VOLUME 246 JULY 2024 NUMBER 01

NATIONAL GEOGRAPHIC

FROM CONSERVATION TO CULTURE, HOW THOSE WHO CAME FIRST ARE CHARTING A NEW TOMORROW

INDIGENOUS FUTURES

SPECIAL ISSUE

TRAVEL PLANNING MADE EASY

AVAILABLE WHEREVER BOOKS ARE SOLD

NatGeoBooks

NATIONAL GEOGRAPHIC

FROM *the* EDITOR

NATHAN LUMP

ONE OF THE things I love most about working at *National Geographic* is the continual learning. We spend our days looking into what is fueling new thinking in a wide variety of fields. It's our hope that by staying on the leading edge, we in turn will provide you with stories that provoke thought and advance your own knowledge.

Globally, Indigenous communities have always produced forward-looking models of innovation and sustainability, though these have often been overlooked. I became more acutely aware of this soon after I joined *National Geographic* in 2022. We already had plans to publish a story, funded by the National Geographic Society and the Climate Pledge, from photographer Kiliii Yüyan, about the promising ways Indigenous peoples are leading conservation initiatives. But the more I immersed myself, the more I came to understand what Indigenous communities know: Their creative thinking extends well beyond conservation, into everything from language to film to fashion and art. And the idea for this special issue was born.

You'll find three main types of features here: Five Stewardship stories, anchored by Yüyan's photographs, showcase different ways Indigenous communities are protecting and preserving their environment and traditions. Culture pieces bring to life how they are driving progress, by leveraging intergenerational teachings as well as new technology and tools. And Voices stories put Indigenous creators and leaders front and center, examining how they and others are advancing our thinking.

A note about the term Indigenous. In the issue we're using the simplest and broadest definition: related to the original inhabitants of a certain geographic location.

There are many things I'm proud of in this issue, but first among them is that nearly all the content was produced by Indigenous contributors, many of them working with us for the first time. We, like many publications, have an imperfect record of covering Indigenous cultures, and generally have done so from an outsider's view. Bringing more Indigenous perspectives into *National Geographic* provides a new level of richness to the work, which we believe meaningfully deepens our collective knowledge and understanding.

I hope you enjoy the issue.

CONTENTS

ON THE COVER "Future Ancestral Technologies: New Myth," 2021. Learn more on page 6.
Art by CANNUPA HANSKA LUGER *Photographed by* GABRIEL FERMIN

SLINGSHOT CHALLENGE

MEET THE TOP HONORS AWARD RECIPIENTS

2024 SLINGSHOT CHALLENGE

Thank you to the nearly 3,600 young changemakers from 87 countries around the world who submitted creative ideas to the National Geographic Society that address important issues in their communities and congratulations to the award recipients.

The **Slingshot Challenge** is a global program for youth ages 13-18 that identifies and supports future problem-solvers, advocates and stewards for the planet. Youth were invited to create a one-minute video outlining an innovative solution to improving our environment.

Philippines, U.S., Hong Kong

NOGA GERCSAK, GABRIELLE GERVACIO, SHRADHA BISTA, RIYA ZINGADE, ISHIKA MEEL, PRITHIKA VENKATESH

Mazah: Food Waste Fighting App | Addressing climate change by developing an app that helps minimize food waste.

México

ULISES YAEL TEXTA PONCE, WILIAM ARTEMIO TEXTA PONCE, DIANA PAOLA PONCE NAVA, PERLA KARINA PONCE GÓMEZ, SASHA ENRIQUEZ

Semilla De Esperanza (Seed Of Hope) | Protecting the endangered green macaw through monitoring, reforestation, and community education.

México

EVELYN PINOT

Urban Pollinators | Protecting urban pollinators by cataloging and restoring native flowering plant species.

Portugal

MARTA BERNARDINO

Trovador: Tree Planting Robot | Protecting nature by improving reforestation efforts in Portugal's mountainous areas.

Nigeria

CHIDIEBERE ANIGBOGU

TerraBox | Addressing climate change through community education and STEM kits that empower children to explore clean energy solutions.

Learn More About The Award Recipients

SlingshotChallenge.org

Supported by the National Geographic Society and the Paul G. Allen Family Foundation.

NATIONAL GEOGRAPHIC


indepe
Bupa


Curtis McGrath, Para Canoeist
ndence
Health is not one-dimensional. It means something different to each of us.
Bupa has launched Picture of Health to celebrate stories of health from around the world.
Show us what health means to you by sharing your Picture of Health at BupaPictureOfHealth.com
What does health mean to you?
#BupaPictureOfHealth

IN THEIR VIEW

THESE NORTH AMERICAN INDIGENOUS ARTISTS ARE ENVISIONING THE FUTURE

Words by Kate Nelson

"Future Ancestral Technologies: New Myth," 2021

Based in Glorieta, New Mexico, Luger places an optimistic emphasis on Native peoples' proven ability to adapt to a changing world. He delves into speculative fiction to present a future "where we're in right relationship with our environment and our kin." The work shown here (and on the cover) is part of a series that uses installation, video, and performance art to tell an ongoing narrative about combating societal ills. Among these, according to Luger, are capitalism and colonialism, which manifest as corporeal monsters. Set in an undetermined time, the video shows heroic "monster slayers" bringing water to a barren landscape. The desert reciprocates, providing tools for confronting the evil forces.

CANNUPA HANSKA LUGER

MANDAN, HIDATSA, ARIKARA, LAKOTA

PHOTO: GABRIEL FERMIN FOR CANNUPA HANSKA LUGER

STAR WALLOWINGBULL

OJIBWE, ARAPAHO

Drawing inspiration for this painting from the dynamic movements and gestures of powwow dancers in colorful regalia—as well as the Teton mountains' Teewinot peak and even Scandinavian floral elements—WallowingBull blends cultural symbolism and futurism. In this way, the Fargo, North Dakota, resident reminds viewers that "the traditional and the technological belong together."

"Teewinot," 2021, acrylic on canvas

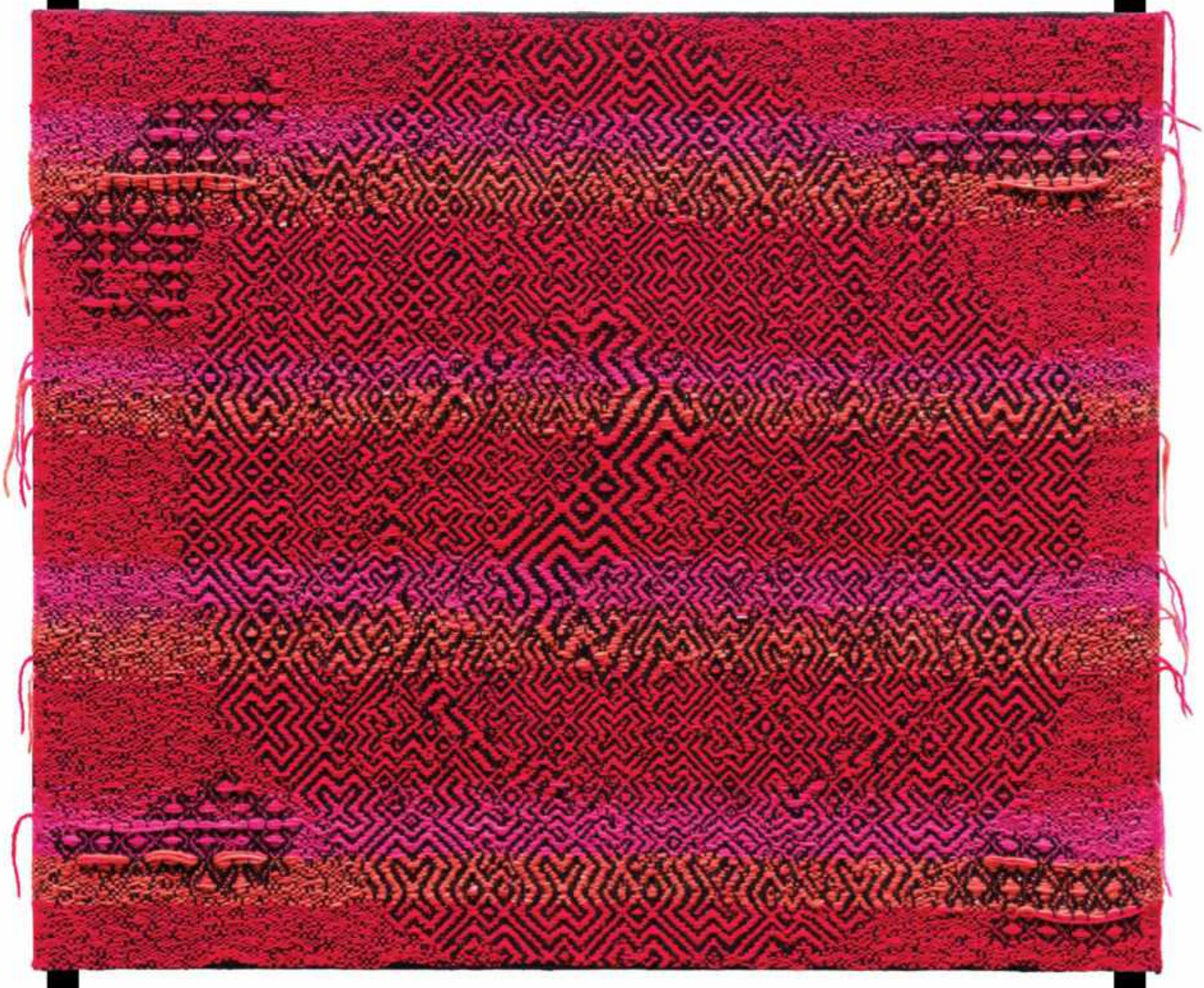
PHOTO: RIK SFERRA, BOCKLEY GALLERY

JULY

"Echoes From a Near Future," 2022, large-scale photograph

Monnet—who created both the featured garments and the image shown here—uses fashion photography tropes to upend stereotypical depictions of passive Indigenous women viewed through a colonial gaze. Instead, the Montréal-based artist showcases the elegance, resilience, and eccentricities of multiple generations of women who "demand to be seen and heard." She adds: "The women around me are not victims. They are very much part of society and are building the world for tomorrow."

CAROLINE MONNET
ANISHINAABE AND FRENCH



"Spiral Arm Red," 2023, hand-dyed cochineal wool and cotton yarn

A fourth-generation weaver and a computational craft professor at the University of California, Santa Barbara, Rosalena juxtaposes traditional handicraft and emerging technology. Embracing a "man-machine collaboration," she uses a custom Jacquard loom to transform her designs—often based on images found in nature or the cosmos, like this one of the Milky Way as captured by the Hubble telescope—from pixels into threads that she then handweaves. In doing so, she's "orienting the viewer into thinking beyond boundaries and gesturing them toward the infinite."

SARAH ROSALENA
WIXÁRIKA

PHOTO: RUBEN DIAZ

Parental Control Advised

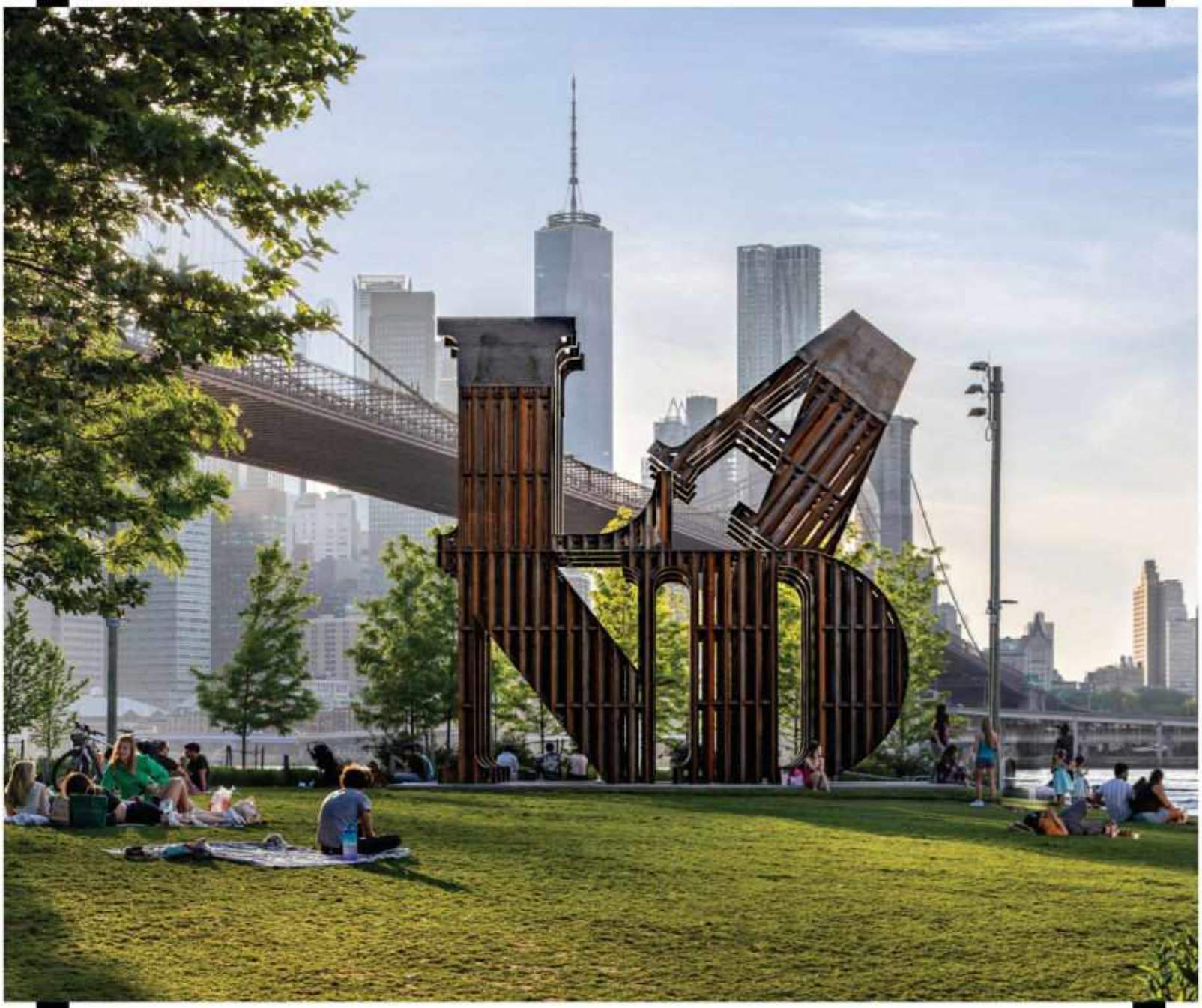
FX

THE BEAR

Disney+

ALL EPISODES

Now streaming



"In every language there is Land /
En cada lengua hay una Tierra," 2023, steel sculpture

Made with metal diverted from construction of the U.S.-Mexico border wall, this installation "protests barriers obstructing the movement of all life connected to and dependent on land," says Galanin, who lives in Sitka, Alaska. It first stood in New York City's Brooklyn Bridge Park and is set to move elsewhere. Depending on the angle of approach, the structure is either passable or impassable—an embodiment of "the experience of rights and privileges that are unseen to those afforded them and consistently visible to those excluded."

NICHOLAS GALANIN
TLINGIT, UNANGAX^

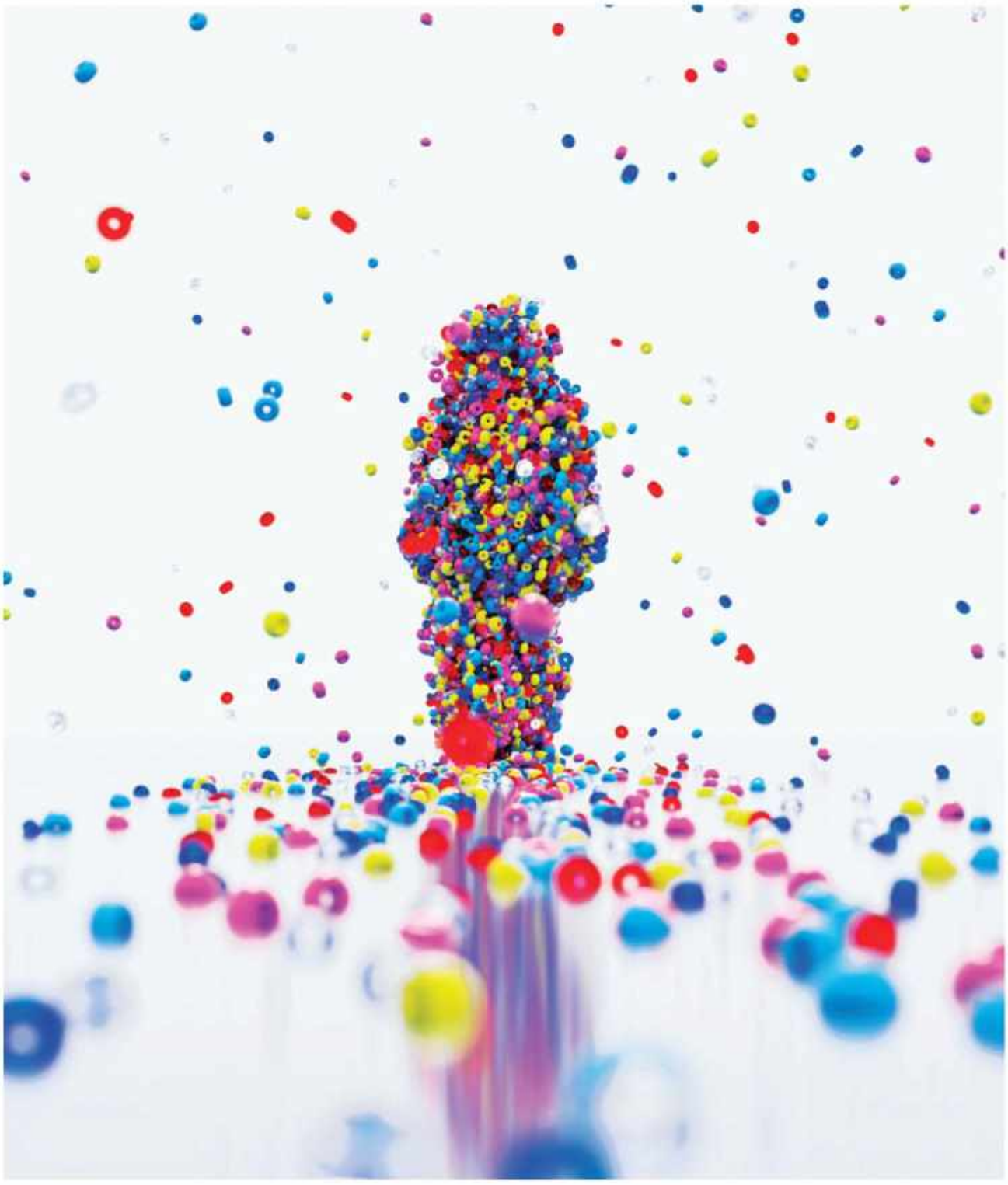
PHOTO: NICHOLAS KNIGHT, PUBLIC ART FUND, NY

CASEY KOYCZAN

DENE

For this series, Koyczan—based in Winnipeg, Canada—reimagined Indigenous cultural materials such as beads, porcupine quills, dentalium shells, and even antlers into mesmerizing humanlike figures walking in a circle. With his surreal artwork, he urges audiences to contemplate "who we are, where we come from, and where we are going."

"Tadǫetła / Walk in a Circle: BEADWORK v2," 2023, digital animation (still frame)



2024

Surveillance Safari: Crowdsourcing an anti-poaching movement in South Africa

By Johnny Langenheim

Above: The Black Mambas anti-poaching unit patrols the fence line of the Olifants West Nature Reserve, Greater Kruger, Limpopo Province looking for signs of incursion. **Below:** A ranger from anti-poaching unit The Black Mambas records a giraffe on the move in Olifants West Nature Reserve, Greater Kruger, Limpopo Province in South Africa. *Credit: Samsung*

A South African all-female anti-poaching unit uses mobile tech to enlist volunteers from around the world.

For upwards of three million years, we humans and our antecedents have used tools to interface with the natural world around us. The earliest stone tools were discovered in Africa–a continent some of the world's most iconic wild animal species call home. So it's relevant and appropriate that electronics company Samsung is working alongside conservationists in South Africa, using technological tools to protect these animals.

When South Africa entered the first phase of COVID-19 lockdowns in 2020, around a million yearly visitors vanished. “Many local people who worked in ecotourism lost their jobs, so there was a much higher risk of informal poaching,” says conservationist and digital marketing expert Peter Stewart.

This was especially true of the iconic rhinos that are a particular target for poaching gangs in Kruger National Park.

Stewart is a partner at Africam, a wildlife media company that uses live HD streaming cameras to support conservation education around the world. He and his team were approached by Samsung with a possible means of compensating for the crash in visitor numbers and the commensurate dangers this posed to wildlife in the park: If people couldn’t come to Kruger, what if Samsung and Africam could bring the park to them?

By combining Africam’s live streaming infrastructure with the latest Samsung Galaxy devices, the partners could build a global community of virtual rangers who could, in theory, monitor wildlife around the clock. The result was Wildlife Watch, which enlisted the all-female Black Mambas Anti-Poaching Unit of 36 rangers.

Mobile and AI-enabled technologies are becoming more crucial to conservation as they provide vital tools on the ground for ranger units like the Black Mambas.

The Mambas were provided with Samsung smartphones to help them monitor wildlife, communicate with one another, and document their day-to-day work. Real-time tracking meant they didn’t have to rely on radios, and fellow rangers could respond more swiftly to the presence of poachers. Wildlife Watch recorded more than seven million social engagements over a four-month period, and the Black Mambas were a hit with global audiences.

Following the success of the Wildlife Watch pilot, Samsung, Africam, and the Black Mambas expanded the program in 2023. Along with the enhanced capabilities of the latest Galaxy S23 Ultra handsets, the Galaxy SmartTag2 let the Mambas orient themselves and provide location markers for things like camera traps, signs of infraction, or evidence of animal behaviors in the Balule Nature Reserve, part of the Greater Kruger Area.

Mobile and AI-enabled technologies are becoming more crucial to conservation as they provide vital tools on the ground for ranger units like the Black Mambas. But they also amplify local issues and perspectives, giving global audiences the opportunity not only to learn about these unique ecosystems, but to play an active part in conserving them, too.

Above: The Olifants West Nature Reserve, Greater Kruger, Limpopo Province is home to many iconic African mammals, including the Big Five – elephants, lions, buffalo, rhino and leopards. **Below:** Three Black Mambas rangers remove wire snares from the Olifants West Nature Reserve, Greater Kruger, Limpopo Province. Poachers often lay snares for bushmeat like springbok, but species like rhino can easily fall foul of the snares. *Credit: Samsung*

NATIONAL GEOGRAPHIC EXPLORERS

These contributors have received funding from the National Geographic Society, which is committed to illuminating and protecting the wonder of our world.

KILIII YÜYAN
PP. 22, 42, 66, 120, 130

Based in Seattle and of Hèzhé (Nanai) and Chinese descent, Yüyan is a photographer who focuses on Indigenous land stewardship, which he documents in this issue. An Explorer since 2021, he chronicled Indigenous sovereignty for a 2022 cover story.

VICTOR ZEA DÍAZ
P. 46

A resident of Cusco, Peru, he reconnects with his Quechuan roots through photography and hip-hop. His projects, such as this month's story on the Quechua rap scene, show the complexities that define identity. He's been an Explorer since 2019.

YAGAZIE EMEZI
P. 96

Emezi, of Igbo and Tamil heritage, is based in Lagos, Nigeria, and has contributed photography to *National Geographic* and the *New York Times*. For this issue, the Explorer since 2019 focused on Nigerian creatives rejecting colonial gender norms.

KEOLU FOX
P. 116

A UC San Diego professor and co-founder of the Native BioData Consortium, Fox is the first Kānaka Maoli (Native Hawaiian) to receive a doctorate in genome sciences. An Explorer since 2017, he wrote about Indigenous futurism for this issue.

PHOTOS (CLOCKWISE FROM TOP): KILIII YÜYAN; REBECCA HALE; YAGAZIE EMEZI; MUSUK NOLTE

AKWAEKE EMEZI
P. 96

Born in Nigeria and based in New York, Emezi is an Igbo artist and author of many books, including the *New York Times* bestseller *The Death of Vivek Oji*. Emezi's art considers ritual and Indigenous realities, as explored in their interview with designer Adeju Thompson.

NOAH LEE
TYPE DESIGN

Raised in Window Rock, Arizona, in the heart of the Navajo Nation, and now living in Portland, Oregon, Lee specializes in branding for Indigenous-owned businesses. He has created typefaces inspired by his Diné (Navajo) background, one of which is used in this issue.

HUGO LUCITANTE P. 120

Lucitante is Cofán from Ecuador's Sucumbíos Province and a doctoral student in cultural anthropology. A co-executive director of the Institute for Conservation and Environmental Training, he reflected on the Cofán people's stand against extractive industries.

KATE NELSON
PP. 6, 62

Based in Minneapolis and a member of the Tlingit tribe, Nelson is a 2024 40 Under 40 honoree of the National Center for American Indian Enterprise Development. This month, she profiled notable Indigenous artists and a James Beard Award–winning chef and restaurateur.

TIM LANDES
P. 136

Landes lives in Tulsa, Oklahoma, and is a citizen of the Cherokee Nation. A writer and photographer whose work has been featured on *60 Minutes* and in the *Cherokee Phoenix,* he covers Native arts and culture. For this issue, he wrote about Oklahoma's filmmaking boom.

GLEB RAYGORODETSKY
PP. 22, 66

An ecologist and author of *The Archipelago of Hope,* Raygorodetsky covered conservation efforts in Greenland and Palau this month. An ally of Indigenous peoples, he lives in Amiskwacîwâskahikan (Edmonton, Alberta) on Treaty 6 territory.

SIOBHAN SINGLETON
P. 42

Singleton is an Irukandji storyteller based in Australia. Specializing in cultural land management and Indigenous ethnobotany, she's involved in educational outreach on fire and plant knowledge, a topic she wrote about for this issue.

RENZO ARONI SULCA
P. 46

A Quechuan musician and scholar based in Lima, Peru, he is currently finishing a book manuscript on Indigenous resistance to the Shining Path insurgency. His article this month highlights the revitalization of the Quechua language through music.

AROHA AWARAU
P. 88

Based in Aotearoa (New Zealand), Awarau is a Māori (Ngāti Maru, Ngāti Porou), Niuean, and Samoan playwright, screenwriter, and journalist. For this issue, he reported on Māori language advocates' global impact on Indigenous communities.

KAI'ILI KAULUKUKUI P. 92

Kaulukukui is a Kānaka Maoli artist based in Hawai'i. A regular collaborator with the international mural festival Sea Walls: Artists for Oceans, he created an illustration for this month that looks at the historical and future applications of *ahupua'a* land divisions.

PHOTOS (CLOCKWISE FROM TOP LEFT): DAVID UZOCHUKWU; RYAN REDCORN; CORY MARTIN

NATIONAL GEOGRAPHIC

THEIR FUTURE CAN BE YOUR LEGACY

For many of us, creating or updating our will is one of those tasks that always seems to fall to the bottom of the pile. In fact, the average person takes more time to plan their vacation than to plan for their future. You owe it to yourself and your family to be prepared. When you leave a gift to the National Geographic Society in your will or trust, or by beneficiary designation, you can protect critical animal species for generations to come.

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PHOTOGRAPH BY FRANS LANTING

CONTRIBUTORS

RYAN REDCORN
P. 38
An Osage filmmaker, photographer, and screenwriter based in Oklahoma, RedCorn co-founded Indigenous comedy troupe the 1491s and was a writer, actor, and photographer on FX's *Reservation Dogs*. This issue features his portrait of U.S. Secretary of the Interior Deb Haaland.

ERJEN KHAMAGANOVA
P. 130
The Buryat Mongol elder based in Mongolia is a founding member of the World Union of Indigenous Spiritual Practitioners. In her essay and her work, she focuses on the connection between Indigenous spiritual practices and environmental stewardship.

KARI ROWE
P. 62
Rowe, who is Oglala Lakota, Turtle Mountain Ojibwe, and Irish European, has over 20 years of experience in commercial and editorial photography and design. Based in Portland, Oregon, she amplifies Indigenous stories and businesses, such as the work of chef Sherry Pocknett.

TANIA NIWA
P. 88
Of Māori (Te Atiawa, Taranaki, Ngāruahinerangi) and Scottish heritage, Niwa is based in her New Zealand tribal homeland province of Taranaki. For this issue, the photographer spotlighted the successful movement to maintain the Māori language.

THE BOARD

For this special issue, the *National Geographic* staff convened a board of four Indigenous journalists and creators to assess the editorial direction and practices that shaped our coverage. The board attended meetings with story leads and reviewed limited assets, but did not assign or edit content. For transparency and accountability, the board has produced a report examining the publication's work and editorial processes. The report can be viewed at *natgeo.com/julyreport*. *National Geographic* thanks the board members for their time, insight, and work.

TRISTAN AHTONE
Ahtone is a member of the Kiowa Tribe and editor at large at Grist. He previously served as editor in chief at the *Texas Observer* and was the first Indigenous affairs editor at *High Country News*.

KATHLEEN SLEBODA
Sleboda is a nɬeʔképmx woman of mixed heritage and a member of the c'eletkwmx (Coldwater) band of Merritt, British Columbia. She is a partner in the image-making studio Gluekit.

MATIKA WILBUR
Wilbur is a social documentarian who belongs to the Swinomish and Tulalip peoples. She is the author of the *New York Times* bestseller *Project 562: Changing the Way We See Native America*.

JOSUÉ RIVAS
Rivas is Mexica and Otomi. He's an Indigenous futurist, creative director, visual storyteller, and entrepreneur working at the intersection of art, technology, journalism, and decolonization.

PHOTOS (CLOCKWISE FROM TOP LEFT): DEJA JONES; ALEXANDR KHAMAGANOV; DOMINIKA ZIELINSKA; KARI ROWE

STEWARDSHIP

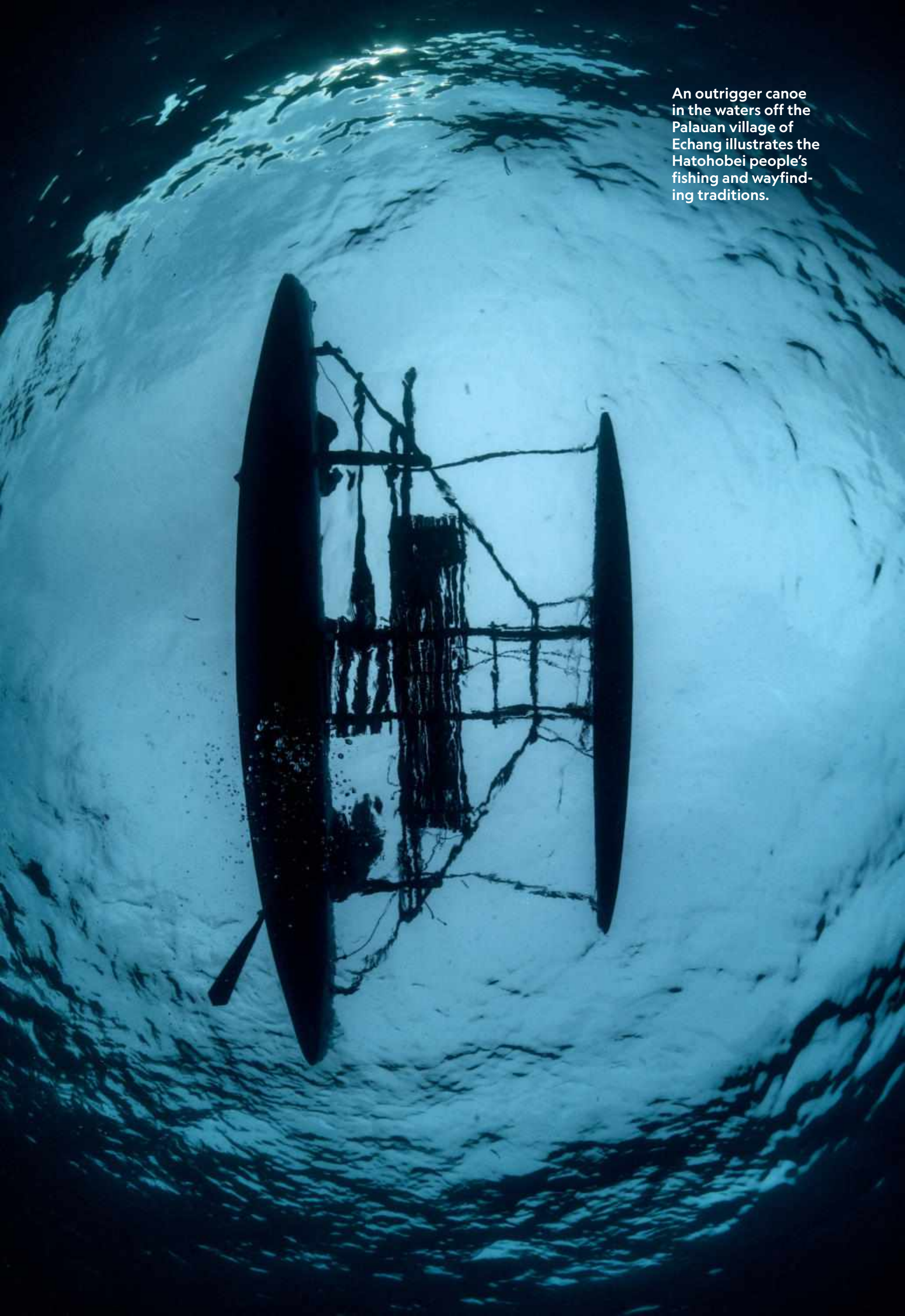
DEFENDERS OF THE REEF

The Hatohobei people's innovative protections ensure an atoll's health for generations to come.

WORDS BY
GLEB RAYGORODETSKY

PHOTOGRAPHS BY
KILIII YÜYAN

NGM MAPS



An outrigger canoe in the waters off the Palauan village of Echang illustrates the Hatohobei people's fishing and wayfinding traditions.

Blacktip reef sharks swim in Rock Islands Southern Lagoon. An archipelago, Palau was the first country to create a shark haven, in 2009. Later it established the Palau National Marine Sanctuary, which prohibits fishing and mining in most of its waters.

ON A CLEAR MORNING IN DECEMBER 2020, at the southwestern edge of the Palau archipelago, rangers from the Helen Reef Resource Management Program were starting their day, tidying up around their station and checking spearguns for afternoon fishing, when they heard a motor and soon spotted an unknown vessel. This could only mean trouble. They would have been notified about a legitimate craft coming to Hotsarihie, as Helen Reef is known to the Hatohobei people, the traditional stewards of the area.

"That boat was coming in with a lot of goods," recalled Petra Tkel, a conservation officer—or ranger, as the program staff call themselves—whose mother comes from Hatohobei, an island 40 miles west of the reef. It was part of a small fleet of six motorboats from a Chinese vessel poaching sea cucumbers that could fetch up to $800 a pound in Hong Kong.

When one boat approached the rangers' station on Helen Island, a sandbar at the northern edge of the reef, the team communicated through hand gestures for the illegal fishermen to return to their ship and wait for further instruction. "I was scared," Tkel said. "That was my first time encountering poachers." She slipped away and made a call by satellite phone to the program manager in Koror, Palau's largest city. Help was on the way, but it would take a couple of days to dispatch a Marine Law Enforcement boat across the 350 miles of open ocean. The rangers—who are not permitted to board foreign vessels for their own safety—would have to stall the poachers.

The fishermen later came back with rice, beer, and $20,000 cash, plus the promise of wiring an additional $30,000. Split evenly among the team, the total bribe amounted to a ranger's annual salary. The poachers had assumed their money would work. But for Hercules Emilio, the team's senior conservation officer, rejecting the money was a no-brainer. "We understand at the end of the day, we're doing it for our people, for the future generation," said Emilio, who grew up on Hatohobei, also called Tobi Island, when he was young.

In 2020 rangers Tony Chayam (at left), Petra Tkel (center), and Hercules Emilio refused a $50,000 bribe and helped apprehend illegal fishermen from China on Hotsarihie, a protected reef in southwestern Palau.

The nonprofit National Geographic Society, working to conserve Earth's resources, helped fund this story and the four additional Stewardship articles in this issue.

PROTECTING PALAU

The Pacific island nation of 22,000 people prioritizes environmental preservation. The Palau National Marine Sanctuary, fully enforceable since 2020, bans all fishing in 80 percent of the country's waters.

Exclusive economic zone
200 nautical miles from shore; the limit of a country's commercial jurisdiction

Palau marine sanctuary limit
No-take reserve, fully protected

Local waters
Set aside for Palauan use

Coral reef

Fishing hours, 2020–2023

fewer — more

100 mi
100 km

INTERNATIONAL WATERS

Joint patrols
With few boats, Palau's small marine police force safeguards a nearly 230,000-square-mile expanse with help from the U.S. Coast Guard.

FEDERATED STATES OF MICRONESIA

Yap Islands

Philippine Sea

PHILIPPINES

MINDANAO

PALAUAN COMMERCIAL FISHING ZONE

Local waters

Ngulu Atoll

CAROLINE ISLANDS

Babeldaob (Babelthuap)

Ngerulmud

Koror

Chelbacheb (Rock Is.)

Beliliou (Peleliu)

P A L A U

PALAU NATIONAL MARINE SANCTUARY

Sonsorol Is.

Pulo Anna

Merir

184,228
square miles
Fully protected waters

Talaud Islands

INTERNATIONAL WATERS

P A C I F I C O C E A N

Helen Island

Hotsarihie (Helen Reef)

Hatohobei (Tobi)

Remote reef
Hotsarihie (Helen Reef) is protected by a single ranger station tasked with identifying illegal fishing boats, often from the Philippines and Indonesia.

Molucca Sea

Morotai

Halmahera

Ayu Islands

I N D O N E S I A

Waigeo

Halmahera Sea

Bacan

Obi

NEW GUINEA

Biak

The Chinese poachers brought their main vessel through the channel into the sheltered waters of the reef's lagoon and sent divers down to plunder. They kept offering the money and goods, but the rangers remained steadfast.

Finally, with air and sea support from the U.S. Coast Guard, the patrol boat arrived from Koror on the third day and blocked the channel, trapping the Chinese vessel inside the lagoon. Officers boarded the ship and detained its crew of 28, seizing cash, motorboats, fishing gear, and 500 pounds of illegally harvested sea cucumbers.

"I am so proud of our rangers," said Rosania Victor, the program's manager, in a video about the incident. "For the sacrifices they made in manning the remote station away from their families. For their bravery in intercepting an illegal fishing vessel using their experience and tactics from their trainings. And for having the integrity to refuse the bribes."

Since the Helen Reef Resource Management Program launched more than 20 years ago, traditional Hatohobei stewardship has guided its safeguarding of the reef. This is a testament to conservation efforts across Palau, one of the most protected and biodiverse places in the world's oceans.

HOTSARIHIE MEANS "reef of giant clams," named for the once abundant *Tridacna* mollusks that, according to oral history, grew big enough for a diver to comfortably nestle inside. The atoll's lagoon, channel, and extensive reef flats host a remarkable number of hard and soft coral species that provide underwater habitat for sea snails, sea cucumbers, and large reef fish, such as the humphead wrasse. On the island, green turtles and thousands of seabirds build nesting sites.

'We understand at the end of the day, we're doing it for our people, for the future generation.'

HERCULES EMILIO,
A SENIOR CONSERVATION OFFICER

The intimate relationship the Hatohobei people have with the land and sea has nurtured an enduring body of knowledge, practices, and traditions known as *moumou*. These include agricultural methods, fishing techniques, and seafaring traditions that guided the original Hatohobei navigators from the distant outer islands of Yap. Hatohobei means "to make stronger magic and find," a reminder of how the ancestors settled on the island of Hatohobei after voyaging some 800 miles by sea.

Early generations of Hatohobeians raised a massive taro patch in the middle of the island to ensure a reliable food source, which they use to this day. They developed an array of fishing methods, including dipnet fishing by torchlight, noosing sharks, fishing under drifting logs, kite fishing, and trolling. Though many of these techniques are no longer used, knowledge of them has endured in the Hatohobei community through two centuries of frequent upheaval.

Starting at the end of the 1800s, Palau's more than 340 islands, islets, and atolls were claimed, exploited, and ruled, in succession, by Spain, Germany, Japan, and, following World War II, the United States. Palau gained independence in 1994 after several decades of negotiations with the U.S. Under an agreement between the two countries, Palau receives economic assistance and access to U.S. federal mail, weather, and aviation

MAP: MATTHEW W. CHWASTYK, NGM STAFF
SOURCES: GLOBAL FISHING WATCH; ALLEN CORAL ATLAS; MARINE PROTECTION ATLAS; MARINE CONSERVATION INSTITUTE

The only human residents on Helen Island, a narrow sandbar at the northern edge of the atoll, are the rangers stationed there to protect its wildlife. Hotsarihie is collectively owned by the people on the nearby island of Hatohobei.

Today the northern third of the reef is open for subsistence fishing to community members and rangers like Brian Fidiiy, who spearfishes to feed himself and his colleagues. The remaining waters around the reef are closed to harvesting.

services, and its citizens can live, work, and study in the U.S. without a visa. In exchange, the U.S. maintains military defense authority.

Over the years, foreign occupations, epidemics, storms and erosion, and extraction of natural resources have forced most of the Hatohobeians to leave their home island for Koror and beyond. Of the approximately 200 people of Hatohobei ancestry in Palau, only about 30 still live on the island year-round. Most reside in the community of Echang, established during the German occupation in the early 1900s in faraway Koror state. Today Hatohobei and Hotsarihie remain social and cultural bedrocks for the community that continues to care for them.

In the 1990s, fishing boats from Indonesia and the Philippines greedily raided the reef using dynamite, cyanide, and large nets to harvest sea cucumbers, sea snails, giant clams, sharks, groupers, and turtles.

With the help of two American scientists, the community reached out to other Pacific islanders to learn how they handled overfishing. But first it had to answer one question: Who owns the reef? This prompted a series of public meetings in 1999, attended by members of all Hatohobei families. After reviewing and acknowledging family and clan oral histories, the community agreed that the reef was collectively owned by the Hatohobei people. "The elder in the room asked each of the heads of family, 'What is your say?' And they all voiced their yes," explained Wayne Andrew, a Hatohobeian and senior director of the Micronesia program at the conservation nonprofit OneReef. "We want Helen Reef to be protected."

The approach is different from landownership on Hatohobei, which is clan based, passed on matrilineally, and often contested. Such an innovative declaration of collective ownership disentangled the future of the reef from disputes and made it possible to manage for the benefit of all Hatohobeians. "Community is not people alone," said Andrew. "Community is a place, the reef. The respect of all of that is so important."

In 2000 a group of Hatohobeians, other Palauans, and international groups secured government and private funding to start the Helen Reef Resource Management Program, and the following year the Hatohobei state legislature passed a law establishing the reef as a protected area. For the first four years, it was closed to marine-life harvest. As the reef recovered, approximately 30 percent of the atoll was opened up for sustainable fishing. "When we have abundance then the spillover can supply the community," explained Thomas Patris, a former governor of Hatohobei state who was instrumental in the creation of the reserve.

Eventually, the program built a permanent ranger station, trained and hired Hatohobeians and other Palauans as conservation officers, and developed a comprehensive management plan based on scientific research and traditional knowledge. The rangers not only deter illegal fishing but also monitor turtles and other wildlife to maintain the restoration and health of the atoll.

Patris remembered visiting the reef as a small child: "In the evening, when it's low tide, the birds come in from hunting and would fly so low that the giant clams get excited and close their shells, squirting water out." Years later he took his kids to witness the phenomenon to no avail. But now "the resources are coming back," he said. "And we want to keep it that way."

TRADITIONAL STEWARDSHIP is about applying the knowledge that generations of Hatohobeian ancestors gained while making the most of their limited resources. "They knew the right seasons for fishing," Andrew explained. "When there was a good season, they would sail out and fish for pelagic fish, like mahimahi, tuna, flying fish, and needlefish. When there was a bad season, with rough seas, they would fish close to the reef, rotating through different species important for their livelihoods."

The people of Hatohobei "use their traditional ecological knowledge in a supremely thoughtful way," agreed Stuart Sandin, a marine biologist at the University of California, San Diego. He has led several expeditions to Hotsarihie as part of the Scripps Institution of Oceanography's research initiative on reef health across the tropical Pacific. Sandin pointed to the area's robust populations of bumphead parrotfish and giant groupers, "fish that you just don't see in heavily exploited systems." Coral regrowth is also remarkable, according to Sandin. A series of images taken over time by his team show the reef's corals have grown back "like crazy" after a considerable disturbance, such as a big wave or a coral-bleaching event. It's "another signature that's consistent with well-managed systems," he said.

Initially financed mostly by outside sources, the Helen Reef Resource Management Program is now supported largely by Palau's Protected Areas Network Fund. The independent nonprofit organization serves as a financial trustee for money generated from "green fees" charged by the government to anyone who visits the country. This allows for the employment of eight full-time rangers rotating in and out of Hotsarihie every three to six months.

Palau's conservation measures expanded with the creation of its national marine sanctuary, which went into effect in 2020. One of the largest marine protected areas in the world, the refuge protects 80 percent of Palau's waters and more than 184,000 square miles of the western Pacific from extractive activities, including mining and fishing. The country has some of the highest levels of marine biodiversity in all of Micronesia, with hundreds of species of hard corals, soft corals, and sponges; over 1,300 species of reef fish; and significant stocks of tuna, billfish, sharks, and rays. The fund and sanctuary share an ethos rooted in Palau's traditional practice of *bul:* restricting fishing in certain reef areas and certain times of year to allow for regeneration.

> 'Community is not people alone. Community is a place, the reef. The respect of all of that is so important.'
>
> WAYNE ANDREW,
> MICRONESIA DIRECTOR AT ONEREEF

Now, with the help of U.S.-based environmental organizations, Palau's current president has begun looking at ways to modify the sanctuary's boundaries to allow for increased revenue from commercial fishing—a response, in part, to an economic decline brought on by the COVID-19 pandemic. There is no doubt, explained Andrew, that a boost in commercial fishing in Palau would affect marine biodiversity. But any changes to the national sanctuary's boundaries won't take away Hotsarihie's protected-area status, and Andrew affirms that the people of Hatohobei will continue to look after it.

A few years after the incident with the Chinese poachers, rangers still occupy their remote sandbar station. They haven't faced another international skirmish yet, but they're ready for whatever may come over the horizon.

"What I love about the job is that I'm helping the community," said ranger Tkel. "Even when there's another job opportunity for me, I'll stick with my island." □

Within Palau's treasure chest of biodiversity, Hotsarihie is a precious jewel. The atoll's lagoon, channel, and reef flats support an array of hard and soft corals, turtles, sea snails, giant clams, fish, sharks, and seabirds.

ELEVATING INDIGENOUS INNOVATION

WORDS BY
DEB HAALAND

PHOTOGRAPH BY
RYAN REDCORN

U.S. Secretary of the Interior Deb Haaland is working to build a stronger relationship between tribal nations and the federal government—one co-stewardship agreement at a time.

UNDER THE SUN of a chilly May afternoon in 2022, I stood with members of the Confederated Salish and Kootenai Tribes (CSKT) on the Flathead Indian Reservation in Montana, part of the tribes' ancestral homelands. Tall blades of prairie grasses rustled in the breeze. A nearby sign, inscribed with greetings in Seliš—*Ẋest Sx̣lx̣alt*—and Ksanka—*Ki'su'k kyukyit*—welcomed visitors to the Bison Range. That day was a day for celebration.

Several tribal members lifted their heads in unison and sang, their voices filling the air in full-throated swells and falls. Standing next to me, then CSKT chairman Tom McDonald listened. Traditionally, he'd explained, his ancestors summoned the bison in song before a hunt—a gesture of respect. I imagined their gratitude for Creator's gift, the living beings that for millennia provided much of what the people needed: food, clothing, shelter, tools, religious items, and a sense of belonging to their land.

Of all the losses this continent has suffered, the destruction of the Great Plains is among the starkest. When the federal government began its conquest of Indigenous peoples, it surmised that the "Indian problem"—wherein Native communities lived and thrived on lands sought by colonial settlers and the federal government—could be solved by destroying Native food sources and livelihoods. And so, men with guns killed tens of millions of bison. This set off a chain reaction of ecosystem degradation that, now intertwined with the present-day climate crisis, spelled catastrophe for ancestral homelands and

Sitting for a portrait, Secretary Haaland (Pueblo of Laguna) is the first Native American cabinet secretary and one of the first Native American women in Congress.

the ecosystems we all depend on. For the CSKT, this loss was amplified by the federal government's unilateral withdrawal of nearly 19,000 acres at the very heart of the Flathead Reservation in 1908.

Thankfully, our story doesn't end there, because bison are resilient, Indigenous peoples are still here, and Indigenous innovation is enduring.

The CSKT can rightfully take credit for helping save the bison from extinction: The herd that grazed those hills on the day of my visit descended from the Pablo-Allard herd, one that tribal members began in response to the near-total destruction of the species during the 19th century. Over the decades following the 1908 land withdrawal, the CSKT persisted with a simple request to the federal government: Return the land, and bring the bison home. After an act of Congress in 2020 cleared a path to reverse this injustice, the Department of the Interior, the federal agency I now lead, announced the transfer of the land into the tribes' ownership in June 2021.

The return of the Bison Range to the CSKT is one of more than 200 co-stewardship agreements with tribes that the Biden-Harris administration has entered into since President Joe Biden stepped into office. Collaborative land management agreements between tribes and the federal government have emerged in recent decades to varying degrees of success. But the Biden-Harris administration is leveraging co-stewardship—shared management and decision-making over certain lands and waters—as a uniquely intentional strategy to preserve ancestral homelands and fulfill our trust and treaty responsibilities to tribes.

In May 2022, Haaland (at right) and Confederated Salish and Kootenai Tribes chairman Tom McDonald (center) commemorate the transfer of the Bison Range in Montana to the tribal nation.

PHOTO: DEPARTMENT OF THE INTERIOR

I am grateful to serve in an administration that understands our country's history and seeks to remedy our past mistakes by elevating the role of tribes in the management of our public lands, waters, and wildlife. With two billion dollars from President Biden's Investing in America agenda, we are advancing landscape-level conservation in partnership with the communities who care for and depend on these places every day.

Successful co-stewardship ensures that Indigenous knowledge—a deep understanding of the land and wildlife gained over millennia—is put to use as one of the most essential strategies to tackle the climate crisis. Implementing this knowledge can take many forms, from using traditional practices for wildfire management and ecosystem restoration to directing habitat and wildlife conservation. Above all else, this work must keep tribal voices and the expertise they bring front and center.

Last October, some 2,600 miles northwest of the Bison Range, I saw this administration's commitment to co-stewardship in action yet again while visiting Alaska Native communities. On the gravel banks of the Kenai River, I watched with tears in my eyes as adult salmon, having laid their eggs, washed ashore in decay, their journeys to the sea and back again complete. That day, the smell of death gripped the air, but so too did the feeling of rebirth. What I had witnessed was an increasingly rare act of nature: Across Alaska, fewer and fewer salmon ever make it upriver to spawn.

Each time I've had the honor to visit with Alaska Native communities as secretary, I have felt a sense of urgency as the people have described historic salmon crashes, which threaten both lifeways and the animal relatives that are foundational to their cultures. Climate change, among other human-made threats like habitat loss and deteriorating infrastructure, jeopardizes the salmon and Alaska Native peoples' very existence.

After many meetings with department staff and Alaska Native community members, we developed the Gravel to Gravel Keystone Initiative—one of several grounded by our Restoration and Resilience Framework, launched last year. The initiative will advance projects co-designed and implemented alongside tribes, including the restoration of degraded streams, expansion of habitat assessments, and replenishment of native vegetation throughout Alaska's Yukon, Kuskokwim, and Norton Sound region—nearly 420,000 square miles.

To progress as a nation, we must heal our wounds with the love and guidance of those who were wounded.

To progress as a nation, we must heal our wounds with the love and guidance of those who were wounded. Touring the Bison Range that day, I observed these powerful animals up close, their winter coats sloughing off thick patches of knotted fur and giving way to smooth, mottled dark skin. As the bison claimed their rightful place on the landscape, I prayed and thanked the ancestors who had protected them when times were the hardest.

At the turn of the 20th century, settlers, pioneers, and the federal government failed to recognize what Indigenous peoples have always known: that our understanding of and devotion to the land remains constant. Indigenous knowledge is Indigenous innovation, and the ancestors were the first innovators. If we are to save ourselves, we must empower this knowledge with everything we have. □

OUR FIRE

Like Aboriginal women before her, Siobhan Singleton helps manage controlled burns—small, cool fires that spare the canopy—to shape the land.

WORDS BY
SIOBHAN SINGLETON

PHOTOGRAPHS BY
KILIII YÜYAN

THE EARLIEST MEMORY I have of Biri Biri, or fire, comes from when I was six years old. A soft smoky smell lingers, in from the rain. I'm sitting on the old couch in an open house made of corrugated iron sheets and wood, listening to my babysitter tell stories. I watch her cook over a bush-made stove, built from the same iron and timber as the house—the same timber I still hear crackling today.

As Indigenous peoples of the Wet Tropics of Queensland World Heritage site, on the vast coast of northeast Australia, we practice cultural fire management to keep our spirits, soils, and vegetation intact. It is living knowledge, a relationship that we practice on Country; we walk and observe the changes with our old people and youth. Biri Biri is our medicine for both Bulmba, our homelands, and Gulbul, our sea Country. It cleanses one's spirit when we walk and practice fire. We yarn about the different arrangements in plants—structures from leaf layers to grass connectivity through to the root systems, soils, and Country types. We read Country and align the indicators from the soil to the sky, to tell us the right timing.

Walls were never meant to separate us from our original home. As an Irukandji woman and knowledge holder, I face challenges not only with climate change, as we experience rapidly changing conditions and major weather events, but also with the Australian government, which remains

Guided by traditional knowledge, Djabugay Bulmba Rangers (from left to right) Dameon Hunter, Nyuwarri Gilkerson, Levi Newbury, and Gavin Donahue oversee a cultural burn within the open forests of the Wet Tropics. The ranger program is working to reclaim the practice for Indigenous Australians.

slow to acknowledge and accept our land and cultural rights. Being a woman in the fire space brings challenges from all directions. I am told by men within our communities that women do not belong among Biri Biri, that traditionally we never practiced the burns.

We have always had a role and relationship with Biri Biri. The women have great knowledge of plants. Knowing how and when to gather them is like knowing how to weave them into the baskets we use to collect foods—it is a story in itself. For many generations Biri Biri has been a part of everyday living for us. I remember being with the Aunties, sitting on Country by the beach as we waited for the food to cook on Biri Biri. After a day gathering food, we sat close to Biri Biri for warmth while the wind wrapped around us.

Adjacent to Kuranda National Park, on Djabugay homelands within the biodiverse Wet Tropics, cultural fire is used to keep rainforest growth and invasive plants in check, clearing the way for new life.

When visiting Country, we always speak to our ancestors. You learn to listen to the sounds of Country and our old people, hearing their experiences and how things have changed in their time. Elders teach me to keep the knowledge and connection alive for the next generation. And if we are to keep the knowledge living on in our kin, we will need patience, just as we will need patience to keep our cultural practices alive. It's just like seeing a plant for the first time and learning all you can about it, connecting with it, knowing its texture and smell. This I have learned from my Elders, and this I will carry on. □

Read more about Aboriginal rangers and cultural fire at *natgeo.com/culturalfire*.

Culturally important species of all kinds, such as (clockwise from top left) cassowaries, carpet pythons, Kuranda tree frogs, and golden orb-weaving spiders, have adapted to help reseed and restore the forest floor in the wake of a cultural burn.

CULTURE

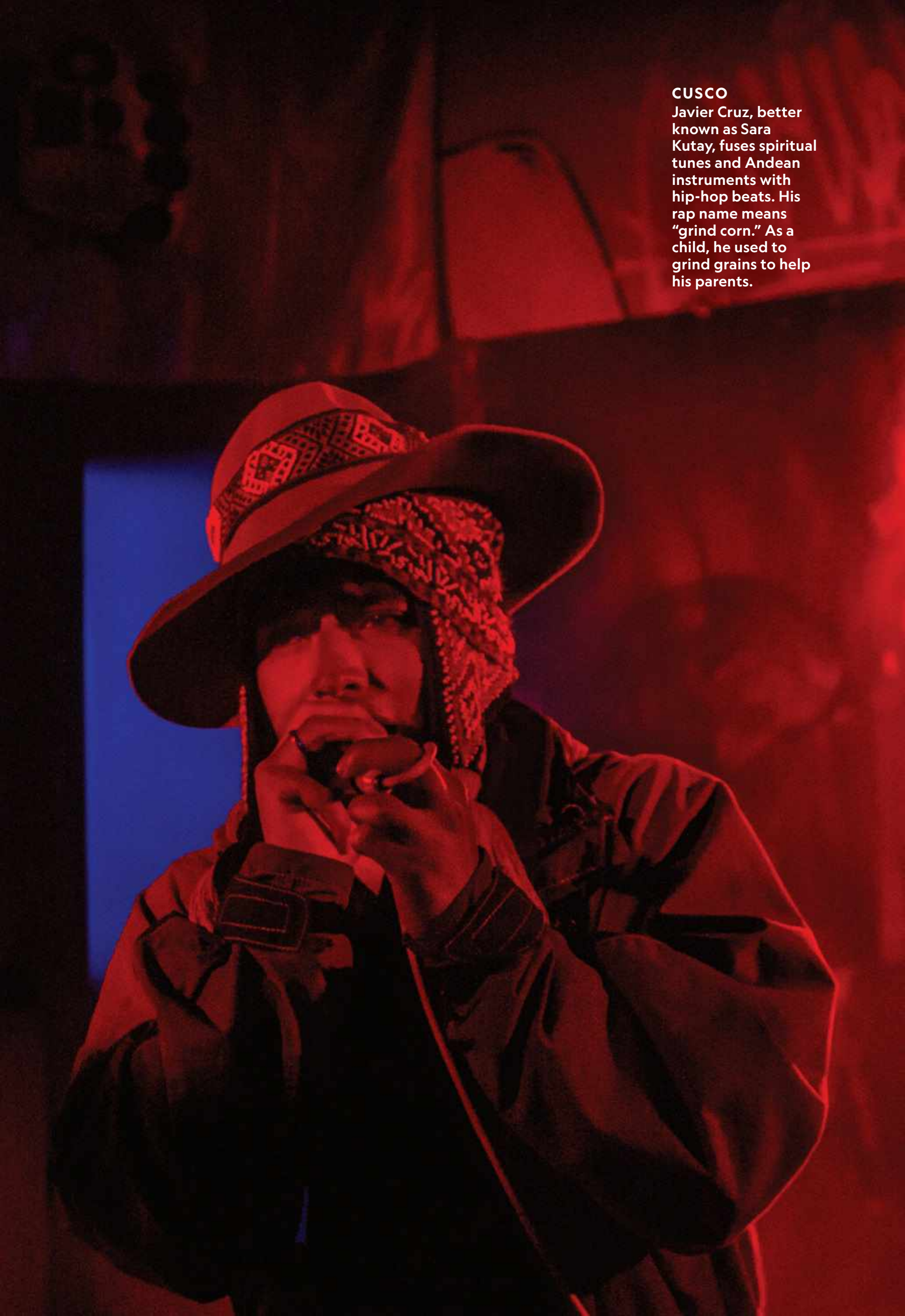
PERU

Young Indigenous musicians have transformed hip-hop into an expression of their language and culture.

WORDS BY
RENZO ARONI SULCA

PHOTOGRAPHS BY
VICTOR ZEA DÍAZ

THE QUECHUA SOUND



CUSCO
Javier Cruz, better known as Sara Kutay, fuses spiritual tunes and Andean instruments with hip-hop beats. His rap name means "grind corn." As a child, he used to grind grains to help his parents.

LIMA
Renata Flores became famous in Peru for Quechua covers of songs by Michael Jackson and Alicia Keys. Now she performs her own music at big venues like the Parque de la Exposición amphitheater.

It's a sunny January afternoon in Juliaca,

a city near the banks of Lake Titicaca in the high plains of southern Peru. Thousands of Indigenous Quechuan and Aymara people have gathered in the town's main square to commemorate the massacre of 18 political protesters and bystanders by government security forces one year ago. Among them is a man on a black horse, decked out in a black jacket, a broad-brimmed black hat, and mid-calf black-and-gold boots. He's dressed to evoke the country's most iconic revolutionary figure: Túpac Amaru II, the Indigenous cacique, or chief, who led a rebellion against the Spanish Empire and became a symbol for resistance in the Andes. The man is known as Cay Sur—*kay* (Quechua) plus *sur* (Spanish) means "This South"—and he's there to express solidarity with the victims. He's also there to rap.

From horseback, Cay Sur performs his song "Próceres" ("Heroes"), its hip-hop beat pulsing through the crowd. Many recognize him from YouTube—and identify with his lyrics. "*Manan wañuchispachu llaqtayta atipanki*," he shouts in Quechua. "By killing, you will not defeat my people."

At 20, Cay Sur, whose name is Yerson Randy Huanco Canaza, is among a growing generation of young musicians making hip-hop with a specifically Indigenous voice. Like many of them, he draws from multiple cultures and traditions—Spanish and Quechua speaking, global and local, ancient and modern. And with his fellow artists, he's creating something entirely new: a soundtrack for Indigenous youth eager to reclaim their Andean roots and language.

Embracing Quechua so publicly would once have been unthinkable in Peru. Although some eight million to 10 million people speak the language in the Andean countries and beyond—and 26 percent of Peru's population identifies as Indigenous—many native Quechua speakers have felt ashamed of our language and traditions because of ongoing racism. Mainstream Peruvian culture tends to romanticize Inca civilization while denigrating its living descendants as backward, especially when they try to assert their political rights. Since the mid-20th century, many Quechuan migrants to the cities have identified as mestizo, or mixed race, rather than Indigenous. Often they didn't teach Quechua to their children. During the 1980-2000 conflict between the Maoist Shining Path and the Peruvian government, some 70,000 people were killed and more than half a million displaced. Most of them were rural, poor, and Quechua speaking—the targets of both sides.

Inspired partly by Uchpa, or Ashes, a Quechua-singing blues rock band formed in the early 1990s amid the violence in Ayacucho, the epicenter of the conflict, Andean young people are reclaiming their heritage. Already connected to the wider world through diasporic networks and social media, they're reimagining what it's like to be modern and Indigenous. Hip-hop, with its oral tradition, communal

LAMAY, CUSCO
In addition to being a hip-hop artist, Johjan Barrientos Huallpa—aka Rumi Maki, or Hand of Stone—plays an Andean flute in rituals and healing ceremonies.

The nonprofit National Geographic Society, working to conserve Earth's resources, helped fund this article.

CUSCO
Eduardo Kusunoki, or Untérmino, co-founded Hanpiq Rimay (Healing by Speaking), which shares the Quechuan culture, identity, and language with kids at hip-hop workshops in rural and urban areas of the Cusco region.

'Quechua simimanta nisayki / Manan wañuchispachu llaqtayta atipanki.'

CAY SUR, RAPPER

Translated from Quechua:

'I will tell you in the Quechua language / By killing, you will not defeat my people.'

spirit, and culture of resistance, is a natural vehicle for reviving the Quechua language and Andean culture.

Renata Flores, one of Quechua rap's biggest stars, says it's as if "our ancestors had come up with ways to express their feelings similar to what freestyle rap is today." She's thinking especially of *harawi*, pre-Columbian music poetry traditionally sung in a high nasal pitch without instruments that voices the soul of *runakuna*, the Andean people. The 23-year-old, wearing round glasses, wide-legged jeans, and a fleece jacket, told me her music, which mixes hip-hop and electronic effects with Andean instruments, serves the same purpose as harawi, chronicling the daily life of our people.

The new genre also incorporates Andean spiritual practices. In the song "Fiestapaq" ("For the Party"), Luis Loayza Ramos, 24—aka WariWillka, or Wari's grandson—asks permission from the Apu, a mountain deity with a living spirit, to initiate the *chaku* or *chaccu* ritual, during which wild vicuñas are rounded up and sheared. *"Apukunawan parlamuni / Kokachayta akuykuspa,"* he sings. "I talk to the Apu / Chewing my coca leaf."

And then there's an effort by some rappers to open the historically male-dominated genre to everyone—a challenge to both Quechuan and hip-hop culture. At a 50th-anniversary celebration of hip-hop in Ayacucho, Flores performed songs from her 2021 album *Isqun (Nine),* which places

JULIACA, PUNO
Rapping at a commemoration for protesters killed last year, Cay Sur evokes the historic Indigenous leader Túpac Amaru II, whose image he wears around his neck.

Andean women at the center of Peru's history. At a smaller concert called Illapachay (Lightning Day, derived from Illapa, the Inca deity of lightning), in downtown Cusco, Celinda Enríquez, 27, rapped: *"Mana yachanichu ñuqa imacha kani warmichu qarichu / Ñuqaqa kani kusisqa, kawsayta, kawsayta munani,"* from her song "Marimachata" ("Tomboy"). "I don't know if I'm a man or a woman / I'm happy, I want to, I want to live." Afterward I

DISTRIBUTION OF QUECHUA LANGUAGES

NGM MAPS. SOURCE: PAUL HEGGARTY, MAX PLANCK INSTITUTE FOR EVOLUTIONARY ANTHROPOLOGY

heard from men in the crowd surprised by how much they enjoyed Enríquez's energetic beats. That's Quechua rap: a genre that balances at the place where language and culture and past and present meet.

After his performance in Juliaca, Cay Sur cries, "The bloodshed will never be forgotten!" The crowd roars back to him, greeting him with hugs and handshakes when he dismounts from his horse. His music—in a traditional language, with a modern rhythm—has resonated deeply. And no wonder. Hip-hop, he says, is a "way of thinking and living Quechua." □

Hear some of the musicians at *natgeo.com/quechuarap*.

CUSCO
One of the city's best known rappers, Sara Kutay has been performing for about 15 years. Recently he's shifted his focus to the spirituality embedded in Andean music.

MALA, LIMA
Born in the highland region of Huánuco, Cristian Espinoza Sánchez (left) has spent the past few years in Mala producing hip-hop singles in Quechua under the name El Indio and using rap to teach the language to neighborhood children.

BRONX, NEW YORK
Pictured with her parents at Orchard Beach, Bobby Sánchez (top, center), a Peruvian American transgender and two-spirit poet and rapper, writes songs like "Quechua 101 Land Back Please" to connect with her Andean ancestry.

HUANTA, AYACUCHO
Flores (bottom, in green skirt) sits with her mother and grandmothers beside Occochaca waterfall. Her grandmothers taught the rapper Quechua, inspiring her commitment to promote the language through global hip-hop music.

VILCASHUAMÁN, AYACUCHO
At the Ushnu, a pyramid where the Inca oversaw religious and military ceremonies, Flores films a video for her song "Niña de la Luna" ("Moon Girl"), about a messenger who falls for the ruler's son.

A FAMILY MEAL

RHODE ISLAND

WORDS BY **KATE NELSON**

PHOTOGRAPHS BY **KARI ROWE**

James Beard Award winner Sherry Pocknett shares a fish hash recipe with Northeast Woodlands roots.

ASHPEE WAMPANOAG chef Sherry Pocknett made history last year as the first Indigenous woman to win a James Beard Award, which recognizes exceptional culinary talent in the United States. At her restaurant, Sly Fox Den Too, in Charlestown, Rhode Island, she honors her Northeast Woodlands roots and her family's rich cooking traditions. The establishment specializes in American classics with unique twists reflecting Pocknett's heritage, such as quahog "chowdah," three-sisters succotash (corn, beans, and squash), and sandwiches served on her locally famous fry bread.

With her creations, Pocknett—who has recently been battling breast cancer—emphasizes healthful ingredients, such as sustainably raised and hunted meats and fresh produce (much of it grown in her family's own gardens), prepared using time-tested methods to preserve nutrients. Like many of her fellow Native American chefs and restaurateurs, she believes this traditional fare acts as a medicine of sorts, nourishing not only the body but also the mind and spirit.

Her dishes pay homage to family meals she savored growing up, like a fish hash that minimizes waste by using leftover potatoes from last night's dinner. "Throughout my childhood, my mom cooked whatever my dad brought in the door," she says, "whether it was from the ocean, the woods, or our four-acre farm." Here Pocknett shares this popular dish, which has a permanent spot on the specials board and showcases her tribe's diverse foodways.

At her Rhode Island restaurant, chef Sherry Pocknett is carrying on the culinary traditions of her Mashpee Wampanoag ancestors, including fishing, foraging, and using regional ingredients.

A. HASH
Pocknett's mom always prepared extra food for dinner in case a relative stopped by, and any leftovers were used for a hash—similar to this one—the next morning.

B. FISH
Reflecting the importance of seafood in Wampanoag culinary practices, Pocknett learned to fish at three. She gifts her grandkids their first fishing pole at the same age.

C. EGGS
When she was growing up, Pocknett regularly enjoyed farm-fresh eggs, which she was responsible for collecting from the family's chicken coop.

D. CORN CAKES
Pocknett's take on journeycakes—named for their ease on long expeditions—reflects the region's abundance, combining corn, cranberries, and scallions for a sweet yet savory delight.

Morning Fish Hash With Poached Eggs and Corn Cakes With Strawberry-Cranberry Chutney

COOK TIME:
ABOUT 60 MINUTES
MAKES 4 SERVINGS

INGREDIENTS

MORNING FISH HASH WITH POACHED EGGS

1½ lb bluefish, striped bass, mackerel, or salmon
6 Yukon gold potatoes, medium diced and cooked
1 large onion, diced
2 Tbsp butter
8 eggs
1 Tbsp white vinegar
1 green onion, thinly diced
To taste:
salt
pepper
garlic powder
olive oil

CORN CAKES

2 cups yellow cornmeal
1 cup flour
1 Tbsp baking powder
1 tsp salt
½ tsp pepper
1 8.75-oz can corn, including liquid
1 bunch green onions, thinly diced
½ cup dry cranberries
2 cups water

STRAWBERRY-CRANBERRY CHUTNEY

2 lb whole cranberries, fresh or frozen
2 lb fresh strawberries, sliced
2 cups sugar
juice of **1** lemon

1 For the fish: Preheat oven to 400°F. Season fish with salt, pepper, and garlic powder to taste, and bake for 15 minutes. Set aside.

2 For the chutney: In a large saucepan, combine all ingredients and cook over high heat for 10 minutes, until berries break down and sugar is melted. Reduce heat and simmer for 20 minutes, stirring continuously. It should start to smell like a June strawberry harvest. Place in a bowl and refrigerate to cool. It can be made ahead and stored in the refrigerator for two to three weeks.

3 For the hash: In a 12-inch frying pan or skillet over medium heat, sauté cooked potatoes and onion in olive oil, salt, and pepper until they are golden brown and have a crisp on them. Add fish (juices and all) and butter for extra-rich flavor, then break up the fish with a spatula. Cook until hot and crispy, adding salt and pepper to taste.

4 For the corn cakes: In a large mixing bowl, combine all ingredients except water. Add 1 cup water, mix, then slowly add remaining cup water. Mix until batter is thick. Fry about ¼ cup of batter like a pancake in a lightly oiled cast-iron skillet over medium heat until golden brown, two to three minutes a side.

5 For the poached eggs: Fill a small frying pan with water and place over high heat. Bring water to a boil, add vinegar, then give liquid a swirl. Meanwhile, crack eggs into a separate small dish to ensure yolks don't break. Carefully slide eggs into water and cook until whites are set, two to three minutes as you prefer. Using a slotted spoon, remove eggs from water.

6 To serve: Place a generous portion of the hash onto plates, top each helping with two poached eggs, and garnish with green onions. Add a side of corn cakes and chutney. Enjoy. □

Sheets, or pans, of sea ice—some larger than a soccer field—drift on Inglefield Bredning, a fjord near Qaanaaq, Greenland. About 700 Inughuit, a group of Inuktun-speaking Inuit, live in the town and smaller settlements halfway between the Arctic Circle and the North Pole.

STEWARDSHIP

THE HUNT

WORDS BY
GLEB RAYGORODETSKY

PHOTOGRAPHS BY
KILIII YÜYAN

For generations, the Inughuit people have observed narwhals and pursued them through Greenland's icy waters. They believe it's time that scientists and government officials paid more attention to Indigenous knowledge.

NGM MAPS

The waters off Qaanaaq are home to the Inglefield stock of narwhals from spring to late summer. Inughuit travel by dogsled to the ice edge, where they hunt from kayaks. Qumangaapik Kvist, at left, and National Geographic Explorer Ulannaq Ingemann pause to help a dog that has fallen into a crack in the spring ice.

Qillaq Kristiansen directed his kayak

away from the ice edge and onto the open water in pursuit of a narwhal. The 35-year-old Inughuit hunter and his companions had traveled to the spring ice edge last year—half a day by dogsled from Qaanaaq, Greenland. About 750 miles north of the Arctic Circle, it is one of the northernmost towns in the world. The muffled puff of a whale's breath escaped the glassy waters near the western end of Qeqertarsuaq, or Herbert Island. The narwhal paused at the surface—seemingly offering itself to the hunter, as some Inughuit might say.

In a single sweep of his right hand, Qillaq untethered his harpoon and hurled it into the dapple-gray smudge of the narwhal's back. Splashing its tail, the whale dived. But the harpoon, its toggle head firmly lodged in the narwhal's body, was tied to a buoy of inflated sealskin, making it difficult for the wounded animal to escape. Qillaq raised his paddle above his head in celebration.

His companions quickly joined him in their kayaks and caught up with the injured whale, striking it with a second harpoon, then killing it with a rifle shot. They towed the narwhal, tailfirst, to a cleared spot near their camp and pulled it from the water. Knives were out as soon as the whale was hauled onto the ice. The hunters savored deliciously nutty *mattak,* what Inughuit call the narwhal's skin and underlying layer of fat, loaded with vitamins and minerals. "I am not interested in European food. I want to eat my own food from the sea, like our ancestors," said Qillaq through a translator.

To Inughuit, the narwhal hunt is an integral part of living and thriving on their ancestral territory around Pikialasorsuaq, an open-water region north of the Arctic Circle that in midsummer can cover more than 30,000 square miles. The North Water Polynya, as it's also called, is an overwintering ground for narwhals, belugas, walruses, and bowhead whales. Its waters teem with Greenland halibut, arctic cod, and other fish, and its rocky shores provide nesting habitat for tens of millions of little auks. It is an irreplaceable source of physical and spiritual nourishment for Inughuit, who for centuries relied on wildlife around their homeland that once included hunting grounds—known to Inughuit as Umimmattooq—on Canada's Ellesmere Island.

"There were many rituals among my people," said Hivshu R.E. Peary, a keeper of Inughuit heritage. These were rituals forbidden by missionaries and mostly lost. "Every animal was believed to be our ancestor that would come and feed us with its own body. This is why in our language we call the food *inumineq,* or a former human being. This means that we eat our ancestors and get power through our ancestors, whose blood runs through our body."

Inughuit's narwhal hunting practices are rooted in traditions of caring for the animals they depend on. To prevent needlessly harassing the whales inside the fjord where they calve and begin nursing their young in the summer, the hunters restrict the use of motorboats, instead choosing stealthier kayaks. To avoid losing narwhals that sink quickly when shot, the hunters harpoon

MAP: CHRISTINE FELLENZ, NGM STAFF. RESEARCH: MICHAEL FRY. SOURCES: SAKIKO DAORANA; DANISH METEOROLOGICAL INSTITUTE; NSIDC GREENLAND ICE MAPPING PROJECT; IUCN; R.G. HANSEN AND OTHERS, *FRONTIERS IN MARINE SCIENCE*, JANUARY 2024

ON THE ICE'S EDGE

In Qaanaaq, one of the world's northernmost towns, and nearby settlements, a community of Inuit called Inughuit have traditionally hunted narwhals along the fringes of sea ice. But they say that hunting quotas and rising temperatures are threatening their way of life.

Sea ice conditions, late spring 2023

Fast ice: solid and fastened to land

Drift ice: dense, scattered, and open ice that drifts with currents

Pikialasorsuaq (North Water Polynya): open water surrounded by ice

Narwhal summer distribution,
Kangerlussuaq (Inglefield Bredning)

Fewer — More

By mid-August, all fast ice has broken up in the fjord.

KALAALLIT NUNAAT
GREENLAND

Mid-July

Qeqertat

Ullersuaq (C. Alexander)

Sonntag Bay

Siorapaluk

Robertson Fjord

MacCormick Fd.

Bowdoin Fd.

Piulip Nunaa

Kangerlussuaq (Inglefield Bredning)

Academy Bay

Kangeq

Qaanaaq

Murchison Sound

10 mi
10 km

Mid-May

Spring thaw
Limit of fast ice, mid-April

Qeqertarsuaq (Herbert I.)

Mid-June

Olrik Fjord

Hunt location

Ulussat

Kiatak (Northumberland I.)

Ikersuaq (Hvalsund)

Cape Powlett

Barden Bay

Steensby Land

Granville Fjord

Kangaarsussuaq (Cape Parry)

Moriusaq

Wolstenholme Fjord

Uummannaq

Pituffik Space Base (Thule Air Base) (U.S.)

Saunders I.

Bylot Sound

Cape Atholl

Wolstenholme I.

Summer in the fjord
Narwhals move into Kangerlussuaq as ice recedes throughout summer. Hunters quietly pursue in kayaks and use harpoons to catch the small whales that will provide income and feed their families and sled dogs.

Moving with the ice
Narwhals spend winter in deep, frigid waters. By May, ice off the coast is breaking up and they swim toward land. Inughuit use dogsleds to reach the ice's edge when daylight returns and the months-long hunting season begins.

B A F F I N
B A Y

75°W
76°N
70°W
79°N
78°N
77°N

Qaanaaq was settled in 1953 after the Danish government moved Inughuit families some 60 miles north from their longtime home. By tradition, colonial-style buildings in Greenland are painted one of a handful of colors, each hue communicating the structure's function.

them first. To ensure that not a single part of the harvested animal is wasted, respected Inughuit hunters share their catch with everyone involved in the hunt and, when possible, their community.

But these practices are under threat, say many Inughuit hunters. "Narwhal hunting culture is disappearing … because of the quota system," explained Hivshu's son, Aleqatsiaq, a hunter and musician from Qaanaaq. "The quota is so small that the hunters have to keep everything to themselves, instead of sharing, because they need to make money."

INUGHUIT SPEAK Inuktun and, while Inuit themselves, they identify as culturally distinct from the Kalaallisut-speaking Greenlandic Inuit majority. Despite their linguistic, historical, and cultural differences, Inughuit are not recognized as a sovereign Indigenous people by either Denmark or Greenland. About 700 Inughuit live in Qaanaaq and a handful of smaller settlements around Inglefield Bredning, a fjord also known as Kangerlussuaq. Qaanaaq was permanently settled in 1953 when the colonial Danish government relocated Inughuit families more than 60 miles north from their longtime settlement of Uummannaq, to make room for an expansion of America's new Thule Air Base, now Pituffik Space Base.

This forced move displaced the community from some of their traditional hunting grounds. Yet Qaanaaq had a comparative advantage—from spring to late summer it was rich in narwhals, or *qilalukkat* as many locals call them. The enigmatic *Monodon monoceros*—Latin for "one tooth, one horn"—is recognized for its long tusk, or tooth, spiraling counterclockwise from the upper left jaw and reaching up to nine feet in length. These small whales can weigh nearly two tons and measure almost 18 feet long without their tusks.

Today most of the world's narwhals—by recent scientific estimates, numbers exceed 100,000—are found in coastal waters off northern Canada and Greenland, and are managed as distinct stocks. Since 2017, the narwhal has been listed as a species of least concern by the International Union for Conservation of Nature. While Greenland has prohibited the export of narwhal tusks since 2006, domestic trade of mattak and tusks is permitted. Greenland's Minister of Fisheries and Hunting annually sets how many narwhals vocational hunters can harvest in a specific region. In deciding the hunting quota for Qaanaaq, the minister seeks to balance the scientific recommendations of the Canada/Greenland Joint Commission on Conservation and Management

Mikile Kristiansen works as a spotter during a hunt off the coast of Qeqertarssuaq, or Herbert Island. For generations, Inughuit have used kayaks, largely to avoid disturbing narwhals where they breed, calve, and nurse their young.

of Narwhal and Beluga (JCNB)—informed in part by population estimates from the Greenland Institute of Natural Resources—with input from members of Greenland's Fishermen and Hunters Association (KNAPK).

The institute's current estimate for the Inglefield stock is between 2,000 and 6,000 narwhals, a range based on aerial surveys conducted in 2007 and 2019. (It accounts for animals not visible from the surface based on movement data from a single narwhal fitted with a satellite tag.) For 2024, the JCNB recommended reducing the quota from 84 to about 50 narwhals. After taking hunters' concerns into account, however, the minister left the quota at 84.

For generations, Inughuit's relationship with narwhals has been based on real-world empirical evidence accumulated from regular observations of the whales' behavior during the year, while the institute's scientists are constrained by competing priorities, their budget, and time. They are based in Nuuk, Greenland's capital, and travel to Qaanaaq can take two days.

After an unsuccessful seal hunt, Kvist smokes on his sled. Because much of what hunters catch or kill is used to feed teams of more than a dozen dogs, seals—abundant and available year-round—are highly valued prey.

Many hunters feel excluded from the institute's narwhal counting process and don't trust its population estimates. "The scientists don't want us to participate in their research," said Jens Danielsen, a local hunter for most of his 65 years, through a translator. "They don't know the animals that they are trying to count."

Some hunters call for increasing or completely abandoning government-imposed limits. Inughuit want to steward their homeland themselves. "We live together with the animals we hunt, year around," said Qillaq. "The biologists who count these animals need to come and spend time with the hunters to learn from us."

Hunters must earn at least half their annual income from hunting to be eligible for vocational hunter status, qualifying them for government-issued permits to pursue narwhals and other wildlife. In a 2021 letter to the journal *Science,* the institute's scientists described the domestic narwhal market as a commercial enterprise—rather than a subsistence harvest—noting that an average narwhal's mattak had a market value of about $10,000 in 2020. "The narwhal is by far the most valuable hunting product in Greenland," the institute's Mads Peter Heide-Jørgensen, a scientist who's studied narwhal populations for more than 30 years, recently wrote via email. "And the hunters depend heavily on the income from that resource. Of course, that also affects their perception of the status of the resource."

The institute's job, he explained, is to generate the best scientific advice based on internationally accepted methods, not to co-manage stocks. "This doesn't preclude developing methods for estimating status of the stocks together with local hunters," he wrote, pointing to the institute's last hiring of hunters in 2015 to help collect scientific data and participate in interviews. But, he noted, stock estimation of marine mammals requires "knowledge about population dynamics which is only fully understood by a few professional assessment scientists." A survey conducted around Qaanaaq in 2022 is still being analyzed, and the next one is planned for 2030 or later.

Globally, there are many examples of how Indigenous knowledge enriches scientific understanding of nature in general and whale counts in particular. In Alaska the International Whaling Commission banned the bowhead whale harvest in 1977, eroding the Alaska Inuit's traditional way of life. U.S. researchers soon partnered with Alaska Inuit to revise their census methodology to incorporate Inuit knowledge of whale migration behavior under the ice and far offshore. As a result, bowhead whale population estimates roughly tripled to more than 15,000 over the next three decades, leading to a gradual increase in the number of whales Alaska Inuit can harvest.

"Local management by local people, including their knowledge—that's the way forward," said Kuupik V. Kleist, former Greenland premier and co-author of a 2017 Inuit Circumpolar Council's report on the future of Pikialasorsuaq. "I can't see anything else."

METRONOMED BY Qillaq's breaths and paddle strokes, the hunt is a finely choreographed yet precarious water dance. A harpoon cord caught on the kayak, a thrashing narwhal catching the boat with its tail, or a charging walrus can end a hunter's life just as swiftly as a harpoon can find a narwhal's back. Qillaq and his companions treat every successful hunt as a gift. They share the meat based on their role—from harpooning to keeping watch on the shifting ice, from butchering to looking after the camp. The first hunter to harpoon the narwhal gets a section of *eqqui* (meat between the head and fins), *uliutaa* (meat from along the backbone), *sarpiup illua* (half the tail, or fluke), *nungiallua* (tailbone), *uummataa* (heart), *niaqua* (head), and *tuugaaq* (tusk). The next hunter gets *itersoraq* (lower body), *sarpiata aappaa* (other half of the fluke), and uliutaa. Additional members of the hunting party receive smaller and less desirable parts, including internal and reproductive organs. The last to be rewarded are the dogs, valued

by Inughuit hunters as a more reliable mode of transportation on the spring ice than snowmobiles, which are faster but noisier, more expensive, and prone to breakdowns.

A good narwhal hunting season provides enough meat and mattak for Inughuit to feed their families and dogs, and to share at community events such as weddings. Plus, it provides a supply of mattak and tusks that can be sold locally. An almost 40 percent quota reduction would mean the loss of both sustenance and income. "Sometimes when the quota is used up, they have nothing to hunt for three months," said Aleqatsiaq Peary, adding that they have to "stop hunting and even sell their equipment."

About 30 locals make up the Qaanaaq hunters union, a branch of the KNAPK, which represents the economic, social, and cultural interests of its members. They rely on income from hunting and fishing, supplemented by occasional part-time jobs, to make a living and maintain their vocational hunter status.

Union members are confident there are more narwhals around the fjord today than in the past. "It has become very noticeable that the narwhal numbers have been increasing dramatically," said Danielsen. Similarly, they see narwhals looking and behaving differently from what they remember, which suggests to them the mixing of separate stocks. Inughuit explain that some of the newcomers, unlike narwhals from the Inglefield stock, have more slender bodies and larger tails and don't recognize their kayaks as a source of danger. The institute has done genetic studies, according to Heide-Jørgensen, and found, in some instances, "the differences the hunters notice."

> 'I want to eat my own food from the sea, like our ancestors.'
>
> QILLAQ KRISTIANSEN, INUGHUIT HUNTER

Recently, there are encouraging signs that Inughuit knowledge is poised to be more recognized. At the national level, Greenland's hunting laws were updated in 2023 to require researchers to include hunters' expertise and observations in the development of population assessments. It gives equal weight to "the science and hunters' knowledge in the decision-making processes," said Amalie A. Jessen, a division head in Greenland's Ministry of Fisheries and Hunting. When determining the quotas, she explained, the government has to listen not only to scientists. "We have to listen to hunters," she said. "They could tell us about the distribution of narwhal in the area, when they arrive to the area and when they leave, and how the ice condition is impacting the hunt." And, she added, they can report how many calves they are seeing.

At the international level, Greenland and Canada signed a letter of intent last year to work toward comanaging and protecting the Pikialasorsuaq, which could give Inughuit a greater role in stewarding their ancestral territory, including, perhaps, Umimmattooq.

"It would mean a lot to us to have access to our traditional area again," said Qillaq, as he cautiously reflected on these recent developments. "It is also good to have stronger language in the hunting law about hunters' knowledge." He wondered, though, how long it woud take to see the law in practice—to feel a change. In the meantime, Qillaq's people will continue to kayak among the narwhals, respect them, learn from them, and depend on them. He and his fellow hunters will be out on the spring ice edge next season, with their harpoons. □

Ilannguaq Qaerngaaq shoulders glacial ice he uses for drinking water. At right, cod are keystone species in the Arctic, prey for marine mammals, birds, and other fish. To many Inughuit, they are also food for sled dogs.

18+

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Using a long-handled net, Pullaq Ulloriaq snatches little auks from the air above their nesting ground near Siorapaluk, an Inughuit settlement northwest of Qaanaaq. Little auks fermented in sealskin are a traditional food in the community.

A harvested narwhal is towed, tailfirst, to a cleared spot on the ice near the hunters' camp. After it's been secured, it will be carved up and portioned out in a way that most rewards the hunters who harpooned the animal.

NEW ZEALAND

VOICES

MORE THAN WORDS

A Māori model for teaching language has shown communities across the world a way to reclaim and rebuild their cultures.

WORDS BY
ARoha AWARAU

PHOTOGRAPHS BY
TANIA NIWA

FIVE YEARS AGO, in the heart of the Kanien'kehá:ka Nation, along the Canadian St. Lawrence River across from Montréal, Kanen'tó:kon Hemlock and Ieronhienhá:wi Tatum McComber pondered a question posed by their friend and mentor, Māori language advocate Sir Tīmoti Kāretu.

Kanien'kéha, the Mohawk language, is one of the world's many endangered Indigenous languages. Over the past two decades, McComber (Bear Clan) and Hemlock (Bear Clan) have been part of a community effort to operate an immersive language school, which surrounds Mohawk students with fluent language speakers. As she put together plans for the school at the turn of the 21st century, McComber looked around the world for inspiration and forged relationships with others who have successfully rekindled their languages. There might not be anyone as well-versed in this endeavor as the man who sat across from McComber, Hemlock, and a group of fellow Kanien'kéha speakers at their school's kitchen table.

Kāretu's question for them was straightforward: What was their dream for the future of the language? More time to study the intricacies of Kanien'kéha with the nation's first-language speakers, now mostly elders, said McComber. Kāretu (Ngāti Kahungunu, Ngāi Tūhoe) leaned back: "Well, you had all this time with them already. Has it helped?" Yes, but not enough, not yet. Elders were aging, and young speakers still had much to learn. What they needed was greater urgency.

Ngauranga Kura Ranginiwa (at left) raised three *mokopuna,* or grandchildren, including Stevie-Rei Pokaia (at right). As a *kaiako,* or teacher, at a Kohanga reo—a school of Māori language and culture—Ranginiwa helped teach her mokopuna. Following the path of her *kui,* or grandmother, Pokaia now works as a kaiako. Ranginiwa and Pokaia are shown on Ngāti Te Whiti land at Kawaroa, Ngāmotu, Taranaki.

Hemlock says this was a very Sir Tīmoti kind of response. Direct and considered, expectational and instructive. McComber—the founder and a teacher of 10 years and counting at the language nest school in Kanien'kehá:ka—says that from their first meeting with Kāretu in 2019, his guidance and drive have motivated her and her fellow Kanien'kéha speakers.

"Don't wait for money, don't wait for anyone's approval, and don't wait for anyone to jump on board," McComber says. Just do the work.

It's the same message Kāretu and his cohorts carried with them six decades ago, when te reo Māori, the Māori language, was approaching endangered status. And it's the same message he preaches today as he travels to Indigenous communities across the world with a delegation of te reo speakers and teachers.

His words carry the weight of hope because of what Māori organizers accomplished and built—and what others have been able to build with their blueprint.

IN THE EARLY 1970S, a contingent of young, urban, and university-educated Māori began to form a movement in Aotearoa—the te reo word for New Zealand. These activists called themselves Ngā Tamatoa, or Young Warriors. Along with other regional groups, they organized against the New Zealand government's marginalization and forced assimilation of Māori communities, starting with policies designed to stem the use of te reo Māori.

In 1867, New Zealand passed the Native Schools Act, outlawing the use of te reo in schools. Teachers and school administrators beat students who dared to speak their mother tongue. Those abused Māori children became Māori parents; trying to protect their own children from the same fate, many discouraged the use of the Māori language, first in public and then at home. The number of native speakers dwindled, and the language was at risk of being lost.

"Everything during that period was learning how to be a colonizer," says Tame Iti, a renowned Māori activist and artist, who joined Ngā Tamatoa when he was 17. In 1972, Iti (Ngāi Tuhoe, Waikato, Te Arawa) and fellow Ngā Tamatoa members marched with the Te Reo Māori Society to the steps of the New Zealand Parliament in Wellington. The contingent carried a petition, signed by more than 30,000 people, that called for Māori to be taught in all public schools. The highly visible nature of the protest, Iti believes, imbued Māori communities across Aotearoa with the confidence to reclaim te reo Māori.

Dame Iritana Tāwhiwhirangi was a founder and instrumental leader of the movement's first major success: Kohanga Reo. Opened in 1982, the Kohanga Reo model was one of commitment. Parents and toddlers were expected to speak only te reo both in the classroom and at home, and the curriculum focused solely on Māori history and culture. Elders and other proficient language speakers led the classes. Translated in English to "language nest," the Kohanga Reo was the first program of its kind to use total language and cultural immersion. For Māori communities, the schools were a revelation.

According to Tāwhiwhirangi (Ngāti Porou, Ngāti Kahungunu, Ngāpuhi), the program started with five schools and within three years expanded to more than 300 locations. The rapid spread of Kohanga Reo marked an unprecedented success of cultural reclamation. For Tāwhiwhirangi, it showed the widespread, pent-up desire Māori families felt to educate their children according to their own non-colonial standards.

"The families on the ground are fundamentally the basis for learning the language," she says. "Kohanga Reo, in the first years, it flew. Why did it fly? Not because I was there with a teaching background, not because of Tīmoti."

The difference-maker, she said, was that the Kohanga Reo, particularly in the early years, were entirely community led. Families raised the money to rent or buy classroom spaces, and volunteers planned and taught classes. The New Zealand government was intentionally uninvolved with curriculum and oversight. At the early nurturing stage in particular, Tāwhiwhirangi says, language starts at home.

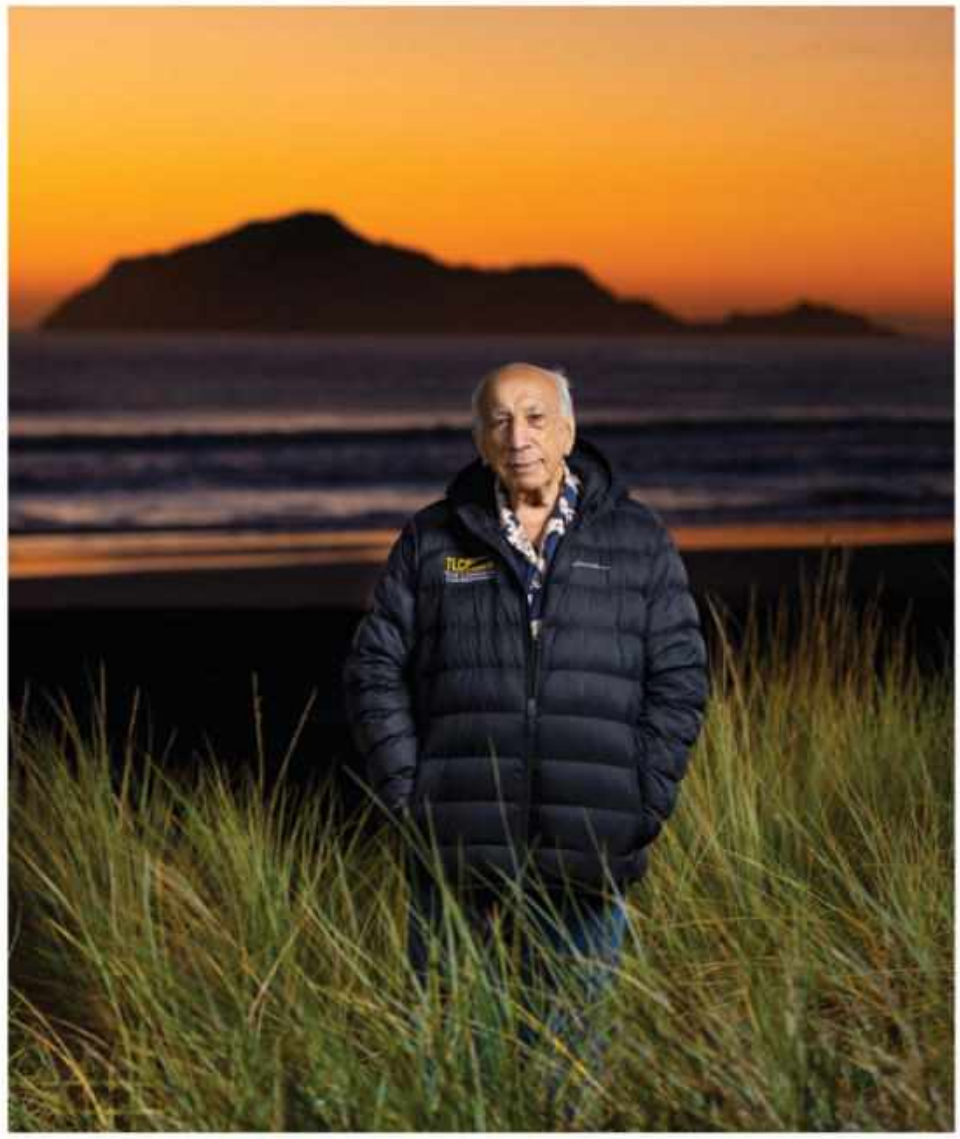
ORIINI KAIPARA WAS BORN in 1983, right as the movement to revitalize te reo took off. Her parents and grandparents helped start the local Kohanga Reo, one of the first to open in Aotearoa. Kaipara and her classmates were taught to speak Māori "all the time, everywhere, no matter what," she says. As a child, Kaipara (Ngāti Awa, Tūhoe, Tūwharetoa, Ngāti Rangitihi) did not understand that she was part of a movement or that her class was, as she says, the "guinea pigs"—they were just Māori kids, with Māori teachers and administrators.

"Our grandparents ruled, our parents ruled," she says. "They just really wanted to instill in us the beauty of our language, our culture, and who we are."

Māori families soon recognized the work could not begin and end with the Kohanga Reo. In 1985, in Kaipara's corner of Aotearoa, a group of Māori elders and educators founded Te Kura Kaupapa Māori o Hoani Waititi—the first te reo immersion school for primary school students. Meanwhile, a contingent that included Tāwhiwhirangi and Kāretu, who was appointed Māori language commissioner in 1987, organized the passage of the Māori Language Act, which gave te reo Māori official status alongside English and, later, New Zealand Sign Language.

As Kaipara grew up within the new Māori-led school system, she says, she learned the responsibility she and her classmates shared, both to Māoridom and to their parents and grandparents for the sacrifices they had made. In 2021, Kaipara became the first news broadcaster with a *moko kauae,* a traditional chin tattoo, to host prime-time news.

"Kaupapa has given me this cool way of being confident, standing comfortably in front of people and publicly speaking, reading



A renowned educator, former Māori language commissioner Sir Tīmoti Kāretu helped lead the rejuvenation of te reo Māori. Shown here on the beach in Waimārama with the island of Te Motu-o-Kura in the background, he now mentors Indigenous language teachers around the world.

the news in English as well as in Māori," she says. "Navigating two completely different worlds with ease."

THE LANGUAGE NEST model quickly became one of Māoridom's most important exports for Indigenous communities worldwide.

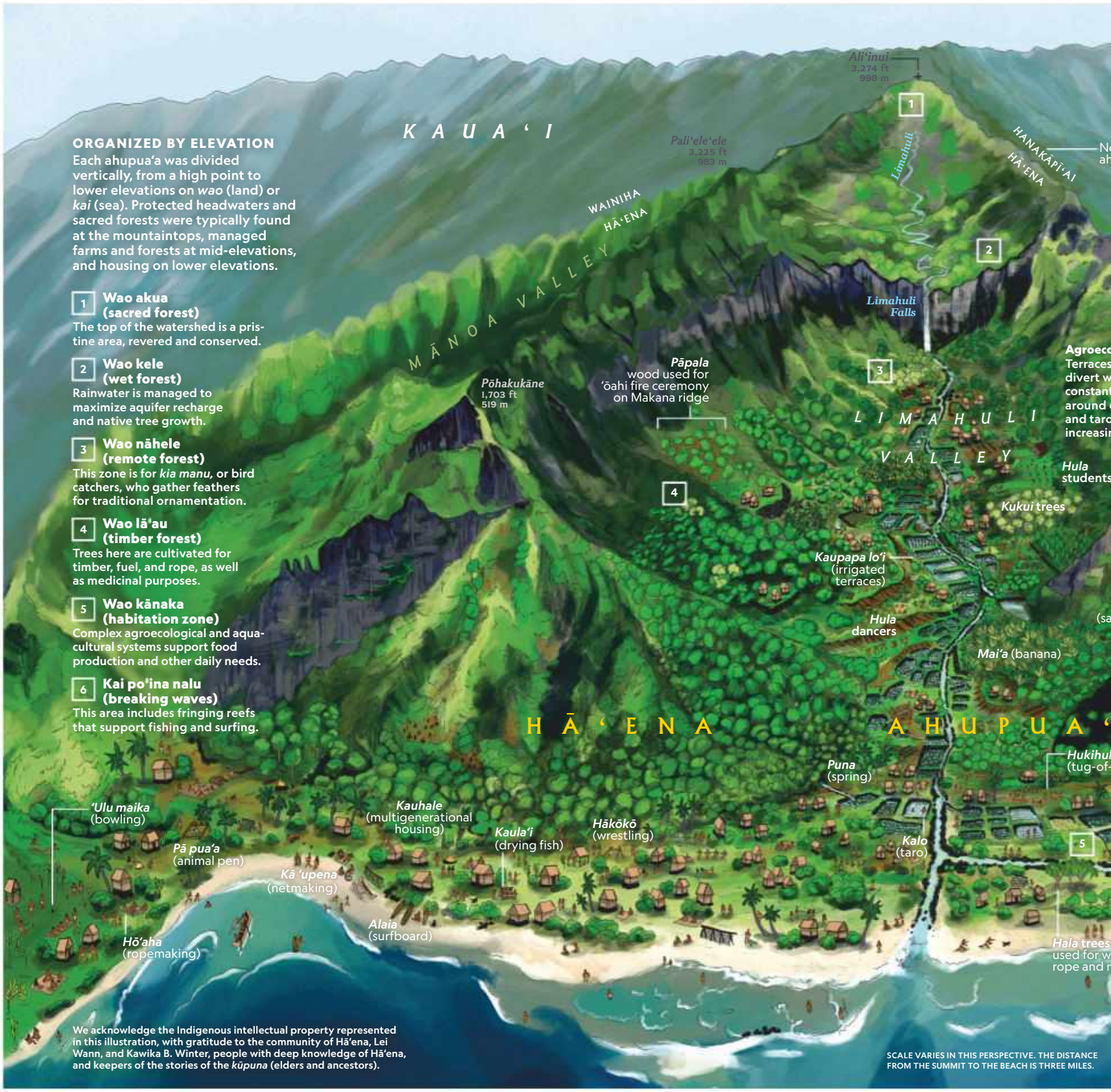
Around the same time as a young Kaipara was in Kohanga Reo, Native Hawaiian language advocates were beginning to address language loss. In 1982, Māori language scholar Tamati Reedy traveled to Hawai'i for a lecture and to spread word of the newly established Kohanga Reo. Within two years, a small group led by Larry Kimura, now a professor of the Hawaiian language and Hawaiian studies at the University of Hawai'i at Hilo, set up the first language nest schools in Hawai'i, called Aha Pūnana Leo. The following year they opened a language nest school in Hilo and another in Honolulu.

Four decades on, the Aha Pūnana Leo system includes 13 preschools across Hawai'i; organizers and administrators have also opened a series of primary and secondary immersion schools. Like the Kohanga Reo, the Aha Pūnana Leo became a beacon: When McComber was researching how to operate the Kanien'kéha language nest, she traveled to Hawai'i to learn how they'd adjusted the Māori model to fit their cultural needs.

"We wouldn't have been able to get where we are without the support of other Indigenous peoples who are doing the work," Hemlock says. "We've always needed each other."

From the Puyallup Tribe in Washington State to the Sámi in Finland, Indigenous communities have begun to follow the example set by the Māori language nests six decades ago. As Kimura notes, the act of mastering one's own language extends beyond learning a new set of words and phrases. It allows communities to view and understand the world as their ancestors did and keeps their way of life alive and well for the generations to come. "It's not just language," he says.

It's everything. □


ORGANIZED BY ELEVATION
Each ahupua'a was divided vertically, from a high point to lower elevations on *wao* (land) or *kai* (sea). Protected headwaters and sacred forests were typically found at the mountaintops, managed farms and forests at mid-elevations, and housing on lower elevations.
1 Wao akua (sacred forest)
The top of the watershed is a pristine area, revered and conserved.
2 Wao kele (wet forest)
Rainwater is managed to maximize aquifer recharge and native tree growth.
3 Wao nāhele (remote forest)
This zone is for *kia manu*, or bird catchers, who gather feathers for traditional ornamentation.
4 Wao lā'au (timber forest)
Trees here are cultivated for timber, fuel, and rope, as well as medicinal purposes.
5 Wao kānaka (habitation zone)
Complex agroecological and aquacultural systems support food production and other daily needs.
6 Kai po'ina nalu (breaking waves)
This area includes fringing reefs that support fishing and surfing.
K A U A ' I
Ali'inui
3,274 ft
998 m
Pali'ele'ele
3,225 ft
983 m
Limahuli
HANAKĀPĪ'AI
HĀ'ENA
WAINIHA
HĀ'ENA
M Ā N O A V A L L E Y
Limahuli Falls
Pōhakukāne
1,703 ft
519 m
Pāpala
wood used for 'ōahi fire ceremony on Makana ridge
L I M A H U L I
V A L L E Y
Agroeco
Terraces
divert w
constant
around
and taro
increasi
Hula
students
Kukui trees
Kaupapa lo'i
(irrigated terraces)
Hula
dancers
Mai'a (banana)
H Ā ' E N A
A H U P U A '
Hukihu
(tug-of-
Puna
(spring)
'Ulu maika
(bowling)
Kauhale
(multigenerational housing)
Kaula'i
(drying fish)
Hākōkō
(wrestling)
Kalo
(taro)
Pā pua'a
(animal pen)
Kā 'upena
(netmaking)
Alaia
(surfboard)
Hō'aha
(ropemaking)
Hala trees
used for w
rope and
We acknowledge the Indigenous intellectual property represented in this illustration, with gratitude to the community of Hā'ena, Lei Wann, and Kawika B. Winter, people with deep knowledge of Hā'ena, and keepers of the stories of the *kūpuna* (elders and ancestors).
SCALE VARIES IN THIS PERSPECTIVE. THE DISTANCE FROM THE SUMMIT TO THE BEACH IS THREE MILES.

eighboring
hupua'a

NĀPALI
COAST

Laukea

Mauna Pūlo'u
1,766 ft
538 m

ology
filter and
ater to
tly circulate
crops
ponds,
ng yields.

Pu'u o Hilo

Makana

'Iliahi
ndalwood)

Loko i'a (fishponds)
Aquaculture systems increase fish abundance for the community.

Loko Kē'ē

Loko Nai'a

A

ki
-war)

Hukilau
(group net fishing)

Kālai wa'a
(canoe carving)

6

eaving
nets

Heiau (temple)
Students at the Kauluapāoa temple are taught chants and dances imbued with thousands of years of history.

FROM SKY TO SEA

An *ahupua'a* is part of a larger system, called *moku,* that divided each island into pie-shaped eco-regions. The people of the Hā'ena ahupua'a on Kaua'i fought to regain many stewardship rights over recent decades; today 92 percent of the area is intact. Pictured here as it would have been in the mid-1800s, this ahupua'a traditionally functioned in part to support an institution of higher learning at a temple overlooking the sea.

PACIFIC OCEAN

INNOVATIONS IN THE AHUPUA'A

Hā'ena—one of few remaining of the more than 1,800 ahupua'a that once existed—is at the vanguard of mixing technology with Indigenous techniques.

Gardener drones
Attached robotic arms allow scientists to collect samples and seeds from rare, native species along steep cliffs.

Co-managed fishery
The local community determines appropriate catch levels and partners with the state to manage marine resources.

Prepping for extremes
Growing a diverse mix of native plants along streambeds and across forests reduces the effects of increased flooding, landslides, and wildfire.

Sustainable tourism
Visitor numbers are limited, as is access to the most fragile parts of the ecosystem.

EVE CONANT, NGM STAFF; RESEARCH: MICHAEL FRY. ART: KAI'ILI KAULUKUKUI
SOURCES: LIMAHULI GARDEN AND PRESERVE; HAWAI'I STATE OFFICE OF PLANNING

HAWAI'I

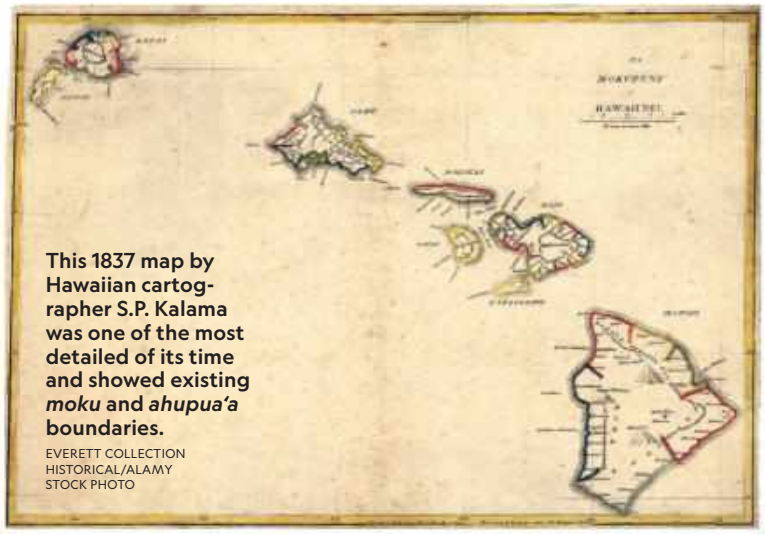
ANCIENT PRACTICE, FUTURE PROMISE

CULTURE

A blueprint for sustainability is being re-discovered in the Indigenous Hawaiian *moku* and *ahupua'a* systems of land stewardship.

ART BY
KAI'ILI KAULUKUKUI

BY
ROSEMARY P. WARDLEY



This 1837 map by Hawaiian cartographer S.P. Kalama was one of the most detailed of its time and showed existing *moku* and *ahupua'a* boundaries.

EVERETT COLLECTION HISTORICAL/ALAMY STOCK PHOTO

FOR CENTURIES, the islands of the Hawaiian archipelago were divided into self-sustaining communities called *ahupua'a*. Through collective stewardship, they provided people with food, building material, and other basic and cultural necessities. The thriving system, however, was dismantled over the 20th century with the rise of the Western practice of private land-ownership and the growth of the plantation economy.

Today, facing a changing climate and strained resources, Hawaiians on several islands are working to revive this Indigenous practice.

Lei Wann, a descendant of one of the original families from a still largely intact ahupua'a on the island of Kaua'i, says that combining the "tool kit of today" with ancient systems will help her community keep their ahupua'a "as environmentally sound as our ancestors once did."

VOICES

THE CENTER OF IT ALL

NIGERIA

Despite repressive laws and societal stigmas, many Indigenous Nigerians including those in the LGBTQ community, are expressing and celebrating their true identities.

PHOTOGRAPHS BY
YAGAZIE EMEZI

WORDS BY
AKWAEKE EMEZI

In this image, Nigerian photographer Yagazie Emezi (Igbo, Tamil)—the sister of writer Akwaeke Emezi (Igbo)—explores the pressure some Nigerians feel to hide their authentic selves from state-enforced marginalization, such as the Same Sex Marriage (Prohibition) Act.

AUTHOR AKWAEKE EMEZI AND DESIGNER ADEJU THOMPSON DISCUSS CREATIVITY AND RESILIENCE.

IN ADEJU THOMPSON'S design studio, the walls and ceilings are a rich cobalt blue and every surface is covered with art, from sculptural bronze pieces to piles of books and family photographs. An artisan from his team sits at a large table, using a feather to paint careful lines of cassava paste on a sea of white fabric, creating *àdìrẹ* cloth with a traditional Yoruba technique. This resist-dyed fabric will be transformed into garments for Lagos Space Programme, Thompson's luxury fashion label.

I'm returning to my home country from New York, a rare visit to Lagos since I launched my literary career in 2018. In the years since, I've published seven more books and been on the cover of *Time* magazine, but as a queer Nigerian author and artist who chose to leave, exile still breathes down my neck. Nigeria isn't a safe place for its queer and trans citizens, yet other queer Nigerian creatives remain at home either by choice or circumstance. It's special to see someone like Thompson creating genderless clothing collections in Lagos—more particularly, making art rooted in cultures that our own people try to deny us.

In Thompson's hands, Lagos Space Programme is African design spun into the future, experimental and singular. It is not only a ready-to-wear brand but also a concept patterned in history. With this body of work, Thompson recently became the first African designer to win the International Woolmark Prize, a prestigious award for rising stars in the fashion industry.

Walking into his studio on the Lagos mainland feels like entering a pocket of weighted and delightful possibility. We sit on a couch draped in deep-blue àdìrẹ, drinking cups of tea as we chat about the evolution of culture and working from our respective Indigenous centers as an Igbo artist and a Yoruba designer.

AKWAEKE EMEZI: I think about centers in my work because of that Toni Morrison quote where she said, "I stood at the border … claimed it as central … and let the rest of the world move over to where I was." So, with decolonization, it's defined according to the white center we are moving away from, right? I feel like re-indigenization focuses on the center that we're moving towards. What center are you moving towards?

ADEJU THOMPSON: I grew up bullied and very insecure, very introverted. When I went to school in the U.K., my professor could see where my work was heading, and he asked if I knew about the Antwerp Six, about Yohji Yamamoto and the Japanese designers. These artists' work was different from anything I experienced in fashion design in Nigeria. It was very introspective, very vulnerable, and it reflected that moment in my life. I wanted to be a Nigerian version of it.

I'm now obsessed with Yoruba culture; it's given me so much pride in myself and how I put myself into the world. But initially, I consumed Yoruba culture on the surface. People being loud or very colorful—branded with Gucci glasses and loud lace—I never saw myself in that. A few months back, though, I was shopping with my cousin at a Prada shop, and I realized I like shiny things now [laughter].

EMEZI: You've come back around.

THOMPSON: I tell people I'm in my Yoruba auntie energy … I can really

design my life how I want it. I can find these shiny things very appealing, but I'm still that guy that's emotional and sensitive.

EMEZI: When I think of the shininess, I think of it as a very old culture of adornment, right? It may look different in a contemporary skin, but the essence of it is ancient.

THOMPSON: Look at how these women are dressed! Look at the drama of the draping! This is so romantic, you know. Look at how people wear the *agbadas*. Look at the intensity. Do you know what it means to put yourself out in the world in this way, to carry yourself in this very powerful way?

I hadn't seen that at first, because when you go through a lot of trauma, you close yourself up. From when I was a child, I never had a problem with being gay. But there was still a lot of growth to happen.

I was actually very anxious before you came. I was like, I wonder how Akwaeke will feel about this. When I discovered nonbinary as an identity, it felt like it was me—like I had found something I could use to protect myself and fight back against the trauma of my masculinity growing up and not feeling like I was accepted.

EMEZI: Do you still feel like you need that identity as protection?

THOMPSON: No, no. At this point in my life, I now have the audacity to design my masculinity. I like the fact that I was allowed to go through my journey as an individual to get to this point, but I don't want my truth to feel like it's disrupting other people's identities.

EMEZI: The year that my novel *Freshwater* came out was the year that I said I was nonbinary. I was trying to build bridges of legibility between myself and this public that was now perceiving me.

After a few years, I was like—you know what? If I'm really moving towards this Indigenous center, then I want to abandon the language that doesn't belong there. So, it's not that I'm nonbinary. I don't have a gender because I'm a spirit, and spirits don't actually have genders. "Identify" is a useless verb to me. Either I am the thing or I am not the thing.

With re-indigenization, people usually think about it as a linear return. So much of your work is acknowledging the past, the histories, these really ancient techniques—but very much looking to the future.

THOMPSON: My work is really about all the culture I consume—whether it be art, cinema, music—filtered through a Nigerian lens. I like that I can put myself out there now and say this is what it means to me, to be a queer designer creating work. I hope that another queer designer is coming behind me and can say, I love Adeju for what he did, but this is my own version.

EMEZI: Some people think that the only authentic culture is whatever existed when we were colonized, as if white people came and turned their gaze on us and we were frozen in amber.

THOMPSON: Apparently, our culture doesn't evolve.

EMEZI: I don't think people realize that for centuries it was evolving. As Indigenous people, we create our culture every day. You are of the culture, therefore, anything you create is the culture.

THOMPSON: My new collection started when I went to the bookshop at Versailles. I was so impressed by the materials, the opulence of everything. I went down that rabbit hole and came up with fusing Yoruba dress codes with Eurocentric tailoring to create a new visual language.

There's this Yoruba festival called Ojude Oba that happens once a year. It's such a beautiful spectacle. Families parade themselves in front of the king, in front of the Yoruba world. With this collection, it's about a fictional person who lives in European society

but is very Nigerian and is preparing for the Ojude Oba festival.

EMEZI: There's so much to be said about our parents' generation, those who were in London and were very, very Nigerian. My father was one of them—very Igbo, and there's no part of him that would ever stop being Igbo. There's a story he tells about being at the visa office in London, and they told him he was eligible for a British passport. This man started shouting at them, "Did I ask you for a British passport? I have a Nigerian passport!" All the Nigerians who were queued up there started cursing my father, like, "You're a foolish man. How can you turn down something like this?"

THOMPSON: As young people, now we can educate ourselves on our culture and realize, Wow, I've been lied to. How did I not know how powerful where I come from is?

EMEZI: Because we're not taught it.

THOMPSON: I'm very proud to be a Nigerian person. I went to the Ọ̀ṣun festival, and it was such a spectacle. There was a lot of lace, a lot of bronze. There's this virgin who's carrying a sacrifice of fruits and honey for Ọ̀ṣun. It's very heavy, and she walks with the support of the community. In front of her is an entire army of women with daggers and a brass mirror—like, don't mess with us. As a designer, that comes back into my collection, that helps with my own world-building. I want to educate people and highlight Africa's progressive identity precolonization—how the barbaric people were the colonizers.

EMEZI: When you started doing this research and introspection, do you feel like it changed your spirit?

THOMPSON: What the colonizers really tried to do was strip us of our identity, so when you reclaim who you are, you come into yourself. For me, that's meant that I'm bolder in my approach. When I'm designing my collections, I have no limitations. When I'm making àdìrẹ, I'm radically thinking, What does àdìrẹ designed by a queer person living now look like? □

This interview was edited for length and clarity.

IN A SERIES OF PORTRAITS FROM YAGAZIE EMEZI, NONCONFORMIST NIGERIANS RECLAIM THEIR SPACE.

‘Freedom, for me, extends beyond artistic boundaries. It encompasses the lifestyle that rejects capitalist norms and assimilation and allows for authentic self-expression.’

—AARON AHALU

Aaron Ahalu grew up aware of the freedom that *yan daudu*—a Hausa term that means “men who act like women” and is often used colloquially to describe gay men—afford to their self-expression despite the harsh conditions queer people endure. It is a history Ahalu, who is a queer organizer and communications creative, draws from when considering their Indigenous identity from northern Nigeria, down to how they choose to present themselves through fashion.

‘On this day I can be happy to wear an *àdìrẹ agbada*, and on another day wear an Ibibio *onyonyo*, and still feel equally connected to these cultures.’

—UYAI IKPE-ETIM

Lagos-based creative Ayo Lawson (at right) has found herself shifting away from her English upbringing to develop and connect with her Yoruba self. She is one of the few publicly queer women in Nigeria, along with her partner, Uyai Ikpe-Etim (at left). The couple, both filmmakers, openly identify as queer on social media and run one of the country’s biggest queer balls. For Ikpe-Etim, indigeneity means acknowledging that she was born and grew up in Lagos but was raised by Ibibio women from south-eastern Nigeria, creating a fusion of culture she treasures. “My favorite thing is being able to have those two identities intersect without any issues,” she says.

Indie musician Zainab Donli, better known as Lady Donli, approaches the complexities of her Indigenous identity as a constant marriage of the varied cultures and histories that birthed her. Her paternal great-grandfather hailed from Chad and escaped from slave traders before coming to Nigeria. Her father is Hausa from Kaduna, in the north, while her mother is Ijaw from Bayelsa, in the southern part of the country. “I have never specifically felt a sense of belonging thoroughly to my Hausa identity, and neither have I felt the same for my Ijaw identity,” she says. “I’ve always grown up and just thought, I’m Nigerian.”

‘Freedom is being able to do what I want without fear of condemnation—without fear that my identity as a queer Black woman is going to get in the way of everything that I’m doing.’

—ZAINAB DONLI

‘Realizing who I am makes me feel better—[that] was the freedom I needed. Being Native is not a sin; it’s nothing to be ashamed of.’

—JORDYN OMOLOLU VANGEI

A queer fashion designer, Jordyn Omololu Vangei was raised connected to his Yoruba culture. As a young child, he lived with his mother’s side of the family, speaking Yoruba. That changed when, at five years old, he went to live with his father, who prioritized English and Western sensibilities. “I had to start speaking English,” he says. “So being Indigenous is something I had to hold on to for myself.” Vangei, who is a trans man, finds comfort in the understanding that Yoruba history—his history—is filled with figures who defied convention.

For Ezra Olubi, a renowned innovator and business leader who founded Paystack, one of Nigeria's biggest tech companies, the concept of Indigenous identity is closely tied to developing one's structures of safety and freedom. "It has been a series of putting things in place to create an ideal bubble around myself," he says. "This is something I've been doing over time, depending on wherever I am." One such bubble is his home, where he was photographed, which is in an area set slightly away from the relentlessness of Lagos.

'I like testing the limits of what's acceptable. Like, OK, I want to paint my nails ... I should be able to do what I want.'

—EZRA OLUBI

Writer Ayodele Olofintuade is training as a Yoruba traditionalist, a process that involves learning the ways of Yoruba spirituality and its connections to one's ancestry. "Indigeneity is not conferred; it's who you are," she says. Olofintuade, who is a queer woman, says the guidelines of Yoruba traditions are more accepting of nonconformist identities than Western religions.

'I am Yoruba, and so, automatically, all the wealth, all the miseries, all the flaws, all the perfections of the Yoruba [lineage] I am born into accrues to me. I am connected to my ancestors.'

—AYODELE OLOFINTUADE


ESPANOLES

A British Nigerian artist and filmmaker, Remi Vaughan-Richards contemplates the role of race in the development of her Yoruba identity. Her main question: If one straddles various cultures within oneself, who, or what, determines what accurately defines one's identity? "Being Indigenous, to me, means embracing the culture you're from ... I am Indigenous in the sense that I am interested in traditional spirituality. I am Indigenous in the fact that I like to wear àdìrẹ, which was a way for women to pass messages between each other in the past."

'The whole world has become a mishmash of Westernisms. So how can you be Indigenous? Well, look how I'm dressed for a start; I combine both.'

—REMI VAUGHAN-RICHARDS

‘I’ve always known me. I have always seen myself. I am free and beautiful.’

—JOHNTEL PETERS

Fashion creative Johntel Peters, or JP, hails from Delta state but grew up disconnected from his Indigenous identity. Peters, who is queer, did not meet the cultural demands expected of him at home and instead found his freedom dancing on the ballroom floor.

A creative and style nonconformist, Charles Oputa is better known by his artistic alter ego, Charly Boy. He has shifted the scales of masculine presentation in Nigerian media—from his androgynous appearance during the release of his hit album *1990* to a much publicized kiss with entertainer Denrele Edun. Oputa's father, former Supreme Court of Nigeria justice Chukwudifu Oputa, was Igbo. As Charly Boy, the younger Oputa found a connection between his spiritual guide and his Indigenous identity, adopting a "spiritual warrior" he calls Odudubariba.

'I know [Charly Boy] has a feminine side, with all this personality wanting to come out. Sometimes it's my female side that takes the upper hand. Sometimes it's my male, dominant side that takes the upper hand.'

—CHARLES OPUTA

‘Being Indigenous means being in touch with my ancestors and learning from lessons that they have passed on … bringing that into the present day.’

–OBEHI EKHOMU

Edo restaurateur Obehi Ekhomu, photographed with her three children, has found a connection between rejecting the pressure of societal acceptance and paying attention to her spiritual guides, whom she describes as two genderless beings. "I have trashed the whole ideology of being accepted or rejected by society … It's about having a stronger center," she says, adding that this spiritual center helps her advocate for her needs. It also grounds how she approaches grief as an Edo woman. After she lost her father, he came back to her in dreams, reassuring her.

Nigerian journalist Nelson C.J. (Igbo) wrote the captions for this photo series. C.J. is based in Lagos and has been published in the *New York Times, Rolling Stone,* and *Time*.

A FUTURE IN INDIGENOUS HANDS

For National Geographic Explorer Keolu Fox, the key to harnessing the technology of tomorrow is centering the past.

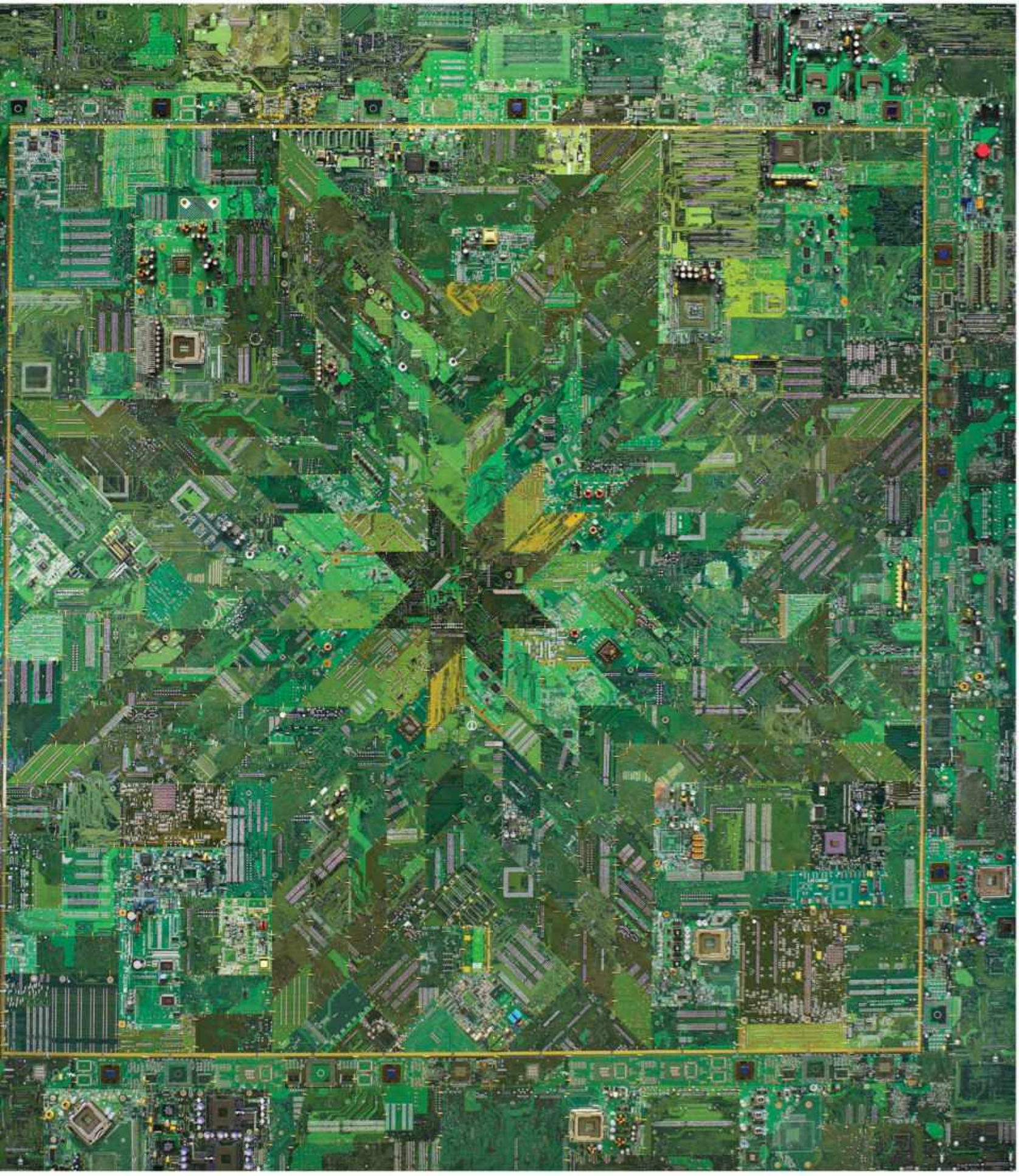
WORDS BY
KEOLU FOX

ART BY
WALLY DION

WATER AND WEALTH are constructed from the same word in Hawaiian. These terms—*wai* and *waiwai*, respectively—are an indelible part of who I am, and who Native Hawaiians are. They're reminders that we've always valued the abundant natural beauty and life-giving resources of our homelands. There is perhaps no better example of this than *ahupua'a* land divisions, a socioeconomic and geological system that Hawaiian communities designed more than a thousand years ago to apportion the islands into seasonally responsive slices that ran from the mountains to the sea. These land divisions fed snowmelt along irrigation routes to terraced taro patches. They provided valuable bacteria and phytonutrients to fishponds. Those fish then populated the inner reefs and, once mature, the Pacific Ocean. The system itself was highly organized and politically complex. It supported a huge labor force and provided a sustainable supply of food for the entire population.

Across the world, Indigenous communities have long been incubators of sustainable systems. Pueblo and other Native architects developed ingenious multistory housing uniquely crafted for the deserts of North America. Aboriginal communities in Australia perfected the ecologically enriching land management practice known as cultural burning. These systems, like our land divisions, reflect a union of the local culture and environment, one that keeps the needs of a community and the planet in balance.

As we all strive to imagine the future, the inevitability of extractive capitalism should not be assumed. Rather, it's important to think deeply about how to build an alternative reality—one where Indigenous perspectives on relationships to land, sea, sky, and cosmos are the guiding force. We should all ask, What would our planet look like in Indigenous hands?



With his sculptural work “green star quilt,” visual artist Wally Dion (Canadian and Yellow Quill First Nation/Saulteaux) used recycled computer circuit boards, brass wire, and copper tubing to explore the evolution of Indigenous expression. Inspired by the star quilts from Lakota, Ojibwe, Crow, and other Northern Plains tribal communities, Dion’s work also illuminates the extraction and waste required to maintain our reliance on technology.

Produced in 2019, Dion's "caterpillar, egg, cocoon, moth" employs circuit boards to underscore the significant amounts of energy and nutrients that caterpillars require to make their transformations into moths.

CHARTING AN INDIGENOUS future will require a shift in our consciousness. We can optimize landscapes for exponential growth, profit, and, eventually, failure, or we can optimize for harmony and balance. To quote an ancient Hawaiian chief, *"He aliʻi ka ʻāina,* the land is a chief; *he kauwā ke kanaka,* humans are its servants."

Rather than focus on short-term gains, we must prioritize future generations.

I once stumbled upon an elder balancing the books of a casino in the Pacific Northwest. I was surprised to find that this gentleman was not using a model based on quarterly, or even annual, returns; his spreadsheet's financial plan extended 10 generations into the future.

Over the past several decades, Indigenous communities have seen various economic drivers come and go, from natural resource extraction—oil, gas, and coal—to gaming and casinos. It's clear that data is next. Is there a more valuable resource today on the planet?

PHOTOS: KT KANAZAWICH

To be in control of their assets, Indigenous peoples should build their own data centers—but in such a way that they would be not only sovereign but also sustainable, in harmony and balance with nature. Rather than follow the example of titan chipmaker TSMC, which chose the sweltering expanses of Phoenix for two planned factories, we could situate these critical infrastructures in cool climates abundant in natural water resources and reduce the energy consumption needed to keep them from overheating. Companies and countries too should think beyond tax incentives and weak labor markets when deciding where data centers should be built. Indigenous communities might offer their own examples for the design and implementation of these centers, powered by renewable energy sources that respect the Earth's rhythms and acknowledge that resources aren't just resources—they're ancestors.

To realize a world that revolves around these shared values, all of us must think further into the future.

Imagine Indigenous scientists using the tools of synthetic biology to heal the Earth by genome-editing bacteria to metabolize plastic in the ocean into biofuel. Gaping holes left festering from the violent pursuit of critical minerals, such as lithium, cobalt, and tantalum, are remediated and transformed into pristine freshwater aquifers—poison sucked out like a snakebite. Imagine storing data in the genomes of indigenous photosynthesizing plants, an idea that already is more science than fiction: In 2017 researchers announced that they had used the gene-editing system Crispr to encode a digital movie into the DNA of a population of *E. coli* bacteria. Imagine the roots of these carbon-negative "data centers" simultaneously encouraging biodiversity, treating soil that has been polluted for centuries, and providing fruits and vegetables for local farmers to sell.

Rather than cities all converging on the same look of Ikea-brochure apartments and placeless, copy-and-paste office towers, our built environment might reflect local innovation, heritage, and culture. Imagine that homes are once again living ancestors: Ancient, local soil is repurposed into bio-concrete infused with genome-editing bacteria that seal cracks by calcifying into new limestone. Imagine building materials with photosynthetic properties that draw energy from the sun, or bioluminescence that might dim our harsh, urban glare and restore the view of the night sky our people once knew. Imagine 3D-printing urban structures into ancient shapes, like the tangled, twisting, living bridges that the Khasi and Jaintia people in India wove from the roots of trees.

ONE VISION OF INDIGENOUS futurism is alternative history. A time line where Captain Cook never makes it to Hawai'i, Cortés never arrives at Tenochtitlan in search of gold, and the *Niña, Pinta,* and *Santa María* are still trees planted in the earth. Where would Indigenous peoples be? What would they have become? But there's another time line we should consider—one that doesn't require us to change the past, just the future: Land and ancestors returned. Cities and rural landscapes where technology and nature coexist. Community networks thriving on decentralized digital platforms that empower local decision-making and facilitate a barter-based economy rooted in shared resources and knowledge. Matriarchy restored. Education systems that immerse students in Indigenous histories and cultures, fostering a global citizenship that respects and celebrates both the ancient and the futuristic.

Charting this Indigenous future—shifting our consciousness—will mean adopting a shared vision where the wisdom of the past guides us for generations to come. One where technology serves humanity's deepest values and aspirations. Where the guardianship of the Earth and the equitable distribution of its resources define progress. □

For more about ahupua'a land management, see page 92.

'THIS IS COFÁN LAND. OURS, NOT YOURS.'

Hugo Lucitante reflects on how his fellow Cofán took radical, creative action when they saw threats to their lives and their land.

WORDS BY
HUGO LUCITANTE

PHOTOGRAPHS BY
KILIII YÜYAN

NGM MAPS

From left, forest guardians Graciela Quenama Lucitante, Alexandra Narvaez, and Morelia Mendua, carrying spears symbolic of their role, watch over Cofán ancestral land.

WE DIDN'T CARRY WEAPONS when we Ecuadorian Cofán began working as state-recognized guardians of our forests. Machetes, yes, but those were for cutting brush. Our guards had GPS trackers and heavy backpacks, loaded with food and first aid kits, for long stretches of overnighting outdoors. Each team of five Cofán headed out for a month at a time, after training in how to handle the presence of illegal intruders: loggers, poachers, gold miners, drug couriers.

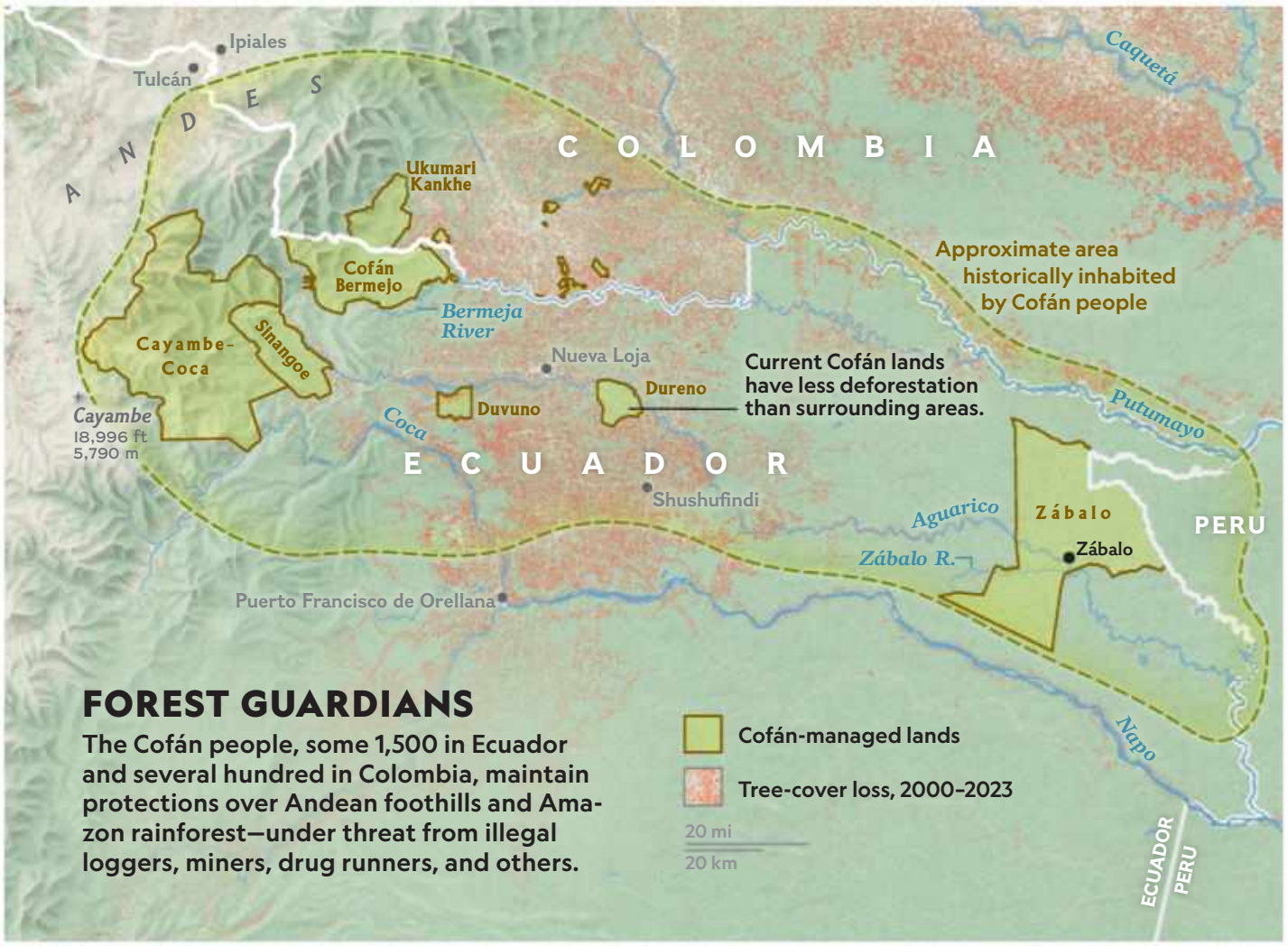
As a people, we call ourselves A'i, the speakers of A'ingae. There are about 1,500 of us Ecuadorian Cofán, with a few hundred more over the border in Colombia. Many of our guards had to learn enough Spanish to deliver their warnings: This is Cofán land, they would say. Ours, not yours. Confrontation was not the point; the guardians were empowered to call in the military as backup when the encounters turned dangerous. But that wasn't usually necessary. Their very presence was enough to persuade most invaders to leave the forests that the Ecuadorian government—pressed by A'i leaders of my father's generation—had officially designated Cofán-managed territory.

These forests, the homeland that Cofán have occupied since preconquest times, cover more than a million acres of Ecuador, from lowland Amazonia to the base of the Andes. And when our guardians program was at full strength, from 2003 to 2013, it was demonstrably successful. Satellite imagery during those years showed our forests remained robust and intact, even as the rest of Ecuador was losing forest at

A Cofán canoeist paddles in Ecuador's Zábalo River wetlands. Over a few decades, the government designated areas from lowland Amazonia to the base of the Andes as Cofán territory.

At age 10, Hugo Lucitante was sent to Seattle for a U.S. education. Now 37, he is back in his homeland, building a lab where researchers and Cofán will work together.

(Opposite)
Wings and other beetle parts were fashioned by Cofán into luminous jewelry.



MAP: SOREN WALLJASPER, NGM STAFF. SOURCES: MICHAEL CEPEK AND DAVID F. RODRÍGUEZ-MORA, UNIVERSITY OF TEXAS AT SAN ANTONIO; AMAZON NETWORK OF GEOREFERENCED SOCIO-ENVIRONMENTAL INFORMATION (RAISG); MATTHEW C. HANSEN, UNIVERSITY OF MARYLAND

one of the continent's highest rates. The teams also brought together Cofán from far-flung places. I now see this as a nation's unification: mountain A'i and lowland A'i, all trading and expanding their expertise.

Given the chance, I would surely have worked my own stint as a forest guardian. But I couldn't, because of a radical decision my community made about my upbringing.

Our history, like that of so many other Indigenous nations, includes defiant adaptation for survival purposes. The remote little village where I spent my early years exists only because during the 1980s about a dozen families, including my parents, began moving away from the oil-contaminated upriver town where they had lived. The new settlement of homes was named Zábalo, for the smaller (and cleaner) river nearby. My father and other elders grappled with new strategies to protect our forests, our waters, and our way of life in the decades to come.

So when I was 10, a monolingual boy who'd never seen an airplane or a sidewalk, the elders—and my parents—decided to send me away to the United States. In the care of an American who had been studying in Zábalo, I traveled from our village to Seattle and enrolled in fourth grade. I would receive a full U.S. education. The elders hoped that eventually, with summers home, I'd grow into a leader fluent in multiple languages and cultures. Maybe I'd help develop ecotourism or bring new ideas that might allow us a future without violation of our forests and waters.

As I completed high school in Seattle and worked my way through Brown University and into a graduate program at the University of Texas at San Antonio, this multiple-worlds coming-of-age was my life; tough and lonely at times, but not quite as jarring as it sounds. I had people

who loved and looked after me in the U.S. My family embraced me every time I returned to Zábalo. Today, finally, I'm back on Cofán land at 37, constructing a home with my wife, Sadie, and our daughter, and completing an anthropology doctorate. My work is in English, Spanish, and A'ingae. I dream in all three.

What of our forest guardians program? It cost about $400,000 a year to run, with roughly half dedicated to guardians' wages, and around a decade ago, the funding ran out. We'd been supported by foreign donors. In our experience, this is how philanthropy works: Support lasts until the funders decide that they've backed you long enough.

Which meant that although we retained legal authority over a portion of our homeland, we had lost the most effective and assertive way to watch for intruders. We began to see new river pollution from illegal small-scale mining. Commercial hunters and fishermen started showing up in places that were supposed to be protected.

We've received other help here and there. Some of us participate in a government program that discourages deforestation by paying landholders for not cutting their trees. I'm also a board member of our Cofan Survival Fund, which is an American nonprofit and has received recent grants from the North Dakota–based Azimuth World Foundation for reassembling a modest version of the guardians program. The current funding will let us train and mount a few patrols this year, covering a small part of Cofán territory, and provide small stipends.

And this is crucial for us: The guardians will again be paid. If the world wants truly sustainable

Ña sema'mbata'tsû Inglésgae, kukamangae tuya'kaen A'ingae. Tsa pûi aya'fangaengi ayu'upa kanse.

Translated from A'ingae:

My work is in English, Spanish, and A'ingae. I dream in all three.

defense of its endangered forests and waters—not just for our sake, but for the planet's—then the protective work of tribes like the Cofán needs to be recognized for what it is: the hard, ongoing labor of people who must feed their families and raise their children.

I've spent too much of my life resisting the Harmonious Indigenous People Who Live and Think the Same categorization. Our Cofán communities are complicated, probably like yours. My own experience—what I've learned from the elders who took the risk in sending me to the U.S.—has taught me that the best way I can help is to encourage greater mutual understanding and respect between outsiders and Cofán.

Sadie and I have a plan for that, in fact. We're building a laboratory on an ancestral site we've picked out. We want foreign scholars and Cofán working here side by side, learning from each other, to produce research that combines outside scientists' scholarship with botanical and cultural knowledge the A'i have developed over generations. Ultimately, we hope, this will become a place for new groups of wage-earning guardians to board and train—plus, a state-recognized hub for younger Cofán, who often don't make it to graduation in Ecuadorian high schools. The broad focus of study we envision for everyone, of course: the natural life around us and the Cofán language, with the history and story it carries.

As the elders have told me all my life, without the forest and A'ingae, our nation will no longer be Cofán. Safeguarding both is now up to us. □

On Cofán-managed land, the Bermeja River winds around a patchwork of polluted open pits made by trespassers who exploit these ancestral lands to illegally mine gold.

STEWARDSHIP

A SACRED JOURNEY

Buryat Mongol elder Erjen Khamaganova shares how Mongolia draws from Indigenous values in protecting its land.

WORDS BY
ERJEN KHAMAGANOVA

PHOTOGRAPHS BY
KILIII YÜYAN

LAST FALL, Mongolian herder Bazar Losol led our small group of elders through the Altai Mountains. When the afternoon light bathed the rocky cliffs, it revealed a hidden world of petroglyphs depicting ibex, snakes, birds, suns, and moons. All are revered as messengers, connecting us to the heavens, the Earth, and the underworld. The ancient beauty of Bayan Undur, or "rich heights," mesmerized me. Yet a faint unease

Herder Tumen Ulzii Ivshintseren sets up a *ger,* or yurt, for guests in the highland meadows of Mongolia's Altai Mountains. Mongolian nomads' symbiotic relationship with the land is foundational to the country's conservation initiatives.

settled in. The scene felt incomplete.

Then Bazar stepped out of the shadows. The intricate, shimmering patterns on his dark blue *deel,* a traditional robe, seemed to mirror the patterns etched in stone. In that moment, I understood the source of my restlessness: the absence of people in this sacred place. Unlike the Western view, which often excludes people from landscapes for protection, our tradition emphasizes relationships with nature. Bazar's dignified posture and his deep reverence for this place embody our conservation philosophy: the unbreakable bond joining human, nature, and culture. This connection is also evident in the tireless work of Indigenous groups who designated Bayan Undur (Mongolian transliteration system used) as a community protected area. Because of their dedication, these treasures remain largely unspoiled.

This deep connection to our land fuels Mongolia's progressive conservation efforts. Three decades ago, after the collapse of the socialist order, the country

returned to its Indigenous roots and adopted a pioneering plan to protect 30 percent of its land—long before the United Nations endorsed a similar 30-by-30 target in 2022, to safeguard 30 percent of the planet's land and water by 2030. Over the past few years, Mongolia has dramatically expanded its protected areas—now covering about 21 percent of the land—positioning it among world conservation leaders. The forces of globalization affect Mongolia, no different from other countries, and it faces formidable environmental challenges like mining, overgrazing, and habitat loss. Yet Mongolians hold a powerful asset. By embracing traditional values of reciprocity, spiritual connection, and respect for all life—values shared by Indigenous peoples worldwide—Mongolia can lead by example.

Bazar, our host and guide, holds a revered position within the Elders Council of the World Union of Indigenous Spiritual Practitioners, an alliance of traditional knowledge holders working together to protect Mother Earth. We, a small group of WUISP members, were embarking on

Mongolia has 12 official state-worshipped sacred mountains, part of the roughly one-fifth of land that is protected. In the Altai foothills, this safeguarded area, called Burgasny Khundii (Willow Valley), is known for its large ibex population.

a pilgrimage to the land of the snow leopard. In the breathtaking mountains, we gathered for ceremonies to consecrate WUISP's highest honor. This year, the elders chose a jade sculpture we've named the "Tear of the Snow Leopard" to represent our collective gratitude to Rodney Jackson, an expert on the endangered snow leopard and its ecosystems, who has dedicated more than 40 years of his life to partnering with communities and Indigenous peoples in all 12 countries the animal inhabits.

Photographer Kiliii Yüyan joined us on this pilgrimage, his lens capturing the profound beauty and spiritual significance of the journey. While some communities hide their sacred practices, we believe now is the time for openness. Sharing our ceremonies can inspire critical reflection on humanity's connection to nature, challenge current approaches, and foster new perspectives.

Buyanbadrakh Erdenetsogt—Buya for short—led our ceremonies, acting as a mediator among humans,

'Ариун дагшин газруудыг тахих шүтэх уламжлал бол байгалийг хайрлах хамгаалах хамгийн сайн арга ухаан юм.'

BUYANBADRAKH ERDENETSOGT, SPIRITUAL PRACTITIONER

Translated from Mongolian:

'The tradition of honoring sacred sites fosters a deep connection to the land, offering the most effective way to lovingly protect nature.'

spirits, and nature. Though anthropologists use "shaman" (a word of Tungusic origin) to define this phenomenon, in Mongolian culture, our traditional belief system is called Boo murgel, which involves communication with spirits, nature, and ancestors for guidance and healing. We worship the Eternal Blue Sky as our highest deity and Mother Earth as a source of life. Despite influences from Buddhism, other religions, and atheism, Boo murgel remains an integral part of Mongolian identity, particularly in nomadic communities.

Buya, at 39 the youngest member of the WUISP's Council of Elders, directed our pilgrimage to the heart of the snow leopard's domain, seeking the blessing needed for the jade miniature. Reaching the road's end, we abandoned our vehicles and clambered awkwardly onto horses. A challenging ascent was the final hurdle before the blessing ceremony. When we reached a plateau, we set up camp beneath the watchful gaze of Sutai Khairkhan, a magnificent glacial peak and one of Mongolia's 12 state-worshipped mountains, which the president honors with special ceremonies every four years.

Nomadic pastoralist and leader Bazar Losol stands next to petroglyphs at Bayan Undur. The site gained protected status in 2019 through collective efforts by the local community.

Amid the awe-inspiring landscape, Buya opened the sacred space with an invocation of the local deity, the guardian spirit of the mountain. We then united in prayer for the well-being of all life, for peace and harmony. Our voices carried through the crisp air, expressing our gratitude to Mother Earth and seeking the continued benevolence of the Eternal Blue Sky.

Much to our astonishment, Buya brought with him an unlikely contribution: watermelons. This playful offering aimed to charm the local spirits, echoing the old Mongolian expression *"Baigalia argadah,"* which translates to "Coax nature." Even though the spirits typically favor locally produced food—and watermelons are not native to Mongolia—Buya argued that this unconventional gift was more than appropriate, for the powerful spirits of the mountains are sometimes like curious and mischievous children. Perhaps they gazed with amusement upon the watermelons tumbling down the Manhan cliffs the following day, bursting over the white snow with green and pink, covering the valley with seedy blessings.

Ceremonies are conservation. That is their purpose and their power. Buya's ceremony, and the deep joy and bliss it evoked in all participants, demonstrates this truth. Only by embracing place-based Indigenous wisdom can we possibly hope to protect our shared past and humanity's shared future. □

OKLAHOMA

CULTURE

RISING STARS ON THE PRAIRIE

Native filmmakers have built a thriving hub for talent in Tulsa.

WORDS BY **TIM LANDES**

Actors Paulina Alexis (Alexis Nakota Sioux), D'Pharaoh Woon-A-Tai (Oji Cree), and the legendary Wes Studi (Cherokee) film a scene for the series *Reservation Dogs* on location in the Tulsa area.

PHOTO: SHANE BROWN, FX

TIM'S MIDTOWN DINER in Tulsa, Oklahoma, used to be just the local greasy spoon where I could get a big waffle and a hot coffee any day of the week. But since appearing on FX's Peabody Award–winning series *Reservation Dogs,* it's become a bit of a pilgrimage spot. (FX and National Geographic Partners are part of The Walt Disney Company.) In one memorable scene, actors Ethan Hawke and Kawennáhere Devery Jacobs (Mohawk) sit across from each other at a table a few feet from where I was dining. "It brings a lot of people in," my server said of the show.

Co-created by the Tulsa-based showrunner Sterlin Harjo (Muscogee, Seminole) and Oscar-winning filmmaker Taika Waititi (Māori), "Rez Dogs" tells the story of four Indigenous teenagers coming of age on a reservation in northeast Oklahoma. After a local red-carpet premiere, the series debuted in August 2021, and then suddenly on my TV screen there were Native kids I could have hung out with in high school, in a neighborhood that could be the one outside my window. It was authentic and heartfelt and a world away from the stereotypical depiction of Natives living in tipis and riding horseback. Rez Dogs proved that Native stories told by Native storytellers could succeed on a pop-culture scale: Two months later my social feeds were filled with images of kids and teenagers dressed up as the show's characters for Halloween.

Most significant, the series sparked a Native filmmaking boom, centered in Tulsa. Fittingly, the city sits at the meeting point of three nations—Cherokee, Muscogee, and Osage. The show's three seasons showcase Oklahoma's varied landscapes, from the green Ozark hills and the rivers that flow throughout the Cherokee Nation's 7,000 square miles, to the prairies in the central region, to the Great Salt Plains in the north and the mesas near the panhandle. Okmulgee, the Muscogee Nation capital, stood in for the teens' fictional hometown of Okern.

Then there is Tulsa itself, a metropolis of more than a million people, with an art deco skyline that dates back to the early 1900s when the city was known as the "oil capital of the world." Some downtown locations subbed for Los Angeles in Rez Dogs. They also show up in the Martin Scorsese epic *Killers of the Flower Moon,* which was largely filmed nearby on the Osage Nation Reservation.

Harjo employed local crew, many of them inexperienced at the time. He also inspired other Indigenous creatives to come to town,

including writer-director Erica Tremblay (Seneca-Cayuga), who filmed the Sundance favorite *Fancy Dance* throughout the area with actor Lily Gladstone (NiMíiPuu, Siksikaitsitapi). Gladstone, who was nominated for an Oscar for her role in *Killers of the Flower Moon,* also appeared in Rez Dogs.

IN 2022, SEEING AN OPPORTUNITY, my tribe, the Cherokee Nation, became the first in the United States to launch a film incentive program. The initiative provides financial backing for the use of Indigenous cast and crew, as well as film locations on the reservation. That same year, Cherokee Film opened a 27,000-square-foot studio on the reservation in Owasso, less than 15 minutes from Tulsa International Airport. The soundstage, sitting off the side of a highway, is a converted indoor soccer facility. A second soundstage, spanning 10,000 square feet, is being built next door. In two years, the tribe has invested more than $10 million in its film office and incentive program.

Cherokee Film maintains an online database of Native talent and crew with more than 2,000 verified listings. Among them is local Cherokee filmmaker Jeremy Charles, who operates Pursuit Films, a production services provider for local shoots and for tribes across the continent.

The Cherokee Film studio offers motion capture, mixed reality, and 3D capabilities. “There

PHOTO: AUSTIN PARKER, CHEROKEE FILM STUDIOS; NGM MAPS

is no technology like this in the region, much less available to Native filmmakers," Charles says. "Working as a Native in the industry, I really feel fortunate that Cherokee Film is leading the way for Indian Country."

There are more projects on the horizon. Choctaw filmmaker Kyle Kauwika Harris, who earned numerous awards in 2017 for his Standing Rock documentary, *I Stand: The Guardians of Water,* filmed the crime drama *Out of Exile* here in 2021, with support from Pursuit Films. Harris and Pursuit will team up again for the action thriller *Huntsman,* set to film in Oklahoma this summer. And soon Harjo and Hawke will reunite to shoot a pilot for FX, the Tulsa noir *The Sensitive Kind*.

These days, I'm often detoured around film sets as I drive around town. Once, I had to go elsewhere for a cup of coffee so Sylvester Stallone could be filmed sipping an espresso for the Paramount+ series *Tulsa King*. Another time, I had to reroute through downtown because the actor Jesse Plemons was pretending to escort a criminal out of a building for *Killers of the Flower Moon*.

"Tulsa used to be a ghost town for creatives, and now look at us: Everyone wants to come here and be a part of it," Charles says. "The talent is clearly here. You can fully book an entire movie with 100 percent Native talent. We've come a long way. Now we have to do the work." ▯

***Land of Gold,* a non-Native movie about a Punjabi American truck driver, used state-of-the-art production facilities outside of Tulsa founded by Cherokee Film in 2022.**

ON LOCATION IN OSAGE NATION

The Academy Award–nominated *Killers of the Flower Moon,* about the murders of Osage people in the 1920s, was filmed in and around Tulsa and the Osage Nation Reservation.

Guided tours of filming locations begin at the Tall Chief Theater in Fairfax, an hour northwest of Tulsa. (Reserve at *tallchieftheater.com/take-action.)* Developed by a tribal member, the late Joe Conner, and now led by his widow, Carol, the tour conveys Osage history and culture at stops that include the historic Masonic lodge.

For self-guided tours, begin your exploration at the **Osage Nation Museum** in Pawhuska. About an hour north of Tulsa, Pawhuska is the capital of the Osage Nation.

In addition to visiting film locations, stop at some of the Native-owned small businesses in town, such as **Saucy Calf,** a new Native food restaurant from Osage citizens Asa Cunningham Concha and Jamison Concha. **Big Rain Gallery** focuses on Native art, founded by Osage citizens Addie Roanhorse and Jill Jones. The tribe offers lodging at the nearby **Osage Casino.**

Respect the tribe's wishes and don't visit Grayhorse Cemetery, where the victims of the "Reign of Terror" are buried. For more insight, visit *osageculture.com*.

DOCUMENTARY FILM

THIS SUMMER National Geographic will release the award-winning film *Sugarcane* in theaters. Directed by Julian Brave NoiseCat and Emily Kassie, it explores the ramifications of abuse on members of the Williams Lake First Nation while they attended St. Joseph's Mission Residential School in British Columbia.

This is NoiseCat's first foray into filmmaking. A Canim Lake Band Tsq'escen and descendant of the Lil'Wat Nation of Mount Currie, he has worked as a journalist and an advocate, a policy analyst and a political strategist. In 2019 he helped organize an Alcatraz canoe voyage to mark the 50th anniversary of the San Francisco island's occupation by Indigenous activists pushing for the land's return. The following year he spearheaded the successful grassroots campaign to nominate Deb Haaland as the first Indigenous U.S. secretary of the interior.

For NoiseCat, *Sugarcane* is a personal story: His father was born at St. Joseph's under difficult circumstances. The documentary underscores "the enduring power of the Indigenous communities," NoiseCat told the audience at its Sundance Film Festival premiere.

MAGAZINE

For the August issue of *National Geographic Kids,* Palauan artist Elsei Tellei created a comic strip based on a local tale about a mother, her son, and their magical breadfruit tree. Subscribe at *natgeokids.com*.

TELEVISION

Protecting Paradise highlights conservation in Niue Moana Mahu, a marine protected area in the Pacific created by the Niuean people with support from National Geographic Pristine Seas. Stream it on Disney+ and Hulu.

PHOTOS: EMILY KASSIE, SUGARCANE FILM LLC; ELSEI TELLEI; MANU SAN FÉLIX

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