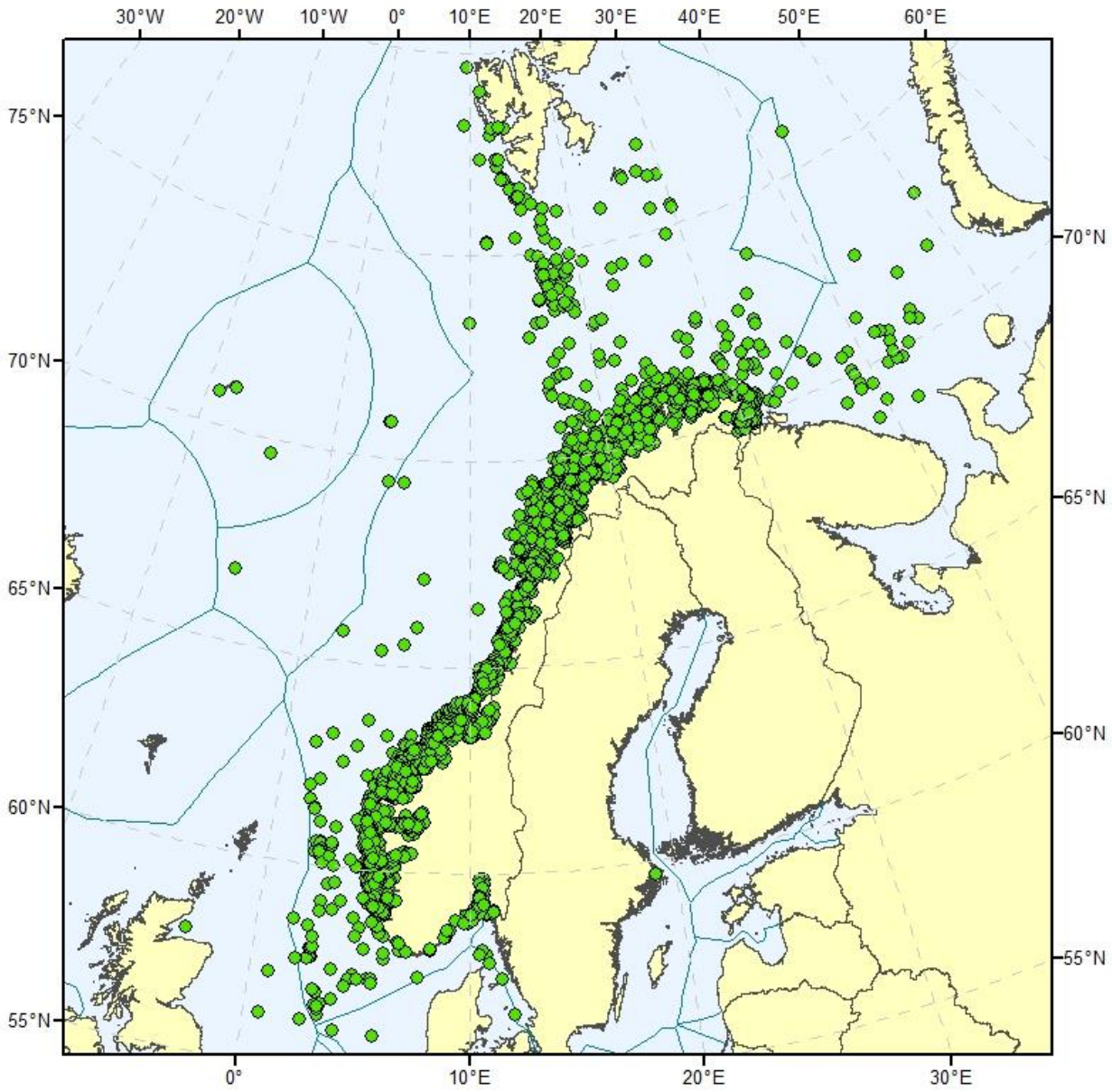

Figure 1. Distribution of incidental sightings of harbour porpoises reported for the period 1962 to 2012.

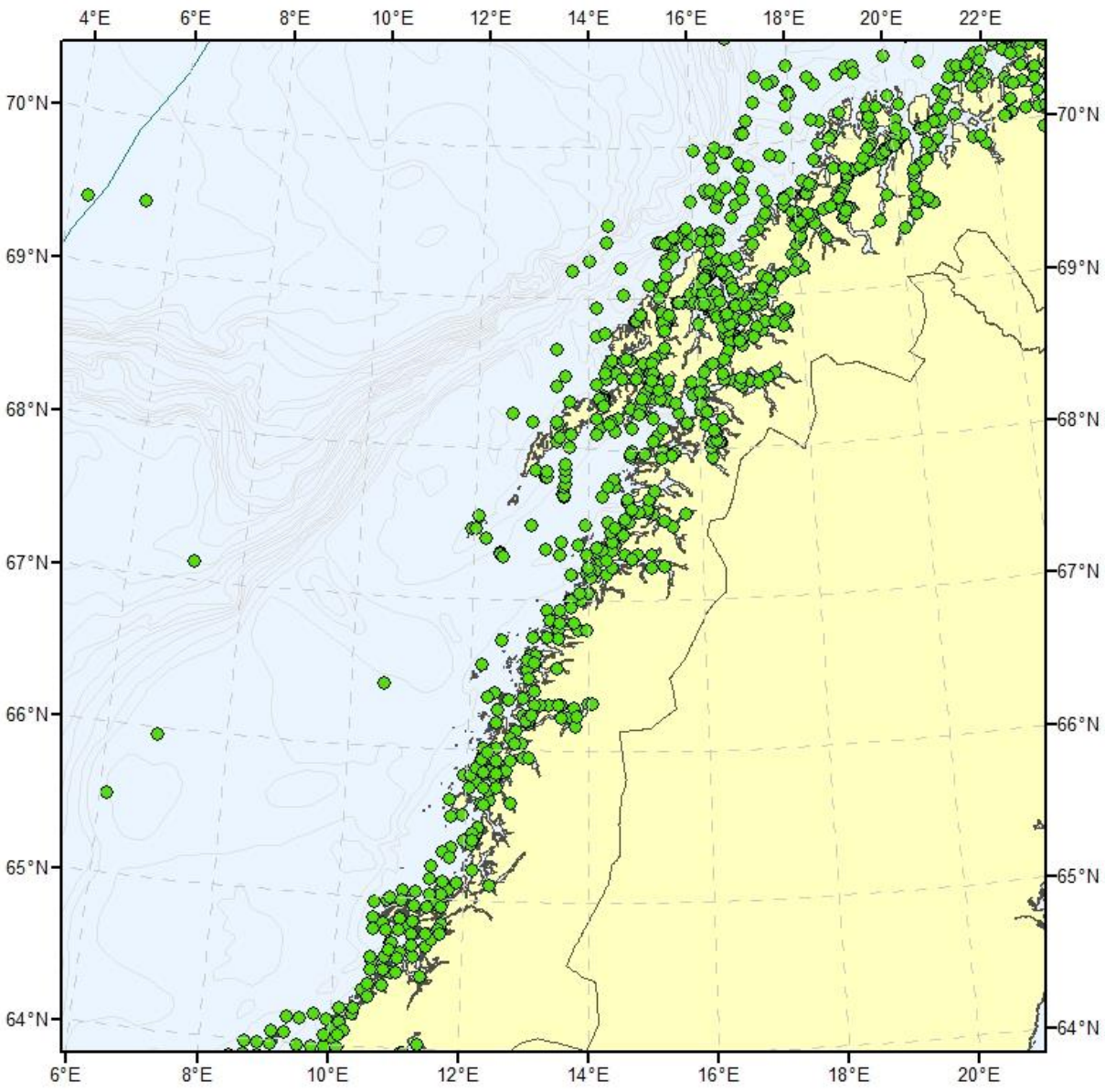

Figure 2. Distribution of incidental sightings of harbour porpoises for a restricted area between 64°N and 70°N.

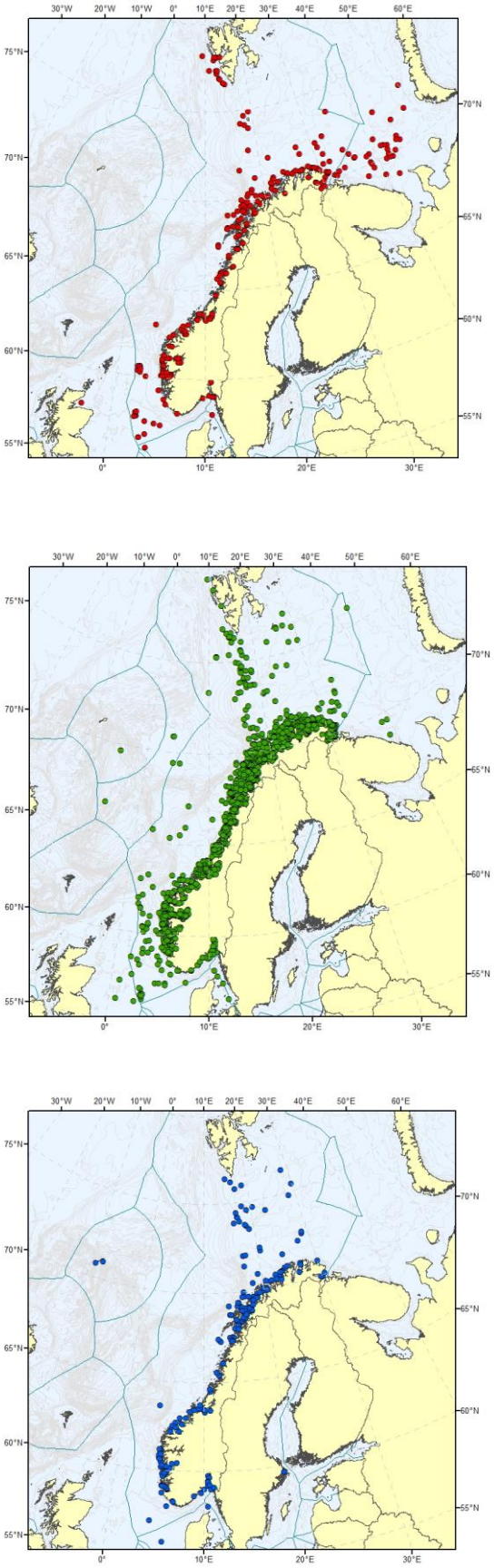

Figure 3. Distributions of incidental sightings of harbour porpoises for the periods

a) up to and including 1995

b) 1996-2008

c) 2009-2012

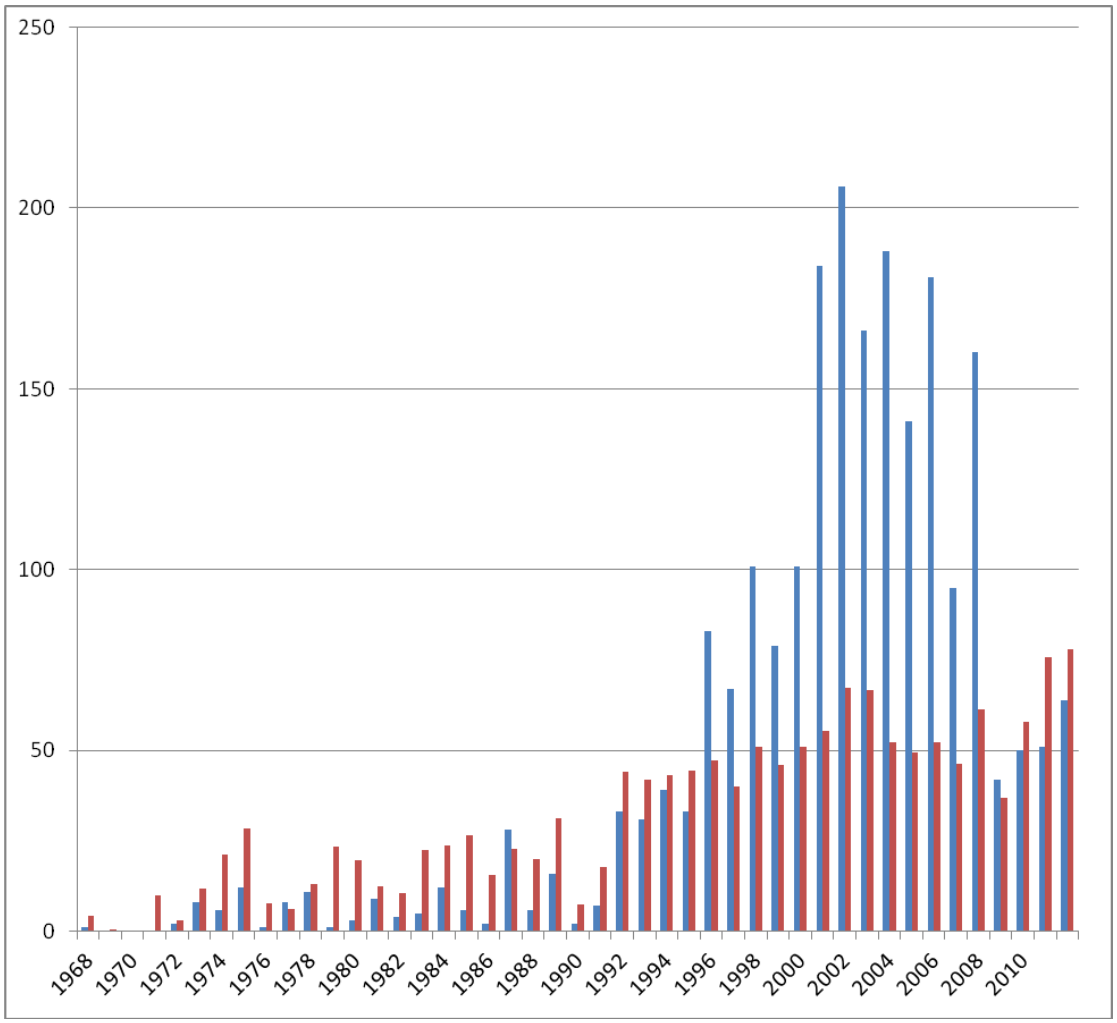

Figure 4. Distribution of recorded numbers of incidental sightings of harbour porpoises by year shown as blue columns. The red columns are the relative distributions of all incidental sightings in the database by year.

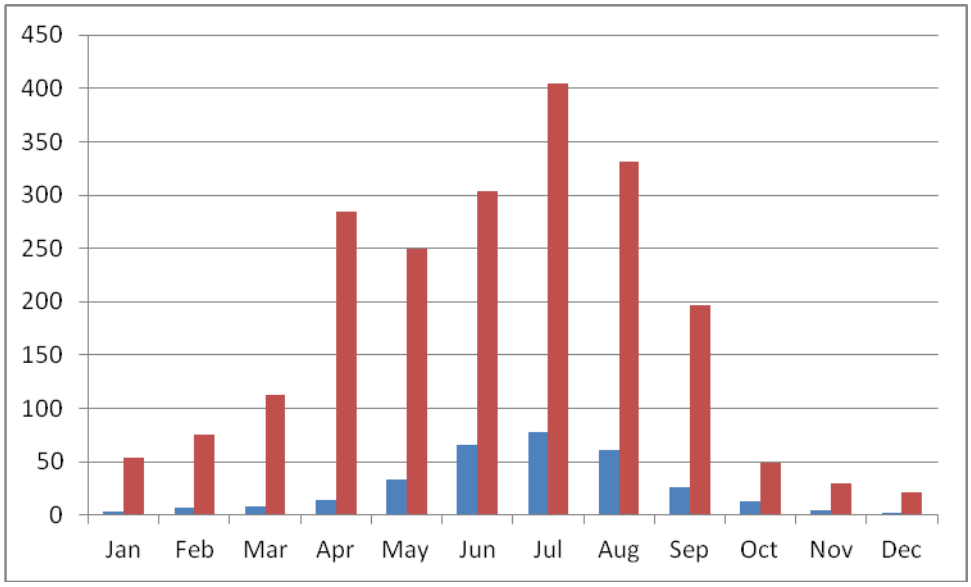

Figure 5. Distribution of incidental sightings of harbour porpoises by month shown as red columns. The blue columns are the relative distributions of all incidental sightings in the database by month.

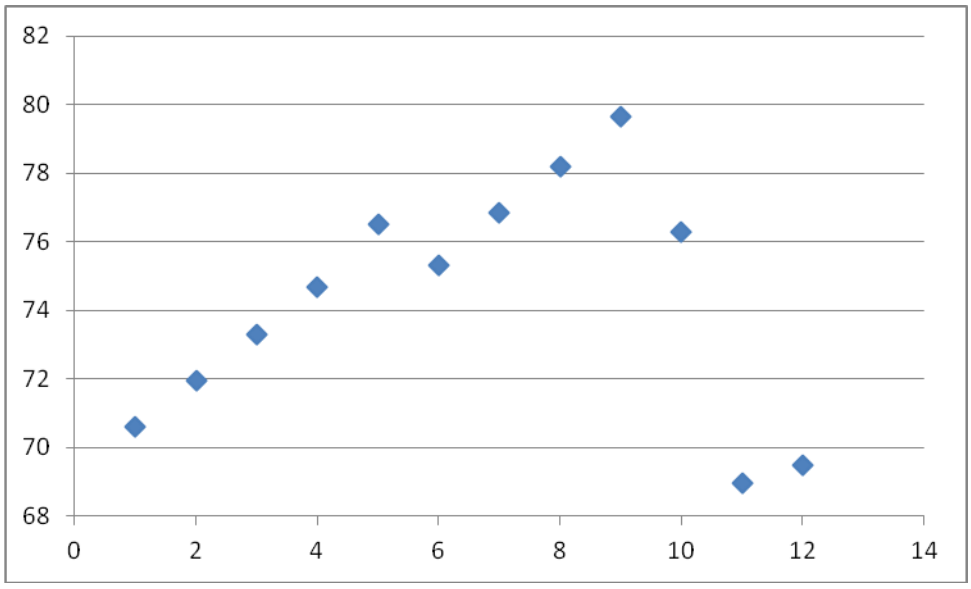

Figure 6. The northernmost latitude recorded within month.