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Chair

Mr. Harold Albrecht

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● (0845)

[*English*]

The Chair (Mr. Harold Albrecht (Kitchener—Conestoga, CPC)): I call to order meeting 75 of the Standing Committee on Environment and Sustainable Development.

We have appearing today from the Canadian Nuclear Association, Heather Kleb, the acting president. We also have from the Canadian Petroleum Producers, Bob Bleaney, vice-president, appearing in person, and by video conference, Alex Ferguson and David Pryce. Welcome.

We also have appearing as individuals by video conference from Vancouver, Sarah Otto, director, Biodiversity Research Centre, and Jeannette Whitton, associate professor, Department of Botany, University of British Columbia.

Welcome to our witnesses. You will each have a 10-minute opening statement and then we will go to our committee members for their questions.

We'll begin with Heather Kleb, the acting president of the Canadian Nuclear Association.

Welcome, Heather, please proceed.

Ms. Heather Kleb (Acting President, Canadian Nuclear Association): Thank you.

Good morning, Mr. Chairman, members of the committee, and the public.

My name is Heather Kleb. I am the interim president and CEO of the Canadian Nuclear Association.

The CNA has about 100 member organizations that mine uranium, process fuel, generate electricity, and advance nuclear medicine. Our industry provides a safe, reliable, low-carbon energy that offsets the greenhouse gases released by fossil-based energy sources.

In all, we represent about 60,000 Canadians whose livelihoods depend directly or indirectly on the nuclear industry. Our members work and live in the communities that are home to our industry, and they have a strong interest in conserving the environment where they live and work. They share the interests articulated in the “Study to Provide Recommendations Regarding the Development of a National Conservation Plan”, and routinely take steps to protect Canada's natural spaces, restore degraded ecosystems, and enter into partnerships that connect Canadians with nature.

Today l'm going to speak to you about some of these contributions to environmental protection and restoration. I will also speak about the opportunity to increase these contributions through partnerships and other means.

First, let me set the context regarding the rules that govern our industry and how we see them. The nuclear industry is very highly regulated. We are subject to the same legislation that applies to other major resource industries. This includes the Canadian Environmental Assessment Act, the Species at Risk Act, the Fisheries Act, and other legislation aimed at protecting the environment.

In addition, we have a dedicated regulator, the Canadian Nuclear Safety Commission. The commission ensures the protection of health, safety, and the environment, through the application of the Nuclear Safety and Control Act. In this act and its supporting regulations, we find the principle of ALARA, which stands for “as low as reasonably achievable”. In other words, our industry expects not just to comply with regulatory requirements but to go beyond them. In fact, our industry has developed a culture of going beyond compliance when it comes to safety and the protection of the environment.

As an example, let's look at the approach to habitat enhancement that Ontario Power Generation took at the Darlington Nuclear Generating Station, in Clarington, Ontario. OPG constructed a settling pond to intercept drainage from its construction waste landfill. Instead of simply constructing the pond, they went beyond what was required to develop a pond that supports amphibian reproduction and provides habitat for northern redbelly dace. The redbelly dace has no commercial value. It's a small fish, like a minnow, with silver on its back and black stripes down its sides, and it's common in southern Ontario. Scientists monitor it because the health of its population depends on the health of its habitat.

In 2008, initiatives like this one earned OPG the Corporate Habitat of the Year award. This award recognizes continuous site improvement in wildlife habitat enhancement. Darlington was selected from among 146 sites across North America to receive this award.

Mr. Chairman, this is one example of the measures our industry takes, not only to meet requirements but to exceed them. The benefits of such an approach are clear. Of course, there are also times when our industry must work not simply to enhance habitat but to restore it.

We have developed considerable knowledge, experience and technology in the field of environmental restoration. You can see this at Atomic Energy of Canada Limited. AECL is considering decommissioning a stack that was built some 60 years ago, for safety reasons. The stack has gone unused for more than 25 years, except by some chimney swifts who now call it home. Chimney swifts are small, black and white birds whose population has declined as their habitat has disappeared. They use chimney-like structures as roosting or nesting sites, but industry doesn't build them anymore. Changes in operations have caused them to tear down the stacks and not replace them. This is one of the reasons that the birds are now a threatened species.

Three years ago, an AECL biologist confirmed that the birds were using their stacks. They also determined that there was a real lack of information about the species and almost nothing on their roosting behaviour. AECL sought out a chimney swift specialist at Trent University and launched a research program to find out more about the species. The knowledge they have gained to date and will gain in the future will not only help them understand the species better, it will also feed into AECL's operations. Now the company has solid information on which to make decisions about the maintenance or decommissioning of the stacks.

● (0850)

They are also looking to gain knowledge on how to build successful replacement habitat for the chimney swifts. As you can see, we take a proactive approach to environmental restoration, and we're committed to going beyond compliance. We also enter into partnerships to help us achieve these goals.

Our members agree that the national conservation plan must foster and support strong, long-term conservation partnerships between stakeholders. Here's an example of how we see these conservation partnerships at work. In 2012, the finalized recovery strategy for the boreal woodland caribou population in Canada identified significant information gaps regarding Saskatchewan's woodland caribou habitat. Woodland caribou are found in old-growth forests where they feed on lichen, willow, and other plants. They occur in seven provinces across Canada, including northern Saskatchewan, and in 2002 they were deemed to be a threatened species.

One of our members, Cameco Corporation, mines uranium in northern Saskatchewan. When they became aware of the data gaps, they responded by developing a woodland caribou monitoring program in their area. They also sponsored a broader provincial research initiative aimed at filling the gaps. Given the amount of data required, a government-led project of this scale could only succeed with industry funding and support. So Environment Canada teamed up with the province, Cameco, and other industry stakeholders to gain a better understanding of Saskatchewan's woodland caribou habitat.

Moving forward, the stakeholder relationship that has been established in Saskatchewan will serve to better inform provincial management decisions. Through the funding of the provincial program and the development of their monitoring program, Cameco has collected valuable information regarding an at-risk species and its habitat.

Mr. Chairman, whether it's researching woodland caribou habitat, building habitats for chimney swifts, or enhancing the environment for northern redbelly dace, you can see how the nuclear industry approaches conservation. These three projects demonstrate our industry's commitment to environmental protection, our experience in environmental restoration, and our willingness to enter into partnerships in carrying out such projects. They also demonstrate the need to find new opportunities for partnerships and projects to offset environmental effects.

Looking at the national conservation plan, our members see the need for provisions to offset effects on species and their habitats through flexible means. We also see the need for documented policies and guidelines for offsetting. While some species recovery policies and strategies have been successful, the regional variation in Canada's natural environment means that a one-size-fits-all approach does not work. A prescriptive national conservation plan would be difficult to implement at a provincial level. The provinces are responsible for species recovery, but the federal government could provide a national guiding framework for habitat conservation. This should be developed in collaboration with other jurisdictions and supported with policies and guidelines or best management practices that help guide habitat conservation efforts provincially. Coordination and collaboration between the two levels of government is essential to avoid duplication, and will ultimately lead to improved habitat conservation outcomes.

Provincial governments should lead the efforts on habitat conservation by implementing and managing habitat conservation strategies that align with the national plan. One aspect of such a framework could be the use of habitat banks to offset habitat loss. Habitat banks have been established in several Canadian provinces to varying degrees. A well-defined and formalized habitat banking process would provide yet another tool for improving habitat conservation. Of course, any frameworks, policies, and guidelines would need to be developed in consultation with those who have experience in environmental protection, restoration, and conservation partnerships—like us, the Canadian nuclear industry. Given our knowledge, experience and technology, we must be a part of these conversations.

Mr. Chairman, I've covered a lot and I'm sure your committee has questions. I'd be pleased to answer them.

Thank you.

● (0855)

The Chair: Thank you very much, Ms. Kleb, and thank you for honouring the time guideline as well. You're well within the 10-minute framework and that's much appreciated.

We'll move now to Mr. Bob Bleaney, Canadian Association of Petroleum Producers.

Mr. Bleaney, proceed please.

Mr. Bob Bleaney (Vice-President, External Relations, Canadian Association of Petroleum Producers): Good morning, Mr. Chairman and members of the committee.

My name is Bob Bleaney and l am vice-president, external relations, of the Canadian Association of Petroleum Producers, or CAPP. Joining me today by teleconference from Calgary are Alex Ferguson, vice-president of policy and environment; and David Pryce, vice-president of operations at CAPP.

CAPP represents Canada's upstream oil and gas sector. Our members find and develop over 90% of Canada's petroleum resources, invest more than $60 billion a year, and employ more than 550,000 people across the country.

We welcome the opportunity today to provide CAPP's perspective on habitat conservation in Canada.

Let me start by saying that CAPP is supportive of efforts to develop a broad vision for conservation in Canada. CAPP previously provided our views on the development of a national conservation framework when we appeared before this committee in May 2012. We highlighted the importance of recognizing that conservation involves many governments and a multitude of stakeholders, and we observed that it would be constructive to focus on establishing broad goals, principles, and priorities, under which conservation would be advanced.

We also view it as important to consider existing legislation, such as the Species at Risk Act, SARA, as it's illustrative of the restrictions that legislation can put on the options available to provide for habitat conservation and positive environmental outcomes. CAPP has provided the federal government with our perspectives on the need for changes to SARA, which could serve to assist in habitat conservation.

Prior to addressing the committee's specific questions, I would like to outline CAPP's considerations on habitat conservation in Canada.

First, the overall focus should be on responsible environmental outcomes, rather than a prescriptive plan, with inherent flexibility to adapt to the circumstances of specific regions and interests. Second, protection of species must look beyond conservation of habitat, although conservation is certainly a dimension of species protection. Third, conservation must not be focused on exclusion of use, but rather consider working landscapes, which enable more balanced policy by allowing more flexibility in land use, including temporal flexibility.

Turning now to the specific questions posed by the committee, I'll provide the following CAPP perspectives.

With respect to the types of stakeholders involved in habitat conservation, CAPP considers these to include all levels of government; aboriginal peoples; habitat conservation organizations; academic institutions, as centres for scientific research; non-governmental organizations with specific interests in relation to conservation; private landowners; and land users, both industrial and non-industrial rights holders. Collectively, these represent major contributors to habitat conservation. However, it's important to note that the general public also plays a key role, through demands on the land and consumption patterns.

With respect to available knowledge and expertise on habitat conservation, Canada has considerable capacity in this arena, in large part due to private sector investment. CAPP believes publicly available or accessible information is necessary to achieve better habitat conservation outcomes. This information is also important to help instill public confidence in those outcomes. Our industry has funded several bodies that conduct research or gather information to inform habitat management, including the Petroleum Technology Alliance of Canada, the science and community environmental knowledge fund, Alberta Biodiversity Monitoring Institute, Canada's Oil Sands Innovation Alliance, and the Foothills Research Institute.

With respect to the most effective groups or organizations, CAPP views landowners and users and conservation organizations as the most effective. Resource industries, agricultural, recreational, and other land owners and users can be significant contributors to habitat conservation through their daily choices.

Conservation organizations with an on-the-ground focus—such as the Nature Conservancy of Canada, Ducks Unlimited Canada, and the Alberta Conservation Association—are effective because of their ability to collaborate with multiple stakeholders. They also recognize the need to manage landscapes over time, and the value of working landscapes as one of the many tools for habitat conservation. As well, they are effective because of their technical capacity to prioritize, implement, and assess the efficacy of habitat conservation projects; their priorities being consistent with national or provincial habitat conservation objectives; their capacity to leverage resources; and their excellent reputations with Canadians.

● (0900)

CAPP is highly supportive of the continued presence of such key conservation organizations and of a conservation framework that would support and incentivize appropriate practices of all of these groups.

Next, regarding how conserved land is defined and accounted for in comparison with other countries, the existing definition of “conserved lands” emphasizes the exclusion of land use in order to maintain wilderness, whereas in many other places conserved lands are simply managed lands. The acceptance of managed lands has allowed countries with limited wilderness, such as Germany, to use land more efficiently to achieve many social, economic, and environmental objectives concurrently, including habitat conservation. These countries have transitioned from trying to conserve land to achieving habitat conservation—outcomes that are not the same.

There is an opportunity for the federal government to explore policy options that would recognize and consider both wilderness and habitat conservation as well as managed lands, and through such consideration, promote working landscapes; therefore enabling balanced policy considerations. The key to defining conserved lands must be that the lands are achieving conservation outcomes, rather than a prescription for obtaining an outcome. This outcomes-based definition provides sufficient flexibility to ensure that appropriate actions are recognized and encouraged.

The next question was about best management practices for recovering a species. Flexibility is what's needed here. Effective habitat conservation depends on a framework that involves voluntary best management practices and stewardship initiatives in parallel with government-mandated measures. Notable examples of species management successes are attributable to initiatives outside of government-mandated measures, and include experiences with the grizzly bear and the swift fox.

Canada has not enabled alternative means of achieving the intended environmental outcomes of SARA, or means for voluntarily managing habitat for species at risk. This is especially noteworthy, as the focus of SARA is largely on habitat conservation. Given the number of different species listed and the number of different activities that occur on the landscape, it is essential that different tools are enabled and made available through an improved SARA to ensure that conservation outcomes are achieved.

The last question was about how the federal government can improve habitat conservation efforts. Our view is that an effective habitat conservation framework must be balanced and flexible, and include consideration of a multitude of factors to ensure outcomes that are in Canada's best interest. It must enable and promote voluntary best management practices and stewardship initiatives in parallel with government-mandated measures. It must recognize a broader definition of conserved lands to include both voluntary and formal habitat conservation efforts, as well as consideration for both wilderness and working landscapes. It must ensure that SARA effectively enables species conservation and that compliance mechanisms that are available will enable multiple pathways to attain desired outcomes. The federal government also has a role in communicating to both the Canadian public, and internationally, Canada's conservation efforts.

In summary, we need to focus on achieving responsible environmental outcomes rather than prescriptive measures, support greater use of flexible tools to address habitat and conservation needs, and enable a more balanced policy framework for the benefit of all.

Thank you. We look forward to your questions

● (0905)

The Chair: Thank you very much, Mr. Bleaney, and thank you as well for your awareness of the time.

We'd like to thank both of you for the written submissions. Those will be very helpful for us to refer back to as the committee progresses.

We now move to the University of British Columbia. Sarah Otto, director of the Biodiversity Research Centre, is appearing as an individual.

Ms. Otto.

Dr. Sarah Otto (Director, Biodiversity Research Centre, Department of Zoology, University of British Columbia, As an Individual): Thank you. My name is Sarah but feel free to call me by my nickname, Sally.

Thank you for this opportunity to present my views on habitat protection in Canada. I'm a professor at the University of British Columbia, where I have been teaching biology for nearly two decades now. My expertise is in evolutionary biology. I use mathematical models and conduct experiments to better understand how biodiversity has evolved and to determine the factors that place species at risk of extinction.

Since 2007 I have served as director of the Biodiversity Research Centre, with over 50 faculty and 200 graduate students. Our research has discovered new species in places as far away as Papua New Guinea and as close as the backyard of the Biodiversity Research Centre. Our research has uncovered the evolutionary and ecological processes that generate biodiversity as well as those that are important to maintaining biodiversity. Our researchers have also been interested in what happens when a species goes extinct or is lost to a community. When will that ecosystem be robust and when will it unravel?

My comments today are those of a scientist but also those of a public citizen and a mother. When we were children we grew up in an infinite world. To us nature seemed unbounded. Forests stretched for miles with trees, and fish were teeming in the sea. I remember when I was a child that we would throw garbage out of the windows of our cars because it just didn't seem possible that we could have a cumulative impact on the world. We washed our clothes with phosphates, we sprayed our crops with DDT, and we drove our cars as plumes of smoke were emitted from their exhaust pipes.

This infinite world is not the world of our children. Our children grow up in a bounded world. They know that every point of earth has been affected by our actions, even areas where no human has ever set foot. We have learned that the cumulative impact of billions of people has entirely reshaped our earth from the seas to the skies.

Scientists such as Alberta's David Schindler have discovered that our lakes and streams were being transformed into algal soups by the phosphates in laundry detergent. The soap in our homes no longer contains those phosphates. Scientists also discovered that DDT thins the shells of birds, leading to catastrophic declines in many raptor species. The ban on DDT has allowed these species to recover, and visitors to Vancouver can now watch as peregrine falcons and bald eagles soar over our skyline.

Scientists have also discovered the impacts of many of the pollutants, leading to increasing regulations on emissions, with some success. For example, reductions in CFC emissions have led to the beginning of the recovery of the ozone layer and the ozone hole. It's been estimated in the United States by the EPA that over a million people in this century have been saved from death due to cancer by these regulations.

The bounded world in which our children now live contains many fewer natural resources than there were when we were born. In southwestern British Columbia, 75% of the old-growth forests are no longer there. In the world's oceans, 80% of the larger fish, the predatory fish such as tuna, are now gone because of overfishing in the last century. Globally, over one in five species of vertebrates and plants are at risk of extinction—I'm including critically endangered, endangered, and threatened. These rates of extinction we now know are 100 to 1,000 times higher than background rates of extinction, because of human activities. This is not the background level we're talking about.

These dramatic reductions in resources from our oceans to our forests have had tremendous negative impacts on local communities and on jobs. In British Columbia, direct employment in the forest sector has gone from 100,000 to 50,000 since 2000. In part, this is due to the declining availability of our old-growth forests, management practices that are focused on short-term returns, and the shift of timber-processing jobs to other countries.

● (0910)

In the maritime provinces, as you well know, 40,000 people lost their jobs due to the cod fisheries collapse, after warnings by scientists that sustainable management was essential were repeatedly ignored. Poor habitat protection and environmental policy also puts at risk Canadian exports as the world's markets increasingly demand sustainably harvested and low environmental impact products.

In my opinion, the situation is only getting worse. A comparison of the status of species in British Columbia from the 1990s to the 2000s found that more than half of the species had declined. Likely, over your term in Parliament another species will be extirpated from Canada, the northern spotted owl. When I became an adult there were hundreds of owls in British Columbia, and at this point there are only two breeding pairs left in the wild. This decline is directly due to the loss of old-growth forest.

Gone already from my province of British Columbia are the sage grouse, the pygmy short-horned lizard, the white-tailed jackrabbit, and the list continues. More worrisome is that habitat does not necessarily recover if we push it too far. If we remove a species, we do not know how the interactions among the remaining species are altered, how the food web is altered. That means we can't necessarily stop our actions and have the ecosystem recover. For example, cod remain in extremely low abundance 20 years after a moratorium on their catch, in part because of these shifts in the food web once they had been overfished.

Science has helped to point the way to recovery from major environmental catastrophes such as those brought on by phosphates, DDT, and CFCs. But we, as scientists, do not know all that we need to know to safeguard our future economy and welfare.

We do not know, when we lose a species, what potential medical discoveries we are losing with them. Who would have guessed, for example, that sea slugs would be important in discovering how memories are laid down, and figuring out what is going wrong in patients with Alzheimer's? Who would have guessed that the rosy periwinkle, a pretty little pink flowered plant, would be the source of a drug to help combat childhood leukemia? Who would have guessed that soil fungi would be responsible for some of the most important medical discoveries ever—antibiotics such as streptomycin, neomycin, and erythromycin?

Scientists cannot say for certain which species, when lost, will unravel the ecological communities within which they are embedded. We cannot perfectly predict which habitats will form key refuges and corridors linking the current habitat of a species to the future habitat of that species, an issue of particularly increasing concern with the rising temperatures due to global warming. We do not even know all of the species that are out there to lose.

Given scientific uncertainty, the only way forward that I see is to protect our natural lands and waters from our impact. The precautionary principle impels us to set aside more of our country from our impacts before those have become too severe to recover from. Why? Habitat protection provides a buffer, a reserve where natural ecosystems can prosper and continue, and those reserves act as a source of species and individuals to surrounding areas, whether that source be fish larvae or pollinating bees. Habitat protection is also a promise to our children to save some of Canada relatively untouched for their discoveries.

Canada is one of the signatories to the 2010 UN Convention on Biological Diversity set out to preserve at least 10% of marine areas, and 17% of terrestrial areas and inland waters by 2020. We are not on target. We currently have about 1% of marine areas and about 10% of Canadian land in protection. But the slope of the changes in these numbers is too shallow for us to reach the targets. Furthermore, many of our protected lands are disconnected and they are often very far away from the ecosystems and species at greatest risk.

● (0915)

I believe so strongly that we must act to protect land for future generations that last year I donated $100,000 from an award I received from the MacArthur grant to the Nature Trust of B.C. and the Nature Conservancy of Canada to help purchase lands in the Okanagan, one of the most endangered ecosystems in Canada. But this donation is a drop in the bucket. We must work together, individuals—

The Chair: Excuse me, Dr. Otto.

Dr. Sarah Otto: Yes.

The Chair: Your time is up. If you could wrap up within a minute, I'd appreciate it. Thank you.

Dr. Sarah Otto: Okay, thank you.

We must work together—individuals, corporations, and government—to protect habitat, but habitat protection cannot be all that we do. While many species are at risk due to habitat destruction, fragmentation, others are not. Some are at risk because of the toxins in the environment such as phosphates, DDT, and CFCs. Some are at risk because of invasive plants and animals, and some are at risk because of overharvesting.

We need to push forward with a balanced approach, preserving a large fraction of our lands and waters, but doing so in a manner that is mindful of where species are most at risk. We need habitat protection not bare earth protection.

At the same time, we must act to reduce excessive risk to the species that call Canada home and build a sustainable economy for our children.

Thank you.

The Chair: Thank you, Dr. Otto.

We'll move now to Jeannette Whitton, associate professor, Department of Botany, University of British Columbia.

Dr. Whitton, please proceed.

Dr. Jeannette Whitton (Associate Professor, Department of Botany, University of British Columbia, As an Individual): Thank you for the opportunity to appear before you today.

My expertise is in plant ecology and plant evolution, where I focus on the study of the origins and interactions of species. Through that work, I'm fortunate to have had the opportunity to spend days and weeks in natural areas experiencing the wonders that so many of us rarely get to see. As a result of these experiences, my concern for the impact the human population is having on our natural world compelled me to find ways to contribute my expertise to the public dialogue on conservation issues. Therefore, I'm pleased to take the time to speak with you today.

My involvement in conservation includes serving as a member of COSEWIC, the expert committee charged, under the Species at Risk Act, with assessing wildlife species in Canada. I'm currently a member of COSEWIC, and while my opinions are informed by that experience, I should add that I'm not here as a representative of that committee.

As a result of my involvement with the Species at Risk Act, I have also worked on research projects aimed at assessing the implementation of SARA. Most recently, I've led a project analyzing recovery strategies under SARA with a group of Simon Fraser and UBC students and other researchers. We've amassed a database with the aim of assessing progress in achieving recovery under SARA. I'd like to share with you a couple of the key results from those findings and summarize how these results, among others, might inform habitat conservation policies. I want to focus today on our results related to terrestrial and freshwater systems.

Recovery strategies include a section that describes the threat to species at risk. We've summarized those threats and looked for patterns that emerge. Previous analyses by other researchers have highlighted that habitat loss and degradation, exotic invasive species, over-exploitation, and pollution are generally the top threats globally to imperilled species.

However, we took a slightly different approach to our analysis of Canadian species and used descriptions of threats that try to break down, for example, a particular factor into root causes. For example, habitat loss could be caused by all sorts of activities. It could be housing. It could be road building. It could be industrial activities, agriculture, mining, or oil and gas. The way we address these different threats are different, so it's important to break them down.

As with previous studies, our findings show that threats associated with habitat loss and degradation are most important and that invasive species and pollution impact many SARA-listed species. But most of the impacts related to habitat loss that we saw were associated with residential and commercial development, housing and commercial development, and other impacts of human activities such as recreation. We also found that most species at risk are impacted by multiple threats.

In fact, these key findings are well in line with the fact that most Canadians live, and therefore much of our impact is felt, in areas near urban centres and in the southernmost reaches of the country. These southernmost areas are not only where we live but also where many of our most threatened ecosystems occur and where many rare species in Canada eke out their existence. These threatened ecosystems include such places as the Garry oak habitats on southern Vancouver Island, the south Okanagan of B.C., the prairie grasslands, the remnant prairies of southern Ontario, and the Atlantic coastal plains of Nova Scotia.

These habitats are restricted in Canada, and they hold many rare and threatened species. They're the focus of intensive conservation activities, including assessment of species at risk, management of human impacts, and impacts of our sheer numbers—recreation, housing, roads, pollution—and the consequences of these impacts, such as the influx of invasive species. Managing our impacts is hugely challenging and will not get any easier.

In addition to these localized threats, our analysis also shows that modification of natural systems—through changing or managing water levels and activities such as fire suppression that safeguard our homes but permit changes to habitats that allow invasive species to encroach—are also important threats to many species at risk.

● (0920)

Resource use such as forestry and fisheries, pollution, and the impacts of oil, gas, and mining activities round out the list of key threats to species at risk. All of these activities have negative impacts on the availability of the healthy habitats needed to sustain Canada's biodiversity and underscore the role that habitat protection must play in conservation. The fact that these threats are not at the very top, the way that threats close to urban areas are, should be interpreted with caution though, as these threats are often the most important for the set of species they do impact.

A more detailed exploration of individual species and recovery strategies also shows that the details do matter for each species. It's not enough to generically preserve habitats, and it's certainly not true that land is equal to habitat, or that habitat alone promotes or preserves biodiversity. Although, of course, habitat conservation is essential for these initiatives. The habitats we preserve have to have the qualities to maintain the species they contain, and in fact, when we think of habitat, we have to imagine a living, breathing system with links among species, from soil bacteria through top predators, each playing a role in defining the habitat requirements for a species.

As a result, when we talk about ecosystem approaches to conservation, we have to mean approaches that consider the needs of individual species but focus on maintaining a balance of natural processes that help nature take its course as best it can, given the many assaults of human populations and activities.

Science-based policy decisions are critical to these efforts—science-informed strategies for choices of land to preserve, for management of invasive species, and to understand the key stages in the life history of species in communities where we can most impact their health and persistence.

At present in the species-at-risk world, science plays an essential role in the assessment of species by COSEWIC and in the development of recovery strategies. In species assessment, where we have the longest track record, our Canadian system of assessment is well viewed within Canada and internationally. One of the key strengths of this process is that it is purely evidence-based and it is available for peer-based and public scrutiny. As a result, a healthy debate can ensue, such as we have seen with certain high-profile species. This model, where science leads the process, is one means of ensuring that when compromises are made—and we understand even as scientists that compromises will be made—those compromises are clear and transparent.

When a scientist comes out and advocates for a science-based approach, there is the risk this will be seen as self-serving, in essence, lobbying for additional resources for our industry. However, I assure you that science in the public good, as underscored by my colleague Dr. Otto, is a defensible and sound investment that can and will contribute to sound policy, and ultimately must be central in informing our conservation policy.

I welcome your comments and questions. Thank you.

The Chair: Thank you very much, Ms. Whitton.

We'll move now to the opening round of our questions. The opening round is seven minutes each.

Mr. Sopuck, please.

● (0925)

Mr. Robert Sopuck (Dauphin—Swan River—Marquette, CPC): Thank you very much.

Mr. Bleaney, I was very interested in your testimony, especially your statement that the Species At Risk Act is illustrative of the restrictions that Canadian legislation can put on the options available to provide for habitat conservation and positive environmental outcomes.

Again, I'm not singling out the Species At Risk Act here, but it's just the idea that current environmental legislation can actually inhibit habitat conservation, which I think people would find remarkable.

Could you expand on that and give me some specific examples?

Mr. Bob Bleaney: I can kick that off and then I'll probably pass that question to my colleagues in Calgary, who are also very well versed in this subject.

I guess one of the key points that comes into effect with SARA, which we're aware of, is that it is very prescriptive in its approach. So it doesn't facilitate, at this point in time, the opportunity for there to be other means or other considerations for how one might be able to address a particular situation or a particular problem by way of other compensatory programs.

With that, I'll basically pass this on, if I could, to I think Alex in Calgary.

Alex, perhaps you could follow up with that.

Mr. David Pryce (Vice-President, Operations, Canadian Association of Petroleum Producers): Actually I'll take that one, Bob.

Thank you for the question.

I think the perspective we have on SARA is that it is largely focused on habitat conservation, meaning setting lands aside. Where we find the limitation is in the ability to exercise active management tools.

If you look at a species like caribou, at being able to help recover that species with penning of the cows so they can do their calving without the significant threat of any predation, the provinces are trying to move to the broader suite of tools to enable a more dedicated, more active approach to recovering species at risk. So, in our view, SARA is limiting in that scope. We'd like to see SARA expanded to enable the provinces, as our regulators, to make best use of all of those tools.

Mr. Robert Sopuck: Thank you.

Also, Mr. Bleaney, in your testimony you said we should be focusing on responsible environmental outcomes. In testimony last week, a previous witness said there's too much focus on input—hectares of land set aside and that kind of thing. Although that's important, the actual outcomes are probably what we're really after. Could you expand on how policy could be changed to enhance positive environmental and ecological outcomes in terms of species, for example?

Mr. Bob Bleaney: If I may, Mr. Chair, could I also pass that one to my colleagues in Calgary?

The Chair: Proceed, please.

Mr. Alex Ferguson (Vice-President, Policy and Environment, Canadian Association of Petroleum Producers): I'll start the answer for this.

I think an overall construct that we're looking for is to enable and provide a platform or an incentive for more voluntary industrial and non-industrial habitat conservation measures on the land base. We found, certainly, in a lot of the jurisdictions where we operate in northern parts of Canada that, without those above-policy efforts by companies—operators on the land, whether they're industrial or non-industrial.... If we don't allow those extra measures around conservation to take place, then you're limiting the overall objective of, for example, recovering a particular species. Most of the efforts and most of the successes that have happened on a smaller scale have resulted from above-legislated requirements.

I think the key message we have is that SARA, with an emphasis on the number of hectares that are excluded from operating on the land base, limits the incentive for our operators or other non-operators to come forward with additional measures that could work on that same land base to increase the objectives of recovering a particular species.

So, it's more of a results-based approach.

Mr. Robert Sopuck: I certainly agree with that.

Ms. Kleb, I was fascinated by your example of the chimney swifts, because if an environmental outcome of what people desire is chimney swifts, I mean building chimneys is what you would do. I don't think anybody considers chimneys as habitat, but they do provide a certain environmental outcome.

Ms. Kleb, I'd like to ask you about the concept of habitat banking. It has come up a few times as a way to provide industry with the flexibility to mitigate any habitat losses that may result from some of its operations. Can you expand on the concept of habitat banking and how Canadian federal policy could be changed to enhance that?

● (0930)

Ms. Heather Kleb: Yes, I find that AECL example fascinating myself. Not only is it a situation where you're looking to tear down habitat, but AECL is federally mandated through the nuclear legacy liabilities program to tear down those stacks. At the same time, another department, Environment Canada, would probably advocate to retain them. This is a situation where we can't avoid or mitigate effects, so we need another solution, and that is offsets. A habitat banking program would allow us to have the flexibility to develop those offsets and to also enter into arrangements where we have direct or indirect offsets. So, they're not just habitat for habitat but also habitat for research or other options.

Mr. Robert Sopuck: Mr. Bleaney, in terms of the oil sands, one of the habitat remediation techniques is to take a mined area and return it to.... I think it may have been a sphagnum bog, but after the work is done, the best you can do is a savannah forest grassland kind of environment. That seems to me to be not a bad replacement for that habitat. It isn't the same, but it does generate certain kinds of environmental outcomes. What is the experience in the oil sands with that kind of habitat mitigation?

Mr. Bob Bleaney: Again, I'll probably request that I pass this back to my colleagues. But I do know that there has been some very successful reclamation of late with respect to some of the oil sands mining sites. In particular, I think the Suncor site has had its first reclamation of its first tailings pond and has restored that to the normal habitat.

Let me pass this on to my colleagues just to expand on that.

The Chair: We're out of time on Mr. Sopuck's round, so maybe one of our other members can pick up on that question.

Thank you, Mr. Sopuck.

We'll move now to Madame Quach.

[*Translation*]

Ms. Anne Minh-Thu Quach (Beauharnois—Salaberry, NDP): Thank you, Mr. Chair.

I want to thank all the witnesses.

My first question is for Dr. Otto.

You said that a number of discoveries, including medical discoveries and others related to phosphates in water used by humans, resulted in regulations for protecting people and nature. In your opinion, does changing the National Research Council of Canada's mandate to focus only on applied research jeopardize habitat conservation?

[*English*]

Ms. Michelle Rempel (Calgary Centre-North, CPC): I have a point of order.

The Chair: Ms. Rempel.

Ms. Michelle Rempel: Again, I realize that there are topics in the news today, but I'd ask that my colleague focus her questions specifically on habitat—

Dr. Sarah Otto: Thank you for your question.

No, I do not at all believe that only applied research is important.

The Chair: If I could interrupt, please, for a minute, we do have a scope that the committee has agreed to, in terms of the study. I'd ask our witnesses and our members to try to honour those.

Madam Quach, please proceed.

Mr. François Choquette (Drummond, NDP): Can I speak on the point of order?

The Chair: Mr. Choquette.

[*Translation*]

Mr. François Choquette: Thank you, Mr. Chair.

I think the scope of our study changed a long time ago. We have been talking about the Species at Risk Act since the beginning, but it is never included in the scope of our study. Today we have been given a bit of latitude in the study, and I hope we will be given even more latitude. If not, the Species at Risk Act and many other topics will no longer be discussed. If we want to be able to discuss these things, we need a bit of latitude.

Thank you, Mr. Chair.

[*English*]

The Chair: Mr. Choquette, with all due respect, SARA certainly does apply to terrestrial habitat, so I do think we—

[*Translation*]

Mr. François Choquette: Then where does it apply, Mr. Chair, in your—

[*English*]

The Chair: I'm going to turn it back to Madam Quach.

Madam Quach, please proceed.

[*Translation*]

Ms. Anne Minh-Thu Quach: With all due respect, Mr. Chair, I think that from the beginning we have been talking about the need for scientific data and to have experts here talking about the necessary scientific data for finding solutions to a number of problems with regard to habitat protection. I think the question on basic research as it pertains to the NRC is absolutely relevant today.

So, I will repeat my question for Dr. Otto.

Might changing the National Research Council of Canada's mandate to focus only on applied research jeopardize habitat conservation?

● (0935)

[*English*]

Dr. Sarah Otto: I'll speak to your question about basic science.

I am a basic scientist, and I think many of the people who are active in science believe themselves to be fundamentally interested in the processes that have led to and maintain the diversity around us. But I can't study the evolution of biodiversity without caring about its current status either. I don't think there is a clear dividing line between what's basic and what's applied. For this reason, I think we need to continue to support a broad base in science, because we will never know when something is of critical applied concern that, to us, seemed originally like basic fundamental knowledge.

[*Translation*]

Ms. Anne Minh-Thu Quach: Thank you.

Let us stay on the topic of research. The Canadian Environmental Assessment Act has taken a lot of hits. Will this have repercussions on research on biodiversity, on the evolution of certain species and, accordingly, on habitat protection?

[*English*]

Dr. Sarah Otto: These changes happened very recently. I am not aware yet of scientific assessments of the changes that have been caused. I am sure there will be some, and we will be tracking that.

[*Translation*]

Ms. Anne Minh-Thu Quach: Perfect.

I have more questions for you, Dr. Otto.

In the 2010 report by the Expert Panel on Biodiversity Science, of which you are a member, you said that biodiversity is being lost at a rate unprecedented in human history.

What effect does global warming have on biodiversity? What do you think Canada can do to reverse this situation?

[*English*]

Dr. Sarah Otto: That's a very good question.

My colleague, Jeannette Whitton, listed the major reasons for placing species at risk currently. She didn't mention climate change because, so far, it has not been. Our climate is changing so rapidly and scientists have been able to track the movement rates of species to match the warming climate. For many species it is not fast enough. As we see the increase in temperature over the next century —the estimates range, but let's say 2 degrees to 4 degrees—the species will not be able to track that and we will get increasing extinctions due to climate change itself.

For that reason, I very briefly mentioned that I think it is important that we not only look at habitat that is important for where species are today, but also habitat that links those species to potential future habitats. For this reason, places like the Okanagan and the Garry oak ecosystem are critically important, as they serve as corridors as species move further north. In a number of species, scientists have demonstrated that ranges are shifting north, so looking at preserving habitat to enable that migration is important.

Thank you.

[*Translation*]

Ms. Anne Minh-Thu Quach: My next question is for Dr. Whitton.

You both talked about global warming with temperatures possibly increasing by another 2 degrees. Dr. Whitton, you talked about the importance of taking action in the oil, mining, fisheries and hunting sectors. Oil production is going to increase in the country. There are a number of development projects. The planet's temperature will increase by 2 degrees if we don't do anything to regulate this sector.

What would you advise the federal government to do to ensure that temperatures do not increase by another 2 degrees?

[*English*]

The Chair: Madam Quach, your time is up.

We'll have to let the witnesses weave that into another response.

We move now to Mr. Woodworth.

Mr. Stephen Woodworth (Kitchener Centre, CPC): Thank you very much, Mr. Chair. My thanks to all of the witnesses for taking the time to come and be with us today. I always appreciate the good citizenship of people who are here to help us craft policy and investigate matters that concern all Canadians.

We have, previously at this committee, heard evidence along similar lines in 2009.

Professor Whitton, I understand that you're currently a member of COSEWIC? Is that correct?

● (0940)

Dr. Jeannette Whitton: Yes, that's correct.

Mr. Stephen Woodworth: Were you a member in 2009 also?

Dr. Jeannette Whitton: Yes, I was.

Mr. Stephen Woodworth: Good. Just in reviewing my notes from the evidence that this committee heard in 2009 regarding the Species At Risk Act, I found that Professor Jeffrey Hutchings appeared in May 2009. Am I right that he was the chair of COSEWIC at that time?

Dr. Jeannette Whitton: Yes, he was.

Mr. Stephen Woodworth: Is he still the chair by any chance?

Dr. Jeannette Whitton: No, he's not. He's no longer a member of the committee. Dr. Marty Leonard is the chair.

Mr. Stephen Woodworth: Thank you.

At the time when he was the chair, Professor Hutchings came to the committee and made some recommendations for the amendment of SARA. Were you aware of those by chance?

Dr. Jeannette Whitton: I'm not aware of specific recommendations for amendments that he would have made.

Mr. Stephen Woodworth: Has COSEWIC, at any time since 2009, adopted any formal position to.... I want to use words like "recoil" or "recant" but I don't really mean it that negatively. Have they adopted any formal position to say that the amendments that Professor Hutchings proposed to SARA in 2009 should no longer be sought or found desirable?

Dr. Jeannette Whitton: I do recall COSEWIC having discussions about providing input about possible amendments to SARA, but I have to confess that I don't recall what it is that we concluded. However, from my conversations with scientists at that time and since then, I would say that most of us are of the view that SARA is so young that the implementation has not been fully achieved at this point, and therefore the success of SARA and the potential weaknesses of SARA remain to be understood.

I think I can speak for a majority of scientists involved with SARA in stating the opinion that we don't yet know whether or not SARA will be effective because it hasn't been fully implemented to date.

Mr. Stephen Woodworth: So are you disagreeing...well, of course, you're not familiar with what the chair of COSEWIC told us about the shortcomings of SARA in 2009. I just want to find out if COSEWIC has ever actually said that they were withdrawing those recommendations for amendments to SARA. Are you aware of any such withdrawal?

Dr. Jeannette Whitton: My answer is no.

Mr. Stephen Woodworth: Your answer is no? Good. Thank you. Somehow the audio cut out for a moment.

I must say that it certainly discloses a distinct scientific viewpoint to say that 10 years or more is still young. From the point of view of many in the environmental community who I heard from in 2009, it was urgent that there be amendments made to SARA in order to improve its efficacy.

I want to pass on to something else that I'm really quite interested in, in relation to Dr. Otto.

Dr. Otto, we are told that you co-wrote a report in 2010 for the Council of Canadian Academies identifying the problem of species information being "trapped in cabinets rather than ranging free and accessible on the web". It reminded me of a recommendation, which I was quite excited by, from a fellow on the east coast, who suggested that perhaps we should consider setting up in Canada a kind of Wikipedia system of habitat conservation, so that those with habitat information all across the country, which is segmented and in cabinets, could input that.

I realize there are challenges in terms of ensuring that the information is accurate, but I'd be very interested in hearing your comments on that.

● (0945)

Dr. Sarah Otto: Since we wrote that report, I'm pleased to say that a lot of our efforts at the Biodiversity Research Centre and the associated Beaty Biodiversity Museum have been exactly that—to make our data publicly accessible. We're in the midst of that databasing effort.

I think that if the resources were put forward to pool those efforts across Canada, that would be a fantastic way forward. But I also have to say that knowledge is only one missing element, and that we also need to act. I want to follow up a little bit about—

Mr. Stephen Woodworth: Could I just stop you there for a moment, please, because we have such limited time?

Dr. Sarah Otto: Yes.

Mr. Stephen Woodworth: I understand that there are other things you want to talk about, but I have to kind of stick to the information I need, and I am interested in the knowledge aspect of this. I wonder if I could just ask you a little more about that.

Did you know that the Canadian government, including the environment department, is working on a system of categorizing information, including environmental information, with geospatial coordinates?

Dr. Sarah Otto: Yes, and there are provincial efforts along the same direction as well.

Mr. Stephen Woodworth: Will that help this kind of project that I'm raising with you in terms of a kind of Wikipedia of habitat information?

Dr. Sarah Otto: Yes, and some of that is already available. You can go online into global databases such as GBIF to find out exactly where species have been recorded.

Mind you, the efforts are very biased to where people are looking, and that tends to be in the highly populated areas, so we don't have very good coverage across Canada.

Mr. Stephen Woodworth: My hope is that this will change with the efforts that our government is making.

Thank you.

The Chair: We'll move now to Monsieur Choquette.

[*Translation*]

Mr. François Choquette: Thank you, Mr. Chair.

I want to thank the witnesses for their participation in today's meeting. It is really interesting and nice to meet industry people and scientists. We truly must focus on what the federal government can do to improve habitat conservation.

My question is for Dr. Otto.

The 2010 report by the Expert Panel on Biodiversity Science states that "biodiversity is being lost...at a rate unprecedented in human history".

You talked about climate change, among other things. What are the consequences of global warming on the planet and biodiversity and, what should the federal government be doing to better fight climate change, which is disastrous for habitat conservation?

[*English*]

Dr. Sarah Otto: We are certainly in the midst of one of the most major extinctions of life on this planet, and at the rate it's going now, we will soon become, I believe, the most important extinction event.

I have to say that I am not a climate scientist, but the experts who I have consulted on this issue are not very optimistic about us being easily able to reverse the effects on global climate. The CFC issue was relatively easy in terms of protecting the ozone layer and reversing the ozone hole. I hope that scientists will figure out a way to return temperatures to their pre-human activity levels. I don't see how it's going to happen. I think that even in the best-case scenarios we're looking at very large temperature increases, increasing variability in temperature, increasing storm activity, and increasing typhoons. These are going to devastate both the human populations and the natural communities that surround us. I wish I had that answer.

[*Translation*]

Mr. François Choquette: Dr. Whitton, do you have any recommendations for the committee with regard to possible federal policies on fighting climate change?

[*English*]

Dr. Jeannette Whitton: What I would add is that the devil is in the details. There's carbon output into the atmosphere, and there's carbon sequestration. So there are essentially two places in the process where we can have impact, and I'll go to an example that was previously mentioned in a question about, for example, switching an environment from a bog and through mitigation ending up with a forest.

One of the things we understand about bogs is that they're fantastic places for carbon sequestration, because once they capture carbon, they degrade very slowly. So even though they're a small area globally, they actually capture a disproportionate fraction of carbon. So those kinds of understandings about the process of sequestration and what kinds of habitat management strategies will favour enhanced sequestration or lower the rate of release are critically important. That's the sort of place where I would say the devil is in the details. There's a lot we can do on the sequestration side in addition to measures that would help limit release of carbon into the atmosphere.

● (0950)

[*Translation*]

Mr. François Choquette: Thank you very much.

With regard to the famous Species at Risk Act, a number of witnesses have told us—and it was Dr. Otto, I believe, who mentioned it earlier—that it is relatively new and still has not been properly applied. Many witnesses said it would be best to start by applying it properly before amending it.

Do you agree, Dr. Whitton?

[*English*]

Dr. Jeannette Whitton: I would. One of the steps in SARA is to finalize action plans that describe the specific activities that we need to take to recover species. So far, for the close to 400 species that will require action plans, we have seven. So we have relatively little experience with how these actions are going to improve the fate of species at risk.

It's for that reason, not because we have only had 10 years, but because some of the steps in implementation have had only a very small number of years—two or three years, in fact, for most of these species—in which to actually take SARA-determined actions on the ground. So it is very early.

The Chair: Your time is up.

We'll move now to Mr. Lunney for five minutes.

Mr. James Lunney (Nanaimo—Alberni, CPC): Thank you, Mr. Chair.

Thanks to all of our witnesses here. I want to pick up on a point raised by our CAPP representatives that we need more flexibility. Then I want to take it to our scientists. The concern we have at committee is about a prescriptive sort of one-size-fits-all approach versus something that allows some flexibility, because there's a wide diversity of issues we have to deal with.

My first question is for our witnesses from UBC. When it comes to protecting species at risk, do you support an ecosystem approach or a species-by-species approach?

Dr. Sarah Otto: A balanced approach, certainly. But I would also say that SARA does take a fairly balanced approach. If you take a look at those seven recovery action plans that have been made, they're not all about habitat. Indeed, not one of them protects additional habitat than what was already protected prior to their recovery action plans, and they have very reasonable additional measures that involve community involvement.

For example, the most recently listed recovery action plan for the piping plover requires that we do things like not have off-leash dog areas in the nesting habitat of the piping plover. That's a very reasonable sort of community activity that I think most people would agree with.

From my perspective, SARA is taking those reasoned, balanced approaches to protecting habitat, changing human activities in a way that we can move forward. The concern is the backlog. From my tabulations, the nearly 76 or so files that have been put forward from COSEWIC to the Minister of the Environment have actually not been formally submitted to government so that the timing of the SARA process can start acting. So when we talk about delays in implementation, those are the sorts of things that worry us.

Mr. James Lunney: I hear that.

Now, of course, the area that I represent is on Vancouver Island. You mentioned the Garry oak system. We just had the Brant wildlife festival in the Parksville-Qualicum area.

While I'm talking about flexibility, I want to take you to an area that I'm hoping you both know a little bit about, the Bamfield Marine Sciences Centre. UBC has a stake in that, some five universities do. I'd be surprised if one or both of you haven't actually been involved in research out of that centre.

Can you comment on that first?

● (0955)

Dr. Jeannette Whitton: Comment on whether I've been involved there? Not myself, no.

Mr. James Lunney: Well, you'd be familiar perhaps with a species at risk on the west coast, the abalone, and the Bamfield Marine Sciences Centre, with great effort, with support from the Department of Fisheries and Oceans, actually developed a program to grow the abalone, a species at risk, in an aquaculture setting, as a first nations opportunity with the local Huu-ay-aht first nation.

Are you familiar with that project?

Dr. Sarah Otto: A little bit.

Mr. James Lunney: This came up under COSEWIC because, of course, abalone is a species at risk, but they found a way to raise these animals in an aquaculture setting. You could feed them a different coloured kelp so the shells could be distinguished from the natural animal. But when it came time to market these things, COSEWIC could not get their heads around allowing them to sell these animals into a market to make the program sustainable, even though you could actually release surplus animals back into the wild and actually help a species at risk, and when they eat the natural kelp, they come back to the normal colours of the other abalone in the area.

So when I talk about flexibility, I'm asking if you see this as a missed opportunity?

Dr. Jeannette Whitton: So I will clarify a couple of points.

Mr. James Lunney: The last thought was, we actually lost the program. A first nation economic opportunity and all of that research went down the drain because COSEWIC could not get their heads around making it possible to sell these animals into a profitable market to make it sustainable.

Is that a missed opportunity in your view?

Dr. Jeannette Whitton: I would have to clarify a couple of points there. The first is that COSEWIC does not determine how SARA is implemented. What COSEWIC's recommendation would do would be to define what constitutes the wildlife species and whether or not those aquaculture individuals can be separated from the wildlife species under SARA. That's an implementation issue. That's not a COSEWIC issue per se.

What was reported was that there were no genetic differences between the material that was used in aquaculture and the natural populations, which posed some challenges for how the material was dealt with and how it was distinguished. But COSEWIC does not have the scope or the ability to do anything but assess the wildlife species. What you're talking about are implementation issues that fall outside the committee's realm.

The Chair: Your time is up. We'll have to move now to Monsieur Pilon.

[*Translation*]

Mr. François Pilon (Laval—Les Îles, NDP): Thank you, Mr. Chair.

My first question is for Dr. Otto.

I would like to begin by commending you on your speech and your award. It is clear that the environment is important to you.

Many witnesses have told us that species disappear and are replaced by others and that is natural.

Do you agree with that statement?

[*English*]

Dr. Sarah Otto: It is natural for a species to go extinct. It is not natural for them to go extinct at the rate that they're currently going extinct.

The other issue is that it's a biased extinction. The species that are going extinct are the ones that cannot co-exist with humans, that are not as well adapted to urban environments. So this is an unnatural extinction, particularly with species in Canada in old-growth forest or in pristine habitats being the ones that are disappearing from earth.

[*Translation*]

Mr. François Pilon: Could you give us some examples of urgent recommendations that you would like to see in our report?

[*English*]

Dr. Sarah Otto: I think it is urgent that we protect land quickly, and especially protect marine areas. There are glass sponges in the basin off the Pacific coast here that are being endangered by trawling and other fisheries efforts. We have to act quickly.

● (1000)

[*Translation*]

Mr. François Pilon: As you know, atmospheric pollution has disastrous effects on wildlife.

Could you talk about the consequences of pollution on migratory birds in particular?

[*English*]

Dr. Sarah Otto: Pollution per se, I'm not so sure, but changing habitats have critically devastating effects on migratory birds. This is because they are sensitive to protecting habitat not in one location but protecting habitat along their migratory paths from Canada to the south.

More and more, scientific research is clarifying where those routes are, and that is hopeful, because perhaps we can better preserve these corridors that are essential to the migratory birds. But migratory birds are one of the most affected by habitat destruction because of this reliance on a number of way stations.

[*Translation*]

Mr. François Pilon: My next question is for Dr. Whitton.

In your opinion, what should be our short-term and long-term objectives if we want to ensure sustainable resource development?

[*English*]

Dr. Jeannette Whitton: For me that's a challenging question. I think in the short term we need an evidence-based policy to guide definitions of sustainability, definitions of impacts, assessment of impacts. So I would say it's strengthening and concentrating regulation and impact assessment such that it is efficient but is thorough, such that efficiency isn't balanced off against full scientific inquiry into impacts.

I am certain there are other witnesses who would have more informed views on this, but I think industry would agree that in the long term, what's good for the environment is good for long-term job prospects as well. Sustainability economically and sustainability environmentally are perfectly compatible.

[*Translation*]

Mr. François Pilon: My next question is for Mr. Bleaney.

You said in your presentation that companies' voluntary plans were a positive step.

Do you really think that a CEO focused only on profit will want to take voluntary measures in favour of biodiversity?

[*English*]

The Chair: A very quick response, please.

A voice: I'm sorry, my hearing device got a little weak there. I'm not sure I got the final end of his question.

The Chair: Monsieur Pilon, can you just repeat the final part of your question?

[*Translation*]

Mr. François Pilon: Do you really think that a CEO focused only on profit will want to take voluntary measures in favour of biodiversity and the environment?

[*English*]

The Chair: Mr. Pryce, did you want to respond to this? You have time for a very short response.

Mr. David Pryce: Thank you.

The industry is certainly supportive of the notion of biodiversity and biodiversity management. We invest in the Alberta biodiversity management institute. We know that the breadth of management strategy around all species is probably a better and more efficient path to securing our social license to access to the land.

Certainly it is a business value that I think we support, and I think it is an environmental value that provides for a more efficient path to managing for this.

The Chair: Thank you very much.

We'll move now to Mr. Leung, for five minutes.

Mr. Chungsen Leung (Willowdale, CPC): Thank you, Chair.

My questions are addressed generally to the Canadian Association of Petroleum Producers.

Over a period of 30 to 40 years, since 1970 to the present, and having visited Fort McMurray, parts of Calgary, and also southern California, I've noticed that best practices for soil or land remediation have been used by many of these producers of petroleum products. Over that period, I've also noticed that they have made efforts to introduce species or at least provide safe remediated land for species.

Perhaps you can share with the committee how the efforts of your association in any of the petroleum-producing areas have brought back species like the northern shrike, the boreal owl, and perhaps the northern bison.

● (1005)

Mr. Bob Bleaney: Mr. Chair, I'll pass that one to my colleagues. I know they have some good examples.

Mr. David Pryce: Thank you for the question.

Probably the species that are attracting the most attention from our industry right now are caribou, sage grouse, swift fox, and grizzly. We have been investing in the research through third-party entities to validate the populations, the ranges, how the ranges are being used. We use that information to do project planning so we can avoid critical areas while still enabling us to do that work. So, for example, the Foothills Research Institute in Alberta has done the work on the grizzly. The caribou companies are doing experimental projects around calf-penning with the blessing of the government. They're doing research on best practices, not only to understand what and where the animals are but what activities that we undertake are influential in a negative sense, so we can avoid them and look for alternative access.

In other words, if we know where their calving is and when it occurs, we will put a temporal management strategy into our business plans to stay out of there at those particular times. Those are some of the examples.

As an example, as an industry we've committed up to $2 million a year to research caribou in northeastern B.C. to help us better understand how to manage that species and to help the crown and the Government of British Columbia provide guidance around our use of that land.

Mr. Chungsen Leung: I'm pleased to hear that. Do you also submit this empirical and statistical information to other environmental groups and the public in general?

Mr. David Pryce: Yes, institutes like the Biodiversity Monitoring Institute is a stakeholder group we participate in. The Foothills Research Institute is a science-based organization and they are third-party, so we certainly encourage them to make that data available in a broad sense as well so scientists from other areas can also make use of that information.

I think it gets to one of the earlier questions. We think there is a need to have a better roll-up of this kind of information because there is good information out there that I think the science community would appreciate and benefit from.

Mr. Chungsen Leung: I applaud you for putting the dollars behind good corporate citizenship.

My next question is for the Canadian Nuclear Association. In your attempt to site nuclear reactors, how widely do you consult the groups that are impacted? I'm thinking specifically of aboriginal groups, local inhabitants, the scientific community, and people who may be stakeholders. How wide is that consultation? In the absence of legislation this is purely a measure of good corporate citizenship.

Ms. Heather Kleb: Our public consultation approach is very comprehensive, and it's also proactive. Obviously in the early stages of the development of a new project or facility we enter the Canadian Environmental Assessment Act process, which requires complete transparency throughout the process.

Prior to siting waste management and other facilities I would describe the consultation process as exhaustive.

Mr. Chungsen Leung: So in many ways—

The Chair: Your time is up. Time flies when you're having fun.

We are going to move now to Madame Quach and Ms. Leslie to share five minutes.

[*Translation*]

Ms. Anne Minh-Thu Quach: Thank you, Mr. Chair.

I will just come back to the question that was left hanging.

Dr. Whitton, you talked about activities that contribute to habitat destruction, including energy and oil development and mining. You talked about regulations and sustainable job creation for the long term.

How can we prevent this type of development, which is growing, from causing the planet's temperatures to increase another 2 degrees, which would affect habitat? Do you have any recommendations?

● (1010)

[*English*]

Dr. Jeannette Whitton: As my colleague mentioned, we're not climate scientists per se, so those sorts of questions are best addressed by people who specialize in those areas. As I also said, there are really only two places to affect the levels of carbon in the atmosphere. One is outputs and one is sequestration. I think it is obvious outputs are outstripping the ability of the planet to sequester. It's not sufficient simply to enhance sequestration. It's unlikely to actually reverse the process, so we have to look to outputs.

In terms of the impacts on habitat, those are a little bit slower to come. We're seeing those threats, climate change in particular, appear as specific threats mentioned in assessing species at risk a little more frequently as time goes on. Again, we have to specifically understand what we mean by the impacts of climate change. Is it storm surges, is it temperature per se, is it shifts in the distribution of habitats that will limit the ranges of species, for example in alpine habitats?

Understanding the specific impacts of climate is important for specific cases, as it is with all species at risk. We can't take a habitat equals recovery approach. We have to understand what the specific threats, and specific impacts and limiting factors are.

[*Translation*]

Ms. Anne Minh-Thu Quach: I would now like to hand things over to my colleague Megan.

[*English*]

Ms. Megan Leslie (Halifax, NDP): Thanks.

I have a question continuing with Ms. Otto and Ms. Whitton.

I'm not feeling great this morning so I've been out of the room a little bit, so my apologies in advance if this has already been addressed.

We've had a number of industry groups here, a number of scientists like yourselves and folks working with wildlife organizations. There seems to be a disconnect around SARA, where a lot of the industry groups are saying things need to change because SARA isn't working. The wildlife groups and scientists predominantly are saying SARA only needs to be enforced, that there's nothing wrong with this legislation.

Mr. Stephen Woodworth: I have a point of order, Mr. Chair. I think it's a mischaracterization because, as I've already alluded to, in 2009 and 2010 when we had a study of SARA there were a great many scientists and environmental individuals, including people for example—

The Chair: Mr. Woodworth, your point is well taken. I think it's a matter of debate.

Mr. Stephen Woodworth: It's simply that we shouldn't mislead the witnesses with a false premise.

The Chair: I will allow Ms. Leslie to complete her question and then proceed.

Ms. Megan Leslie: Thanks. I'm only speaking about the testimony we've had here, not from 2009.

I'm wondering if you have any thoughts on that disconnect. What is happening here?

Dr. Sarah Otto: Implementation is a huge problem. I think SARA could be implemented if there were the political will to do that. So to some extent, I guess, I throw the question back to you. I have been very concerned when files are sitting on environmental ministers' desks and not moving, some for over three years. I don't know why. Maybe you can give us some insight.

Ms. Megan Leslie: I wish I could.

Ms. Whitton, do you have any thoughts about the disconnect here?

Dr. Jeannette Whitton: I think part of the disconnect is in some ways semantic. I think when we talk about changes to SARA, what the scientific community is generally not in favour of is changes to the legislation itself. There's no evidence that we can find, in looking at the enactment, the enforcement, the implementation of SARA, that there are structural problems with the legislation itself.

What we see instead is that there are challenges with implementation and a lack of policy development. That does not require amendments to SARA. That could be done outside the scope of amendments, for example, with a policy to speed up various processes. There's nothing limiting the development of additional policies around that. So I would look for any evidence that there are structural problems with SARA. We can't find it.

What we see instead are challenges with implementation.

● (1015)

The Chair: Time is up on that round, Ms. Whitton. Thank you.

We'll go now to Mr. Toet.

Mr. Lawrence Toet (Elmwood—Transcona, CPC): Thank you, Mr. Chair, and thank you to all our guests here today. It's very interesting.

Ms. Whitton, I want to follow up on a comment you made in your presentation that habitat we preserve may not be enough to preserve a species. Did I hear that correctly?

Dr. Jeannette Whitton: Yes, that's correct.

Mr. Lawrence Toet: The reason I ask that question is that we had witnesses from the Canadian Cattlemen's Association here about a week ago, and they talked about one thing that they found very important and that should be considered. I'd like to get your input on this.

They said that if a species at risk is found on a property, it should be assumed that the landowner is doing something right. They're looking at it on an evidence-based science front. They're obviously thinking that the evidence is there that this species is surviving in that particular habitat and under those particular circumstances, so there must be a suggestion through it that there is something proper and right happening on that habitat.

In conjunction with what you said—that habitat we preserve may not be enough to preserve a species—can you see how that would be something that should be looked at in a positive vein? Should we be looking at that particular habitat and asking why the species is surviving there, rather than removing the cattlemen from that area and saying they're not allowed to do any work there? Should we be looking at more of a co-joined effort there?

Dr. Jeannette Whitton: Absolutely. Yes, every species is unique. For example, the presence of grazing cattle can help limit grasses that compete with native plants. They can have a positive impact—there's no doubt about that—for certain species under certain circumstances.

Again, listing under SARA requires that we understand the threats and impacts on the land. As for the simple presence of a species at risk on a parcel of land being an indication of habitat health, you'd have to first ask whether that species is declining, stable, or increasing. It goes to the specifics. It can take a long time for a population of long-lived organisms—grizzly bears, even a herd of caribou—to decline and disappear. If they're there but declining, I would argue that doesn't necessarily mean all is good in that habitat.

The specifics do matter, but I agree.

Mr. Lawrence Toet: The point was that we should start from that point, the assumption that something proper and right is occurring there. That's basically what you've just agreed with there, and I appreciate that.

I just wanted to turn my questioning to Ms. Kleb from the Canadian Nuclear Association. I just quickly read your testimony. Sorry, I was late and never had an opportunity to hear it. There are some challenges obviously between balancing energy.... We need energy. We're all sitting in a room here with audio equipment, video equipment, and lights, which are all driven by energy. That is a reality we have. In that balancing of the need for energy and the pursuit of conserving habitat, can you speak to some of the challenges you see in that and how it's being addressed by the Canadian Nuclear Association?

Ms. Heather Kleb: First off, I would say that, compared to other power-generating sources, we do have a relatively small environmental footprint. Even our mines are largely underground mines.

That said, I discussed a number of projects earlier where our members have interacted with species at risk. I've also offered a number of solutions, through partnerships and other means, where we can offset those effects on those species. There is a balancing act there, but it's one we can manage.

Mr. Lawrence Toet: You talked a little bit about the habitat offsets. I think that's very interesting, because some of our other witnesses here also talked about migratory birds and their need for habitat as they move through the migration process.

Is that a role you could see industry playing in habitat offsets, to have those protected areas that would allow for the migration patterns to be continued or to be followed through? Are those things that industry would be open to?

● (1020)

Ms. Heather Kleb: That's something we're already involved with. If there are migratory birds coming through our properties, we're very aware of them. Yes, the habitat banking option is looking to provide a larger bank of protected natural areas rather than disparate habitat protection restoration projects, which would obviously support migratory birds and species at risk.

The Chair: Sorry, your time is up.

We move now to Ms. Rempel.

Ms. Michelle Rempel: Thank you, Mr. Chair, and thank you to the witnesses for being here today.

My time is brief so I'll try to be direct with my questioning, and it will be directed primarily to Dr. Otto.

First of all, on behalf of all the committee members here, I'd like to congratulate you on your MacArthur Fellowship. That's a substantive achievement for anyone in Canada and certainly for a Canadian woman in your field of research. Congratulations to you.

I would like to pick up on the line of questioning that my colleague Madam Quach started. She began by laying the foundation.

Dr. Otto, your background—I believe it's theoretical and experimental evolution—is one that's obviously very relevant to this committee's work as you are studying biodiversity and that naturally feeds into habitat conservation. Given that, since she was asking how basic research, particularly your basic research, impacts habitat conservation, I'd like to go through some of the government policy and funding for basic research specific to your portfolio, which may be helpful.

It's my understanding that currently you hold, since fiscal year 2006, approximately $1.6 million in funding from NSERC. Is that approximately correct?

Dr. Sarah Otto: My personal research is under $100,000. The rest is a training program for graduate and post-doctoral students.

Ms. Michelle Rempel: But it's cumulatively about that much?

Dr. Sarah Otto: That's correct.

Ms. Michelle Rempel: Great.

Are you aware that since fiscal year 2006-07, the NSERC budget has been increased from $895 million to $1.86 billion?

Dr. Sarah Otto: I didn't know the exact numbers.

Ms. Michelle Rempel: Would you say that is a substantive increase?

Dr. Sarah Otto: That is a substantive increase but it has also shifted which areas are being funded.

Ms. Michelle Rempel: But NSERC, including the discovery grants, which you hold, has a substantive impact on basic research and your research program. Is that correct?

Dr. Sarah Otto: Absolutely.

Ms. Michelle Rempel: Excellent.

I also understand that the Biodiversity Research Centre at the University of British Columbia was funded through the Canada Foundation for Innovation. Is that correct?

Dr. Sarah Otto: Correct.

Ms. Michelle Rempel: Are you aware that the Canada Foundation for Innovation's budget has been increased substantively by over a half a billion dollars in the last six years?

Dr. Sarah Otto: Yes, I am.

Ms. Michelle Rempel: Would you say that has an impact on basic research across Canada, including your portfolio?

Dr. Sarah Otto: Yes, although it does not sponsor research per se, but the infrastructure in which we reside.

Ms. Michelle Rempel: Fair enough, it enables it.

The last program I'd like to point to is the Canada research chairs program. It's one that I think is particularly important to research across Canada, especially basic research. Again, congratulations on your holding a tier-one research chair.

Dr. Sarah Otto: Thank you.

Ms. Michelle Rempel: I think the more we can promote academic research, especially women leaders such as you, through these programs, the more it speaks to our country's scientific capacity as a nation.

Ms. Megan Leslie: On a point of order, I wonder if Ms. Rempel could explain to us the relevance of this line of questioning and how it fits into the scope.

Ms. Michelle Rempel: Certainly. Mr. Chair, as I mentioned earlier, my colleague opposite, Madam Quach, laid out a line of questioning or witness preamble that suggested that Dr. Otto's basic research capacity was important to the study, which I believe we all agreed to. Next she opened up a line of questioning with regard to the national research centre that was not directed primarily towards the scope of the study. I think what she was trying to get at was to show the impact of research funding on this habitat conservation study. I'm perhaps doing that in a more direct way and teasing out witness testimony that shows that there actually has been an increase in basic research, Mr. Chair, that has appropriately sponsored this type of research in this area.

● (1025)

Ms. Megan Leslie: Mr. Chair, I'd like to respond to that.

The Chair: Proceed.

Ms. Megan Leslie: Thank you.

In fact, we've already established at this committee—perhaps it might have been with our previous chair—that preambles are fair game. You can talk about whatever you want when you're about to set up a line of questioning.

The Chair: On that basis, Ms. Leslie, I will allow Ms. Rempel to continue. She's setting out the preamble.

Ms. Megan Leslie: But these are questions, Mr. Chair, not a preamble.

The Chair: I'm ruling that Ms. Rempel has the floor.

Ms. Megan Leslie: I'm challenging the chair.

The Chair: Okay.

Ms. Michelle Rempel: Mr. Chair, I would comment on these questions at this point. I'd like to simply close off my line of questioning to thank both Dr. Otto and Dr. Whitton for their time today and for their research in this important area.

The Chair: I want to thank all of our witnesses, especially those from the west.

Sorry, Ms. Duncan is back. I thought Ms. Duncan had left us.

Ms. Kirsty Duncan (Etobicoke North, Lib.): I understand.

The Chair: She didn't get a turn, so we're going to give five minutes to Ms. Duncan.

Ms. Kirsty Duncan: Thank you, Mr. Chair, and my thanks to the witnesses.

Dr. Otto, I do want to acknowledge that you gave $100,000 of your prize money. Thank you for such generosity.

We want evidence-based policies in this country. Is there evidence? One of the questions this committee is being asked is to compare what is better, management practices and stewardship or prescriptive government-mandated measures? I would like to know if there's actually evidence, because we want evidence-based decisions in this country. Is there evidence to suggest one or the other?

Dr. Sarah Otto: I'm a little confused about the distinction. It seems to me that whether we all agree that a particular habitat needs to be preserved, and then we preserve it, or whether the government decides the habitat needs to be preserved and does so, either way, if the species is there and that is what is needed to protect it, the goal should be the same.

What I can also say is that we're probably not going to move very quickly unless we bring all the stakeholders together to work. There is evidence that if you don't collaborate and try to work together movement is slow, and we can't afford slow movement on these issues.

Ms. Kirsty Duncan: Thank you, Dr. Otto.

So what would be your recommendation, your wish list, for this committee?

Dr. Sarah Otto: My wish list is that we increase the setting aside of land, that we work together with the kind of habitat-banking initiatives Heather Kleb discussed, that private and public funding is made available to determine which are the most critical habitats, and that we act now to save them.

Ms. Kirsty Duncan: Thank you.

Should SARA be implemented, or should it be, in the government's words, streamlined?

Dr. Sarah Otto: I don't believe it's being streamlined; I believe it's being stalled. I think this is of great concern. I am very worried that other countries are increasingly seeing Canada as the dodo bird. We received a dodo bird award for our environmental policies. I'm very concerned about the impacts this will have on trade and on jobs in Canada. I'm worried about losing our reputation internationally as an environmentally concerned country.

Ms. Kirsty Duncan: I think the government's word in this case, when it applies to SARA, is actually “efficient”, so I'd like to say that.

Would your recommendation to this committee be that SARA should be implemented?

Dr. Sarah Otto: Yes.

Ms. Kirsty Duncan: You also mentioned the precautionary principle. If you could write your recommendation to the committee, what would you like the committee to have in its report? What's on your wish list for the precautionary principle?

Dr. Sarah Otto: I think what we're striving for at the moment is what we've already promised to do, which is to meet the Convention on Biological Diversity guidelines of 10% marine and 17% terrestrial lands. The one caution is that we have to do it in a way that matches where habitats are most endangered at present. As my colleague Jeanette Whitton said, a lot of the pressure is coming in the southern portions of Canada, and this is where, relatively speaking, we lack protected areas.

● (1030)

Ms. Kirsty Duncan: So your recommendation to the committee would be what?

Dr. Sarah Otto: I'd recommend that we work to achieve that 17% terrestrial land base in habitat protection by 2020.

Ms. Kirsty Duncan: What definition should we use? Last week, we were hearing that it might be possible to make our 17% in four years using the Aichi targets, according to our interpretation. How do you feel about that?

Dr. Sarah Otto: Can you flesh that out a little bit more? What do you mean by “our interpretation”?

Ms. Kirsty Duncan: We heard this from one witness group. If you look at IUCN, if you look at Aichi targets, you see that you might be able to interpret—“interpret” being the key word—the definition in a certain way.

Dr. Sarah Otto: We have to be very cautious here. For example, it's not enough to have a patch of forest that we're not cutting down now, moving that patch that we're not cutting down to another place, and then moving it again, meanwhile cutting down every one of those patches in succession. That does not make an old-growth forest.

It depends on what is meant exactly by using those habitats that are under protection. To really preserve a habitat we cannot have major impacts and hope it will rebound. Those habitats don't necessarily rebound. There are alternative stable states, and we can move them away.

The Chair: I think the point that was being made in terms of measurement is that many groups are doing good conservation work. Those efforts are not measured within the target. I think that was the point Ms. Duncan was getting at.

I want to thank our witnesses for being here, especially those from the west who had to get up early to appear. It's good to have all of you here.

This meeting is adjourned.