Global Issues, Local Stories, Real Actions

How a Zoo Exhibition Takes on Climate Change

Laura Bassett

As a zookeeper turned exhibit developer, I've experienced the different approaches that zoos and museums take to exhibitions. When I attended my first American Alliance of Museums (AAM) Annual Meeting in 2014, I was especially struck by comments from museum people who had attended the annual conference of the Association of Zoos & Aquariums (AZA). They had been surprised and impressed by how passionately and unflinchingly zoos commit to both advocacy and direct action on conservation issues. This stood in stark contrast to many museums, which tend to strive for balanced or neutral presentations of current issues. For zoos, exhibitions are about far more than connecting visitors with a story: they are about making a real impact on the world beyond their gates.

So how many ways can an exhibition have an impact?

First, an exhibition can impact its visitors, changing their perceptions and intentions to act through interpretive storytelling. Second, an exhibition can have direct impacts on the larger world by providing facilities for new programs and initiatives. Finally, an exhibition can benefit the institution itself through revenue generation, elevated status, and community connections – which then feeds into the ability to impact the future.

When Assiniboine Park Zoo in Winnipeg (capital of the Canadian province of Manitoba) decided to tackle the issues around climate change, they made a commitment to an exhibition that accomplished all of these things. It would require a comprehensive approach that went far beyond anything they had done before. In collaboration with the Province of Manitoba, Parks Canada, University of Manitoba, and the Churchill Northern Studies Centre, they created an exhibition that connects visitors with the impacts of climate change on the people and animals of the Arctic, directly helps wildlife impacted by climate change, and at the same time has increased their financial sustainability and boosted their status within their Winnipeg community and the zoo community.

The exhibition is *Journey to Churchill* (fig. 1). Designed by The Portico Group (now MIG|Portico), it is an immersive experience conveyed through a series of live-animal habitats and multimedia interpretive elements. Within a space of 10 acres, visitors explore the interplay of humans, animals, and climate in several distinct ecosystems that span the 600 miles between Winnipeg and the town of Churchill, the "Polar Bear Capital of the World." It is also, just as importantly, an active research and conservation center, including the Leatherdale International Polar Bear Conservation

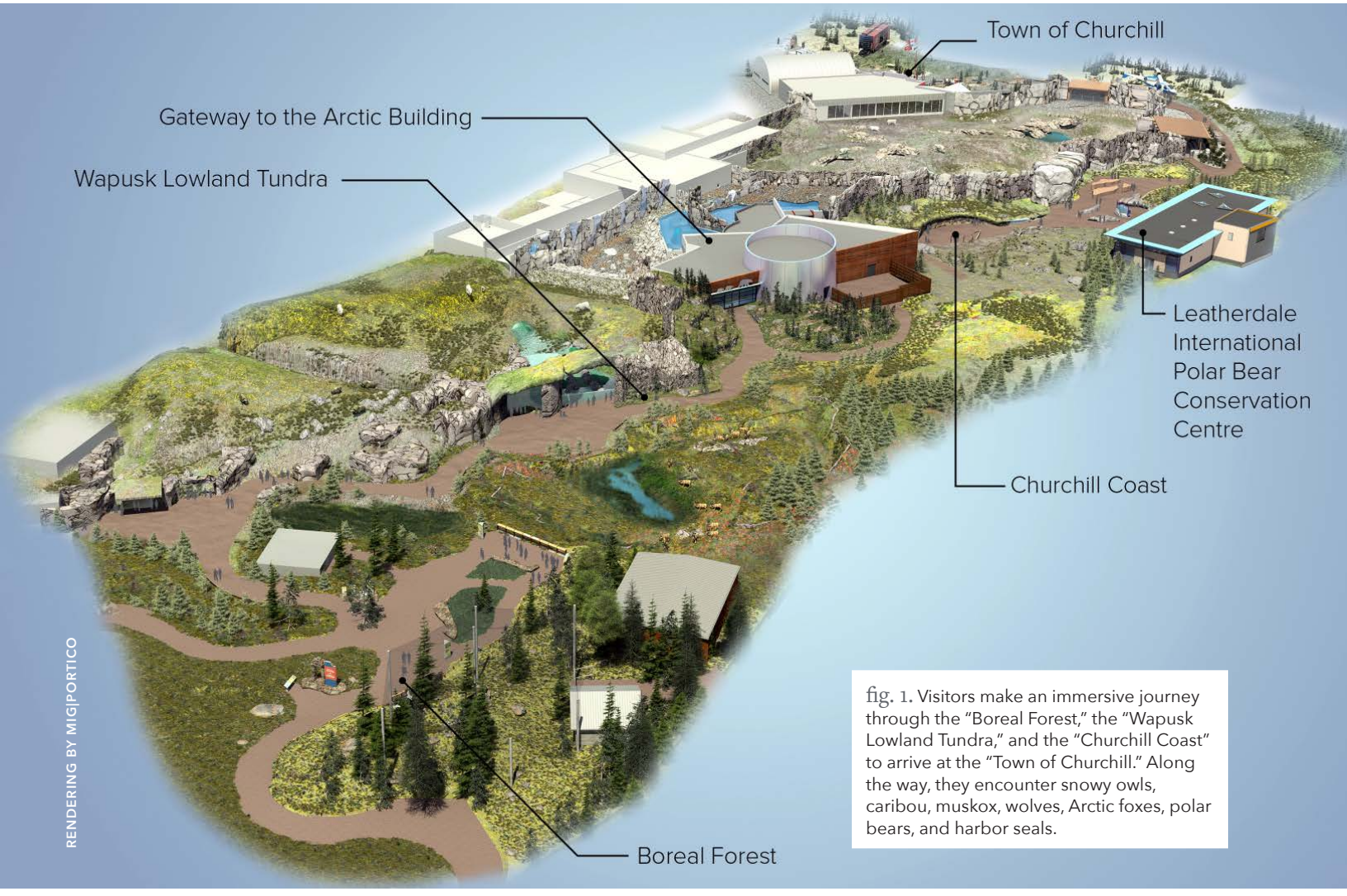

fig. 1. Visitors make an immersive journey through the "Boreal Forest," the "Wapusk Lowland Tundra," and the "Churchill Coast" to arrive at the "Town of Churchill." Along the way, they encounter snowy owls, caribou, muskox, wolves, Arctic foxes, polar bears, and harbor seals.

Centre (LIPBCC), a rescue and transition facility for orphaned wild polar bears. To address the zoo's own needs, fully integrated event rental spaces allow for essential revenue generation and support connections with the local community.

On arrival, an oversized *inuksuk* – a stone marker used by the Inuit people who call this region home – greets visitors at the exhibition entrance. Visitors begin in the subarctic "Boreal Forest" and "Wapusk Lowland Tundra" habitats, where they encounter snowy owls, muskox, caribou, Arctic foxes, wolves, and polar bears. Transitioning to the "Sea Ice Passage" through the "Gateway to the Arctic" building, the focus shifts to the marine environment of polar bears and seals, and the cultural connections between local Indigenous Peoples and the land. Continuing north to the "Churchill Coast," the landscape becomes the rocky, icy beach of the Churchill Wildlife Management Area. Here, the interior exhibits at the LIPBCC showcase current climate change research in the Arctic, while the exterior exhibits recreate the look and feel of the Town of Churchill, where human residents must coexist with increasingly hungry polar bears around their homes.

Journey to Churchill had its roots in the zoo's 2009 master plan. For a project of this scale, the zoo first had to articulate their identity as an institution (an educational, research, and conservation-based zoo with a particular emphasis on Manitoban and cold-hardy

species appropriate to their climate); identify a relevant local need (a home for orphaned or "problem" polar bears); define how their strengths could address that need (a highly-skilled staff of animal care specialists with decades of experience raising and breeding endangered species); and assess what they needed to make the new project sustainable (in-house research capabilities, increased revenue generation, and community buy-in).

The exhibition was implemented in two phases, with the LIPBCC opening in 2012 and the remaining immersive exhibits following in 2014.

Fostering Change in Visitors: Authentic Stories Make Climate Change Personal

Climate change is one of the greatest threats currently facing our planet. It is also one of the most challenging environmental issues to address – it feels abstract, slow, distant, and overwhelmingly big. It is difficult to develop the "right" approach that will dispel the abstractness of human impact on climate and, ultimately, lead to positive action. The *Journey to Churchill* exhibition uses a specific story – the interactions between the environment, animals, and people of the Hudson Bay region – to concretely convey the impacts of climate change and the importance of taking action.

This story of climate change impact plays out vividly in the Hudson Bay region of Manitoba, where over 900 polar bears live. These bears feed primarily on ringed seals, which live in waters far from shore. Each fall, the hungry bears congregate along the shore while they wait for that winter's sea ice to form and allow them access to the bay's seal populations. Because of its location on the bay where it is easy to observe the gathering bears, the town of Churchill has, over the years, become a tourist draw.

By choosing a precise geographic setting at the start, every design element could be infused with a true spirit of place. The design team's commitment to authenticity drove the earliest stages of research and development. They traveled to Churchill and took hundreds of reference photos, recording the nuances of the landscape and architecture in the design (fig. 2).

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fig. 2. Climate change as a human story: the "Town of Churchill" exhibit recreates several elements of the real town, including its signs, architectural style, and natural landscape. Visitors can climb on, through, and around large artifacts, including the researchers' polar bear trap shown here.

ASSINIBOINE PARK ZOO

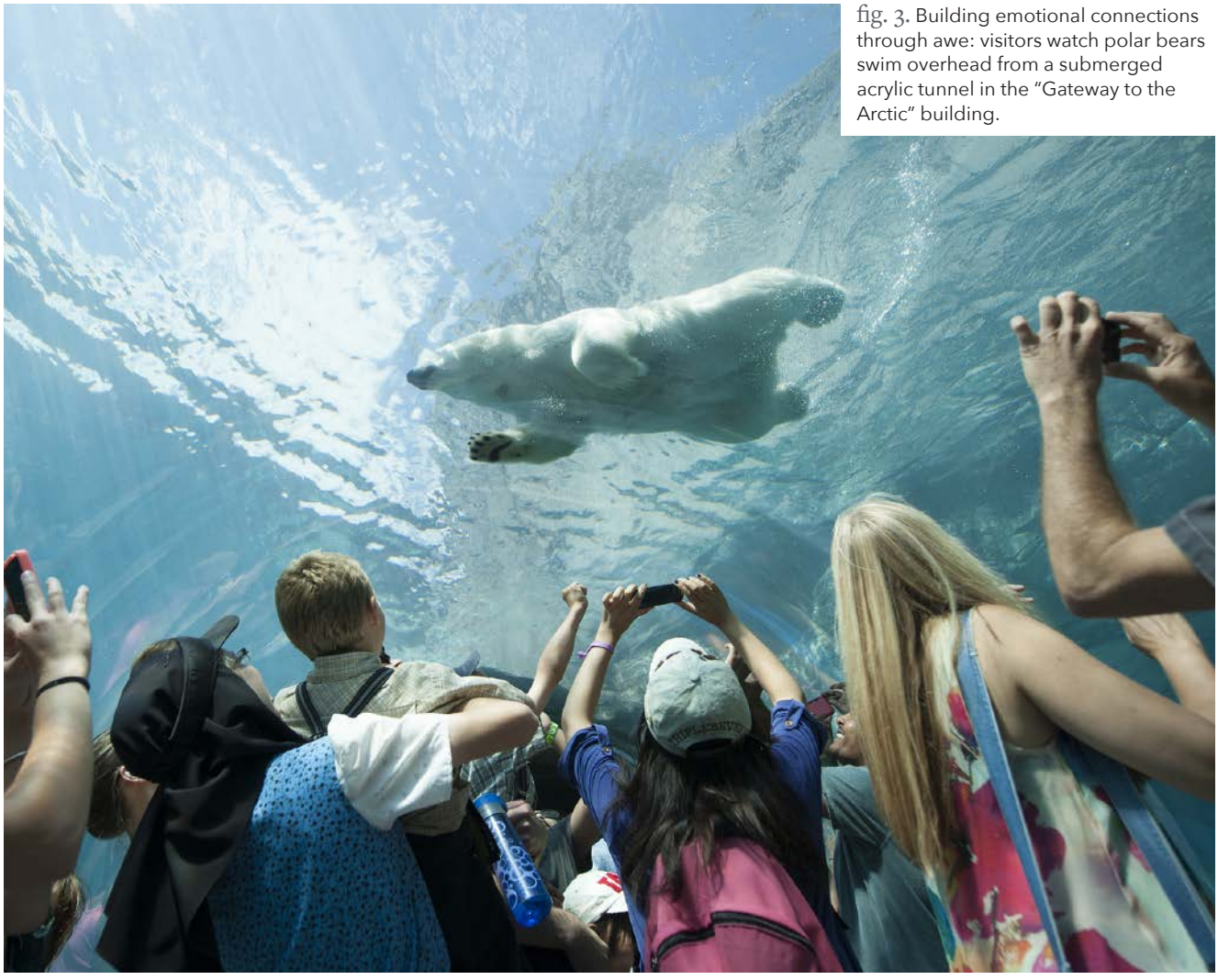

fig. 3. Building emotional connections through awe: visitors watch polar bears swim overhead from a submerged acrylic tunnel in the "Gateway to the Arctic" building.

They also collected hours of interviews with Churchill residents and local Indigenous tribal members, which supported the natural and cultural connections the zoo sought to make with each species on display.

Interpretive elements focus on how Arctic animals are uniquely adapted to the specific climate and extreme conditions of the north, making it difficult for them to survive as the climate changes. Interactive and sculptural elements activate all the senses: visitors hear the clicks that caribou make as they walk, spin through the seasonal activities of a polar bear, and feel the heat-trapping abilities of a tundra flower. Digital games build empathy for the struggles of wildlife by challenging visitors to take on the role of a young polar bear or ringed seal trying to survive, or explore the ways that different Arctic species depend upon the sea ice that is disappearing.

The live-animal habitats evoke strong emotions by presenting the animals from stunning, new perspectives (fig. 3). Polar bears swim overhead, owls fly silently in an expansive aviary, and harbor seals float eye-to-eye with visitors. Zoo staff members frequently observe visitors holding their hands against the exhibit glass to make a physical connection with a polar bear's paw on the other side, or simply whispering an awestruck "wow" as they gaze at the wolves and foxes.

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fig. 4. Making local and cultural connections: Species are labeled in English, French, Latin, and at least one Indigenous language. Custom artwork from multiple Indigenous artists flows across all the exterior interpretive graphics.

The zoo wanted to make it clear that climate change is already impacting people, especially the traditional lifestyles of the Indigenous Peoples of Manitoba. These human stories add another layer of personal immediacy to the threat of climate change, and place humans within the landscape of the Hudson Bay ecosystem (fig. 4).

The 360-degree domed Aurora Borealis Theatre shows the custom short film *Rhythms of the North*.[1] The film transports visitors through a year of seasons in Hudson Bay, as told through the eyes of Indigenous people. It focuses on connections between land, animals, and people, and the importance of respecting those relationships (fig. 5). In collaboration with Indigenous representatives, the zoo has recently added a 90-minute culture tour that enhances the live-animal exhibits with native languages, teachings, and demonstrations.

1 The film was produced by the Large Format Film production unit of Science North, a science education organization based in northern Ontario, especially for *Journey to Churchill*.

In the months immediately after opening, evaluation – using interviews, mind maps, social media analysis, and overheard conversations – revealed that most visitors were able to describe the significance of climate change impacts on sea ice and the ecosystem connections they'd learned during their visit. Many expressed a reinforced sense of responsibility and desire for helping polar bears. However, they were often uncertain of exact actions they could personally take. Also, while visitors understood that Arctic and climate change research was going on, they did not understand that the zoo itself was involved.[2] This most likely resulted from a combination of the density of overall information in the exhibition, and the placement of the four panels describing action steps toward the end of the visitor experience, where visitors' motivation to read often wanes. This important piece was lost in the flood of scientific and natural history information (fig. 6, p.77).

2 Mary Benbow, Christine Van Winkle, and Jill Bueddefeld, *Assessing the Effectiveness of Interpretive Elements in the Journey to Churchill Exhibit: Overall Impact, Knowledge Gains, and Behaviour Changes*, unpublished report for evaluation undertaken by the University of Manitoba, 2015.

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fig. 5. Emphasizing human-animal connections: in the theater "pre-show" queuing area, an artistic exhibit introduces the four Indigenous Peoples of the Hudson Bay region: Dene, Cree, Inuit, and Métis. Through a partnership with the Winnipeg Art Gallery, we have included a rotating gallery of Inuit art.

In response, the zoo implemented an array of targeted live programming to complement the exhibits. Volunteers now use mobile interpretive stations, dispersed throughout the exhibits, to convey climate change actions to visitors. The emphasis on simple actions has been added to keeper talks as well, tying it closely with emotional connections to the live animals. Actual engagement in actions is difficult to measure, but ongoing evaluation suggests a measurable shift in motivations to act.

The zoo also added special events that focus specifically on the zoo's Department of Research and Conservation. Presentations engage visitors with the value of zoo-based research and how it is applied to field research, how field research on wild animals feeds back into benefiting the care of captive animals, and how both support effective action in responding to climate change. Citizen science projects engage the public in monitoring beluga whales in the Churchill River via live cameras, and teach high school students how to use "whisker prints" as polar bear facial recognition to study population dynamics.

All of these interpretive stories and programs are strengthened by drawing on another key aspect of the exhibition – the zoo's own direct actions related to climate change.

Making a Direct Impact: How the Zoo Models Climate Change Action

Canada is home to two thirds of the world's polar bears. The IUCN currently identifies the loss of sea ice due to climate change as the biggest threat to polar bear survival; the bears are only able to hunt seals, their primary food source, from sea ice. Cubs are orphaned or abandoned if their parents have inadequate access to food, which is a certain death sentence.

The zoo is determined to "walk the talk" when it comes to addressing climate change. This manifests in three main ways.

First, the zoo is responding to the current impacts of climate change on local wildlife. What truly sets this exhibition apart is the behind-the-scenes space for six to eight bears at the Leatherdale International Polar Bear Conservation Centre. This facility was specifically constructed to take in wild, orphaned polar bear cubs identified by wildlife officials in northern Manitoba. It offers a second chance for young bears that would not survive on their own. These bears can then be transitioned to *Journey to Churchill*'s public habitats (which have space for nine to twelve bears), or sent to other facilities to be ambassadors for their species, helping to raise awareness in an even larger audience.

The rescue center quickly proved its worth. The first orphaned cub, Aurora, arrived after she was found wandering alone near the Churchill airport. She was soon joined by Storm, a three-year-old bear who had attacked a man in Churchill and been deemed by wildlife officials as too dangerous for release. As of July 2017, eight rescued polar bears are thriving in the LIPBCC and public habitat spaces.

Second, the zoo is supporting field conservation programs by studying the impacts of climate change on wild animal populations. A new Department of Research and Conservation was created to take full advantage of the research spaces in the LIPBCC. In the five years since the facility opened, the zoo has driven multiple research projects, including mapping polar bear denning sites across Canada and investigating the genetics of Arctic seal populations. The labs also provide a workspace for university students to pursue wildlife research. The public exhibits present this research work as a hopeful example of taking direct, effective action.

And finally, the exhibition directly fights climate change by implementing design features that reduce energy needs. The most significant example was the decision to install a geothermal heating and cooling system for four of the buildings in the exhibition. This plays a major part in reducing the carbon footprint of *Journey to Churchill* (and provides significant cost savings).

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fig. 6. Competing for visitor attention: in the Tipping Point Plaza, the dramatic sculpture graphing atmospheric carbon to global temperature conveys scientific information in a big way – but it also overwhelms the adjacent graphic that provides four easy actions visitors can take to help.

All of these exhibition-related efforts represented a major investment for the zoo. In order for it to be truly successful, the exhibition needed to make an even bigger contribution to the zoo itself – so that the institution could be viable in the long term.

The Exhibition's Institutional Benefits: Increasing Revenue and Elevating the Zoo's Status

Journey to Churchill has greatly increased the financial sustainability of the zoo. The exhibition was purposefully designed to accommodate several multi-use spaces, which generate revenue through event rentals. For example, in the "Aurora Borealis Theatre," removable lean-rails help direct visitor flow during regular shows – but are easily replaced by a podium and tables to create a banquet area with seating for 100 guests. The projection dome can be used to create any number of ambient effects, such as the glowing dance of the Northern Lights. The interpretive pre-show area outside the theatre provides an open lobby for gathering and mingling. A rolling shutter opens to reveal a bar conveniently located in the lobby, and food service is easily handled through an adjacent catering kitchen. Revenue from catered events grew 131 percent in the year following the exhibition's opening. Additionally, the expanded visitor experience has increased attendance and memberships, despite significantly raising the entry fees, creating a more sustainable revenue stream.

The exhibition's value goes beyond the financial. In 2014, Assiniboine Park Zoo became only the fourth Canadian zoo to achieve accreditation by the Association of Zoos & Aquariums, which acknowledges the highest standards in animal management, conservation, and education, and opens doors for collaboration with other AZA zoos throughout North America. Eight new conservation partnerships, including with San Diego Zoo Global and the World Wildlife Fund, have resulted directly from the new facilities and opportunities of the *Journey to Churchill* exhibition. The renewed pride the community feels for their home zoo is beyond price.

Make a Commitment to Action

So how many ways can an exhibition have an impact?

Journey to Churchill clearly demonstrates that an exhibition can impact both the global issues we face together and the status and sustainability of our institutions themselves. Any type of institution, zoo or museum, can achieve similar results, if they are willing to take a stand. If we all play to our strengths, tackle the issues most closely tied to our individual missions and specializations, and use all of our storytelling power to connect our actions to our audiences, we have the power to thrive as organizations while improving the world we live in. ▮

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