Strungazine Structure

IN THIS ISSUE: SURVIVING KAMCHATKA: PART ONE STILL CRAZY: HELI-SKIING THE QUAIL OF CASS COUNTY WELCOME TO WINTER WITH DOUG STEINKE COSTA RICA'S HIDDEN GAMEFISH HOWL: THE DINGO ATE YOUR BABY ... UH, KANGAROO ACTUALLY THE DINGO ATE YOUR BABY ... UH, KANGAROO ACTUALLY

OF CLIMATE CHANGE.

CHANGE IS INEVITABLE. RENOWNED ADVENTURER/PHOTOGRAPHER SEBASTIAN COPELAND SHARES HIS THOUGHTS ON WHAT WE CAN DO TO CHANGE THE CHANGE.

CELEBRATING OUR 1ST ANNIVERSARY



Howl

The hierarchy of nature is kill or be killed. When this becomes unbalanced, it needs to be disrupted. Hunting the hunter is the full-time job of Richard Barnsley, a vertebrate pest officer in Australia. "Howl" is his story.

Surviving Kamcatchka

An incredible journey to a fabled land does not come without sacrifice. Canadian field editor Alexei Boyanowsky delivers Part One of this engaging experience while chasing rainbows in the Far East.

Gear Guide

A mindful selection of outdoor equipment and sensible gifts for anyone on your gift list this season. We've added a digital component to your print experience: Simply scan the QR code with your phone to watch the product video.

Still Crazy - by Neal Rogers

Are you among those who believe that no winter experience produces more adrenaline than jumping out of a helicopter to ski down an unguided, unpatrolled mountainside? If the answer is yes, read this article first.

Chromers

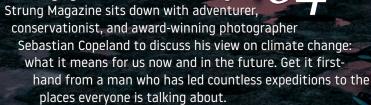
Sometimes the weather can dissuade an angler from putting on waders. Every so often, the decision to defy nature's suggestion is fruitful. Robert Stark shares a tale of winter weather and Canadian chrome.



Pavement is Lava: Gambler 500 - by Arian Stevens

Without the lights and cameras, without large cash prizes and celebrity appearances, racers engage in an epic battle on the track with their sites locked on the ultimate goal: completion. Their motivation remains a mystery, but it sure is entertaining.

The Changing Climate of Climate Change



Keystone Chrome

Pennsylvania may not be one of the first destinations that comes to mind when considering a winter fishing outing. Nick DelVecchio thinks it should be.

Puppy Picking



Selecting a new dog to be your child's pet, your hunting partner, and the newest member of your family is a major life event. The folks at Ryglen Gundogs in Illinois believe it should be something more than a business transaction. See how they make it special.

Strungazine States

Jennifer Fairbrother and Jake Crawford of the Native Fish Society, a conservation-based organization that advocates for the recovery of wild, native fish, discuss the dams of the Pacific Northwest. Don't skip over this highly informative piece.

Welcome to Winter with Doug Steinke Friday morning. Ten a.m. Platte River, Nebraska. Late November. Lesser Canadas are coming. Possibly the best waterfowl feature in our wheelhouse, and it won't be equaled anytime soon.





Quail of Cass County

Editor Ryan Sparks is not interested only in wild foods. He's also an avid hunter and fly angler. His tale is of learning to hunt and the once-plentiful quail of Cass County, Minnesota.

Rations & Intoxicants

The Wild Game Cooking of Jenny Nguyen-Wheatley, author of Hunting for Food: A Guide to Harvesting, Field Dressing and Cooking Wild Game, which won a Wildlife Honor Award from the Nebraska Center for the Book in 2016.

Venison Birria

A recipe by Jenny Nguyen-Wheatley - Birria is a spicy Mexican stew traditionally associated with the state of Jalisco. Typically made with goat, this version using venison should be on your holiday menu.



Cocktails in the Wild - by Lydia Reissmueller Parsley

Based on the Scaffa, or "cupboard" cocktail, traditionally kept by Italian grandmothers as a way of always having a stiff drink on hand to offer guests. Field-tested, hunter-approved.

Rolling the Dice on Reno Singletrack

MTB editor Robert Annis takes on Nevada's Sierra Canyon Trail, Flume Trail, and Ash-to-Kings Canyon Trail, adding grunts and quips along the way.

Costa Rica's Hidden Gamefish - Jesse Males

Machacha are a freshwater species that cracks nuts with its teeth and leaps like a tarpon. Travel to a remote river in the rainforests of Costa Rica to find a virtually unknown fishery boasting machacha in the 8- to 10-pound range—nearly triple their average size.

Tombstone Grayling

Joel Clifton voyages to Tuktoyaktuk, in Canada's Northern Territories, in search of Arctic grayling in the Blackstone River. It might not be a place you'd plan to visit, but maybe it should be.

Dams and Fish Recovery in the Northwest









SEBASTIAN COPELAND is considered one of the top 25 adventurers on the planet.

Polar explorer, award-winning photographer and author, and climate expert, Copeland has led numerous expeditions to document the endangered polar regions. He has addressed governments as well as audiences at the United Nations, universities, and many Fortune 500 companies, warning of the systemic transformations taking place at the planet's poles and their geopolitical consequences. He is a fellow of The Explorers Club and a member of the International Glaciology Society. His work has been featured in National Geographic, Outside, The New York Times, and many other publications.

Strung Magazine sits down with Copeland to get his view on climate change: what it means for us now and in the future—and what we can realistically do about it.

Q STRUNG: WHAT IS THE GREATEST THREAT WE FACE FROM CLIMATE CHANGE TODAY?

A COPELAND: To measure the true impact of climate change. I think it is important to contextualize it against the backdrop of our rapidly changing world. That is what the Defense Department has tried to ascertain going back two decades. It is easy to tune out incremental changes and kick them down the road. And while the big picture may well involve a longterm existential look at humanity, a less distant but just as nefarious feedback stems from how climate change destabilizes societies. Exponentially mounting costs, relocation, conflicts over land and resources are some of those feedbacks, which result in the weakening of our collective freedoms. They present a real threat to democracies. In short, climate change is the single greatest disruptor civilization has ever known

With the desertification of vast swaths of land and coastline erosion from rising seas. life—human or otherwise—is becoming unsustainable in many regions of the world. Through the course of this century hundreds of millions of climate migrants will exercise their claim to life, and will look to settle in more clement and economically prosperous regions. But in many of these parts, the growing challenge of job obsolescence from technology and the socioeconomic consequences of pyramid-shaped economic models will have profound implications on governance. A basic universal income is virtually unavoidable for the future, and how to balance federal budgets with less taxable income from labor will be one of the many issues testing our current political model.

And when we add increasing waves of climate migrants to this toxic mix, it is easy to see how fear becomes the fertile ground over which xenophobia and populism grow. We can build as many walls as we can dream of, but history teaches us that, aside from their steep sociopolitical price, they always dramatically fall. It's just a matter of time. That is particularly true when people on the other side are fighting for their lives. The growing repression of migrants that we have witnessed globally is a harbinger of a worsening humanitarian crisis. Besides, ballooning climate impacts will soon force governments to make decisions that will challenge legislative representation. The weakening of our democracies is paving the way for what I have coined as an oncoming ecological dictatorship: When votes cannot get the job done in time to avert existential environmental threats, states—or worse, foreign entities-will take matters in their own hands, circumventing the invariably drawn-out and partisan voting process, or the sovereignty of nations. Recent international tensions over the Amazonian fires would intimate as much. If we come to that, all bets are off for individual freedoms: Repression will increase, and conflicts will grow. Ultimately, climate change is threatening to dehumanize us and challenge one of the cornerstones of humanity: our empathy. If the mark of an advanced society has been to secure life as a basic human right, we are quickly and alarmingly devolving it into a privilege.

Q STRUNG: WHAT IS THE GREATEST FACTOR AFFECTING CLIMATE CHANGE TODAY?

A COPELAND: The factors are well documented: We pour so much carbon dioxide into our atmosphere that we not only raise global temperatures but fundamentally change the chemistry of our oceans, choking their ability to make life. Coral reefs are dying around the world: These are home to one-quarter of all marine life. The changing pH is also killing plankton life at the base of the food chain. By 2050, there will be more plastics in the ocean than fish. And ice at both poles





is melting seven times faster than it did in 1979, disrupting air and ocean currents while redrawing the maps of our world.

Adding to this is human encroachment. In the short time that we have been in existence anatomically modern humans are barely 175,000 years old—we have stripped the Earth of more than half of its trees (trees date back 350 million years). Oceans and trees are the planet's biggest carbon sinks. The third, soil, is losing by as much as half its ability to absorb CO, as a result of extreme weather events.

Nature is vanishing before our eyes. We've

learned that 1 million in 8.7 million species **A COPELAND:** We will not mitigate the worst are at risk of extinction within decades, and impact of climate change without reshaping that 75 percent of the world's lands and 60 our attitudes. Every credible study points percent of its marine environments have to the need to expedite a draw-down been significantly altered by humans. By of our reliance on fossil fuels in favor of 2050, only 10 percent of the planet will renewable solutions. But without presenting remain untouched. economically viable alternatives that do not significantly affect our quality of life, there Meanwhile, urban living areas have doubled will be little market traction. And for this, we since 1992 and will double again by 2050. need officials to invest political capital—not With that comes increasing stress on an easy task, electorally. Ultimately, there are three agents to systemic and lasting change: resources to sustain the projected 6.5 billion the public sector, the private sector, and of us who will live in cities by 2050. The need for electrification, transportation, food public opinion. The conundrum is that each production and distribution—these will all can only move as fast as the slowest agent. increase exponentially in the coming decades. So change at that scale is not fast. But the single most effective way to institute change is education.

And if the Earth loses 10 percent of its hydrology and 7 percent of its global calories with each degree of rise, our planet is already 0.8°C warmer than it was in 1880. The transformations have already been far-reaching and exponential. So we are on a collision course with the math because conservative estimates place at 3°C the rise in temperatures by the year 2100.

In short, the optimization of carbon energy luxury of time. may well have led to the most significant spur Decentralized electrification from renewables of growth and prosperity in our history, but it has also created what could potentially be and smart-grid distribution; the circular unsolvable challenges. To think that we will be and shared economy; e-transportation on this planet forever is a stretch of reason, and smart-cities transportation; and the but to speed up the process as we have scaling of carbon capture and sequestration is simply suicidal. Ultimately, the greatest technologies: In a vacuum, this four-point

challenge is not with the environment: It is with human attitudes. Borne out of the Age of Enlightenment, we have cultivated a naive ideology that we are the Earth's ruling class. In modern times, this has fostered a delusion that we can bend physics to our needs and engineer our way out of universal rules. However clever we are, on this planet at least, you can challenge gravity all you want, but it remains that if you drop a brick on your foot, you will get injured.

Q STRUNG: WHAT IMMEDIATE ACTION CAN WE TAKE TO RESOLVE OR IMPROVE **CLIMATE CHANGE?**

Technology is well on the way to offer a path to sustainability. And there is little doubt that we will get there. Churchill used to say of America—and I think that it applies to humans in general—that it always does the right thing. But that generally takes exhausting every other option before getting there! Unfortunately, we do not have the

plan, along with education, is enough to categorically solve the emissions crisis within one generation. But do we have the appetite for it today? The fate of the human race could well hinge on that question.

- **Q** STRUNG: DO YOU THINK THE DEMOCRATIC PLAN CALLED THE "GREEN NEW DEAL" IS VIABLE, OR IS IT JUST A CAMPAIGN PLATFORM FOR HOPEFUL PRESIDENTIAL CANDIDATES? IN OTHER WORDS, WILL **BANNING COMBUSTION ENGINES, AIR** TRAVEL, AND THE FLATULENCE OF CATTLE CURE OUR DISEASE?
- A COPELAND: The paradigm of industrial development has pitted profits against planet; its compounded cost is only just becoming clearer. We have been mostly reacting to environmental challenges, but crisis management is not a strategy. We need to implement a plan for risk mitigation that spans the many layers of our changing world.

The Green New Deal is little more than a long needed desegmentation of ecology and economy, while accepting that current global problems cannot be solved by the systems that created them in the first place. That is, of course, if the welfare of all is indeed what we are after.

The coming fourth industrial revolution is a boom of opportunity whose hallmark must be a market transformation towards a sustainable economy. It is the most logical evolution for mankind if we are united in the face of mounting socioeconomic, environmental, and technological challenges. [The Green New Deal] may be ahead of its time in the United States, but it is in no way groundbreaking: Other First World countries have adopted many of its tenets as a roadmap for the future. Scandinavian countries come to mind—notably Norway, whose Sovereign Wealth Fund is the largest in the world. Norway recently announced its divestment from profitable carbon interests.



The challenge in the current discussion is not a lack of scientific evidence—there is more than enough of that. It is the dichotomous relationship between science and opinion makers. Climate science is disciplined and methodical but relies on modeling, which by definition is conclusive only to the highest probability. Opinions, by contrast, are generally impassioned and absolute in conviction, but mostly arbitrary and opportunistic in motivation. It's a bad marriage.

In addition, it is not insignificant that the Business Roundtable, an association whose members comprise the CEOs of America's largest companies—not exactly a socialist cabal—has recently reworded its mission statement to declare that profits are no longer the primary fiduciary responsibility to shareholders, and that other considerations such as worker welfare, CSR, R&D, and charitable causes also play a critical role in a corporation's governance.

Some conservative pundits have been quick to denounce cultural efforts to reflect those changing attitudes by raising the specter of communism. But they would do well to take stock of the growing global interest to examine and redefine who we are as a people. If science and technology are the next wave of innovation, the third ingredient must be empathy, lest we allow algorithms and AI to eclipse our relevance in the long run.

Nothing in Darwinism theoretically suggests that humanity is the final stage of evolution. The Green New Deal is one step in reaffirming our existential relevance.

Q *STRUNG:* IS THERE SUFFICIENT SCIENTIFIC EVIDENCE TO SUPPORT CLAIMS OF CLIMATE CHANGE AND SILENCE THE OPPOSITION?

A COPELAND: The challenge in the current discussion is not a lack of scientific evidence there is more than enough of that. It is the dichotomous relationship between science and opinion makers. Climate science is disciplined and methodical but relies on modeling, which by definition is conclusive only to the highest probability. Opinions, by contrast, are generally impassioned and absolute in conviction, but mostly arbitrary and opportunistic in motivation. It's a bad marriage.

Influencing public opinion ultimately relies on the bigger soapbox. Increasingly, Nature speaks the loudest; and, perhaps sadly for some, it does not negotiate. While this may be incontrovertible, it should not surprise us that people have proportionately stronger opinions when their interests are at stake. And more than anyone, special interests have a lot at stake. So it is important to contextualize the discussion.

Just as a court of law may examine the circumstances that have led to a crisis, so, too, should we consider who stands to benefit from staying the course—and what role they play in sowing the doubts that have fueled the systematic repudiation of science. Of the 120 million companies existing in the world today, only 100 contribute to 71 percent of global emissions. Just five of those have collectively spent one billion dollars in counter-information messaging since 2016 to discredit the findings of the Paris Climate Agreement and to promote the illusion that there is a legitimate debate on climate change. In their defense, fossil interests are fighting an existential war of attrition of their own to defend their fundamental purpose as defined by geoeconomics for more than a century. And that conditioning dies hard. The fossil fuel industry in particular has benefitted from government subsidies for a long time on the premise that it takes enormous resources to bring a well to production, with many expensive dead ends along the way. Because we are a carbon economy, it has been incumbent upon governments to ensure steady supplies of energy and prop up those interests, at times mobilizing enormous geopolitical investments to secure them.

But that narrative is increasingly being challenged by renewable alternatives. The fossil industry persists in promoting the premise that our energy needs cannot be sustained by renewables alone. But most markers suggest that renewables could supply at least 80 percent of global energy needs. Besides, isn't necessity the mother of invention?

The tide is slowly turning, furthering a landscape of partisanship and division. Remarkably, this has come to be a partisan issue; that was not always the case. Among those who stand to benefit from drilling policies are lawmakers themselves: Those who have maintained denial positions have come to rely increasingly on funding from energy lobbies. The story they have peddled to their constituents has now taken on a life of its own, generating a vicious feedback loop.

There is little indication that this conflict will be settled with rational arguments any time soon. It is generational, and the old guard has not shown an appetite to mobilize—unlike their younger counterparts. Unfortunately, time is not on our side.

TO LEARN MORE ABOUT SEBASTIAN COPELAND'S WORK AND FOUNDATION, SEDNA, YOU CAN VISIT HIS WEBSITE: SEBASTIANCOPELANDADVENTURES.COM

