



**Convention on the
Conservation of Migratory
Species of Wild Animals**

ORIGINAL: ENGLISH

Distr. GENERAL

UNEP/CMS/Inf.7.17.1
31 July 2002
Agenda item 11(c)(i)

SEVENTH MEETING OF THE
CONFERENCE OF THE PARTIES
Bonn, 18-24 September 2002

REVIEW OF ARTICLE IV AGREEMENTS ALREADY CONCLUDED

1. The Secretariat is circulating herewith, for the information of participants in the Seventh Meeting of the Conference of the Parties to the Convention on Migratory Species, the expanded report provided by the Secretariat of the Agreement on the Conservation of Seals in the Wadden Sea, to accompany the summary found in UNEP/CMS/Conf.7.9.1.
2. The report is provided unedited in the format and language that it was submitted.

EXAMEN DES ACCORDS DE L'ARTICLE IV DEJA CONCLUS

1. Le Secrétariat diffuse ci-joint, pour l'information des participants à la 7ème session de la Conférence des Parties à la Convention sur les espèces migratrices, le rapport développé fourni par le Secrétariat de l'Accord sur la conservation des phoques de la mer de Wadden, pour accompagner le résumé qui se trouve dans le document UNEP/CMS/Conf.7.9.1
2. Le rapport est fourni sans avoir été mis au point, dans le format et la langue dans lesquels il a été soumis.

REVISIÓN DE ACUERDOS ARTÍCULO IV YA CONCLUIDOS

1. La Secretaría adjunta, para información de los participantes a la Séptima Conferencia de las Partes de la Convención sobre Especies Migratorias, el informe completo presentado por la Secretaría del Acuerdo sobre la conservación de las focas del Mar de Wadden, en complemento al resumen que figura en el documento UNEP/CMS/Conf.7.9.1.
2. El informe se presenta sin modificaciones editoriales, bajo la forma y en el idioma originales.

IMPLEMENTATION OF THE AGREEMENT ON THE CONSERVATION OF SEALS IN THE WADDEN SEA

Progress Report by the Common Wadden Sea Secretariat

Version 28.06.2002

1. The Agreement on the Conservation of Seals in the Wadden Sea between Denmark, Germany and The Netherlands, which was the first regional agreement under the Bonn Convention, has now been in force for more than 10 years. The agreement was concluded with the aim to cooperate in achieving and maintaining a favorable conservation status for seals, which was a particular critical issue in the beginning of the 90s, since the population was reduced with about 60% in 1988 as a result of the seal epidemic. In 2002, the entire Wadden Sea seal population will probably once again be affected by the same viral disease, which started again in the Kattegat/Skagerrag area in May 2002.
2. Since 1988, the population has recovered significantly. According to coordinated aerial flights in the entire Wadden Sea, a total of about 19,400 seals was counted in 2001, of which about 3,960 were pups. This remarkable growth can be attributed to improvements in the reproductive rate as well as reduced initial juvenile mortality. The development of the common seal population in the Wadden Sea since the phocine distemper epidemic in 1988 as well as the development of the Grey seal population in the Wadden Sea is attached.
3. The Seal Agreement has played an essential role in turning the tide, but whilst the present population can hence be regarded as viable in terms of numbers, the environmental conditions, however, are still not satisfactory. The present and short-term conservation status of the common seal in the Wadden Sea Area is primarily determined by two developments: Pollution and disturbance, as a result of various human activities, such as tourism and recreational activities, air, traffic and some military activities.
4. The Agreement requires the Parties to develop, on the basis of scientific knowledge, a "Conservation and management plan for the seal population", the Seal Management Plan (SMP). This plan shall contain a comprehensive statement of actions, which are or are to be undertaken by the Parties to achieve the goals of the Agreement. The Seal Management Plan specifies the actions in the following areas: conservation and management measures regarding habitats, pollution and wardening, research and monitoring, taking and exemptions of taking, public information. The Parties shall keep the plan under review and amend it, as may be required, taking into consideration, in particular, the results of scientific research.
5. The Seal Management Plan is the key instrument, as stipulated in the Seal Agreement, to achieve and maintain the objective of the Agreement. In accordance with the Seal Management Plan, seal reserves have been established in the entire Wadden Sea, which are closed for all activities during the birth and nursing period. In 2001, a revised Plan was adopted by the 9th Trilateral Governmental Conference in 2001 by the contracting parties for the period 2002-2006. It entails the actions regarding management measures, which are undertaken in this period.
6. The Seal Management Plan 2002-2006 takes account of the results of scientific research in the past period and translates political decisions and targets into management, as decided at the 7th and 8th Trilateral Governmental Conference in 1994 and 1997. Additional measures for the protection of the Grey seal in the Wadden Sea are included in the Seal Management Plan. The Seal Management Plan 2002-2006 is found on the WWW site of the Common Wadden Sea Secretariat

<<http://www.waddensea-secretariat.org/>>.

7. The geographical scope of Seal Management Plan is the Trilateral Cooperation Area, which is the area seaward of the main dike including the adjacent off-shore area within the 3-nautical-mile zone. Scientific research gave evidence that the adjacent North Sea is also of importance in the life-cycle of seals.

8. Taking of seals from the Wadden Sea is prohibited. In the Seal Management Plan, the exemptions for taking have been specified. It is strongly reconfirmed in the current Seal Management Plan that the current number of seals taken from and released into the Wadden Sea should be reduced to the lowest level possible, taking into account the ethical considerations, legislation, as well as management practices which differ in the three countries. Taking falling under the exemptions can only be carried out by authorized persons and concern only such animals, which have a chance to survive. Seals may only be released into the wild if certain criteria have been fulfilled, e.g. seals that have not been treated with specific groups of medicine and not been kept in centers where species alien to the Wadden Sea are held.

9. Growing populations may increase conflicts with other interest groups, e.g. fishery. It may also challenge the current protection scheme of reserves because increasing numbers may demand the establishment of additional reserves. According to the Seal Management Plan 2002-2006 the research projects regarding feeding ecology of common seals and investigations of habitat requirements of seals in relation to recreational demands have the first and second priority to be implemented in the future. The Seal Management Plan is an essential instrument in anticipating such developments by seeking the balance between conservation and management and uses of the area, and thus contributes to achieving the objective of a viable stock and a natural reproduction capacity of seals.

10. The Common Wadden Sea Secretariat is the Secretariat for the Agreement on the Conservation of Seals in the Wadden Sea and the coordination institution for the SMP. In line with the SMP the Trilateral Seal Expert Group has the task to coordinate and supervise the implementation of monitoring activities and the assessment of the results, assess research results and, as appropriate, give advice regarding management to the trilateral cooperation.

Attachments

Excerpt from the TSEG-plus Report March/June 2002: Development of the Common seal population in the Wadden Sea in the period since the phocine distemper epidemic in 1988, and of the Grey seal population.

Seal Management Plan 2002-2006

**Excerpt of the Trilateral Seal Expert Group (TSEG-plus) Report,
March/June 2001**

1. Development of the Common seal population in the Wadden Sea for the period since the phocine distemper epidemic in 1988, and for the Grey seal population

1.1 The Common Seal

1.1.1 The phocine distemper epidemic and the population development after the epidemic

The increase of the Common seal population in the entire Wadden Sea, which had started in the late 1970s (Abt 1998), was interrupted by a virus out-break in 1988 (Schwarz and Heidemann, 1994), and in 1989 only 4,400 animals were counted. It has been hypothesized that the pollution may have compromised the immune system of the animals (Swart et al., 1992) and, therefore, may have aggravated the extent of the mass-mortality (de Koeijer et al., 1998). In the years after the virus epidemic, the population has shown a rapid recovery. This growth can partly be attributed to improvement in the reproductive rate and a reduced juvenile mortality (Reijnders et al., 1997). Possibly the initial changes in growth rate were magnified due to the demographic changes (Härkönen et al., 1998). However, the continued higher growth rates indicate a true population growth.

For the overall Wadden Sea, the reproductive rate ameliorated slightly after the epidemic, from 19-20% to 19-22%. There were, however, strong local differences. According to the studies of the Joint Seal Project, in the period 1989 to 1994, the reproductive rate after the epidemic was significantly higher (about 21% compared to 13% before 1988) in the Netherlands and in Lower Saxony (21% compared to 16%). It was lower in Schleswig-Holstein (19% compared to 23%), and did not change in Denmark (average 17%). The combined sub-adult and adult mortality apparently dropped from about 12% to 7% (Ries et al., 1999).

It is hypothesized that the improved reproductive rate in the Netherlands and Lower Saxony may have been the result of a selective adult female mortality during the epidemic, affecting mostly mature females, which did not reproduce due to impairment by pollution. The healthy animals remained.

The reproductive rate in the entire Wadden Sea might have been influenced by an initially skewed age-structure of the population right after the epidemic. It is assumed that nearly the entire year-class 1988 died (Schwarz and Heidemann 1994). If it were so, one would have expected an initial improvement of the reproductive rate, which would have leveled off after 4-5 years, meaning from 1994 onwards. This would have been when that year-class came to sexual maturity. However, the fluctuation in reproductive rate in that period would indicate that at least part of the year-class of 1988 must have survived. The first year mortality is now estimated at approximately 40%, which is significantly lower than the average of 65% in the 1970s (Reijnders *et al.*, 1997). Recent estimates (K.Abt, pers. comm.) indicate that the first year mortality might even be close to 30%.

1.1.2 Natural reproduction

One of the trilateral Targets is to achieve a natural reproduction capacity of seals. Reproduction capacity depends on factors within the population such as age, sex, fecundity, and external factors including water quality, disturbance and diseases. It is therefore difficult to express natural reproduction capacity by a simple number or range. Based upon best "experts' judgement" it will have to be assessed whether the reproduction can be regarded as natural. The production of 0.85 – 0.95 pup per mature female per year is the proposed reference for the natural reproduction capacity (Reijnders, 1978). In practice, this is difficult to monitor.

During coordinated flights in the entire Wadden Sea, a total of about 17,000 seals (2,140 in Denmark, 6,300 in Schleswig-Holstein, 5,230 in Lower Saxony and 3,330 in the Netherlands) was counted in 2000. The total number of pups counted was 3,610. (Figure "Number of counted seals in the Wadden Sea since 1975" see in WSNL 2000 – 2,). Slight fluctuations in these numbers can be expected as a result of weather and tidal conditions, number of flights, disturbance, and changes in the population such as timing of whelping, mating and moulting. We do not know the influence of these factors, and it is therefore chosen to calculate trends in population increase in a more adequate way by assessing developments in both reproduction and survival. Between 1990 and 1998, the overall annual growth rate of the population was remarkably constant, approximately 13% per year from 1990 - 2000. In 1999, however, it only amounted to + 5.5% even though the number of pups observed increased with the same rate as in previous years. In 2000, a population growth of 13% was recorded. Though this indicates that the 1999 count was likely to be an underestimate. The count in 2000 is lower than could be expected if the population had continued to grow at the same rate as in the years 1990-1998.

Though it was then premature to draw conclusions on the lower counts, as a trend can only be made visible after a number of years, the lower counts in 1999 gave rise to consider whether a possible slowing down of the growth in the Wadden Sea seal population had occurred.

Both a lower recruitment of the former year (1998) caused by a lower pup survival or a lower pup production and less optimal survey conditions could have caused the lower annual increase.

Lower pup survival

A possible lower pup survival will be discussed in the next section.

Lower pup production

Demographic changes, i.e. a lower fecundity or a lower number of sexually mature females could cause a lower pup production. However, it is unlikely that this would cause the sudden change observed in the Wadden Sea. These parameters are not known.

Lower pup counts

The total pup count was lower in 1998 than in 1997, despite the increase in total population. However, survey conditions were indeed sub-optimal due to bad weather, in most areas in the Wadden Sea, possibly influencing the pup counts in that year. Bad weather could hamper the counts but also influence pup survival.

Given the increase of 15% respectively 16% in pup counts between 1998/1999 and 1999/2000, it is assumed that pup counts in 1998 have been hampered by adverse weather conditions and the number of pups counted increased by around 15-16% in the last three years. This indicates that the lower counts in 1999 were presumably not caused by a change in either fecundity or number of sexually mature females.

The increase in total number of seals is again similar to the average annual increase found in the last decennium. The increase in 1999/2000 is a few percent too low to totally compensate the lower increase in 1998/1999.

1.1.3 Pup survival

Pup survival is difficult to measure. Of the number of pups born in 1998, the percentage of sick animals and animals found dead in the season 1998-1999 increased compared to such ratio in other years. The lack of data expressing the searching effort for dead or sick animals as well as the environmental circumstances could have influenced the observed increase, thereby hampering the

assessment of a possible change. Based on the practice in Schleswig-Holstein, it is assumed that at least for that area, the change in animals found dead is likely to be a reflection of an increased mortality potentially leading to a lowered recruitment. Therefore, the increase in animals found dead or moribund should be investigated in a standardized way as it could help in assessing a lower pup survival and the consequences thereof for the population growth.

1.1.4 Conclusions

According to calculations based on hunting data, the seal population in the entire Wadden Sea amounted to 18,000 and 38,000 animals around 1900 (Reijnders, 1992). This is considered a reference range. He considered the higher end of the range to be the more likely estimate. Although the population of the Wadden Sea is recovering prosperously, it should be realized that its present estimated size of about 23,500 seals, when correcting the numbers counted in August 2000 (Ries et al, 1998; Tougaard, 1989), is still less than half of the estimated maximum reference size. Whether it will continue to grow at its present rate will depend on the pressure of factors, such as pollution, disturbance, food and habitat limitation.

In conclusion: The survey results from 2000 seem to indicate that the lower increase in 1998/1999 has been a one-off event, and that there is no real change in the population trend. Further modeling studies have been started to investigate post-epidemic developments in reproductive rates in the entire Wadden Sea as well as in different regions. Furthermore, those studies will enable the prediction of population trends assuming fluctuations in pup production as well as varying mortality rates. Surveys in the years to come will show whether or not the strong population growth in the last decennium may continue or slow down, and if so, which population parameter will become affected. It is obvious that continued effort is necessary to obtain essential population data to monitor development and improve modeling based on adequate series of aerial surveys.

1.2 The Grey seal

Since the 1960s, groups of Grey seals have regularly been observed on outer sands in the Wadden Sea. Since the beginning of the 1980s, two major breeding sites have existed in the Wadden Sea area, one in the Netherlands and one in Schleswig-Holstein. Recently, more areas have been colonized for mere haul-out and in some cases even for breeding. It seems that currently only the Danish Wadden Sea has not been colonized. Outside the breeding season, Grey seals show a much wider distribution and haul-out on a large number of sandbanks in and around the whole Wadden Sea.

1.2.1 Grey seal colonies in the Dutch Wadden Sea

Grey seals have colonized the Dutch Wadden Sea from 1980 onwards. The colony started on an outer sandbank near the island Terschelling, outside the boundaries of the "Staatsnatuurmonument Waddenzee", a Dutch conservation area. In the early 1990s, because of gradual erosion of that sandbank, the colony moved to a larger sandbank inside the Wadden Sea between the islands Terschelling and Vlieland. This site is included in the "Staatsnatuurmonument Waddenzee" and is especially protected. Access for the public is forbidden between May 15th and September 15th. Maximum numbers are counted between February and April (Reijnders *et al.*, 1995). In 1999, 550 animals were counted (P.J.H. Reijnders, J. van Dijk and D. Kuiper, unpubl. results). Births within this colony have been recorded since 1985. During the first 5 years, about 5 pups were observed each year. In the beginning of the 1990s, the number of observed pups rose to approximately 30 a year, and in the season 1998/1999, 64 pups were counted on one day. It has been estimated that at least 100 were born in that season (Reijnders, van Dijk and Kuiper, unpubl. results). In some years bad weather washed the animals off the sandbank and in the 90s animals were frequently taken off the sandbank as a preventive measure. Due to these factors, only a minimum count can be given and large fluctuations in actual animals observed will occur because of those events (see table 1).

Three factors dominate the growth of this colony: immigration, re-introduction and birth. The largest contribution to the increase has been caused by immigration from other areas, such as the Farne Islands. To a small extent, the colony is reinforced by the release of animals rehabilitated at the seal stations Pieterburen and Ecomare (Reijnders *et al.*, 1995). Stock growth cannot be explained by birth alone, because normal death rates and the possible migration of some released animals as well as by pups born in the colony have to be taken into account.

Lately, other areas in the Dutch Wadden Sea have been used as haul-out sites by larger groups of Grey seals. There are two sites in the westernmost part of the Wadden Sea, southwest and southeast of the island of Texel. Numbers fluctuate between 10 - 20 in one area, and between 5 and 50 in the other.

Year	adults	young
1979	2	0
1980	7	0
1981	8	0
1982	16	0
1983	31	0
1984	43	0
1985	60	2
1986	59	2
1987	66	5
1988	66	6
1989	80	6
1990	90	6
1991	120	9
1992	178	21
1993	220	25
1994	218	32
1995	275	20
1996	315	40
1997	320	-
1998	350	41
1999	550	64
2000	380	43

Tab. 1: Counted numbers of Grey seals in the colony between Terschelling and Vlieland in the Dutch Wadden Sea between February and April. (source: Alterra, Texel)

1.2.2 Grey seal colony in Schleswig-Holstein, Germany

Since 1967, a group of about 40 Grey seals has regularly been observed on the outer sands near Amrum and Theeksand in Schleswig-Holstein. The colony is located within the zone I of the Schleswig-Holstein National Park and therefore protected by law (Vogel and Koch, 1992). Since 1983, births of Grey seal pups have been observed, whereas the first successful raising of young animals was recorded in 1988. Today, the small colony of about 30 to 40 animals is situated on Jungnamensand, an unstable sandbar close to a frequented shipping route. During the moulting period in 1998 numbers peaked to more than 100 individuals, which is disproportionally high in relation to

the observed number of births (Harwood & Prime 1978). The average number of animals observed during moult in the years 1990-1998 is 64. Numbers do not show a clear trend. Pup production has been stable, and also the size of the colony during the breeding season is more or less stable, whereas the annual maximum number documented in the Schleswig-Holstein National Park is apparently increasing mainly in the summer (moulting and summer population). The increase is not caused by the local reproduction, but is more likely to be associated with influx from elsewhere in the Wadden Sea and perhaps the North Sea (Abt *et al.*, submitted).

Breeding season	Counted live pups Number of births	Dead pups	Adults counted during breeding season	Adults, counted in spring
88/89	9	0	16	26
89/90	3	1	20	51
90/91	7	1	10	47
91/92	6	1	13	57
92/93	10	1	28	54
93/94	7	3	12	56
94/95	5	2	7	88
95/96	11	3	17	53
96/97	11	4	14	73
97/98	9	0	18	100
98/99	11	2	19	-
99/00	13	3	?	?

Tab. 2: Registered numbers of Grey seals in the Schleswig-Holstein Wadden Sea (source: FTZ-Büsum)

1.2.3 Grey seals in Lower Saxony, Germany

Grey seals haul-out in the Lower Saxony part of the Wadden Sea on the Kachelotplate near Juist. The seals are counted only during the surveys for the Common seals in summer. Up to 13 individuals could be registered. Another group is observed on an outer sandbank close to the island of Borkum. In winter 1999 – 2000, more than 100 animals were counted there.

As an exception, occasional births have been registered in the Wadden Sea of Lower Saxony. Recently, the seal station in Norden-Norddeich started to rehabilitate and release Grey seal pups. However, these could have been washed away from colonies in the Netherlands, Schleswig-Holstein and the United Kingdom.

1.2.4 Grey seals on Helgoland, Germany

As early as the 1970s, Grey seals were sighted sporadically at Helgoland in the German Bight. These were mostly weak animals. Since 1989, Grey seals have regularly been seen on Helgoland, which consists of two islands. The first birth of a Grey seal on Helgoland was registered in 1996. During the 1999/2000 breeding season, five pups were recorded on the islands, two on the main island and three on "die Düne". The current winter population of Grey seals on the islands of Helgoland numbers at least to 16 seals including one mature male, five mature and pup producing females, and their pups, and two juveniles of each gender. Actual numbers are likely to be somewhat higher, as seals tend to

change haul-out sites often. Sometimes the seals lie between boulders, making it difficult to observe them. Helgoland may gain importance as a safe breeding site with a significantly reduced pup mortality, as other sites are eroded by tidal currents and winter storms (Graner 2000).

1.2.5 Conclusions

Despite the growing numbers in the Netherlands and the stable numbers in Germany, the Wadden Sea Grey seal populations cannot be regarded as viable in the biological sense. Viable would mean that they could survive major calamities without needing animals to reinforce the population. Until 1998, the growth of the Dutch colony could still be attributed to immigration from Great Britain. One of the major factors preventing a real viable population to settle is the lack of undisturbed higher breeding grounds, which are not flooded during spring tides. Currently, winter storms in combination with high tides are threats possibly affecting pup survival. The practice of "rescuing" a large number of pups each year to prevent mortality does not seem to be a long-term solution, if any. In light of the current number of Grey seals, a structural solution should be considered. Suitable areas should be protected from human interference, possibly in a flexible way, on the basis of necessity. In order to achieve proper conservation, basic population data and more detailed data on habitat requirements should be available on the Grey seals in the Wadden Sea.