

Improving Humane Practice in the Canadian Harp Seal Hunt

A Report of the
Independent Veterinarians'
Working Group
on the
Canadian Harp Seal Hunt

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Summary

The Independent Veterinarians' Working Group (IVWG) on the Canadian Harp Seal Hunt was formed in May 2005 to contribute to the promotion of animal welfare, and to minimize or eliminate animal suffering within the context of the hunt.

The Canadian harp seal hunt is a highly competitive activity. It is carried out by a large number of hunters, over an extensive area, in a short period of time, and monitored by a relatively small number of regulators.

An information meeting with sealers, industry representatives, government managers, scientists and the Working Group was held on May 26, 2005. The Group received information about seal population biology in the context of the hunt; the industry: past, present and future; sealing methods; and management and enforcement. At that meeting sealers asked the members of the working group to assist them in improving humane practice.

On May 27-28 the IVWG met *in camera* to discuss the hunt, and to develop recommendations regarding animal welfare. The Group determined that, if carried out by a trained and skilled individual, a three-step method of stunning, checking and bleeding seals can result in rapid, irreversible loss of consciousness, and death, and thus can be a humane process.

This report discusses a range of factors and issues related to the hunt, and makes eleven recommendations to the sealers, industry and regulators.

Specific recommendations:

- The three steps in the humane killing process -- stunning, checking that the skull is crushed (to ensure irreversible loss of consciousness or death), and bleeding -- should be carried out in sequence as rapidly as possible.
- Confirmation of irreversible loss of consciousness or death should be done by checking by palpation that the skull is crushed, rather than checking the absence of corneal (blink) reflex.
- A seal should not be shot in the water, or in any circumstance when it is possible the carcass cannot be recovered.

- Bleeding to achieve or ensure death, following stunning, is an important element in the three-step humane killing process. The Marine Mammal Regulations should be amended to replace the requirement for death to occur before bleeding, with a requirement for unconsciousness before bleeding.

General recommendations:

- Reducing the competitive nature of the hunt can result in improved animal welfare, better compliance and enforcement, and a safer work environment.
- The Department of Fisheries and Oceans Canada (DFO) should take steps to improve supervision, monitoring and enforcement, including the training of officers.
- Individuals should receive training before they are licensed as hunters, and periodic upgrading should be required.
- Sealers would benefit from strong professional associations that support and promote humane practices.
- Research and observation should be undertaken on a regular and systematic basis.
- Industry should continue to strive for full utilization of each seal killed.
- It is important for observers to work in collaboration with sealers.

The Working Group identified a number of areas in which research should be carried out. These include: possible refinement of the hakapik, bleed-out time, the swimming reflex and assessment of gunner accuracy. Research and observation effort should be increased at the Front.

The IVWG intends to continue working together toward the goal of promoting animal welfare by minimizing or eliminating suffering in the Canadian harp seal hunt. The Group will be represented at the Fall 2005 management forum, and hopes to observe the 2006 hunt.

Preamble

Animal welfare issues surrounding the harp seal hunt in Atlantic Canada have generated debate and controversy for many years (Malouf, 1986; Burdon et al, 2001; Daoust et al, 2002). The purpose of this meeting was to attempt to address these issues in as objective a manner as possible.

The initial idea for this meeting, and the funding for meeting logistics and group travel, were provided by the World Wildlife Fund* – Netherlands (WWF NL). Although WWF is a conservation organization and traditionally does not engage in animal welfare issues, WWF NL recognized the Canadian harp seal hunt as an issue of concern and importance to many of its members.

In 2004 Drs. Pierre-Yves Daoust and Alice Crook began discussions about the possibility of bringing together an international group of independent veterinarians to discuss the seal hunt. The group that was formed has nine members: four from Canada, two from the United States, and one each from the Netherlands, France, and Great Britain.

The members of the Independent Veterinarians' Working Group (IVWG) would like to thank the WWF for its encouragement and support for the establishment and initial meeting of the group.

This report is available in electronic format at: <http://www.ivwg.org>

* also known internationally as the World Wide Fund For Nature.

1. Introduction

The IVWG on the Canadian Harp Seal Hunt is composed of nine veterinarians from North America and Europe. The members of the Group have a wide range of experience and knowledge relating to the Canadian harp seal hunt, the health and welfare of seals and other marine mammals, and animal welfare in general. [See Appendix A for brief individual background details.]

The initial meeting of the IVWG, and a preliminary information session were held May 26-28, 2005, in Halifax, Nova Scotia. Bruce Smith served as the facilitator for the session, and wrote the report with editorial assistance and collaboration from the members of the Group. Session notes were taken by Anne Warburton.

This report provides comments, observations and recommendations on a number of aspects of the seal hunt. The Group's decisions and recommendations were made by consensus. As a group they hope their deliberations and future work will contribute to the reduction or elimination of animal suffering during the Canadian harp seal hunt.

In order to achieve the objective of reducing or eliminating animal suffering, this report presents what Working Group members think is the best humane practice, regardless of location and other factors. Members recognize that the seal hunt takes place under very difficult and challenging conditions. Therefore, the Group has acknowledged and discussed some of the specific challenges presented by weather, sea and ice conditions, and other factors, and made recommendations that reflect those circumstances. No observation or suggestion to mitigate the impacts of adverse conditions should be interpreted as an acceptance of anything but the highest standards of humane practice.

The Canadian harp seal hunt has the potential to be a humane hunt -- one that should be judged with reference to accepted practices for euthanasia, and in comparison with killing done in abattoirs.

Perception of the seal hunt seems to be based largely on emotion, and on visual images that are often difficult even for experienced observers to interpret with certainty. While a hakapik strike on the skull of a seal appears brutal, it is humane if it achieves rapid, irreversible loss of consciousness leading to death.

Campaigns and rhetoric that play to emotion at the expense of understanding and communication of factual information will neither increase the use of humane methods nor reduce animal suffering. Some may seek an end to the seal hunt. The objective of the Working Group is to reduce or eliminate seal suffering through improved industry and regulatory practice underpinned by research. It is not the Group's intent to enter into the discussion about whether or not there should be a hunt.

2. Information Session

On May 26th the IVWG met with a number of people representing different aspects of the Canadian harp seal hunt to get a better understanding of some of the perspectives of individuals and groups. Presentations were made on population biology in the context of the seal hunt; industry past, present and future; hunting methods; and, management and enforcement.

A presentation on seal population biology in the context of the hunt described a framework to guide quota setting to ensure that the seal population will remain healthy and sustainable.

Four representatives of the sealing industry made presentations on the industry past, present and future, as well as hunting methods. Included was a presentation on a training program used in the Magdalen Islands, province of Québec. Information was provided about the social and economic importance of the seal hunt to coastal communities. Sealers asked for assistance from the Working Group to improve their working methods with reference to humane practices.

The Department of Fisheries and Oceans Canada (DFO) and the province of Newfoundland and Labrador made presentations and answered questions on issues relating to management and enforcement. It was noted that a new management plan will be developed with stakeholder involvement in the Fall of 2005.

3. Group Discussion

The IVWG met *in camera* on May 27-28 to consider the information from the previous day, and to discuss issues and areas of concern. A videotape of approximately 30 minutes duration, taken by members of the International Fund for Animal Welfare (IFAW) during the 2001 spring hunt in the Gulf of St. Lawrence, was viewed. Prior to the session a number of papers were reviewed by Group members. The results of these discussions are reported under the following headings: methodology, competition, observation of the hunt, management and enforcement, training and professionalism, physical reflexes, industry, research needs, and future directions.

The Group recognizes that part of contributing to improved animal welfare and reduced suffering is to produce recommendations that are realistic in the context of the hunt, so that sealers will accept and implement them. There needs to be a realistic balance between ideal procedure and methodology, and what is practical and achievable.

3.1 Methodology

For the seal hunt to be humane, the Working Group recommends that hunters follow a basic three-step process -- stunning, checking (palpation of the skull) and bleeding -- that, when carried out correctly by a trained individual, will result in rapid, irreversible loss of consciousness, and death. The killing of a seal can be done in a manner that is consistent with the requirements for euthanasia as described by the 2000 Report of the AVMA Panel on Euthanasia (AVMA, 2001), and other guidelines or codes of practice for the humane killing of large mammals.

Stunning is the act of crushing the skull for the purpose of destroying both hemispheres of the brain. The result of this act should be the rapid, irreversible loss of consciousness, or death of the animal. **Checking (palpation of the skull)** is the process of manually depressing the skull to ensure that the crushing process has been thorough (including both hemispheres of the brain) and has resulted in the desired irreversible loss of consciousness or death. The Group does not recommend using corneal reflex -- see page 19 for further discussion. **Bleeding** -- the severing of the two axillary arteries (in the arm pits), following a longitudinal ventral cut, and subsequent exsanguination (see research recommendations about bleed-out time) -- confirms or achieves death by the termination of blood flow to the brain stem. These steps should follow each other in rapid succession, and are all essential to ensuring a humane killing process.

[Note: A longitudinal ventral cut followed by severing of the axillary arteries also constitutes the first step in the skinning process.]

It is the Group's understanding that in the Gulf of St. Lawrence seal hunt, which accounts for approximately one-third of the harvest, the predominant method for stunning is the hakapik or club. While striking a seal with a hakapik or club is a crude act, and one unlikely to be witnessed by observers without emotion, it is a humane way to render a seal unconscious or dead when carried out correctly by a trained and skilled individual according to the suggested guidelines.

When a hakapik or club is used, the following should be considered:

1. Stunning blows are delivered with the implement to the skull, directly behind the eyes, over the cerebral hemispheres. The blow(s) should be delivered with sufficient force to crush the skull. Many sealers were trained to use three blows. The IVWG believes that the emphasis should be placed not on the number of blows, but on achieving the destruction of the whole skull and both hemispheres of the brain to achieve irreversible loss of consciousness, or death.

2. It has been noted that some sealers believe they can feel the crushing of the skull when using the hakapik, and as a result they believe they do not need to manually check for the destruction of both hemispheres of the brain. Because rapid, irreversible loss of consciousness is essential for the killing process to be humane, the Group believes that there is no substitute for manual checking by palpation of the skull. It should be noted that when skulls have been checked by veterinarians and DFO officers after hunts, a variable percentage of skulls were found not to have been adequately crushed. International Fund for Animal Welfare videos also show numerous examples of striking with a hakapik that are not followed by checking, either by palpation of the skull or observation of absence of corneal reflex.

3. Unless there is concern with sealer safety or possible loss of the seal, bleeding should take place immediately after checking and prior to hooking or skinning the animal. The Group notes that the AVMA guidelines on euthanasia (AVMA, 2001) recognize the need to consider worker safety.

The use of a firearm to accomplish stunning, common in the area on the east coast of Newfoundland known as the Front, also has the potential to achieve rapid and irreversible loss of consciousness or death. The Front accounts for approximately two-thirds of the seals killed. Because of ice, sea and weather conditions there are

greater challenges for hunters to carry out all three steps of stunning, checking by palpation of the skull, and bleeding.

When firearms are used in the seal hunt, the following should be considered:

1. Stunning is achieved by shooting a seal in the head. A competent marksman (“gunner”) with an appropriate weapon can achieve stunning with a well-placed shot. However, the IVWG notes that due to a variety of factors -- especially boat and seal movement -- the gunner must be a competent and disciplined professional who is capable of placing a bullet accurately under difficult conditions. It is important that the gunner has the discipline to know when not to shoot, either because of lack of ability to ensure an accurate shot and risk leaving the seal in a conscious state, or because of the potential for not being able to retrieve the seal. An immediate assessment of its efficacy should be made following a shot. In the event of any uncertainty about whether or not the first shot rendered the seal unconscious, and if no manual inspection can be performed due to conditions, a second shot should be taken to achieve the desired result before hooking the seal onto the boat. The Group recognizes that an accurate shot with the appropriate firearm can result in extensive damage to the head and brain, making any checking apparently superfluous. However, the Group does recommend that all steps of the checking process are still carried out to ensure that the individual seal is subsequently dealt with in a humane manner.

2. Checking by palpation of the skull is a manual process that requires the sealer to be in physical contact with the animal. The Group understands that at the Front, where seals are shot at distances of approximately 40-50 meters, there is often a delay in sealers being able to check for effective stunning. In all circumstances, the sealers should visually determine the result of the stunning, and then endeavour to retrieve the animal as quickly as possible; and having done so, they should then carry out the checking and bleeding processes without delay.

3. Bleeding of a seal will ideally be done on the ice immediately following the checking process. When for reasons such as safety or the potential loss of an animal there is a delay, time to bleeding should be kept as brief as possible.

While the three steps of the process carried out in rapid succession should result in a humane seal hunt, it should be noted that failure to correctly carry out any one of the three steps, or undue delay in completing the second or third steps, can result in a situation in which a seal may not be killed in a humane manner.

Due to the difficulties of retrieval and high potential for “struck and lost” situations, seals should not be shot in the water. The Group also recommends that the requirements for muzzle velocity and energy in the Marine Mammal Regulations (2003) not be reduced.

Bleeding, hooking and skinning

The Group noted that many of the IFAW video clips show hunters who did not bleed animals after stunning and before hooking and skinning. Bleeding (exsanguination) ensures that the animal will not regain consciousness when hooked or skinned. Live, conscious seals should never be hooked, skinned or bled, and proper palpation of the skull should ensure this.

Bleeding is an important element in the recommended three-step process for humane killing of seals. Some members of the Working Group feel that bleeding should be a requirement of the Marine Mammal Regulations (2003), making it an offence not to bleed a seal before hooking or skinning. Other members of the Group feel that worker safety and the difficulties presented by the natural environment in which the hunt takes place were considerations that could make such a regulation difficult to apply, specifically in relation to hooking a seal.

The Group recognizes that it may be difficult for hunters to accept the need to wait a period of time after cutting the axillary arteries, before either hooking the seal to bring it back to the boat, or continuing with the skinning process. [It should be noted that the initial cuts required for bleeding are the same as those that are used for skinning.]

All members of the Working Group feel that sealers should make every effort to ensure that a seal is bled before hooking or skinning.

The Working Group feels that it is important to know more about bleed-out times and recommends that research be carried out on this subject, so that a recommendation on the amount of time necessary for complete exsanguination can be made.

3.2 Competition

The Canadian harp seal hunt involves a large number of boats competing with each other to maximize their take of an open quota, over an extensive area, in a relatively short period of time.

The competitive nature of the hunt (in recent years as short as two days) creates an environment in which speed is the rule, and hunters may be encouraged to take shortcuts.

The Group notes that these conditions can make it difficult for DFO to undertake effective monitoring and enforcement.

It is the view of the Group that this combination of factors does not allow sufficient time for the hunt to be undertaken in an optimal manner. The Group believes that allowing more time for the hunt and reducing competition can result in benefits that include:

- an improved application of humane hunting methods (less suffering)
- improved supervision, monitoring and enforcement by DFO
- a safer work environment for the sealers

The Working Group recommends that DFO implement measures to reduce competitiveness and haste in the hunt.

3.3 Observation of the Hunt

The physical realities of the Canadian harp seal hunt present a significant set of challenges for observation, supervision, monitoring and enforcement. In order for anyone to attest to the humaneness of the hunt, there must be an improved level of supervision and monitoring.

A video camera mounted on a helicopter can serve as a useful method of observation. Its limitations should be noted with regard to distinguishing conscious and unconscious seal reflexes, identities of individual hunters and vessels, and use of tools such as hakapiks, clubs and hooks. However, video images can show whether or not procedures such as palpation of the skull and bleeding have been carried out. Video can also reduce the potential for sealers to behave differently when they know they are being observed.

The Front currently accounts for two-thirds of the seals killed during the annual Canadian harp seal hunt. Because of its remoteness and difficult environmental conditions, it is generally considered not to be well observed or monitored. The Group recommends that efforts to observe and monitor the hunt at the Front be increased.

During the information session the idea of putting mixed teams of observers in the field was raised. These teams could be composed of DFO staff, sealers and veterinarians -- both independent veterinarians and those linked with animal welfare organizations. Joint observation has the potential to increase learning in general, and to establish better understanding among participants, observers and regulatory authorities.

3.4 Management and Enforcement

General concern was expressed that the wording and thinking about the seal hunt may be influenced by referring to it as a “fishery.” The IVWG wants to note clearly that this is about a hunt for large piscivorous mammals.

Regulations should be clear and enforceable. Effective compliance and enforcement will include training for sealers and monitors (DFO officers), as well as having in place meaningful penalties for violations.

The Marine Mammal Regulations (2003) should be clarified with respect to palpation of the skull, e.g. ‘Every person who strikes a seal with a club or hakapik shall strike the seal on the forehead until its skull is crushed and shall manually check to ensure that the whole skull is completely crushed, so that both hemispheres of the brain are destroyed.’

The Working Group recommends removal or de-emphasis of absence of corneal reflex in favour of a strict requirement for palpation of the skull. The absence of corneal reflex and its significance seem to be misunderstood and incorrectly applied by some sealers.

The 2001 IFAW videotape showed that neither palpation of the skull nor checking for absence of corneal reflex was performed consistently. It should be noted that the previous Marine Mammal Regulations, dating back to 1993, did not make reference to palpation of the skull as an option to checking for the absence of the corneal reflex. That reference was added by amendment in 2003.

DFO should remove the regulatory requirement for death to occur before bleeding, since bleeding can be used to achieve or confirm death following stunning. The Group equates death with termination of brain stem function, which cannot always be guaranteed by hakapik strike or rifle shot alone.

The competitive nature of the hunt and large number of licenses and vessels may result in undue haste. This reduces the potential for the humane killing of each seal as well as the ability to ensure the safety of the sealers. The IVWG recommends that DFO consider management options that will remove the incentive for sealers to take shortcuts, resulting in a failure to carry out the killing process in a humane manner.

DFO appears to lack sufficient dedicated capacity to monitor and enforce regulation of the hunt, especially at the Front. It is the Group's understanding that Coast Guard vessels are often called away from monitoring and enforcement of the hunt to perform other duties.

DFO officers are often resident in the small communities that have social and economic links to the seal hunt. The Working Group believes that DFO should consider bringing in officers from outside communities who are not faced with monitoring and potentially laying charges against friends and neighbours.

The Group further notes that there may be an element of conflict of interest in DFO being both an advocate for the seal hunt and its regulator.

The Working Group had some discussion about the process for setting seal hunt quotas, and the data presented during the information session. IVWG members are not wildlife population biologists, and do not feel qualified to make recommendations in this field. However, they do want to encourage DFO to set quotas that will not adversely affect the seal population under their jurisdiction.

Some members of the Group wondered if there is potential to licence vessel captains, so that on each vessel there would be a single person with responsibility for the practices of all on board. Other members believed this could be a disincentive for individual sealers to act responsibly if they are unlikely to incur some consequences resulting from their own inappropriate actions toward the seals.

3.5 Training and Professionalism

Effective training has the potential to improve the humaneness of the seal hunt, and to improve public perception. This would be an excellent place for government to invest some effort and money. The IVWG noted that at this time licensing requires an apprenticeship.

The Working Group feels that formal training should be required for the issuance of any new seal licenses. The Canadian Sealers Association, *l'Association de chasseurs des Îles*, or other regional professional associations, should advocate for and deliver training. Training must be based on best practices.

The Group had the opportunity on the first day to receive a presentation on a training course offered on the Magdalen Islands, which included a training video and a manual. Both the video and manual are available in French and English, and are generally well done. The Group applauds the initiative taken to provide quality training for Magdalen Islands sealers. They noted in the training video that the demonstration of verification of absence of the corneal reflex did not provide the trainees with a good sense of why and how this was carried out.

The training materials are available from: *Table filière loup-marin inc., Cap-aux-Meules, Québec.*

It would also be appropriate to have periodic upgrading or refresher courses for experienced sealers, to update them on any new information, practice, or change in regulation, and reconfirm their knowledge and methods.

It would be useful if DFO could approve and sponsor training for sealers in humane hunting methods. Training could make use of video footage to demonstrate best practices and illustrate examples of situations that should not be repeated.

3.6 Physical Reflexes

There are several physical reflexes that may be exhibited by harp seals under various conditions. Understanding these reflexes can help both sealers and observers to interpret the progression of stunning, checking and bleeding.

“Swimming Reflex”

This reflex is thought to consist of involuntary movements that occur following an acute lethal trauma to the brain of a seal, comparable to those that are seen in domestic animals at slaughter. In seals, it typically includes strong lateral movements of the caudal portion of the body.

It is difficult to observe some seal motion and be certain whether it is voluntary (i.e. preceding death) or involuntary (i.e. occurring after death). When shown in video footage, ANY motion may give an observer the impression that it is voluntary, and thus that the animal is fully conscious. This is often a matter of interpretation. Humaneness is increased and industry will benefit if the recommended process is followed carefully, minimizing the potential for actual consciousness of an animal, or perceived consciousness on the part of a concerned public.

Corneal Reflex

Presently there is significant emphasis placed on the corneal (“blink”) reflex. Checking for the absence of this reflex is a requirement of the Marine Mammal Regulations (2003), and it is cited in articles and observation notes. Sometimes it is cited in conjunction with palpation of the skull.

The IVWG does not believe that the corneal reflex, or more specifically its absence, is well understood by those involved in the seal hunt. Properly used, the absence of corneal reflex is an accepted method to determine deep unconsciousness. However, the process for checking the corneal reflex is not simple, and can be very difficult to perform by a sealer on the ice.

The nature of some head injuries may lead to the eyes being fixed and staring, despite the seal being conscious and perceiving pain.

The IVWG recommends palpation of the skull, which ensures that both hemispheres of the brain have been destroyed, as a more reliable method to ensure irreversible unconsciousness, or death. They recommend that DFO revise the Marine Mammal Regulations (2003) either to remove reference to the corneal reflex completely, or to describe it as a secondary method. Palpation of the skull should be the required method.

Fear-Induced “Paralysis”

This total immobility of the animal, with its body contracted and its head withdrawn, is a typical reaction of harp seals to threatening situations. Sealers and observers should be able to recognize this response. It is a sign of consciousness, and should serve as a warning to sealers that stunning has not been achieved.

3.7 Industry

The presentations at the initial information session helped the Working Group to get a better understanding of the sealing industry. The Group believes the industry will be well served by developing or strengthening professional associations such as the Canadian Sealers Association or *l'Association de chasseurs des Îles*. The Group notes this because of the clear need for training and professionalization in the industry, and for a mechanism to communicate best practices to everyone involved.

Professional focus and training have the potential to improve knowledge and practice of humane methods. They also have the potential to improve the image of the industry in the public eye, although it is clear that this is a challenging and difficult objective.

The IVWG supports the full utilization of all seals that are killed. It is the Group's understanding that seals are killed for their pelts and that meat, parts and oil are by-products. Seals should not be hunted solely for high value body parts, with the resultant waste of the bulk of the carcass.

Development of markets for seal meat should be encouraged, however it should be noted that development of consumer markets for seal meat will necessitate improved carcass handling and storage processes. Such use of seal parts for specific markets is a component of full utilization.

Training was a recurrent theme, and one that the Working Group considers to be of critical importance if suffering is to be minimized or eliminated in the seal hunt. Training should be required by DFO for licensing, and should be supported by DFO in its development and implementation.

The difficulties associated with public perception and understanding of the seal hunt cannot be overemphasized. Sealers must realize they are under scrutiny and have a responsibility to demonstrate best practices. They must ensure they establish the most humane hunt possible. With thousands of licenses issued each year, this will be a difficult but not impossible task.

The IVWG encourages the industry to take all possible steps to be professional and humane.

3.8 Research

The IVWG's discussions resulted in identification of the following areas in which research should be carried out.

1. Possible Refinement of the Hapik

It may be that the design of the hapik is optimal for the task. However, given the clear requirement to destroy both hemispheres of the brain as quickly as possible to achieve irreversible unconsciousness, or death, it may make sense to consider modifications to the design that could improve its utility.

2. Bleed-out Time

The Working Group feels that information about the time required from the severing of the axillary arteries to the seal being sufficiently bled to determine death would be useful in making recommendations to sealers on their practice. Marine mammal physiologists should be consulted to determine what information is currently available.

3. Swimming Reflex

Members of the Group believe confusion can arise from interpretation of seal movement during the stunning, checking and bleeding process. There could be significant benefit in conducting research to distinguish conscious voluntary motion from unconscious involuntary motion, or at least to better explain the physiological processes associated with the swimming reflex. This may have parallels within the domestic meat industry.

4. Gunner Accuracy

Shooting appears to be the method used for stunning in over half of the seals killed. Accuracy under difficult conditions should be assessed with respect to "struck and lost" rates or wounding events.

5. The Front

With two-thirds of the seals harvested at the Front, it is important to get a better understanding about that hunt, and to undertake research there.

3.9 Future Directions

Group Continuation:

The IVWG intends to continue working toward the goal of promoting animal welfare by minimizing or eliminating suffering in the Canadian harp seal hunt. The Working Group plans to build on the May 2005 meeting through the publication and dissemination of this report to interested parties. It is their intention to have a voice at the fall seal hunt forum in St. John's Newfoundland organized by DFO. The Group also intends to participate as observers in the 2006 seal hunt, and if possible to use this opportunity to conduct research on hunting methods.

The Group has developed and will continue to refine terms of reference, and operational process and structure.

Collaboration and Liaison Opportunities:

The Working Group believes the best results can be achieved through collaboration with others involved in the seal hunt. To that end they will consider and pursue appropriate partnership and liaison opportunities with sealers, communities, veterinarians from animal welfare organizations, others in the industry, DFO and other government departments, and appropriate non-government organizations.

Sealers have asked for the Group's help to make the hunt as humane as possible. The Group believes that to achieve this goal it is essential to build and maintain a respectful and productive relationship with sealers and the industry.

4. Summary of Recommendations

Following is a summary of the recommendations contained in this report.

Specific Recommendations:

1. A three-step process of stunning, checking (palpation of the skull) and bleeding should be followed, and should be carried out in sequence as rapidly as possible.
2. The checking process should involve palpation of the skull to ensure that both hemispheres of the brain have been destroyed, rather than checking for the absence of a corneal (blink) reflex. The Group does not feel that the absence of corneal reflex can be checked with sufficient care and skill to make it an effective means of determining successful stunning. Reference to checking for absence of corneal reflex should either be removed from the Marine Mammal Regulations (2003), or else qualified as an alternate checking method.
3. Bleeding to achieve or ensure death, following stunning, should be accepted and practiced as one of three elements in the humane killing process. The Marine Mammal Regulations (2003) should be amended to remove the requirement for death to occur before bleeding, and replace it with a requirement for an animal to be unconscious before bleeding.
4. Seals should not be shot in the water due to the high potential for “struck and lost” events, suffering resulting from the inability to confirm irreversible unconsciousness, and potential for the loss of wounded animals.

General Recommendations:

5. Competition and haste in the hunt should be reduced. This could have a positive impact on: humane practice, worker safety, monitoring and enforcement. The competitiveness of the hunt may be lessened through quota setting or other management tools or industry code of practice.
6. DFO should take steps to improve supervision, monitoring, compliance and enforcement. The Group recommends removal or de-emphasis of absence of corneal reflex, in favour of a strict requirement for palpation of the skull.

7. Training should be available and required through professional associations or DFO. It should use video footage to illustrate best practices, poor practices and regulatory infractions.

8. Associations such as the Canadian Sealers Association and *l'Association de chasseurs des Îles*, should be formed and supported by industry. Emphasis should be placed on professionalism.

9. Research and observation should be undertaken on a regular basis. A better understanding of the “swimming reflex” should be developed to improve the ability of observers to interpret seal movement after stunning. An accredited veterinary neurologist specializing in marine mammals should be involved.

10. Steps should continue to be taken to strive for full utilization of each seal killed.

11. It is important for observers and researchers to work in close collaboration with sealers, demonstrating concern for their safety, and understanding the social and economic importance of the hunt to coastal communities.

5. Conclusion

In the view of the IVWG, the Canadian harp seal hunt can be undertaken in a humane manner, if done by competent and skilled professionals using the guidelines provided. There is a strong correlation between the outcome of the Group's deliberations and much previous hunt observation and research. The methodology proposed by the Group is consistent with the AVMA panel on euthanasia report (AVMA, 2001), and accepted abattoir practice.

The Group feels that opportunities to improve humane practice and reduce the suffering of seals can be enhanced through development of links to the sealing industry, and the ability to work collaboratively with sealers. The social and economic importance of the hunt to coastal and remote communities must be recognized and appreciated.

The Group feels that worker safety must be considered as an important factor in how the seal hunt is carried out. This is also consistent with the AVMA panel guidelines on euthanasia (AVMA, 2001).

Both seal welfare and worker safety would be improved by changing the method of allocation of the quota, so that the hunt is not limited to a short competitive period, with the emphasis on maximizing vessel take before quota limits are reached.

The Group notes that the Canadian harp seal hunt is professional and highly regulated by comparison with seal hunts in Greenland and the North Atlantic. It has the potential to serve as a model to improve humane practice and reduce seal suffering within the other hunts.

Veterinarians can only advise. It is up to the sealers and the industry to develop and consistently implement humane practices that minimize animal suffering. It is up to DFO to ensure that the Marine Mammal Regulations (2003) contain appropriate requirements, effective monitoring takes place, and the regulations are enforced.

6. References

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Appendix A -- Members of the Working Group

Note: The views and opinions expressed in this report are those of the members of the Working Group, and not the organizations for which they work or with which they may be affiliated.

- **Charles Caraguel**, DVM, École Nationale Vétérinaire de Toulouse, France; currently, Master of Science graduate student (molecular parasitology of aquatic animals), Department of Pathology and Microbiology, Atlantic Veterinary College (AVC), University of Prince Edward Island (UPEI). Observer of the seal hunt in the Gulf of St. Lawrence in spring 2005.
- **Alice Crook**, DVM, member of the Animal Welfare Committee of the Canadian Veterinary Medical Association (CVMA), co-author of the article “Animal welfare and the harp seal hunt in Atlantic Canada” (Canadian Veterinary Journal, 2002); Coordinator, Sir James Dunn Animal Welfare Centre, AVC, UPEI.
- **Pierre-Yves Daoust**, DMV, PhD, Diplomate American College of Veterinary Pathologists. Professor of anatomic pathology and wildlife pathology, AVC, UPEI. Involved with the Canadian harp seal hunt as an observer and in other capacities since 1999; senior author of the article “Animal welfare and the harp seal hunt in Atlantic Canada” (Canadian Veterinary Journal, 2002)
- **J. Lawrence Dunn**, VMD, Director of Animal Health, Department of Research and Veterinary Services, Mystic Aquarium & Institute for Exploration, Mystic, Connecticut, USA. Author of dozens of papers on marine mammal health issues. Past president of the International Association for Aquatic Animal Medicine.
- **Stéphane Lair**, DMV, DES, DVSc, Diplomate of the American College of Zoological Medicine, assistant professor of zoological medicine, Faculté de médecine vétérinaire, Université de Montréal (did not attend the meeting).
- **Alan Longair**, DVM, companion animal practitioner, British Columbia; past chair of the Animal Welfare Committee of the CVMA, member of the international veterinary panel commissioned by the International Fund for Animal Welfare to observe the hunt in 2001.

- **Joost Philippa**, DVM, the Netherlands; involved with large necropsy sessions on seals during the 2002 phocine distemper virus outbreak, and has clinical experience with rehabilitation projects of marine mammals, primates, and non-domestic carnivores.

- **Andrew Routh**, MRCVS, Senior Veterinary Officer, Zoological Society of London, United Kingdom. Qualified as a veterinary surgeon in 1981. After working in general practice, with some elements of wildlife work and abattoir supervision, moved to be the manager of a wildlife hospital in 1994. Over a decade's experience working solely with zoo and wildlife species. Has extensive experience of seal medicine, rehabilitation and release both in the UK and USA.

- **Allison Tuttle**, DVM, has practiced aquatic animal medicine, with a focus on marine mammals, at Mystic Aquarium (Mystic, CT), since graduation from veterinary school in 2002. Currently works in the Department of Zoological Medicine (Aquatics focus) at North Carolina State University.