

 <p>AEWA Pink-footed Goose International Working Group</p>	<p>AEWA Svalbard Pink-footed Goose International Working Group</p>	<p>Date: 08.01.2014</p>

2nd Meeting of the AEWA Svalbard Pink-footed Goose International Working Group
14-15th October 2014, Sneek, The Netherlands.

FINAL REPORT OF THE MEETING



Image courtesy of Eckhart Kuijken & Christine Verscheure



Ministry of Economic Affairs,
Agriculture and Innovation

Hosted by the Dutch Ministry of Economic Affairs,
Agriculture and Innovation.

Organized by Aarhus University, Denmark



AARHUS UNIVERSITY

Contents

Summary, Decisions and Further Actions.....	3
Day 1: 14 th October 2014.....	5
Welcome and introduction.....	5
Introductions and confirmation of observers	5
Adoption of the Agenda	5
AEWA Secretariat update	5
Coordination Unit update.....	5
Svalbard Pink-footed Goose Population Status Update.....	6
Range State Updates	6
Belgian Summary	6
Dutch Summary	7
Danish Summary	7
Norwegian Summary	8
Adaptive Harvest Management.....	8
AHM Q&As.....	9
Norwegian Habitat Depletion Model	9
Habitat Depletion Model Q&As.....	10
Day 2: 15 th October 2014.....	10
Arctic Tundra Degradation	10
Polders Grassland Restoration	11
Hunting regulations in Norway and Denmark.....	11
Emergency Closure	12
Crippling of birds	12
Share of annual hunting bag.....	13
Breakout Sessions.....	14
Potential options to regulate the harvest of pink-footed geese in Norway and Denmark.....	14
Monitoring of goose agricultural conflicts and linking crop damages to the size of the pink-footed goose population	15
Coordination Unit work plan 2014/2015.....	17
Election of the Chair	17
Next IWG meeting	17
Conclusion of the meeting.....	17
Abbreviations.....	18
Appendices	19
1) Participant list.....	19
2) Norwegian Farmers Union written response to 2014 Annual Reports	20
3) Danish Hunters' Association written response on harvest regulations	21

Summary, Decisions and Further Actions

The International Working Group (IWG) for the Svalbard Pink-footed Goose (SPfG) convened over 14-15 October in Sneek, The Netherlands to hear about current developments regarding the implementation of the International Species Management Plan (ISMP) for the SPfG. There were also a number of key objectives for the meeting (*see Annotated Agenda Doc: SPfG IWG 2.1*) which were open for discussion within the IWG and needed agreement to ensure the continued successful implementation of the ISMP. These concerned two main areas for which the IWG was expected to provide recommendations:

1. Hunting regulations and practice to ensure the sustainable hunting of pink-footed geese in Norway and Denmark.
2. Monitoring and reporting of goose-agricultural conflicts to gauge the impact of the ISMP in mitigating these, in relation to the SPfG.

The decisions taken and further actions assigned are summarized below.

1. **Emergency closure of a hunting season:** This was a previously agreed recommendation. However, the authorities in both Norway and Denmark committed to develop and document the necessary procedures to implement and communicate an emergency closure, if required, to the hunting communities in each country.

Action: Documentation to be written by the relevant agencies in Norway and Denmark. These would then to be made publically available and communicated through the IWG.

2. **Crippling rate target:** Crippling was recognised as an issue of concern but it was agreed that a fixed target would not be beneficial. It was preferable that the Norwegian and Danish hunting communities and national authorities implemented actions to sustain a continued decline in the monitored crippling rate.
Action: The Norwegian and Danish authorities and hunting associations to outline and report on actions taken to reduce the crippling rate and to feedback to the IWG at the next meeting. Awareness campaigns will be organised by the hunters associations in Norway. Coordination Unit will create a webpage on the AEWA pink-footed goose IWG website, outlining the reasons for crippling and ways to minimize it.

3. **Share of harvest bag:** An outline proposal had been prepared between Denmark and Norway as how to divide a possible restricted harvest bag it. This proposal was accepted and it was agreed that, if required, during the current 3 year cycle this would be a 30 / 70 split (based on previous harvest bag data) between Norway and Denmark. The decision included a possible quota transfer between Norway and Denmark, if Norway does not achieve its quota by the time the geese leave Norway and surplus can be transferred to Denmark.

Action: The share of the harvest bag will be reviewed for the next AHM cycle 2016-2019.

4. **Potential hunting regulations:** It was recognised that a number of regulatory options were available but it was agreed that a combination of 1) shortening the hunting season length and 2) setting an overall quota were the most appropriate for the situation in Norway and Denmark. Option 1 would be a statutory measure, complemented by option 2 through voluntary implementation. The Norwegian and Danish authorities confirmed their commitment to continue, where possible, to improve the reporting of hunting bags. A couple of initiatives were already proceeding: in Denmark, as of March 2015, hunting bag reports must be completed on-line before hunters are given their annual hunting licences (obligatory requirement). In Norway, a pilot study is underway to gather daily reports of SPfG bags online.

Action: The Norwegian and Danish authorities to provide details of any changes in national hunting regulations, as necessary, to the IWG as well as developments in the national reporting of hunting bags.

5. **Monitoring goose-agricultural conflicts and crop damage:** Three out of four of the range states had compensation or subsidy schemes in place and could provide standardised and species-specific information to the IWG. The relevant authorities confirmed their willingness to share the information. It was agreed that a centralised database of available information provided by the range states would be of benefit.

Action: Coordination Unit to liaise with the National Focal Points in order to determine what information and data is available and could be provided by the relevant national authorities. CU will prepare a monitoring protocol document in consultation with NFPs to aid the collection and consolidation of data.

6. **Chair:** Henrik Lykke Sørensen, the Danish National Focal Point, was accepted and appointed Chair of the IWG for the period 2014/15 including the next meeting of the IWG.
7. **Next meeting:** No date was set for the next meeting. The next meeting was expected to take place sometime in late November / early December 2015. Belgium had kindly offered to host the meeting.
Action: Coordination Unit is to setup the next IWG meeting as necessary and to advise the national delegations once a date and location are determined.

Day 1: 14th October 2014

Prior to the beginning of the meeting delegates participated in an excursion to see pink-footed geese in the surrounding area of Sneek. This was kindly arranged by the Dutch hosts and led by *Romke Kleefstra* (SOVON) and *Marten Wesselius* (Official of Province of Friesland).

Welcome and introduction

The Chair of the International Working Group *Øystein Størkersen* (NO) welcomed participants to the meeting and thanked the hosts, the Dutch Ministry of Economic Affairs, Agriculture and Innovation for generously hosting the meeting. *Størkersen* added the International Working Group (IWG) and Coordination Unit (CU), in collaboration with many other people and organizations had continued to carry out good work in implementing the ISMP over the past year. However, there were still several matters to be addressed in relation to implementing the ISMP and key decisions to be made by the IWG. Finally, *Størkersen* welcomed new participants to the IWG, in particular the Dutch delegation.

The hosts *Anja Pel-Roest*, Dutch National Focal Point and *Meinte Engelmoer*, Official of Province of Friesland also welcomed the IWG to Friesland and stated they looked forward to participating in the meeting.

Introductions and confirmation of observers

Delegates from each of the National Delegations as well observers and invited experts briefly introduced themselves. *Although not part of the national delegations observers and invited experts, as noted on the Participants List (document SPfG IWG 2.3), attended either to represent different stakeholder interests or provide scientific input as necessary.*

Decision: Non-national delegation participants and observers were accepted and welcomed.

Adoption of the Agenda

A draft agenda was presented and no revisions were proposed.

Decision: The proposed agenda was adopted.

AEWA Secretariat update

Sergey Dereliev, Technical Officer for the AEWA Secretariat gave a brief overview of activities in connection with the African-Eurasian Waterbird Agreement. 21 AEWA species plans had been produced to date. The International Species Management Plan (ISMP) for the Svalbard pink-footed goose is the first adaptive management plan and a great deal of interest has been expressed in its progress. A second adaptive management plan is currently in development for the Taiga Bean goose (*Anser f. fabalis*). It focuses on efforts to ensure a population recovery, whilst a number of range states maintain it as a huntable species. Other notable species plans in development are for the Long-tailed Duck (*Clangula hyemalis*) and the European Curlew (*Numenius arquata*).

Dereliev highlighted that the next Meeting of the Parties (MOP6) would take place from 9 - 14 November 2015 in Bonn, Germany. For this meeting a review of AEWA activities was being undertaken by the Secretariat. Questionnaires would be circulated to relevant working groups and range states to evaluate the preparation and implementation of AEWA Single Species Action and Management Plans. The results of this review would be presented at MOP6.

Coordination Unit update

Jesper Madsen, Aarhus University and lead of the Coordination Unit, gave an overview of the development and progress of the ISMP for the Svalbard pink-footed goose (SPfG). This was for the benefit several new participants joining the working group for the 1st time, in particularly, the Dutch delegation who were unable to attend the last IWG meeting. *Madsen* welcomed the Dutch delegation. He hoped that through their continued participation and by coordinating activities with the other range states, all parties would realise substantial benefits in managing pink-footed geese, as well as other goose species. *Madsen* reviewed the goal and objectives of the ISMP and the annual decision cycle. He reiterated that although hunting, to regulate the population, was currently a focus for

the ISMP, just as important were actions related to maintaining habitats throughout the flyway. All management actions have potential consequences e.g. intensive hunting in Denmark and Norway could push the geese to the low-land countries creating conflict on grasslands. Co-ordinated and complementary management actions were required and there were opportunities for further learning as the plan was implemented and developed.

James Williams, Aarhus University and part of the Co-ordination Unit outlined the work of the unit since the last International Working Group (IWG) meeting in April 2013. Activities included: the launch of the AEWA Pink-footed Goose website <http://pinkfootedgoose.aewa.info/>, continuing to support the decision cycle, active involvement in a number of collaborative research projects in Denmark and Norway (Geese Beyond Borders and Forbedret Gåsejagt) and continuing to disseminate and promote the work of the ISMP e.g. conference talks and information leaflets. He reminded delegates that the website was also a useful source of information about projects, as well as published academic articles and public dissemination related to the ISMP.

Svalbard Pink-footed Goose Population Status Update

Madsen gave an update on the latest data and population dynamics for the SPfG. The population size for the 2013/14 season was estimated to be 76,000 geese. The population seems to have stabilized or declined slightly, for the first time in the last decade. *Madsen* stated this could be for a number of reasons. It had been observed that there had been increased predation by arctic foxes last season in Svalbard (breeding grounds). There had also been a step-wise increase in the overall hunting bag (between Norway and Denmark), but this was particularly evident in Denmark. The data suggests that the increase in the Danish hunting bag was a result of pink-feet staying longer in Denmark during the winter. There is to be a published paper describing the situation (*Madsen et al.* in preparation). *Madsen* posed the question why were the geese staying longer in Denmark, despite increased hunting pressure? There had been a nature restoration project which had reduced a key foraging area in western Denmark (Fiilslø). Nevertheless, it was evident that pink-footed geese were establishing new roosts and foraging sites. Of note was an increase in the cultivation of maize in Denmark, potentially a rich new food source. 20% of neck-banded birds had been seen in harvested maize fields in Denmark in recent autumns. Observations suggest that individuals search for sites inland and their exploratory behaviour is then followed by flocks (cultural learning). Despite the increased predation risk (uncertainty in new areas) the resource gains appear to outweigh the risk. This could be a reason for extended stays in Denmark. However, changes in geese behaviour will require hunters to adapt and follow the geese. Hunters may need to take their hunting opportunities when they can, as geese fly-in, feed and move off. It appears that hunting has shown a functional response to the change in goose behaviour.

A copy of the Population Status Report for the SPfG is publically available on-line at the [AEWA Pink-footed Goose International Working Group website](http://pinkfootedgoose.aewa.info/report_series) Activities / annual reports section (http://pinkfootedgoose.aewa.info/report_series)

Range State Updates

Belgian Summary

Michiel Vandegehuchte, the new Belgian National Focal Point, presented an update on goose management activities in Belgium. Prior to attending the IWG meeting a national working group meeting had taken place. Representatives attended from government authorities as well as conservation, hunting and farming organizations. This was reported to be a very constructive meeting. *Vandegehuchte* commented that although a smaller proportion of pink-footed geese overwintered in Flanders (40% down from 90% in the 1990's) the maximum number has remained relatively stable (max. no. recorded 29,581 on 29 December 2013). Flanders was still considered an important wintering area. *Vandegehuchte* outlined the main conservation goals related to the pink-footed goose as being: 1) the conservation of traditional grassland areas, 2) resolving habitat issues (e.g. fragmentation) and 3) maintaining a wintering pink-footed goose population of at least 12,000 individuals. Of note was the new Flemish Government's proposal (September 2014) to protect historically permanent grasslands in the polders region. This declaration was out for public consultation (210 days) after which time designated protected grasslands would be established. *Vandegehuchte* also highlighted that there was a grassland restoration being undertaken by Natuurpunt and funded by EU LIFE running from 2013-2017. It was reiterated

that although the hunting legislation in Flanders was reviewed in April 2014, the open-season still remained closed for pink-footed geese in Flanders for the period 2013-2018.

Vandeghechuchte then outlined the latest developments in managing goose-agricultural conflicts. It had been observed that the feeding preference of pink-footed geese in Flanders seems to have shifted from grassland to agricultural crops. There is still a damage compensation scheme in operation. Only relatively few cases are compensated each year (13 in 2013-14) and not all damage was monitored for variety reasons e.g. only damage > € 300 entitles to compensation. A new 'Code of Good Practices' was launched in July 2014 which clarified 'reasonable preventive measures' expected before compensation can be paid. This was communicated to farmers and the public over the summer in a publicity campaign 'Nature as good neighbour', through leaflets and a website (www.natuuralsgoedebuurt.be). Farmers can apply for compensation (on-line). Reported crop damage is then verified by agricultural experts. In certain SPAs preventative measures are not a requirement before compensation is paid. It is anticipated that the compensation scheme will continue, with continued emphasis on promoting the 'Code of Good Practices'. *Vandeghechuchte* reiterated that there was no desire to open hunting on pink-footed geese. However, Flemish hunters would be willing to cooperate in the ISMP if requested in the future, after consideration and discussion with the Flemish working group.

Dutch Summary

Ralph Buij, the Dutch National Expert presented an update on behalf of the Dutch delegation. *Buij* reviewed the current status of the pink-footed goose wintering in The Netherlands. Natura 2000 and farmland areas around Sneek are still key wintering grounds for pink-footed geese, mainly foraging on grasslands. A shift had been observed in the roosting sites used by pink-footed geese. This was as a result of conservation measures creating a number of new ponds and lakes, with suitable foraging areas close by. The latest pink-footed goose population survey, conducted by SOVON in Nov 2013, counted 16,421 individuals, estimated to be 22% of total population. *Buij* reconfirmed that goose management in the Netherlands had been de-centralised with responsibility resting with regional governments. There is a compensation scheme managed through Faunafonds but the amount of compensation paid for crop damages related to pink-footed geese was not significant, in relation to other species (approx. € 80000 in 2011).

Buij described the general goose management strategy for The Netherlands and in particular Friesland. The aim was to reduce winter crop damage (target for Friesland 5-10% per annum) by creating and restricting geese to "go" refuge areas. In these areas compensation would be paid, plus a premium per hectare for contributing to a refuge area. In Friesland farmers within refuge areas were entitled to receive 100% compensation + € 50/ha participation premium. Outside refuge areas farmers could receive 95% compensation, paying a fee of €300 per assessment. In addition winter 'rest periods' had been established when geese could forage without disturbance. In Friesland this was initially for a 2 month period, from 1 January - 1 March. As of 2016/17 this would change to 4 months, from 1 November – 1 March, matching the 'rest periods' currently in place in other Dutch regions. Outside these periods (in winter) population control, on Barnacle Greater White-fronted and Greylag geese, would be permitted and focused to limit damages in agriculture areas. The pink-footed goose was still protected in the Netherlands, but in some provinces exemptions were permitted to scare geese to prevent or limit damage.

Danish Summary

Henrik Lykke Sørensen, the Danish National Focal Point gave an update on goose management and related activities in Denmark. A significant change had been the extension of the hunting season for pink-footed geese (along with Greylag and Greater White-fronted geese) to include January from 2014/15 onwards. The Danish hunting season is now: 1st September – 31st January. This extension will remain for the next 4 hunting seasons; however, administrative changes specifically for the SPfG will be possible if necessary. *Sørensen* also commented that there was a 'crippling action plan' in place (since 1997) but this was re-vitalized with an awareness campaign in 2012-13. The focus was to promote good hunter training and hunting practices including: correct distance assessment, awareness of skills and shortcomings and demonstrating responsible behaviour e.g. endeavouring to limit number of shots fired per bird (not exceeding 3 per bird).

Sørensen stated that there were currently no significant agricultural conflicts with pink-footed geese in Denmark. No compensation is paid for goose related damage to crops. However, derogations were allowed whereby permission could be sought by farmers, who may experience crop damage, to shoot geese outside the open season. Farmers can from February 2015 apply to shoot Pink-footed, Greylag and Greater White-fronted geese on cultivated fields in February. Farmers can apply to shoot Greylag on crops before harvest from 1st July to 31st August, as already permitted (from sunrise to sunset). Derogations applied for between 1st October 2013 and 1st October 2014 were: 6 applications received, 4 permits given and 34 geese reported shot. A previously run 'baiting scheme' where by pink-footed geese were provided feed to attract them away from newly sown agricultural areas had ended because the majority of pink-footed geese nowadays depart for Norway before sowing of spring cereals commences.

Norwegian Summary

Øystein Størkersen, the Norwegian National Focal Point presented the update for Norway. *Størkersen* re-affirmed Norway's commitment to the ISMP and its processes. *Størkersen* also noted that continuing collaborative projects between the Norwegian Institute for Nature Research (NINA) and Aarhus University, involving regional authorities, national farming and hunting organizations, local hunters and landowners in Central and Northern Norway had been very beneficial. These initiatives had enabled constructive dialogs both locally and nationally, as well as engendering a professional approach to resolving goose management issues. This was encouraging for the future as there were still issues to be addressed. Cereal production in Central Norway (Trøndelag) still remained high and provided attractive foraging areas for geese. In Svalbard, there were indications of competition between pink-footed and barnacle geese for favoured nesting sites. In addition, tundra degradation was still of concern and monitoring was ongoing.

In relation to crop damage, a subsidy scheme was in place in Norway but this was now managed by the regional authorities rather than by the national government. The level of subsidy available was linked to the presence and likely number of pink-footed geese in key staging areas e.g. Vesterålen & Trøndelag. Payments were not directly linked to levels of crop damage e.g. not compensation. Payments are distributed amongst farmers most affected, and the amount determined by the estimated number of geese present in each region. In the region of ½ million EUR was paid in 2013 to accommodate pink-footed geese in Vesterålen and Trøndelag. As of 2015, in Trøndelag documentation of crop damage would be required e.g. an inspection of damage after the season to adjust any payments made. There was on-going research to determine the impact of grazing geese on grasslands (MIGRAPOP project). A new management concern related to growing populations of geese (including greylag), was that of bird strikes especially near Trondheim Airport, Værnes. Finally, Norway had setup a national working group involving relevant stakeholders including: the County Governors, Farmers Union, Hunting Association, BirdLife partner & Environment Agency.

Adaptive Harvest Management

Dr. Fred A. Johnson, of the U.S. Geological Survey, was invited as the technical expert responsible for developing Adaptive Harvest Management (AHM) models for the ISMP to give a presentation on his work, conducted in collaboration with Aarhus University. *Johnson* stated that the models and associated decision making processes for the ISMP had come a long way in a short space of time. It was a proud achievement for all involved in the IWG. What has been learnt to date can now be applied and used for other species e.g. the Taiga Bean Goose. *Johnson* then went on to outline and describe some of the fundamentals of the AHM process and how this was applied in the context of the pink-footed goose.

Johnson also summarised the results from the latest population assessment and model runs. Currently, there is little or no evidence of density dependence (e.g. potential for further exponential population growth); this makes population control more challenging. It was predicted that the harvest quota of 15,000 individuals recommended for the 2013-2015 hunting seasons could bring the population down to the agreed target (60,000) in about 3 years. However, at current harvest levels of about 11,300 individuals shot annually it would take about 7 years. As agreed at the previous IWG meeting in Copenhagen (April 2013) the need for an emergency closure of the hunting season would be determined on an annual basis. *Johnson* stressed that the threshold for this closure can change each year, as the assessment is determined by the latest population status, TempDays, and model

weights. There was no need for an emergency closure this year. *Johnson* stated continuing development of the AHM models would take place next year, developing integrated population models to take better advantage of all the available data. Finally, *Johnson* noted that as the population approaches the 60,000 target, there needs agreement on how the harvest can be shared and regulated between Norway and Denmark, as well as the means to implement an emergency closure, if needed. These would be for discussion during the course of this meeting.

A copy of the Adaptive Harvest Management for the Svalbard population of Pink-footed Geese: 2014 Progress Summary is publically available on-line at the [AEWA Pink-footed Goose International Working Group website](http://pinkfootedgoose.aewa.info/report_series) – Activities / annual reports section (http://pinkfootedgoose.aewa.info/report_series)

AHM Q&As

Meinte Engelman (NL) asked the question whether other management actions could be included in the modelling e.g. the impact of scaring as a management option. It is not only hunting that is available as a management option.

Johnson (expert) responded conceptually yes. It would be possible, for instance if we could predict the effect of scaring on birds in winter. The effect of scaring could then be taken in to account. However, the current management objective for the models is to maintain the population around the 60,000 target. This target size is considered suitable to satisfy hunting interests (maximise hunting opportunities) whilst at the same time satisfying farmers by not causing them serious problems (e.g. crop damage), but we are uncertain if this is true. *Madsen (DK)* added will farmers still be satisfied if the 60,000 is reached? The relationship between levels of crop damage and the population size is an area that needs to be looked at in more detail. Currently the only management option being controlled is the harvest but there are other objectives and choices, which at some point should be taken in to account.

Bart Nolet (expert) noted that uncertainty was an important part of the models but this was in the parameter values. The development of integrated population models will also allow for uncertainty in the variables.

Johnson (expert) agreed that consideration was given to uncertainty of the parameters of the model (different system states). One thing not currently considered is, if there is an error with population estimate. This is an additional uncertainty that needs to be considered.

Madsen (DK) made an additional comment that although it may take a few years for the population to decline to the agreed target. Now was a good time to start discussing the share of the harvest bag between Norway and Denmark, as well as possible mechanisms and regulations to limit hunting and harvest bags to maintain the population around 60,000. It is much easier to have these discussions earlier rather than later.

Niels Henrik Simonsen (DK) asked if the models took in to account that it would be harder for hunters to shoot geese and possibly attain given harvest levels, as the population declined?

Johnson (expert) responded that models don't explicitly consider that at the moment. If as the population declines so does ability to harvest decline and there was some understanding of that relationship, even if limited, this could be incorporated.

Norwegian Habitat Depletion Model

Bart Nolet, an invited expert from the Netherlands Institute of Ecology (NIOO-KNAW), then presented details of a collaborative research project (MIGRAPOP, between The Netherlands, Norway and Denmark) using a spatial depletion model (habitat depletion) to evaluate the pink-footed goose accommodation scheme in Trøndelag, Norway. *Nolet* firstly outlined the background for the spatial deletion model's development, which started as a project in the Netherlands. It was created to determine if sufficient land had been designated as 'accommodation areas' to harbour all wintering geese and widgeon in the Netherlands. It was intended to establish if there was enough grass to enable all wintering geese and widgeon to survive, based on maintaining their energetic balance given the foraging time available (day light hours) and their daily activities. The model was used to predict the number of designated 'accommodation areas' required in the future, depending on expected goose and widgeon population sizes. Details of this research can be found on the Science Direct website (<http://www.sciencedirect.com/science/article/pii/S0304380011004728>).

Nolet then went on to describe how the spatial deletion model was being utilised and further developed as part of the MIGRAPOP research project in Trøndelag, Norway. It was a simpler system to model in some aspects e.g.

only one goose species (SPfG), a smaller region and a shorter time period when the geese were present. Nevertheless, there are a number of new dynamic variables that needed to be taken in to account e.g. continued grass growth (food resource) during the spring staging period, geese needing an energetic surplus (fuelling for breeding), geese visiting roost sites twice daily, the impact of disturbance and the availability of other food resources affected by ploughing and snow conditions. The model is in its final stages of development. It is now capable of capturing the essentials of this very dynamic system which can change from year to year e.g. goose turnover, snow cover, grass growth, ploughing times, resource depletion etc. It has the potential to determine what proportion of land is needed to support the staging population of pink-footed geese, as well as estimate "yield loss" (potential crop damages) under different scenarios. It will be used to evaluate the current subsidy scheme e.g. whether enough subsidy areas have been allocated in Trøndelag to accommodate the geese. The last stage is to validate this model using data already gathered as part of the project.

Habitat Depletion Model Q&As

Madsen (DK) commented that data was already available to validate the model. *Madsen* added that a PhD thesis by Magda Chudzińska had just been completed that provided useful input. These projects were a good example of how different research projects can be integrated to answer complex questions given the right framework for collaborations.

Nolet (expert) respond saying yes the data was 'in hand' and he was ready to start the validation work.

Ingunn Tombre (NO) also added that other research projects were part of this package of work (e.g. species distribution model) and these collaborations had already delivered tangible benefits for stakeholders. Local farmers in the region had been promised an estimate of the actual cost to accommodate geese (an estimate of crop damage), and although this was an ambitious goal it was achievable.

Nolet (expert) responded stating, yes they were definitely making progress towards providing an answer for farmers, once the validation had been completed.

Michiel Vandegehuchte (BE) asked what amount farmers are paid per area to accommodate geese at the moment in Trøndelag.

Pål Krister Langlid (NO) responded on *Nolet's* behalf, stating that currently 200-250NOK is paid per decaare (daa) (10th hectare - ha). In 2014 the amount of money in the scheme was increased. For 2014, 58 farmers covering 990ha had received a subsidy. In future there will be two levels of subsidy available; 200NOK and 450NOK. This is considered to be a fairer means to distribute the subsidy. Farmers' most affected (highest losses) will receive the higher level. It has been estimated that farmers start to incur a loss at around 5000 NOK/ha, if grassland areas are badly affected by goose foraging (based on enclosure experiments).

Madsen (DK) commented it would be interesting for the group to know what the consequences would be if the population decreased from 80000 to 60000 in terms of yield loss. Could the model be used to predict the impact as the goose population declined?

Nolet (expert) stated so long as the model is validated and seems sensible this would be possible, as different scenarios of goose numbers, crop growth rates / periods could be calculated and outputs generated.

Day 2: 15th October 2014

Arctic Tundra Degradation

Ingunn Tombre, the Norwegian National Expert and a researcher from NINA started the day with a presentation on an international collaborative research project in Svalbard to monitor the impact of foraging geese on arctic tundra vegetation. In early spring geese 'grubbed' for rhizomes and other plant parts below ground and this was a cause for concern (based on Canadian experience). Grubbing has an impact in terms of: vegetation loss; creating holes, small ponds and vegetation free craters, as well as soil disturbance and reducing the soil carbon pool. A number of recently published academic papers had documented the impact of grubbing. There were indications that grubbing could potentially have long term consequences, by degrading the arctic tundra.

Continued monitoring of the situation was deemed essential. The current project, financed by the Svalbard Environmental Protection Fund, built on previous research and was maintaining the monitoring of established transects in 5 valleys on Svalbard. Transects were evaluated to establish the extent of grubbing

(presence/absence) and grubbing intensity (proportion grubbed to nearest 10%). *Tombre* then outlined some of the latest results from 2013. In comparison to 2006, grubbing intensity (proportion grubbed) was lower in pre-breeding sites, which coincided with higher spring snow cover in 2013. In breeding areas grubbing intensity had increased significantly, coincided with increase in population size (52000 to 81500). In addition the extent of grubbing (present/absence) had almost doubled in certain habitat types (wet/mesic habitats). *Tombre* concluded that clearly there were implications of grubbing on the arctic tundra and continued monitoring was needed, not necessarily every year but every 3 years.

Further details on the monitoring of arctic tundra degradation and related published papers can be found on-line at the [AEWA Pink-footed Goose International Working Group website](http://pinkfootedgoose.aewa.info/projects) – Activities/ projects section (<http://pinkfootedgoose.aewa.info/projects>)

Polders Grassland Restoration

Eckhart Kuijken, the Belgian National Expert, gave a presentation on a grassland restoration project undertaken by the Belgian conservation organization NATUURPUNT and funded by EU LIFE. *Kuijken* started by providing some background information on the need for grassland restoration in the East Coast Polders (Oostkustpolders) region of Flanders, Belgium. Traditionally this area has been a key wintering ground for pink-footed geese, as well as other goose species such as the white-fronted goose. In the early 2000's 90% of the SPfG population wintered in the Oostkustpolders region but as the population has increased the proportion has declined to 40%. Nevertheless, the region still remains an important wintering ground where pink-footed geese have traditionally foraged on permanent grasslands. *Kuijken* commented that there is a desire to provide a 'safe harbour' for pink-footed geese in Flanders and geese were an important motivation to establish numerous Natura 2000 protected areas. However, *Kuijken* stated that grasslands were under threat in Flanders and there had been a continued decline in historic permanent grasslands lost to more intensive agriculture, despite large areas being protected. This was not only a loss of 'land area' but also a loss of micro-relief as channels, ditches and pools were filled in.

Along with agricultural changes there had also been changes in pink-footed goose behaviour, with flocks now observed foraging on left over sugar beet in winter sown crops and grubbing on harvested maize fields. *Kuijken* reiterated that wet grasslands were still important sites for geese especially near to roost sites. Historic permanent grasslands with their unique micro-relief were also very important for their high nature value (biodiversity) and cultural heritage. This is why the latest restoration project was not only important for pink-footed geese but for nature and Belgian society as well. It was an ambitious project covering four key areas in the Oostkustpolders region, an area of just over 6500ha. The project had a budget of around 5.5 million € (EU contribution: 2.7 million €) running from 2013-2018. The intention is to restore typical grassland habitats of the coastal polders. In total restoration of 210 ha grassland habitats (70 ha saline habitats & 140 ha of degraded grassland habitat) is planned, focusing on restoring the typical micro-relief and optimising the hydrology of these grasslands. In addition creating 120 ha of newly protected grasslands is also planned.

Further details about this project can be found on-line at the [AEWA Pink-footed Goose International Working Group website](http://pinkfootedgoose.aewa.info/projects) – Activities/ projects section (<http://pinkfootedgoose.aewa.info/projects>)

Hunting regulations in Norway and Denmark

There was a short recap on the hunting regulations currently in place in Norway and Denmark by *Arild Espelien* (NO) and *Henrik Lykke Sørensen* (DK) respectively.

Norway: The Environment Agency sets the hunting times for huntable wild species in Norway, in accordance with the Biodiversity Act 2009 and the Wildlife Act 1981. The current open season in Norway for pink-footed geese is from 10.08. to 23.12., with some regional exceptions. The current open season is applicable from April 2012 to March 2017, although for pink-footed geese there was agreement that this could be changed to fit with the 3 year AHM cycle.

Denmark: The Environment Agency sets the hunting times for huntable wild species in Denmark. The current open season for pink-footed geese is from 01.09 to 31.01.

Discussion:

Sørensen (DK) confirmed that the open season for pink-footed geese had recently been extended from 31.12 until 31.01. This came in to force in September 2014 and was part of a 4 yearly review of hunting regulations in Denmark. As with Norway, *Sørensen* stated there was an agreement that regulatory changes for the pink-footed goose would coincide with the 3 year AHM cycle.

Kuijken (BE) questioned the rationale for the extension of the open season for pink-footed geese in Denmark and asked if it posed a danger to the population.

Madsen (DK) responded that this was a decision taken by the Danish authorities, in agreement with Danish stakeholders through the Wildlife Council in Denmark. It was seen as a means to give hunters better hunting opportunities, in light of increasing goose populations, as well as a means to control the population size of pink-footed geese to attain the 60,000 target. The decision would be reviewed (within 4 years) and there was also the 'failsafe' of the emergency season closure for the pink-footed goose.

Emergency Closure

Madsen (DK) introduced a short session on the emergency closure of a hunting season based on recommendations from the annual Adaptive Harvest Management Report. The need for a possible emergency closure was a procedure agreed at the 1st IWG meeting (Copenhagen, April 2013). However, there was still a need to prepare a formal and documented process to implement an emergency closure in both Norway and Denmark, if required. This would need to be a swift process as the annual AHM report is published in July and any recommendation for an emergency closure would be for a forthcoming hunting season (as noted in Norway this would start on 10.08).

It was confirmed by *Sørensen (DK)* and *Espelién (NO)* that no formal processes were in place within their respective Environment Agencies to implement an emergency closure currently.

Discussion:

Simonsen (DK) commented that many hunters in Denmark paid for annual hunting rights. Any emergency closure would be a loss for those having already paid for hunting rights. An emergency closure was an agreed procedure but its impact should be borne in mind by the agencies. This should be considered when communicating to hunters about the need for an emergency closure of a season.

Engelmoer (NL) suggested it may be worth simulating and testing the process for implementing an emergency closure, when developed, in order to ensure procedures are prompt and robust.

Decision: *Sørensen (DK)* and *Espelién (NO)* agreed to prepare documentation to detail the required processes to implement an emergency closure within Denmark and Norway. Along with this they would prepare a communication strategy to outline how a closure decision would be communicated to hunters in both countries, given the short timescales involved. This documentation would be prepared in time for review at the next IWG meeting in 2015.

Crippling of birds

Madsen (DK) gave a brief presentation on crippling amongst pink-footed geese, which had been monitored as part of a research program in Denmark since 1990s. *Madsen* clarified that the reported 'crippling rate' was only an indicator measure (birds alive with pellets). This excluded birds that were 'seriously crippled' and died without being retrieved. This aspect of crippling was very difficult to determine in the field by research. *Madsen* noted that although the crippling rate had declined since the 1990's there had been a recent upturn. Crippling was originally seen as mainly a Danish problem but now Norwegian hunters shot about 30% of the pink-footed geese. There was a need to focus on crippling in both countries.

Madsen outlined some of the reasons for crippling: too long a shooting range (recommended range in DK 25 m), use of suboptimal ammunition and shotgun, lack of experience with goose shooting and lack of retrieving dogs (not Denmark where a retrieving dog is mandatory). Ways to minimise crippling were then outlined: keep to 25 m recommended shooting range, training to shoot under realistic conditions, choosing the right ammunition and

shotgun, use a retrieving dog, shooting geese when they come into fields (using decoys) rather than on passage (flying overhead) and shooting in hunting teams, if possible.

Madsen commented that it is not realistic to achieve a situation with no crippling and what is acceptable depends on people's perspectives. The downward decline in crippling was considered satisfactory, but the recent increases in the crippling rate were of concern. There had been new campaign in Denmark to reduce the crippling (2012/2013). *Madsen* then suggested possible crippling rate targets which were open for discussion. A short term target (2016) of: between 10 and 20% adults with pellets and a long-term target of: 10 % adults with pellets.

Discussion

Simonsen (DK) said that clearly birds survived with pellets but asked if there are any additional impacts for the birds.

Madsen (DK) replied that there are indications that birds with pellets have a reduced survival rate but the reason for this reduction is uncertain. It can either be due to long-term injury impacts or due to a certain segment of the population being more exposed to hunting. There is some support for the latter hypothesis, since certain sections of the pink-footed goose population seem to be more susceptible / exposed to hunting, such as breeding groups and small flocks with a larger proportion of juveniles.

Simonsen (DK) added that the setting a fixed target was not desirable. He queried when would people be satisfied, when 10% is reached but what then? It would be better to commit efforts to continue the decline in the crippling rate and this should be seen as an on-going process.

Endre Alstad (NO) commented that that Norwegian Association of Hunters and Anglers (NJFF) took 'crippling' very seriously and efforts were underway to improve the situation through hunter training programmes in Norway.

Størkersen (NO) added there was agreement between the Ministry of Environment and NJFF to tackle the situation and improve training to prevent crippling. There was a need to demonstrate positive action in Norway. There should be reporting of actions undertaken by the association to indicate progress. It was important to communicate the issue of crippling more broadly. In addition, publicising recognised preventative measures internationally could be of benefit, perhaps building them into the AEWA hunting guidelines.

Kuijken (BE) asked whether the AHM models could take in to account the 'crippling rate' and the proportion of birds that die as a result.

Johnson (expert) stated it would be feasible to include crippling as a factor within the models, further data would be needed but this could be incorporated in subsequent developments of the AHM models.

Decision: It was agreed that a fixed target would not be beneficial. It was preferable that the Norwegian and Danish hunting communities and national authorities implemented actions to sustain a continued decline in the monitored crippling rate. Awareness campaigns will be organised by the hunters associations in Norway. The Coordination Unit will create a webpage related to crippling on the AEWA pink-footed goose IWG website.

Share of annual hunting bag

A session was led by *Espelién (NO)* and *Sørensen (DK)* to discuss amongst the IWG a joint proposal, between Denmark and Norway, on how to share the annual hunting bag. This had been discussed beforehand and the suggested proposal was a proportional share (%) based on the proceeding 3 years harvest bags for each country. This was seen as a reasonable starting point and based on current data would mean there would be a 30 / 70 split between Norway and Denmark.

Discussion:

Simonsen (DK) agreed that the share of the hunting bag should be based on historical data but the Danish would prefer a long term average rather than just the last 3 years.

Tombre (NO) commented that in Norway more juveniles are shot (estimated to be 60% of the hunting bag) and as this has less of an impact on the population, perhaps this should be taken in to account.

Espelién (NO) added that the damage caused by geese was proportional greater in Norway and maybe this should be taken in to account.

Størkersen (NO) commented that there was a pilot study currently in development in Norway to enable and trial the daily reporting of hunting bags. If successful this could be used to monitor the Norwegian pink-footed goose hunting bag on a daily basis. In addition, such a system would enable a possible quota transfer between Norway

and Denmark e.g. if Norway did not achieve its quota by the time the geese had left Norway and surplus could be transferred to Denmark.

Engelmoer (NL) noted that in The Netherlands the SPfG was a protected species and would be considered, by some, as vulnerable at a population level of 60,000. However if the harvest is to be shared there could be calls from Dutch hunters to be allocated a share? *Engelmoer* also questioned how the 60,000 target had been determined and agreed upon.

Madsen (DK) responded that this target had been set-out and agreed in the ISMP. It was based on an initial biological assessment but accepted that the target was also one that was nominated by participants in the IWG. It was one that was acceptable in terms of meeting the goal of keeping the population in favourable conservation status, whilst satisfying calls to manage the population to minimise crop damages for farmers in Norway. It was a management decision but was open to review, as stated in the ISMP. In addition, the SPfG was a huntable species in Norway and Denmark and each range state country was able to decide their own hunting regulations (within the framework of the EU Birds Directive).

Simonsen (DK) added the Danish Hunters' Association would be willing to have discussions about sharing harvest bags with Dutch and Belgian hunters, if they wished to open hunting on pink-footed geese.

Johnson (expert) commented that the key issue with sharing the hunting bag and harvest quotas was having mechanisms that could realistically control hunting activities to ensure quotas were met, if the population target was to remain stable.

Decision: It was agreed that the current suggestion of a 30/70 division between Norway and Denmark was acceptable for the current 3 year AHM cycle. This decision would be base-line and could be reviewed in 2016, for the harvest bag share for the period 2016-2019. The decision also includes a possible quota transfer between Norway and Denmark, if Norway does not achieve its quota by the time the geese leave Norway and surplus can be transferred to Denmark.

In addition to the above notes the Danish Hunters' Association provided a written response to the points raised for discussion in the document: agenda item notes: harvest regulations (Doc.: SPfG IWG 2.4). This response is provided below in Appendix 2.

Breakout Sessions

The IWG broke out into 2 groups to discuss two agenda items:

1. Potential hunting regulations in Norway and Denmark
2. Monitoring goose-agricultural conflicts

Potential options to regulate the harvest of pink-footed geese in Norway and Denmark

Breakout group 1 – *Cy Griffin (FACE) Chair / reporter*

As the population size of pink-footed geese is reduced and approaches the target level of 60,000 individuals, it will be necessary to restrict the hunting bag of Pink-footed Geese. The IWG was invited to discuss the following options might be considered to be used in Norway and Denmark.

- 1) Shortening the hunting season length.
- 2) Setting an overall quota.
- 3) Setting a daily bag limit.
- 4) Increasing the interval between days when hunting is allowed.

Summary notes:

Of the 4 options listed above the conclusion that a combination of 1 and 2 were most appropriate for the situation in Norway and Denmark, with option 1 as a statutory measure, complemented by option 2 through voluntary implementation. Options 3 and 4 were considered as less appropriate; for daily bag limits to be effective they would have to be very restrictive (e.g. 1 goose), and increasing the interval between hunting days is not necessarily effective in reducing overall bag. It should be noted that Norway and Denmark do not necessarily

have to implement the same measures, but there was general agreement between both countries during the break-out group discussions.

Discussions on options 1 & 2

The shortening of the season as a means to regulate the harvest should be the principle means of reducing harvest partly due to the simplicity of implementing such a measure. To be effective the reduction should take place at when birds are present in the country, for example at the end of the open season in January for Denmark. For Denmark a reduction at the beginning of the season would be unlikely to have much effect on the total harvest during one season. However, there is evidence to suggest that minor changes in season lengths are not effective (Sunde and Asferg 2014; Wildlife Biology). The adaptive management and monitoring via wing surveys in Denmark offer opportunities to evaluate the population consequences of changes in season lengths in Denmark.

As currently the setting of the open seasons should be revised every 3 years.

To complement the statutory measures on length of open season, voluntary restrictions should be made on the basis of information on the annual harvest rate, and when available the rate of harvest during a single open season. This would necessitate greater monitoring and reporting of bags.

Currently in Denmark the reporting rate of hunting bags is 60%, but as of next year an improvement in reporting rate is expected due to a change in the system where bag return is necessary in order to re-new the hunting license.

In Norway there is a relatively long experience of using online reporting of bag data, although for geese there has been a tendency for the reporting to be done by the hunting leaders in the districts where a majority of the hunting of the Pink-Footed Geese hunting takes place. This means that reporting only takes place at the end of each season. It should be noted that only around 200 Norwegian hunters are actively hunting the SPfG.

Improvements in both countries are expected in terms of information available during the season. A pilot project is starting up in Norway dedicated on online daily reports of SPfG bags, which will provide information on if and when the Norwegian quota is reached. In Denmark the use of reference areas which are run in collaboration with the Danish Hunters' Association, Aarhus University and local landowners, could be used as indicators of harvest rate during the season. There is also scope to expand this system on a larger scale.

One advantage of this voluntary approach is that it would put the decision making on the use of the resource in the hands of the hunters, with the understanding that if it is overharvested then there is a risk that further restrictions would be imposed.

Monitoring of goose agricultural conflicts and linking crop damages to the size of the pink-footed goose population

Breakout group 2 – *Ingunn Tombre (NO & NINA) Chair / reporter*

Summary notes:

Underlying argument and assumption is that there is a positive and detectable relationship between population size and amount of crop damage experience by farmers. This has yet to be quantified in any meaningful way. It is recommended that a simple system is set up to monitor the amount of crop damage caused by pink-footed geese in the four range states, to help determine their impact. There are various ways to estimate the economic damage of pink-footed geese: 1) economic costs of yield loss, 2) economic costs of scaring geese and 3) economic costs of subsidizing accommodation areas for geese. There are indications from research conducted in Norway (MIGRAPOP project) that there is a linear relationship between increasing goose densities and losses in grassland yield. Other research conducted in Norway suggests that scaring activities carried out by one individual may be ineffective; scaring may only be of benefit if carried out collaboratively and with concerted effort between farmers. Compensation and subsidy schemes are of benefit in alleviating conflicts but there are differences in

policy, procedures and reporting between the range states. These are not necessarily an issue but can limit our ability to gauge the level and actual impact of goose-agricultural conflicts. There is the potential to gain a better understanding of the dynamics of this situation by sharing data and research. The IWG could facilitate this by creating a central database. Nevertheless, there will always be “hot spots” for goose-agricultural conflicts. A system is needed where this is captured with compensation fairly allocated, as well as recognising that one goose species is the same as any other to a farmer where they experience losses.

Discussions

The session began with what schemes were in place within each range state to manage goose-agricultural conflicts and compensate farmers. Some of the resulting issues and challenges faced were discussed. As part of these schemes information, to varying degrees, was available about payments made and levels of crop damage experienced in each range state. Details of these schemes are summarised below.

It was also suggested that income from tourism should also be viewed as a possible method of compensation. It was recognised that this would be a more complex mechanism for rewarding farmers to accept geese on their land; tourists money may not go directly to them. Nevertheless, it should be considered as an alternative / complimentary mechanism.

BELGIUM

A compensation scheme for crop damage and a comprehensive reporting system are in place. Compensation for losses is referenced to average yields in that season for all agricultural fields in the region. Farmers must report damage within 10-12 working days of occurrence, but in order to receive payments there is a general requirement to have tried preventative measures. An exception to that are a set of designated Special Protection Areas, where no pre-emptive measures are required. The authorities have had discussions with farmers and other stakeholders about their responsibilities. In this group there also was a review of what preventative measures are effective for different species. This has now been consolidated in legislation. Affected farmers are visited after the ‘goose season’ to verify damage levels. Total compensation paid reflects damage, minus a deductible of 250 € per recipient per year. Data on the amount of damage is publically available and would be made available to the Coordination Unit.

THE NETHERLANDS

Nationally the Faunafonds is the scheme used to compensate farmers. Payments are based on damage assessments. Fields visits are conducted by an assessor together with the farmer. There are designated “go” and “no-go” areas, with different payment structures. Reporting of damages etc. is done on-line. There are differences between the regions within The Netherlands in actual compensation amounts as goose management has been decentralised to regional authorities. Within Friesland compensation payments for damage are set at: 1) 100% inside foraging areas (“go”), plus 50 € EUR per ha under the condition that damages greater than or equal to 25 € EUR per ha. No extra cost for the damage assessment. 2) 95% outside foraging areas (“no-go”), with a 300 € EUR for the assessment of damage. It’s not necessary to use preventative measures to receive compensation. Determining damage by different species is possible and a rough estimate for pink-footed geese in Friesland is 80,000 € EUR, a relatively small out of the total 12 million € EUR paid out for compensation.

DENMARK

There is no compensation scheme in Denmark as there are limited conflicts and no tradition for compensation payments. There have been rapid changes in the distribution of pink-footed geese and along with competition from barnacle geese, so goose-agricultural conflicts may emerge. Situation should be monitored.

NORWAY

Rather than compensation there is a subsidy scheme in place in Norway. This is for pink-footed geese and barnacle geese but excludes greylag geese. Fixed advance payments are made to farmers in pre-identified goose areas, to allow geese to forage un-disturbed. A total of 2.4 million and 1.5 mill NOK were allocated as subsidies for Nord-Trøndelag and Vesterålen (North Norway), respectively. There are different rates of subsidy payments available: 2 rates in Nord-Trøndelag (from 2015) and 3 in Vesterålen. Which areas receive these different rates is based on previous goose numbers. As part of the MIGRAPOP project a ‘Species Distribution Model’ has been

developed and this is currently in use by the County Governor in Nord-Trøndelag as a baseline for distributing payments to affected farmers, in addition to local adjustments. The challenge is to fairly distribute subsidy payments (paid in advance). There are also questions as to whether there is sufficient money for all affected farmers. A 'Habitat Deletion Model' is being developed to help in the assessment of the subsidy scheme. Once this model has been completed and verified the intention is to combine and use both models, to make cost crop damage cost assessments and identify potential areas / levels for compensation. This information is available for the Coordination Unit.

Coordination Unit work plan 2014/2015

Jesper Madsen (DK) outlined the next steps for the implementation of the ISMP and the forthcoming work of the Coordination Unit. *Madsen* highlighted that the end of the first 3 year cycle was approaching and that the current contracts and funding that supported the process were due to finish at the end of 2015. In the intervening period the Coordination Unit will continue with routine AHM processes. The unit will continue dissemination activities to promote the work of the IWG by: attending conferences and giving presentations, publishing a number of academic papers (3 planned), continue to maintain the IWG website and sustain media interest with news articles. In collaboration with Fred Johnson the AHM models will continue to be developed, with a new model approach planned for implementation in 2015. Finally, the Coordination Unit will evaluate the current 3 year cycle by undertaking a cost-benefit analysis of the AM process and propose a new year 3 year plan at the next IWG.

Election of the Chair

In prior consultation Denmark had volunteered to act as the next Chair for the International Working group'.

Decision: Henrik Lykke Sørensen, the Danish National Focal Point, was accepted and appointed Chair of the IWG for the period 2014/15 including the next meeting of the IWG.

Next IWG meeting

It was suggested the next IWG meeting takes place in autumn/early winter of 2015. It was noted that this may coincide with number of other international meetings planned at this time. Belgium stated they will be happy to host the next meeting, which was kindly accepted by the IWG. No dates could be confirmed at the meeting.

Decision: It was provisionally agreed that the next IWG meeting would be held in Belgium. The Coordination Unit will consult with national delegations to find suitable dates.

Conclusion of the meeting

Meinte Engelmoer, on behalf of The Netherlands and Friesland, thanked all delegations for participating in a constructive meeting with informative and fruitful discussions.

Sergey Dereliev (AEWA) added the ISMP for the pink-footed goose was one of the best run processes within the AEWA family thanks to the positive contributions of all involved with the IWG. The ISMP so far had greatly benefitted from effective coordination, good science, productive collaborations, transparent communication and the political will and necessary funding needed to for successful implementation. *Dereliev* added that he awaited a positive assessment of the process so far, but to secure the future of such processes the investments needed should be scaled down to make them more cost effective.

To close the meeting *Øystein Størkersen(Chair)* again thanked everyone for their active participation, Fred Johnson for his continued guidance and scientific input, the Coordination Unit for organising a successful meeting, and The Netherlands for generously hosting it.

Abbreviations

- AHM Adaptive Harvest Management
- AEWA African-Eurasian Waterbird Agreement
- BE Belgian delegate
- CU Coordination Unit
- DK Danish delegate
- ISMP International Species Management Plan
- IWG International Working Group
- NL Dutch delegate
- NO Norwegian delegate
- SPfG Svalbard Pink-footed Goose
- SPAs Special Protected Areas

Appendices

1) Participant list

Norwegian delegation

Øystein Størkersen, National Focal Point, Chair.
Environment Agency, Ministry of Environment
Arild Espelien, National Expert.
Environment Agency, Ministry of Environment
Ingunn Tombre, National Expert.
Norwegian Institute for Nature Research (NINA)
Pål Krister Langlid, Delegate.
Advisor to Nord-Trøndelag Norwegian Farmers' Union (Bondelaget)
Endre Alstad, Delegate.
Norwegian Association of Hunters and Anglers (NJFF)

Danish delegation

Henrik Lykke Sørensen, National Focal Point.
Danish Nature Agency, Ministry of Environment
Jesper Madsen, National Expert & Lead Coordinator.
Aarhus University / AEWA SPfG IWG Coordination Unit
Niels Henrik Simonsen, Delegate.
Danish Hunters' Association
Niels Erik Jørgensen, Delegate.
Danish Hunters' Association
Ole Noe, Delegate,
Danish Hunters' Association (DJ)

Dutch delegation

Anja Pel-Roest, National Focal Point.
Dutch Ministry of Economic Affairs
Ralph Buij, National Expert.
Wageningen University
Annegien Helmens, Delegate.
Dutch Ministry of Economic Affairs
Meinte Engelmoer, Delegate.
Official of Province of Friesland
Marten Wesselius, Delegate.
Official of Province of Friesland

Belgian delegation

Michiel Vandegehuchte, National Focal Point,
Government of Flanders, Agency for Nature and Forests.
Eckhart Kuijken, National Expert.
Christine Verscheure, Delegate,
Natuurpunt (Birdlife International partner)

International delegates

Sergey Dereliev
African-Eurasian Waterbird Agreement (AEWA),
UNEP/AEWA Secretariat
Fred A. Johnson, International Expert,
Southeast Ecological Science Centre,
U.S. Geological Survey
Bart Nolet, International Expert.
Netherlands Institute of Ecology (NIOO-KNAW)
Cy Griffin, Observer.
Federation of Associations for Hunting & Conservation of the EU [FACE]
Szabolcs Nagy, Observer.
Wetlands International
Melissa Lewis, Observer.
African-Eurasian Waterbird Agreement (AEWA)
Einar Eythórsson, Observer.
Norwegian Institute for Cultural Heritage Research (NIKU)
Siri Ulfsdatter Sjøreng, Observer.
Northern Research Institute (Norut Alta)
Lars Waade, Observer.
Innherred Landowners Association for Goose Management
Ove Martin Gundersen, Observer.
Norwegian Institute for Nature Research (NINA)
Romke Kleefstra, Observer.
Dutch Centre for Field Ornithology - SOVON
James H. Williams, Coordinator.
Aarhus University / AEWA SPfG IWG Coordination Unit

2) Norwegian Farmers Union written response to 2014 Annual Reports

2014 Progress Summary for the Co-operator report on the adaptive Harvest Management for the Svalbard Population of Pink-footed Geese

The report is a good and informative summary of the development of the adaptive harvest-management strategy for the Svalbard Population of the Pink-footed Geese, set in place by the international AEWA working-group. The report also gives an important fundament for discussing further development of the model.

Comments from The Farmers Union in Norway:

- Important that the spring counts seem to show that the member countries have succeeded to stop population growth. But the population is still 16 000 individuals above the target level of 60 000.
- Page 17 – 2; We are not sure that the described system for collecting and aging wings in Nord-Trøndelag actually has been implemented. The County Governor has worked on this topic, but we have not received any information that this actually is implemented.
- Page 17 – 4; We experience that the geese are using new areas to feed in the spring, the geese are getting more tame. This emphasizes the need of increasing the resources in the spring counting, to ensure that the whole population is covered.
- The report describes the possibility of using new programming software, to make the modeling tools more dynamic. We support this argument, and find it important to make the model better, and increase the accuracy in leveling the harvest quotas from one year to the other.
- Page 18; The Norwegian Farmers union emphasizes the need of keeping a high harvest quota until we reach the target level. We also emphasize the importance of keeping a relatively stable harvest level after the population target level is reached. It will be challenging to develop and maintain the necessary organization of the hunting rights by the landowners, and the hunters' interest of hunting the pink-footed geese, if the harvest quotas are varying too much from one year to the other. A dynamic and more accurate modelling tool can probably be helpful in this context.

1. Population status report 2013-2014 for the Svalbard Pink-footed Goose

- Important that the spring counts seem to show that the member countries have succeeded to stop population growth. But the population is still 16 000 individuals above the target level of 60 000.
- The reproduction has been relatively low the last two years. This explains that the existing harvest level has stopped the population growth. But the models show non-density dependent growth in the population. Therefore better spring weather conditions the coming years will significantly challenge the harvest level of today.
- Important to increase the resources in spring-counting of geese, to ensure that the counts cover the change in geese habitat use.

Pål-Krister V. Langlid
Advisor,
The Norwegian Farmers Union, Nord-Trøndelag

3) Danish Hunters' Association written response on harvest regulations

Harvest regulations on Pink-footed Goose

To: Coordination Unit. AEWA Pink-footed Goose International Working Group

From: Danish Hunters Association

Date: 27. October 2014

Subject: Harvest regulations

As part of the Danish delegation, the Danish Hunters' Association took part in the international working group's 13th-15th October conference in Sneek, Holland. Below is a written version of the views expressed by the Association at the conference.

Agenda point: Discussion about harvest regulations

A) Decisions to be made on emergency closure

At the IWG meeting in Copenhagen, April 2013, it was recommended to implement an emergency closure of the forthcoming hunting season in case the annual optimal harvest models predicted that the population size prior to the hunting season would go below the target of 60,000. However, there are some points which need further clarification and agreement to secure an implementation of the contingency plan.

- 1) What is the predicted population size which triggers a closure: 60,000 (the target level) or 50,000 (which is the lower limit of the previously decided utility function)?
- 2) Has the emergency closure decision been discussed, decided and communicated in the respective countries?
- 3) What management system is required to execute the decision?

The IWG is invited to:

1. Discuss and recommend which predicted population size should be used as a trigger for an emergency closure
2. Recommend the implementation of a contingency plan for an emergency closure, coordinated between Denmark and Norway

The Danish Hunters' Association's view

Re 1: The Association would like to see a model established that allows an increase/reduction of each year's harvest when the spring population is around 60,000 birds (target). The lower level should be based on Jesper Madsen's model, i.e. 50,000 birds. If the spring population is assessed as below 50,000, and the year's recruitment does not justify a continuation of hunting, the hunt should be closed that year.

Re 2: The Association is not responsible for establishing procedures or communication between the two authorities, but will be happy to contribute to the process as far as possible.

B) Options for sharing the harvest of pink-footed geese between Norway and Denmark

As the population size of pink-footed geese is reduced towards the target level of 60,000 individuals, the harvest will have to be reduced. Hunting organizations in both countries have expressed that it would be necessary and fairest to predefine the share of the harvest of pink-footed geese between Norway and Denmark. Various ways to divide the overall quota have been suggested. To inform the discussion and decision, the proportion of geese shot in Norway out of the total combined bag in Norway and Denmark is presented below. It gives an overview of the relative share based on different retrospective average time intervals of annual hunting bags in Denmark and Norway.

The IWG is invited to:

3. Discuss and recommend a share of pink-footed goose harvest between Denmark and Norway in case the overall harvest need to be reduced below current levels

The Danish Hunters' Association's view

Re 3: The Norwegians are three years ahead of us with regard to trials, and as a result have therefore carried out more intensive hunting in recent years. The Association would like to see a division of the hunt based on historical data from 1992 onwards, and updated each year. Currently this would give a share of 73.3 % to Denmark, and 26.7 % to Norway.

In addition, if Dutch and/or Belgian hunters are allowed to hunt pink footed geese, the Association's view is that the relevant countries should receive a share of the total quota. This would mean that a percentage, equivalent to any bag by Dutch and/or Belgian hunters, should be deducted from the quotas agreed between Norway and Denmark.

C) Potential options to regulate the harvest of pink-footed geese in Norway and Denmark

As the population size of pink-footed geese is reduced and approaches the target level of 60,000 individuals, it will be necessary to restrict the hunting bag of pink-footed geese.

The IWG is invited to:

4. Discuss and recommend which possible options (either among the ones proposed above, a combination of them, or alternatives) should be considered in case the harvest of pink-footed geese needs to be reduced by hunting regulations, noting that Norway and Denmark do not necessarily have to implement the same instruments

The Danish Hunters' Association's view

Re 4: Based on the current situation, the Association would like to see the harvest in Denmark controlled by adjusting the length of the hunting season. This should not apply just for one year, but for several years of regulating the harvest (e.g. 3 years), by adjusting the hunting season. If this does not give a sufficient reduction in the first year, further restrictions could be applied before the start of year two, etc. This would be the simplest system to operate, and should be done via regulations issued before the start of the hunting season. These, once the length of the season has been calculated, would determine when the season should end.

The Association are working towards introducing a system that will allow goose hunters to voluntarily offer to shut down the hunting season in any year where it has been estimated that the annual harvest quota has almost been filled, before the season has technically ended.

The Association is also trying to ensure that annual game return figures are supplemented with dates for when pink footed geese have been bagged, as this will give useful knowledge about when the birds are shot during the season.

D) Actions to maintain a low crippling rate

In the ISMP the following action is stated as essential: *‘Ensure sustainable hunting where practised (at present in Norway and Denmark) and following ‘wise use’ principals, whilst ensuring that crippling rates are kept at a minimum level’*. To pursue this action point, it will be necessary to agree on how a minimum level is defined. This is a value-based decision and requires a careful treatment nationally in Denmark and Norway as well as in the IWG.

The IWG is invited to:

5. Discuss and recommend criteria for a ‘minimum level’ of crippling
6. Discuss and recommend which actions should be taken in Denmark and Norway to increase the awareness of keeping crippling at a minimum

The Danish Hunters’ Association’s view

Re 5: We are talking about a process - not a number. Irrespective of the number, someone will disagree with it. What is required is a continual effort to reduce the level of crippling in the bird population.

Re 6: The Association is working to ensure that the relevant hunters are informed and trained. The Association will work to ensure the introduction of appropriate surveys and a coordinated initiative in Norway and Denmark.