



# Action on the Ground

Volume 3

## MINISTER'S MESSAGE

National parks are living examples of the land that unites us. From every corner of this country, these areas have been set aside for people to connect with nature, enjoy new experiences, and to gather ancient wisdom. National parks inspire us in our efforts to build a clean natural environment and a strong economy.

Nature conservation is important to me. I was raised in the context of Inuit *Qaujimajatuqangit*, the wisdom of the indigenous people of Nunavut. This knowledge is a key component of local governance, especially in the management of natural resources. This is why, as Minister of the Environment and Minister responsible for Parks Canada, I am enthusiastic about the Agency's leadership in conserving and restoring protected areas.

For example, since 2006, our government has taken action to increase by 58% the areas Parks Canada protects to reach 438,789 km<sup>2</sup>. This includes the creation of Nááts'ihch'oh and Sable Island National Park Reserves, of Lake Superior National Marine Conservation Area and Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, and the expansion of Nahanni National Park Reserve. The Agency has also made significant progress toward creating Rouge National Urban Park in the Greater Toronto Area, the first of its kind in Canada, and established the world's largest dark sky preserve in Wood Buffalo National Park.

In 2011, Parks Canada received the Gift to the Earth Award, World Wildlife Fund's highest accolade for conservation work. With initiatives such as the protection of salmon in the Inner Bay of Fundy and the restoration of the Garry oak habitat, Parks Canada's global leadership in conservation is firmly established.

Parks Canada is undertaking the largest restoration program in its history and will continue to work with Aboriginal people, conservation organizations, business leaders, people from every walk of life and every order of government. I am confident that such a cooperative and coordinated approach will result in significant results in conservation and will be leaving a natural legacy for future generations.

I hope Canadians will use this publication to find out more about the work that Parks Canada is doing in the national park that is dearest to their heart. Whether as a volunteer, a visitor or an interested citizen, we can all make a difference in preserving and celebrating our exceptional system of national parks.

The Honourable Leona Aglukkaq, Minister of the Environment, Minister of the Canadian Northern Economic Development Agency and Minister for the Arctic Council



## MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

As the Parks Canada Agency moves into its second century, I am proud of the leadership demonstrated by our entire team in the establishment and management of protected areas. This, the Agency's third Action on the Ground publication, captures some of the passion and innovation in the role we play as stewards of the lands and waters that inspire Canadians.

Our conservation approach recognizes the importance of achieving conservation success through actions that maintain or restore the natural and cultural values of protected areas, while simultaneously facilitating meaningful visitor experience and providing learning opportunities. This approach was endorsed and adopted in 2012 by the International Union for Conservation of Nature (IUCN) and is being utilized by other park agencies such as the Kenya Wildlife Service, Chile's Department of the Environment and Mexico's National Commission of Natural Protected Areas. In implementing this approach, the Agency is putting forward solutions that result in real, tangible conservation outcomes, promote the value of our park ecosystems with visitors and the general public, and contribute to Canada's culture of conservation.

We are making significant investments in the largest ecological restoration initiative in our history. Our goal is to improve ecological integrity in our national parks by 2015, and as the projects in this publication demonstrate, we are well on the way toward achieving this target. As we move forward with our conservation efforts across the country, visitors are interacting with scientists, Aboriginal people are sharing their wisdom, and new media are linking young people to our national parks. It is all part of building a living legacy that connects the hearts and minds of Canadians to our treasured natural and historical places.

The Action on the Ground projects featured in this publication demonstrate what can be achieved through restoration, collaboration and engagement. In a world where environmental issues may at times appear insurmountable, they are a source of inspiration and hope for the future.

Alan Latourelle, Parks Canada Chief Executive Officer





## MESSAGE FROM THE CHAIR OF THE WORLD COMMISSION ON PROTECTED AREAS-IUCN

Parks Canada is a true leader in protected areas management, and in particular ecological restoration. In 2012, the International Union for the Conservation of Nature (IUCN) adopted the Agency's approach to ecological restoration for protected areas and it is now being implemented by protected areas agencies around the world as they strive to achieve local and global goals for biodiversity conservation as well as the multitude of social, economic and cultural benefits to people. What is more important about Parks Canada to me, however, is that it is an organization that demonstrates its leadership through achieving results on the ground.

[http://www.iucn.org/knowledge/publications\\_doc/publications/?uPubsID=4710](http://www.iucn.org/knowledge/publications_doc/publications/?uPubsID=4710)

Dr. Ernesto Enkerlin - Chair, World Commission on Protected Areas-IUCN





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## WHAT IS ACTION ON THE GROUND?

Our work in restoring natural ecosystems is as old as the parks system itself. As far back as 1886, the Canadian Department of the Interior recommended planting native trees, improving waterfowl habitat, and rebuilding wildlife populations in Banff, the first national park in Canada. Today, our network has grown to include 44 national parks and 4 national marine conservation areas (NMCAs). Maintaining or restoring ecosystems remain key to how we manage these protected areas in the face of modern challenges.

In the past five years, we have invested in an ambitious program to restore the ecological integrity of Canada's national parks. Projects carried out by Parks Canada to improve the health of national park ecosystems is what we mean by *Action on the Ground*. With 36 Action on the Ground projects currently underway across Canada, we are hard at work restoring ecological integrity of park ecosystems, including:

- re-establishing a population of the endangered pink sand verbena in the coastal areas of Pacific Rim National Park Reserve by removing invasive Eurasian dunegrass;
- making the waters of Clear Lake run clear once again by controlling nutrient run-off in Riding Mountain National Park; and
- restoring healthy forest plant communities in Gros Morne and Terra Nova National Parks by reducing hyperabundant populations of moose.



© Ian Pengelly

Our efforts to restore ecosystems are guided by Parks Canada ecological integrity monitoring and reporting program. This program focuses on measuring and reporting to Canadians on the condition and trends of national park ecosystems. Through monitoring, park managers identify priority issues to be addressed through ecological restoration, targeting our efforts on where we can achieve meaningful conservation gains. While the focus of these conservation efforts is on improving ecological integrity, the work is conducted in a way that facilitates memorable visitor experience and builds public awareness and support.

Our Action on the Ground projects are guided by three internationally-recognized principles.

To be successful, ecological restoration should be

- **effective** by re-establishing and maintaining natural and cultural values of protected areas;
- **efficient** by maximizing beneficial outcomes while minimizing costs in time, resources and efforts; and
- **engaging** by ensuring collaboration with partners and stakeholders, promoting participation and enhancing visitor experience.

Effective ecological restoration depends on a judicious blend of the best available scientific knowledge, Aboriginal traditional knowledge and local knowledge. It seeks to bring back a lost or diminished component of an ecosystem – such as a natural predator, a species at risk, a well-connected habitat, or regenerative fire. In so doing, it creates conditions for the re-establishment of ecological integrity. By encouraging the ecosystem to renew and sustain itself, effective restoration is long-lasting and resilient, allowing for change over time.



Efficient ecological restoration means working to achieve solid, consistent and timely results by acting with partners to achieve common goals, targeting interventions, and aiming for the greatest success without wasting energy and resources. We encourage knowledge-sharing, so that the scientific and practical lessons learned from one project can be applied to future endeavours. Monitoring helps ensure that adjustments can be made while projects are still in progress.

Engaging ecological restoration recognizes and embraces the interrelationships between culture and nature. It encourages people to connect with nature in ways that deepen their sense of attachment to protected areas; and gives them opportunities to discover nature and experience its benefits for their own spiritual balance and well-being. It offers them a chance to participate in meaningful restoration work and to incorporate the culture of conservation into their own lives and communities. Engaging Aboriginal and local communities also helps maintain or revive cultural practices as part of the ecological restoration process.

We need only look to the very things we are mandated to protect to find inspiration: wolves in a pack acting together to achieve a common goal; or a heron stalking a fish, focusing its efforts to achieve success.

This third Action of the Ground publication provides an overview of our efforts to restore ecological integrity in national parks. The following projects illustrate how Parks Canada and its partners have put these principles into action.



© Daniel Pouliot

## RESTORING THE NATURAL FLOW OF RIVERS

In national parks in Atlantic Canada, we are not only reconnecting streams, but also helping Canadians reconnect to wild rivers running free.

Some river systems in our national parks have artificial and natural barriers that prevent salmon, American eel and other fish species from reaching habitats they need to feed, spawn, overwinter and mature.

Fortunately, effective solutions are available. Our success in restoring the natural flow and connectivity of rivers and streams in national parks confirms that individual projects, like updating culverts with modern environmentally-sensitive designs, can lead to measurable improvements in the ecological integrity of aquatic ecosystems.

To maximize the success of our projects, we use a set of best practices to restore stream crossings. We begin by conducting detailed stream surveys. We then prioritize the culverts for replacement, based on which will bring the greatest benefits to fish populations and the stream ecosystem. We encourage visitors to get involved in our fieldwork, providing them with meaningful and memorable experiences.

Park staff and collaborators have identified and remediated dozens of high-priority barriers in Fundy, Gros Morne, Kejimikujik, Prince Edward Island and Terra Nova National Parks – improving access for fish and other living things throughout their watersheds. These efforts have built strong partnerships with First Nations, local communities and stakeholders, to cultivate awareness and long-term support.

The numbers for Kejimikujik National Park alone are impressive: 178 stream sections surveyed; 10 problem culverts restored; over 500 participants involved in hands-on events, interpretive programs and technical workshops.

Through these restoration efforts, we have improved aquatic connectivity and ecological integrity throughout the Atlantic region. With our effective, efficient and engaging solutions, we are helping to restore the natural flow of rivers, allowing fish to swim free once again.



La Mauricie National Park staff are improving aquatic ecosystems transformed by historic log drives and sport fishing of bygone times. The reintroduction of indigenous populations of speckled trout, along with log retrieval, dam and lock removal, and the clearing of stream outlets will help restore ecological integrity. The wood from recovered logs has been used for educational materials, artistic sculptures and the construction of an interpretive display at Lake Bouchard, enhancing the park visitor experience.

<http://www.pc.gc.ca/eng/pn-np/qc/mauricie/natcul/natcul1/natcul1f.aspx>



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In Pacific Rim, Gwaii Haanas, Fundy and Kouchibouguac National Parks, park staff and partners are actively at work improving the health of stream ecosystems through innovative research and practices, captive rearing, and reintroduction of native fish. As we seek to conserve both natural and cultural values, our common goal is to restore vibrant streams and rivers for future generations.

# FIRE AND GRAZING FOR THE FESCUE

In Prince Albert National Park, the fescue grasslands of the Great Plains meet the boreal forest of the north. Here, amid wolves, lynx, caribou and bear, a herd of plains bison roam free. Effective restoration for this park means reinstating processes that are most important to the prairie and its iconic grazer.

Historically, wildfire shaped this landscape, maintaining an ever-shifting mixture of aspen forest and fescue grasslands. The meadow-like grasslands are a uniquely Canadian ecosystem that blooms with brightly-coloured flowers, including Saskatchewan's provincial flower, the western red lily.

For decades, park managers suppressed natural fires, believing this was the best approach for park management. We have since learned that limiting this key ecosystem process simply allowed the forest to encroach on the fescue grasslands, fragmenting them into small, isolated patches. Without wide meadows to graze in, the bison have sought forage elsewhere. As one of the few free-roaming plains bison herds in the world, they sometimes come into conflict with neighbouring farmers and ranchers when they search for forage outside the park.



© Dustin Guedo

Since 2009, Parks Canada has deliberately ignited over 3700 hectares on the west side of Prince Albert – three-quarters of the total area that we intend to ignite by 2015. These prescribed fires help mimic the historic natural fire pattern, reducing shrub cover and maintaining fescue grasslands. Ultimately, this should improve bison foraging habitat and persuade them to remain in the park and out of harm's way – with benefits for local farmers and ranchers, as well as the bison.

Oddly enough, abandoned gravel pits also pose a threat to the grasslands. Their rocky soil provides a nursery for invasive weeds, which spread out into the fescue meadows.

To eliminate these point sources of exotic plants, we have re-contoured the land, removed the invasive weeds, planted 8000 plugs of native fescue grass and seeded for native plants. And the prairie is beginning to bloom again!

Ecological restoration involves a learning process where unusual weather, stubborn weeds and simple logistics teach us how to be more precise and successful in our efforts. In this park on the prairie's edge, we have delivered a more open and natural grazing habitat for the bison, giving Canadians a living glimpse of the West that once was.



© Dustin Guedo



Building on nearly 20 years of Parks Canada's world leadership in reducing wildlife-vehicle collisions, Kootenay National Park completed the construction of three wildlife underpasses in the fall of 2013. Through the combination of fencing and underpasses, we are aiming for tangible reductions in the number of vehicle collisions with deer, elk, moose, wolves and foxes, while connecting landscapes and wildlife, and improving safety for motorists, residents and visitors.

In Pukaskwa National Park, one of 16 national parks using prescribed fire for ecological restoration, staff have burned over 900 hectares in the backcountry to restore forest ecosystems. To highlight the important role of fire in maintaining healthy forests, a small prescribed fire was recently conducted near the park visitor centre. By collaborating with First Nations partners and volunteers, we gave visitors first-hand experience of fire as a natural process.





© Chris Gill

## PARTNERING TO COMBAT INVASIVE RATS

The protected islands of Gwaii Haanas National Park Reserve and Haida Heritage Site provide a nesting-ground to more than half the world's population of ancient murrelets. Yet this isolated archipelago, which forms a critical sanctuary for the small seabirds, has also become a danger-zone, overrun by invasive, predatory rats.

To the Haida people, ancient murrelets are SGin Xaana – or “night birds” – because they appear on land only under cover of darkness. The birds spend most of their lives at sea, coming and going from small coastal islands by night during the breeding season. From nesting burrows under the forest floor, their tiny chicks hatch and within days scuttle through the night-shaded undergrowth as their parents call to them from the ocean.

Yet such breeding habits, coupled with their high concentration – approximately 128,000 pairs breed in 33 colonies across Gwaii Haanas - make these small seabirds highly vulnerable to the predatory rats, which first arrived on the islands aboard European sailing ships in the late 1700s. At their peak, rats are known to have infested at least 18 islands in the Gwaii Haanas archipelago, where they feast upon the night birds' eggs and kill the chicks during their frantic dash to the ocean. The night birds are already lost from several islands where they traditionally nested - to the point where ancient murrelets are now listed as a species of special concern under the federal Species at Risk Act.

Innovative partnerships among Parks Canada, the Haida Nation and non-profit organizations – Island Conservation, Coastal Conservation, and the U.S. National Fish and Wildlife Foundation – have been formed to remove the rats, restore night bird colonies, protect islands not yet affected, and ultimately conserve this ecologically and culturally important species.

Work to eradicate rats has benefitted from knowledge and experience gained in other island conservation projects from around the world. Preliminary results show that rats are no longer detected on Arichika and Bischof Islands but monitoring will continue until 2014 to be able to declare the islands rat-free.

Building on that success, phase two of the project included aerial treatment by helicopter over two larger islands: Murchison and Faraday. This represented the first use in Canada of an aerial broadcast treatment for the eradication of rats.

We, along with the Haida Nation, will be watching with anticipation for the return of ancient murrelets to these islands.



© N. Perry

In Ivvavik National Park, traditional knowledge and science joined forces to help design a project to clean up Stokes Point, a former Distant Early Warning Line Site. Carried out in close collaboration with the Inuvialuit, the community of Aklavik and our project partners at the Department of National Defence and the Royal Military College of Canada, the clean-up has made Stokes Point safe for people and animals – restoring and improving the health of the land, water, animals and plants that is so important to the Inuvialuit and the rest of Canadians.

<http://www.pc.gc.ca/eng/pn-np/yt/ivvavik/plan/ne5.aspx>



© Ray Schmidt



© Ray Schmidt

The torrential rains of June 2013 caused severe flooding in Banff National Park and many fish became stranded in newly created side channels and pools. Parks Canada and TransAlta quickly mobilized and launched a successful fish recovery operation, moving trout and other species back into the main river systems. A helicopter bucket, usually used to control wildfire, became a very efficient tool in this swift response.



© Simon Hunt

## REPAIRING ECOLOGICAL RELATIONSHIPS TO RESTORE WHITEBARK PINE

Whitebark pine trees live high in the Rocky Mountains, where coniferous forest gives way to snow-capped peaks. As a keystone species, this cold-climate tree helps maintain subalpine biodiversity, protects watersheds, and promotes forest regeneration in areas scorched by fire. Yet, loss of habitat for seedlings and disease have put the species at risk.

Research ecologists and volunteers are working with us to restore the whitebark pine ecosystem by re-establishing two relationships that are critical to the pines' existence – one with a far-flying bird called the Clark's nutcracker that helps disperse the whitebark seeds and the other with a soil-dwelling fungus that helps nourish their seedlings.

Ecologists understand that the seeds of the whitebark pine must find their way to sunlit forest clearings to germinate. Flying from mountain-top to mountain-top, Clark's nutcrackers break open whitebark cones, extract the seeds, and cache them in sunny, open areas created by natural forest fires. Normally, any cached seeds that the nutcrackers lose or misplace may then germinate and grow into whitebark seedlings. But fire-suppression in the past has reduced the number of forest openings, allowing mature stands of lodgepole pine, fir, and spruce to fill the gaps, while squeezing out whitebark pine.

In 2009, Parks Canada began a program of prescribed burning, using a technique that simulates low-intensity lightning-strike fires. The 26 clearings created by these burns give Clark's nutcrackers places to 'plant' the seeds of whitebark pine.

Once the seeds are dispersed by nutcrackers, another relationship comes into play, this one involving symbiotic fungi. These fungi bond with the roots of the pine seedlings, allowing them to extend their reach and gather more water and nutrients. Since many whitebark pines have died, so have the fungi with which they coexist. To re-establish the relationship, park staff are working with research ecologists to create a fungal inoculation, similar to a medical vaccine, to aid in seedling success.

If small creatures can help mighty trees, they can also harm them. Perhaps the greatest threat to the whitebark pine's survival is white pine blister rust, a disease caused by an exotic fungus. Though the rust has killed over 90 per cent

of whitebark pines in some stands, a few trees appear resistant. Parks Canada staff and volunteers are trekking deep into the forests to find these defiant 'super' trees and collect their cones. Their seedlings are being tested for disease resistance, and planted in hopes of growing new groves of naturally-immune whitebark pine.

The prominent role of whitebark pine in the subalpine ecosystem means that the benefits of its comeback would be incomparable. With this objective in mind, and the assistance of the research community and energetic volunteers, Parks Canada is optimistic that whitebark pine restoration efforts will succeed.



© Hannah LaCroix.

In Bruce Peninsula National Park, Parks Canada staff are restoring forest connectivity by planting thousands of trees on recently-acquired agricultural lands. Ultimately, we aim to re-establish habitat for bears and forest birds on these former hayfields and pastures.



© Parks Canada

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Unique Garry oak ecosystems in Gulf Islands National Park Reserve and Fort Rodd Hill National Historic Site are benefitting from Parks Canada, partners, volunteers and students. Through community engagement, we are taking action to manage deer, Canada geese and invasive plants, and reintroduce native species. Along with improvements to the ecosystem, this group of smiling students gives us hope for the future.



© Nicole Daigle

## CONNECTING ON THE RIVER OF THE LONG TIDES

In the Mi'kmaq language, Kouchibouguac means “River of the Long Tides.” The tidal estuaries of Kouchibouguac National Park, where fresh water and salt water meet, are also a meeting-place for proud Mi'kmaq and Acadian traditions.

Rich in sea-life, the estuaries' salt marshes and beds of eel grass provide abundant food and shelter for newly-hatched fish. They are vital nurseries for many species which later disperse throughout the waters of Atlantic Canada and form the basis of important commercial fisheries. For centuries, Acadian and Mi'kmaq people have harvested foods from the estuaries, primarily clams and eels.

Here, engaging local people in an exchange of ideas is necessary for restoration to succeed. Through community discussions, classroom projects, and online videos, Parks Canada began bringing the people of northern New Brunswick together. Participants had the opportunity to share their perspectives, traditions and knowledge of the estuary and its fish. They recognize the need to protect the estuary both for itself and for its role in replenishing fish stocks across the region. Parks Canada continues its outreach through activities such as citizen science opportunities; a new visitors' centre exhibit entitled *Where Land, Sea and People Meet*; and the production of a documentary video on the American eel in collaboration with Mi'kmaq and Acadian contributors.

Informed by this dialogue, Parks Canada offered a voluntary buy-out of commercial fishing licences for clam, gaspereau, turbot and eel in the park. So far, the park has been successful in buying back 81% of the commercial fishing licenses, and the results look good. There are more young clams in the clam beds. Small boat traffic on the estuary has also eased, enhancing the visitor experience for park visitors.

Kouchibouguac National Park will always be a meeting place for cultures, ecosystems and expectations. As part of making ecological restoration engaging, our job at Parks Canada is to listen and reflect back the passion that Canadians have for this “River of the Long Tides”.

Since 2005, Parks Canada Inuit Knowledge Working Groups have been working with Nunavut National Parks and universities to find ways to ensure that Inuit knowledge becomes integral to our understanding of Arctic ecosystems and management decisions. The knowledge of local Inuit communities is filling important gaps regarding the region’s ecology and helping staff and researchers gain a better understanding of a changing environment.



© Karin Johansson



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Collaboration between the Alliance Éco-Baleine and the Saguenay-St. Lawrence Marine Park resulted in a new guide for whale watching tours. The guide features eco-responsible practices aimed at improving both the protection of marine mammals and the quality of visitor experiences in the park.



## COMMUNITIES CONSERVING CANADA'S CAROLINIAN FOREST

The Carolinian forest exists in only one place in Canada: a narrow band of warm habitat clinging to the shores of Lake Erie and Lake Ontario. Most of this region has been cleared for agriculture and urban development, leaving Point Pelee National Park – a 15-square-kilometer peninsula that juts south into Lake Erie – as Canada's largest protected fragment of Carolinian forest. Compared to the surrounding area, the park teems with wildlife, including over 60 species at risk that are becoming increasingly dependent on it as an isolated refuge of native habitat.

In the past, natural fires created abundant open savannahs within the forest. But fire has been suppressed for over 100 years and the park has lost two-thirds of its open savannahs. Engagement of the local community is playing a key role in the restoration of this rare ecosystem.

Local high school students, First Nations, corporations, and conservation clubs have collected native seeds and planted native grasses and flowers at Point Pelee that feed birds and butterflies. Now, enthused youngsters are looking forward to coming back to the park to see "their" plants. Students have also learned about rare Carolinian plants by growing them in school greenhouses, and art students have sketched some of the species for exhibits in the Visitor Centre. Birdwatchers have seen the benefits of the restoration, with one of them joyfully remarking that for the first time in over 30 years, he has spotted sparrows in Sparrow Field.

Moving out along the Lake Erie coast, Parks Canada is working with the Carolinian Canada Coalition on projects including the Erie Coastal Stewardship Trail, which would connect and present remaining tracts of the Carolinian forest. Species at Risk summer camps have trained 500 youth to be stewards of the region's unique group of species. Landowners all along the lake are now engaged in 50 species at risk habitat projects.

Research helps Carolinian Canada identify groups of individuals and specific messages that will lead to the conservation of the Carolinian forest. Simple messages like "Leave a snake alone," or "Plant a habitat garden," can result in shifts in public support and participation in ecological restoration.

Together, we are making the Carolinian forest thrive again in Canada.



© Parks Canada

In some national parks, populations of species such as moose and deer are in such great abundance that the ecosystems are unable to support them, leading to severe declines in vegetation communities and ecological integrity. To address such situations, Parks Canada is collaborating with Aboriginal communities and other partners to reduce these hyperabundant populations down to suitable levels and restore native species and ecosystems overall.



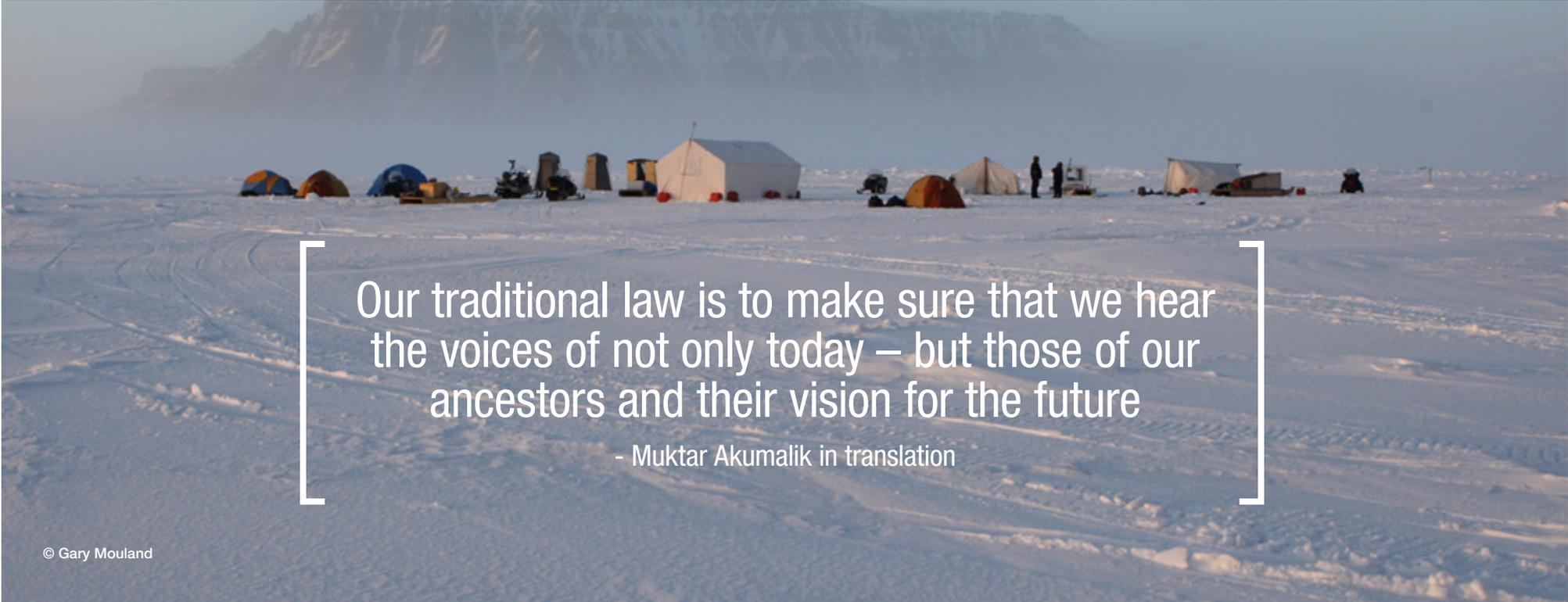
© Parks Canada

As part of a collaborative clam monitoring and management project with the Hul'qumi'num Nations, Parks Canada undertook a traditional ecological knowledge study with Elders and knowledgeable people to gain more information regarding historic clam abundance levels and traditional management techniques. This study has allowed Parks Canada to better understand contemporary shellfish data and to identify potential techniques to improve restoration and management of clam populations in Gulf Islands National Park Reserve.

# FUTURE OF ACTION ON THE GROUND

Over time, change occurs in our lives, in our communities, and in our national parks and national marine conservation areas as well. In the face of change, Parks Canada is working to restore ecosystems so that they are resilient and maintained for future generations.

Ecological restoration is a rapidly evolving discipline. As the need to restore habitats increases, so too does the need to advance the theory and practice of how to properly restore ecosystems. Through Action on the Ground, Parks Canada joins the efforts of thousands of individuals, communities and institutions from all over the globe to implement



Our traditional law is to make sure that we hear  
the voices of not only today – but those of our  
ancestors and their vision for the future

- Muktar Akumalik in translation

restoration efforts that are effective, efficient and engaging, and to further our knowledge of the vital ecosystems that sustain our living planet.

As this publication illustrates, we have had success in our efforts to maintain or improve ecological integrity in our national parks where it is needed most. But the task is ongoing and we are not resting on our laurels. We continue to invest in maintaining or restoring ecological integrity in ecosystems where our approach can realize clear and measurable conservation outcomes. In fact, over the next five years, we are embarking on the largest ecological restoration effort in our history.

The conservation accomplishments that spring from our nation-wide network of 44 national parks and 4 national marine conservation areas encourage us to continue to take action with our partners to face new and emerging challenges. In moving forward, we will continue to learn from our experience, share best practices, engage Canadians in these efforts and inspire a new generation to connect with and take care of our natural world.



© Hans Reisenleiter

Building on existing knowledge, Canadian Pacific and Parks Canada announced in 2010, the development of a five-year joint action plan to address railway-related grizzly bear mortality in national parks. Through this partnership, Canadian Pacific is investing \$ 1 million to launch a research-based program to further explore grizzly behavior and potential mitigating technologies and practices.



© Mark Bradley

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Parks Canada is working on the recovery of southern mountain caribou in national parks by collaborating with the provinces of British Columbia and Alberta, and with the Calgary Zoo on exploring innovative restoration efforts such as captive rearing and reintroduction.