



**ROBERTA
BONDAR
FOUNDATION**

**Patterns & Parallels:
The Great Imperative to Survive
Travelling Exhibition and Learning Experience
Gallery Package**



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Patterns & Parallels - An Overview

"Climate change. Shrinking habitats. Disappearing biodiversity. Birds are a source of inspiration for people of all ages. The diversity and numbers of birds are declining as our changing planet tests their fragility and resilience. People want to understand more, to reverse this alarming downward trend in avian life. They are concerned. They need stories to bolster their commitment to the critical conservation of birds and their shrinking habitats, and to give hope and inspiration across all generations. Good mental health needs the natural world." - Dr. Roberta Bondar



Patterns & Parallels: The Great Imperative to Survive shares ground-breaking new perspectives on declining bird populations and their life-sustaining habitats with communities across Canada through a travelling exhibition of spectacular photographic images. In this exhibition, Dr. Roberta Bondar, professional nature and landscape photographer, writer, scientist, astronaut and neurologist, introduces us to places and birdlife most of us will never experience. As a NASA Principal Investigator (Avian Migration), she couples her high-resolution aerial and land photography with space imagery to fuse art and science. Art galleries, museums and science centres in communities across Canada, are invited to host this travelling exhibition, which launched at the Art Gallery of Algoma in Sault Ste. Marie, Ontario in July 2023.

Space for Birds



SURFACE

The surface perspective captures morphology and behavioural patterns, such as how the birds feed, family structures, and plumage colouring. This gives us insight into a species' way of life.



AERIAL

The aerial perspective gives us a new understanding of habitat relationships, essential to the survival of these avian species.



SPACE

The space perspective illustrates the great migration scale of these birds, as well as critical habitat areas such as stopover, breeding, and seasonal non-breeding sites.

Patterns & Parallels: The Great Imperative to Survive is a key component of a larger, on-going initiative of the Roberta Bondar Foundation – the Space for Birds Project (acronym, AMASS: Avian Migration Aerial Surface Space). The three perspectives give us vital new insights on at-risk bird populations by visualizing the extensive migratory corridors of several endangered and threatened species of birds.

The important and unique contribution that this research makes to our knowledge of avian indicator species comes at a critical time. A staggering three billion birds have disappeared from Canada and the United States since 1970 because of human actions, such as habitat disturbance, development, technology, plus sudden and extreme climate changes. A rapidly changing climate creates a great deal of uncertainty about the future of bird populations on a global scale. The Space for Birds Project utilizes an integrated approach to research through art, science and education, resulting in an in-depth understanding of the actions required to protect at-risk bird populations and their environments.

The Exhibition

This timely exhibition gives us a unique view of at-risk migratory birds from three perspectives - images from space, aerial views and intimate portraits. The spectacular space images of the migratory corridors of three signature birds - the Whooping Crane, Lesser Flamingo and Piping Plover - plus aerial avian landscape views and surface habitat interactions, reveal the patterns of their life cycles across parallels of latitude. The unexpected patterns of Earth within each of these perspectives evoke curiosity about the world around us, and we find parallels between the health and survival of the natural world, and that of our own.



A Principal Investigator (Avian Migration) with NASA's Earth Observation group, Dr. Bondar submitted coordinates of bird migration corridors that were uploaded to astronauts aboard the International Space Station (ISS) to form the space perspective, and from these and NASA's extensive catalogue of images, she selected the most appropriate and artistic images. She photographed the landscape below with a high-resolution full-frame medium format digital camera from helicopters, without windows and usually without doors. For surface images, Dr. Bondar used the same medium format digital camera plus a full-frame DSLR (digital single lens reflex) and a mirrorless digital camera, all matched with the highest optical quality telephoto lenses.

The Art

The journey of migratory pathways begins with the unique patterns of the surface of Earth as seen from space by the human eye. One recurring feature of the space images is the deliberate incorporation of the Earth's atmospheric limb (edge of Earth's atmosphere) for the high oblique photographs from the ISS. This was Dr. Bondar's specific request to NASA, to remind all of us that Earth is a planet with finite resources and an edge that is open to the black universe beyond.

From the Lesser Flamingo of the East African Rift Valley in the Eastern Hemisphere to the Whooping Crane and Piping Plover of North America in the Western Hemisphere, the colour, size and habitat of each bird change the aesthetic experience. The subject within the frame represents life that cycles according to a mysterious and ancient rhythm that now also faces our changing climate, habitat loss and other human inspired impacts. Dr. Bondar created multi-image panels to move from the traditional portrait/landscape single, framed image to match the oblique and multi-dimensional view of the world that one senses in space. There are panoramas stacked in twos and threes, and very large, medium and smaller sizes that reflect consideration of some aspect of life of the natural world that parallels a human inspired one. Text panels introduce each of the three selected avian species and their habitats, while gallery labels, extended labels, locator globes and a loop video of the fieldwork expand the reach of inquisitive minds. QR codes linked to animations, videos, information, and other links enhance the exhibition with interactive participation.

Space for Birds

Patterns and Parallels of Beauty and Flight

Space for Birds, a new book by Dr. Roberta Bondar, is complementary to the exhibition and provides a comprehensive view of the extensive field work and research conducted through the Space for Birds Project. The book takes the reader on a visual journey of the scope and scale of avian migration and requisite habitats, uniquely presented from the outer space, aerial and surface perspectives. Space for Birds presents the far and the near view, the abstract and the detailed. The book provides unique insights into at-risk migratory bird species, represented by the endangered Whooping Crane of the Western Hemisphere and the near threatened Lesser Flamingo, of the Eastern Hemisphere, through approximately 180 high resolution images and 30,000 words.

Artist's Statement



During my spaceflight, I experienced the reality of Earth as a planet, solitary and vibrant blue against the surrounding black universe. This reset my sensitivity to seeing and understanding life in its many forms and interconnections. The different patterns that are visible from above characterize planet Earth, but its status as a living planet depends upon the biodiversity that is hidden from the space view.

Through the lens of the powerful medium of photography, I can connect with Earth's natural life in its unique environments. How to engage others who are at a distance from me in both space and time, will always challenge my creativity to render artistically, the world that is our natural environment and heritage.

High resolution cameras with very high-quality lenses allow me to produce oversize images that reflect the grand scale of our planet. I prefer to capture the essence of complex ecosystems, with few colours and distracting details. Connections to the natural world, these images will exist and have meaning beyond my personal moment in time.

Roberta L Bondar

C.C. O.Ont. MD PhD FRCP FRSC FRCGS

Exhibition and Learning Experience Components

Photographs

The exhibition consists of 53 individual panels of dramatic colour, ChromaLuxe sublimation aluminum metal, semi-gloss prints (20 to 60 inches wide) of Dr. Bondar's aerial and surface images, plus selected NASA space images. An alternative option of a curated exhibition of selected images is available for smaller gallery spaces. Contact us to discuss curation options.

As each image is edge to edge without mat or frame to enclose the image, it is like an infinity pool that spills into the environment beyond, allowing the image to immerse the viewer in the moment, for personal reflection and interpretation. The prints have a recessed rear metal mounting back to give the print a floating-off-the-wall feel that mimics flight of both bird and astronaut.



Jasmina Jovanovic (Executive Director/Chief Curator of the Art Gallery of Algoma) and Dr. Bondar deliver opening remarks to guests at opening event. Credit: Alex Flood, Soo Today.



Students enjoying the video at the Patterns & Parallels exhibition, Art Gallery of Algoma

Video Installation

The video accompanying the exhibition allow us to see and experience bird behaviours first-hand, from chick to adult along their migration routes. The backstory video of a Canadian icon at work in the field inspires us, as we understand the importance of examining and minimizing our impact on planet Earth.



Guests enjoying images of Piping Plovers. Credit: Alex Flood, Soo Today.

Ancillary Interactives

QR Codes displayed throughout the exhibition will lead to:

- augmented online learning opportunities on custom individual pages on the RBF website that provide a knowledge base about birds and bird migration, including information on shelter/protection for nesting, and avoiding inclement weather during a seasonal cycle
- accessible resources, with links to research, NGO's, government agencies
- an additive experience through Dr. Bondar's video recordings for selected panels.
- videos that will draw the viewer closer to the action in the field
- videos with story maps that help us understand the entire migratory pathway, within a historical and contemporary context



Signature wall of the exhibition and gallery guests. Credit: Alex Flood, Soo Today.

Logistics and Fees

There is a fee for hosting Patterns and Parallels, plus transportation and insurance costs. Please contact the RBF for specific details on hosting fees. Currently for transport, each metal panel has a label on the back and on the outside of the packaging. The individual frames will be wrapped in protective material and assembled in professional packaging on skids for shipment. We can provide suggestions re hardware for installation on gallery walls. Specific Responsibilities of the Host Institution are outlined on page 11.



Dr. Bondar introduces Patterns & Parallels at the Art Gallery of Algoma.

For curation and display, there are 53 metal image panels. There are 40 wall labels printed on Sintra (some of the 53 panels are part of groupings, with one label per grouping) that are sized and in Arial font, nine with QR codes and nine of the ISS images with “Locator Globes” that show the footprint of the space image on a schematic globe of Earth. There are also six text panels printed on Sintra (an additional six text panels are available in French).

The images run an estimated total of 1668 inches = 139 linear feet. The RBF will provide for display with the collection, digital copies of: the title heading (Patterns & Parallels) and subheading (The Great Imperative to Survive, by Roberta Bondar); presented by the Roberta Bondar Foundation; 40 individual image labels (in French and English); six text panels (in French and English); About the Exhibition, About the Foundation (with logo), The Artist (with colour photograph); three didactic panels for each species (Whooping Crane, Lesser Flamingo, Piping Plover).

A booking period of 8 - 12 weeks is required. Please contact the RBF for available booking dates.

Shared Costs and Responsibilities

The Host Institution Responsibilities:

- pays Exhibition Fee
- prorated shipping is applicable
- unpacking and installation
- shared responsibility for ensuring the installation reflects the curated visual story of migration (curated proposal provided by the Foundation for the space after the host provides layout and measurements)
- opening reception costs and support (e.g. development of invitation and marketing/promotion, snacks/beverages) – often hosting venue seeks a sponsor
- transportation and hotel required for the artist to attend and speak at the official opening
- insurance coverage while on location and in transit point to point
- supplies LCD monitor & computer for video loop (configured for MacOS)
- liaison with media (media package supplied by the Foundation)

The Roberta Bondar Foundation Responsibilities:

- packing materials to contain and secure pieces for shipping
- graphics and content for labels and panels
- where applicable, artist's honorarium for time to speak at distinct ancillary event scheduled separately from opening (e.g. in community; school; sponsor)
- a foundation representative will be present if installation assistance is desired
- artist will take media interviews in concert with hosting venue promotional activity if desired
- exhibition curation prior to installation
- printed image condition index binder (accompanies Exhibition pieces)
- video loop for use on LCD screen when collection opens to public
- negotiable: use of Bondar Challenge program materials for educational outreach program with schools/students partnering with host venue while Exhibition is on display
- Order forms for Space for Birds publication for host institution gift shop sales

Join us in bringing Patterns & Parallels to communities across Canada



The Honourable Patricia Bovey, above, with signature image from Patterns and Parallels (left) by Dr. Bondar, on display in the Senate in Ottawa, Canada

"In April 2022, I had the pleasure of installing in the foyer of the Senate chamber in Canada, *Endangered Shadows*, a signature piece from *Patterns & Parallels*, by Dr. Roberta Bondar, an internationally acclaimed/renowned Canadian artist who deals with environmental, climate change and preservation issues in her art. This important exhibition, with its rich textures of high-resolution photography, sheds light on the health of our planet and environmental consequences. It highlights the effects of climate change on landscapes and endangered species and plays an important role in sparking discussion and learning about issues of national importance. These pieces reflect the debates that are going on across Canada and around the world with regard to our environment, the protection of the planet and the issues of climate change. These photographs present visual realities and call us all to action to preserve our planet to sustain life. I encourage you to share *Patterns & Parallels* with your community."

The Honourable Patricia Bovey, Canadian Art Historian
LL.D FRSA FCMA, Independent Senator for Manitoba, Director Emeritus, Winnipeg Art Gallery



Message from the Board Chair of the Roberta Bondar Foundation

We are delighted to present this new travelling exhibition, *Patterns & Parallels: The Great Imperative to Survive*, featuring photography by internationally acclaimed professional photographer and environment interpreter, Dr. Roberta Bondar. This is a timely and contemporary exhibition, highlighting the expansive distances travelled and habitats required by endangered and threatened migratory birds that cross international boundaries, that are also facing the challenges of climate change.

Research confirms the valuable role the arts play in our mental health by helping alleviate anxiety and stress, giving us a boost, and making us feel more engaged and resilient. This exhibition inspires us as we make a connection to our natural world. We seek your support in motivating all of us to protect our at-risk avian populations and their life-sustaining habitats – something more vital now than ever before in recorded human history.

We are very excited that this travelling exhibition is now at the Niagara Parks Butterfly Conservatory in Niagara Falls following its successful launch last year in Sault Ste. Marie at the Art Gallery of Algoma and stays at Science North in Sudbury and the Lakeshore Grounds Interpretive Centre at Humber College in Toronto. With your help, it will travel to additional galleries, science centres and museums across Canada and internationally. We would be honoured to partner with your organization to present this extraordinary exhibition.

A handwritten signature in black ink that reads "Bonnie M. Patterson". The signature is written in a cursive, flowing style.

Bonnie M. Patterson
C.M. O.Ont. MLS LL.D ICD.D CPC

About The Roberta Bondar Foundation

In 2009, Dr. Roberta Bondar co-founded the Roberta Bondar Foundation (RBF), a charitable organization that takes an inspiring approach to understanding our growing environmental challenges. The RBF fuses environmental science and visual art through photography of the natural world to stimulate curiosity and creativity, and to promote responsibility, protection and conservation of our intricate, life-sustaining ecosystems while building healthier lives.

A fundamental belief that underpins the work of the Foundation is: the more we learn about our environment, and the better we become at asking important questions, the better equipped we will be both to respond to change, and to influence positive change.

Through its four interrelated program pillars, the RBF engages people of all ages in Earth's natural world and inspires action to protect our planet.

Taking Care of Earth. Taking Care of Us.



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