

Falk Huettmann



Protection of the Three Poles



 Springer

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Cover Illustration:

Front Cover:

Upper: A large new walrus colony in 2007 at Cape Kozhevnikov; Chukotka, Russia (photo by Andrei Boltunov).

Center: Tourists from the *Marina Svetlaeva*, Aurora Expeditions, on an ice floe near Coulman Island, off Antarctica, January 2009 (photo by R.E. Barwick).

Lower right; from top, clockwise: A sadhu (holy man) from Pashupati Temple, Nepal (photo by Nakul Chettri). Himalayan rhubarb (*Rheum nobile*), North Sikkim, India (photo by Nakul Chettri). Antarctic toothfish (*Dissostichus mawsoni*) (photo by David Ainley).

Bottom, front and back cover: A map created by MARXAN showing a strategic conservation scenario for Antarctica by Falk Huettmann.

Back Cover:

Upper left: One of many sacred mountain sites in the Hindu Kush–Himalayas” (photo by Nakul Chettri).

Upper right: Polar bear roaming at a walrus colony at Cape Kozhevnikov; Chukotka, Russia (photo by Valeria Sebeova).

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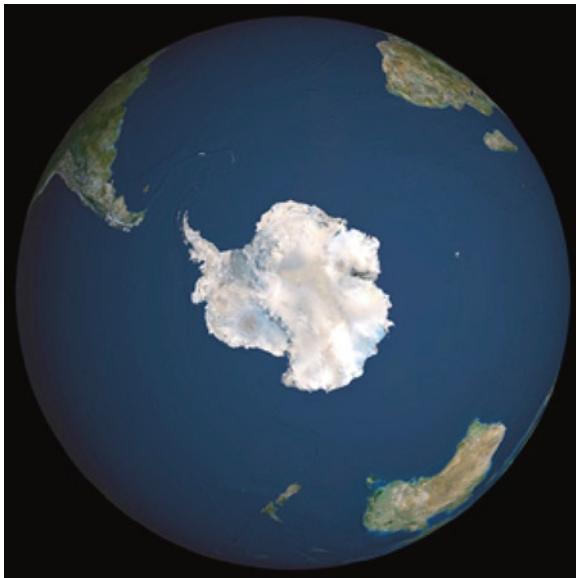
*I dedicate this book to all people and their
future generations. May they use science
for the greater benefit of mankind.*

Foreword

Epitaph for the Poles?

An Epitaph for the Poles, North and South, might one day read:

How they graced Planet Earth, anchoring magnetic fields. They were wedded to Auroras, Borealis, and Australis. With their wildly extreme environs, the poles were evolutionary crucibles for spectacular life forms. They inspired the greatest of adventurers, then punished them severely for their trespasses. Yet they were good for many who never knew them. Along with the atmosphere and the rainforests, they moderated the Peoples' climate for 2 million years. Then a dangerous game of growth was played and the polar team lost: Wall Street Bulls, \$75 trillion GDP – Polar Bears, 0.



Note that the game is far along already; global GDP is currently about \$62 trillion. So when they decided to write *Protection of the Three Poles*, what were the authors thinking? Most folks have already given up on polar protection. Polar bears are leading a long, sad procession of species off the poles, into the darkness of extinction. The list of polar contaminants increases with each new study. Nations and oil companies are staking their claims on the oceanic oilfields, newly accessible amidst the melting ice. Perhaps the best summary of polar problems is “*etcetera, etcetera.*”

You might then wonder, why even include a question mark in “*Epitaph for the Poles?*” Why not just pronounce them dead and crack open a beer?

Because of the people who wrote *Protection of the Three Poles*, starting with the editor, Falk Huettmann. Huettmann, who also authored and co-authored several chapters, is among a new generation of ecologists who grasp the big picture, not only ecologically but economically and politically. In particular, they recognize that economic growth is destroying Earth’s great ecosystems, even entire biomes.

In addition to their scientific specialties, surely all these authors know that the causes of biodiversity loss are a Who’s Who of the global economy. They know that fossil-fueled economic growth is tantamount to climate change. They know that talk of economic growth based on alternative fuels is low octane and 99% fumes. They know that international diplomacy on capping emissions is stalled on grounds of economic growth. They know quite a bit, and their knowledge is steeped in sound science.

I hesitated to write a foreword to this scientifically rigorous book, as my admiration for science is ebbing. Incredibly expensive ecological studies have done incredibly little to stem the tide of environmental degradation. Too few researchers have taken their ecological expertise – their knowledge of the economy of nature – and applied it to the machinations of the human economy, or even to educating the public and policy makers on the tradeoffs they face between economic growth and environmental protection. Some ecologists have even sold out on the economy of nature and bought into the oxymoronic rhetoric of “sustainable growth.”

Huettmann is an exception, and so is *Protection of the Three Poles*. This book begins and ends by clarifying the fact that all the science in the world won’t save the poles – that includes the “Third Pole” (Himalayas/Tibetan Plateau) – unless human populations and their per capita consumption stabilize. This understanding makes it easy for the reader to connect most of the chapters in *Protection* with the perils of economic growth.

In other words, this is a book in which the reader will seldom be far from recognizing the root problem. This makes it a book worth forewording. It also makes it a book worth circulating.

My sincere hope is that readers will follow the lead of Huettmann and company and do more than study the problem to death. That only leads to epitaphs and eulogies. The challenge to polar protection (and atmospheric, oceanic, tropical, etc. protection) is far less technical than economic. But economic policy reform isn’t for the faint of heart. Economic growth is a real political bear.

And that’s the bear we’d like to see ambling off the ends of the poles.



Aurora Borealis mourns the melting of the North Pole

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Preface

Globalization has hit the “three poles” (the Arctic, Antarctica, and the Hindu Kush–Himalayas) in a dramatic fashion. These three poles make up a powerful but forgotten unity. Together they hold the majority of the world’s ice and snow, and that makes them an essential part of the global climate engine and watersheds for billions of people. It is not only man-made climate change per se that melts them down, but also development, the one-sided promotion of economic growth, global tourism as part of an industrialized lifestyle, urbanization, electrification, westernization, militarization, and various other impacts that are not even recognized yet, let alone managed. Ignorance of biodiversity, destruction of the atmosphere, poor legal management concepts, political inefficiency, a so-called objective science that ultimately allows for environmental destruction, inappropriate governmental procedures and approaches, and lack of legal enforcement all have done their part one by one and cumulatively. Although globally proven to be disastrous in many ways, earlier ideas of sustainable development – “business as usual” – are still widely promoted, and many management and administrative bodies lack truly valid sustainability concepts even to maintain the status quo. Global ecological linkages, for example, with the tropics or the oceans, are rarely made or studied. Required institutional and national boundary changes are far from being discussed. Rather, major issues and intense controversies are on the increase in all three polar regions: oil and gas development (e.g., Bristol Bay in Alaska, the Mackenzie River in Canada, the Stockman gas field off Norway and Russia), tar sands in northern Canada, mining (e.g., the nickel smelter in Norilsk, Russia; zinc mines in Alaska), plankton harvest and fisheries [by the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in the Antarctic; or in the Norwegian–Russian Barents Sea], shipping, land disputes (Tibet, various native claims, tourist sites), and (commercial) reindeer herding and hunting of polar bears, marine mammals, and waterbirds. By now, an epitaph for the three poles is truly in order. Even the immediate and total protection of the poles can hardly stop the melting sea ice, draining glaciers, invasive species, diseases, contamination, cultural changes, and the human tragedy that started unfolding many decades ago and continues widely unnoticed by the public at large. New laws, and all the

goodwill by just a few, have yet to stop this process and the extinctions; the endangered species list just keeps getting longer, or it gets massaged with cheap talk and deception by corporate think tanks and their helpers in NGOs, in governments, and even in academia, misleading the public once more. Always, the environment pays the price. So, what can protection schemes really bring to the table?

This book is about the vast wilderness, the icy deserts, the landscapes and seascapes, the frontier land and its components, as well as about best professional practices. It is the first of its kind to present a consistent review of *the three poles*. It elaborates on the status and the pros and cons of polar protection schemes, and on what, if anything, can still be achieved when 10% or 50% protection levels are pursued, when Marine Protected Areas (MPAs) are added and when an updated management scheme is put in place, superseding the traditional ad hoc procedures that lack a thorough scientific base and global considerations. The recent International Polar Year (IPY) shows the global role of “modern science,” what it could and could not achieve in 2007–2008, and it provides us with a polar baseline and achievement metric. The urgency of the task does not allow for any delays whatsoever. It is clear from the chapters of this book that already our children will pay a huge price one way or another for the plundering of the past, the present, and what is yet to come: The human population is expected to reach more than 8 billion soon, and things will get very tight with “peak oil,” “peak fisheries,” “peak ice,” “peak water,” and “peak agriculture,” as well as when countries such as China, India, Brazil, and many African nations try to grow further by adopting lifestyles that ignore their own evolved culture. Ultimately, this book confronts us with the polar symptoms of a globally ruthless (Western) culture that neglected to promote the ideas of carrying capacity, sustainability, and even ethics, human well-being, world peace, happiness, and a balanced life. As this publication and its contributors show, there is no way back anymore as we evolve into a global (polar) village of an industrial kind. Hopefully, the change for a truly global sustainability will occur, if at all, using the best possible solutions and smoothest transitions possible. That is what this book and its contributors are about.

All proceeds of this publication go to the ‘Protection of the Three Global Poles Fellowship’.

A Prefatory Note from the Editor

The following experience is not an isolated event but is quite common among people who work on issues of polar, international, and environmental conservation and protection. Most practitioners I know have similar stories to tell.

I had just come back from a long and exhaustive wilderness expedition on Sakhalin Island, which is in the Sea of Okhotsk, off the east coast of Russia. Arriving at London's Heathrow Airport around 10 P.M., I now had 16 h of flying behind me. The next day, Sunday morning, I had to be in Oxford for an invited conference and speaking engagement on "The Changing Earth." Being between trips and having traveled for so long, I had fallen asleep for an hour in the waiting hall of the airport, when two police officers showed up and interrogated me for 20 min about what I was doing there, hanging about in the airport and in expedition clothes. Seeing that all my papers were in perfect order, they began to recognize they had harassed the wrong guy. Finally, I was taken aside and asked, in private (!), what my personal opinions were about "climate change." I explained that as I live in Alaska, in the Arctic, and work worldwide on biodiversity issues, I see and experience climate change first hand. Climate change is for real, affecting the poles and mankind in big ways. But without even the blink of an eye, the interrogation began anew for another 30 min; I was taken into custody and treated like an enemy of the state. Eventually, a higher-ranking officer checked my university website on his iPod and recognized the mistake of the entire ordeal and set me "free." Escorted out of the airport, I was put into a police car and was asked to "not come back."

What is described here is nothing unusual for people who work in climate science research and on international issues of relevance for mankind. So many examples exist of such "professional abuse" that one apparently must withstand it for the sake of making progress in science, for mankind, the Earth, and its protection. Similar stories dealing with trivial research and with specimen permits are endless (just ask your colleagues).

And what has happened to our public spaces? In my view, no citizen, and certainly no one with valid documents and objectives (or when invited as a scientist to a conference dealing with the global good), should be treated in this manner. People contributing to better science and a better world should be welcomed and fully supported, certainly by all governmental representatives and agencies, instead of being harassed, intimidated, taken into a kind of custody for some personal beliefs and attitudes held by a few poorly informed and misbehaving government representatives. We find similar issues these days with airport security officers and TSA in the United States, whereas a better environmental and foreign policy would represent global improvement and effort better spent.

I have never received an apology from the UK police officers, but the conference paper in Oxford made it last year into a chapter of a now internationally celebrated book. With that, one would wish such literature would become required basic reading for our police and government agencies. And really, why not?

May 2011

Falk Huettmann, PhD

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Part I
Introduction

Chapter 1

Introduction: Why Three Poles and Why Protect Them?

Falk Huettmann

1.1 (Polar) Science: What for?

I recently asked an editor of one of the larger international ornithological journal, one that also deals with arctic species and is owned by a wealthy international publishing house (this scientist also works as a senior professor at an established governmentally funded Western research institution with a science tradition of more than 100 years), the following question:

Why are you actually doing science?

I never got a reply. That question to the editorial office was either found irrelevant, disturbing, too big to ask, perhaps out of context, or even impolite and offensive even. This attitude seems to be a typical reaction from many self-approved experts. They do not question their actions, their existence, or how they got there. They just hide behind the great blanket of “science,” the publication machinery, their education and institutions, tradition, and their financial constructs and contracts. They merely stay silent on critical questions, ignoring any ethics queries, and do not provide a public reply to such an essential question about the meaning of life and science. Yet, science was not meant to be kept in the dark, hiding from scrutiny (e.g., Anderson et al. 2003; Braun 2005), nor should it be (Primack 1998; Bandura 2007; National Academies of Science et al. 2009). In the example I just provided, the ethics have been entirely replaced with “being busy,” patronizing contributors, “having to make money,” and serving giant constructs of mind, business, and government. However, this mindset is neither useful for science nor is it progress in conservation, society, or sustainability worldwide. The so-called period of enlightenment, started by J. Cook, and with a strong Western and scientific spin, has brought about the destruction of wilderness and endemic species,

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of native societies, and of sustainable lifestyles that have worked for millennia (Diamond 1999; Huettmann 2011). And we all pay the price.

It is widely known (Taber and Payne 2003; Paehlke 2004) that science which is set apart from the public, with hidden and secret goals (often trying to run exploitative schemes), does not provide “objective science.” The consequences from such procedures are obvious, and such science should not be allowed and supported. In contrast, science that is public, and leads toward strict protection and sustainability efforts, sets the stage for more suitable scientific progress and for a society that can last long term. Science is to be used for the benefit of the people. The International Council for Science (ICSU; <http://www.icsu.org>) states that clearly, and so do many others (e.g., National Academies of Science et al. 2009; Johnsen et al. 2010 for the Arctic and its biodiversity).

There come crucial questions: “how to sustain a large human population on a finite globe” and when should much of the landscape simply be locked up for protection? It is very clear already that we can no longer continue with “business as usual” (Radermacher 2004; Hansen and Hoffman 2011), that entire Arctic ecosystems are already affected by climate change (Selas et al. 2010 for Norway), and that our resources are running short, leading us into serious resource conflicts. Protection of the Earth’s ecological processes will at least (a) help us to leave the rushing train of enormous resource consumption and (b) provide unspoiled land and resources for future generations. Readers who have seen the differences and land pressures around protected zones versus surrounding areas in India, Nepal, Africa, Costa Rica, or the Arctic Refuge, for example, will easily agree. All the protected areas will even come with cheap and easy maintenance, not degradation, of ecological services. It is simply an investment in the future (Shtilmark 2003), and any society builds on that.

Such an outlook of free ecological services is actually very appealing in times when most other relevant predictions show species declines, habitat loss, global financial budget crisis, and a decay of any relevant ecological and social integrity (Sodhi et al. 2008; Young and Steffen 2009; Bradshaw et al. 2010; Mace et al. 2010). Such a grim view of the future is not simply a doomsday scenario, but reality (Radermacher 2004; Hansen and Hoffman 2011). The times in which we can afford just to be conservative, instead of realistic and precise, are past, as many of the constantly “underpredicting” sea ice models for the Arctic are showing us (Wang and Overland 2009; Polyakov et al. 2010). The Kyoto protocols were based on “old” science and widely missed the mark, and now we are in the 8°C forecast for the Arctic (see Melfoite et al. 2008 for effects)! Or to put in IPCC (Intergovernmental Panel on Climate Change) slang: A1B scenarios are not the baseline anymore; we are moving into B2 scenarios as the state of the art. We must face the fact that our resources are finite (Daly and Farley 2003; Czech et al. 2003). We must protect what we have, as well as associated ecosystem services. We must do this in ways that are low cost and low impact. These services must be optimized and strategically managed for mankind. And this is where science can help (Cushman and Huettmann 2010). Is not that worthwhile to try? As is shown in this book, the status of the world, and of the polar regions, does not allow for a delay, and every area now protected counts.

The accepted model of a science-based management, where only governmental research experts, managers, and nongovernmental organizations (NGOs) are in

charge of safeguarding the earth, is widely disconnected from the people these entities serve (Chapin et al. 2009). However, they currently define what science is, what the agenda is, what it investigates and what it does not, and what is to be ignored. They determine how long it takes “until we know enough” and when to take action and when not (see Braun 2005 as a classic example). This concept was shown to have serious flaws even before the impacts of climate change were seen. So far, science alone, and science practiced without any ethical considerations, has simply failed its chance for sustaining future generations (Ludwig 2001; Taber and Payne 2003; Bandura 2007; Chapin et al. 2009). By now, it is clear that neither the governments nor the NGOs are acting proactively. They just run wildly behind, argue after the fact, and do not do enough, often using concepts from decades ago, if any (Klein and Magomedrova 2003; Paehlke 2004). Why would there be such a crisis otherwise? A classic example can be seen in the history of climate change, how it came about, who pushed for it, and who did not, and when. To this very day, the NGO BirdLife International, the Arctic member states of the Convention of Arctic Flora and Fauna (CAFF), and the International Union for Conservation of Nature (IUCN), all list Sabine’s gull (*Xema sabini*; a seabird directly affiliated with Arctic sea ice) as being of LEAST CONCERN, and their argumentation goes something like this: a very low conservation priority label is justified because we still have so many of them and these birds are widely dispersed. It is just beyond belief: What did such decision makers learn from the meaningless extinction of the passenger pigeon and of all the other species (Paehlke 2004)?

Nobel Prize winner (Economy) Joseph Stiglitz (2008) showed convincingly that such policies simply favor industrial businesses and that they represent a business advantage, a subsidy, to keep producing with the lowest possible operating costs that are coming from incomplete bookkeeping (thus, they are artificially low and ignore the true costs to society and the world). This conviction is allowing human activity to destroy the polar regions and beyond. People living in the polar regions know that the true cleanup costs are not well penciled in (Ross 2001, 2006; Ott 2005), or worse yet, they are frequently waived to attract (international) business (Stiglitz 2008). Alaska’s Arctic alone offers many examples of this sort, and Norwegian’s pulp and paper mills in Canada and salmon farming in the Southern Hemisphere know this by heart.

If we were to adhere to the concept of

For biodiversity research, the strategy must be to first identify a set of indices to assess changes in biodiversity and then to make the connections between those changes and potential stressors (Vongraven et al. 2009, cited in Gradinger et al. 2010)

it would take us at least another 250 years to fully understand biodiversity, let alone understood its even more complex ecological intricacies and subpopulation dynamics, which are all crucial for ecological processes. Should we really wait until then and continue with “business as usual”? Can we just ignore all the problems? And even then, what would be the best form of science management and governance?

Such simplistic mechanistic views, where things ought to be explained one by one, ideally with linear parsimonious statistics, are unfortunately still very popular (see Worm et al. 2010). Whereas the IUCN had already switched to the Precautionary Principle years ago.

Schweder (2001) already criticized this approach, more than a decade ago, using examples from (polar) whaling. In addition to governmental and NGO efforts, the small and basically inefficient roles that professional societies usually play for polar protection are shown in the Textbox and Table 1.2.

New paradigms had already formed years ago (see Cushman and Huettmann 2010 for discussion). So why is the old way still promoted? The main drivers of this attitude are the stakeholders who benefit from it (Czech et al. 2003; Paehlke 2004).

Traces of this wrong science model, which we can no longer afford, are easily seen in the landscapes and seascapes of this world: it is in their species, their nutrient cycles, the atmosphere, and in what is left for future generations. The biodiversity crisis makes it very clear that we need more simple protection efforts instead, and very well thought out schemes, before all is gone forever. Many agencies and institutions with global impact (see Table 1.1 for details), such as the U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS),

Textbox The Role of Professional Societies: Virtually Ignoring Polar Issues?

Professional societies are trying to be part of the scientific and conservation management landscape. Various sizes, types, and qualities exist. They are usually made up of many individual members and traditionally consist of representatives from the public, the scientific community, the government (federal and state/provincial), NGOs, and contractors. There are many (traditional) reasons for the existence of those societies, and they usually might function as a knowledge pool, as a discussion forum, and for holding conferences and producing scientific journals. However, these professional societies often lack funds, are not affiliated with the universities, and tend to represent specific narrow and ideological “cultures.” At least in North America, many administrative functions in such professional societies are directly run by governmental representatives, for example, the facilitation of LISTSERVS and editorial and administrative roles. Often, such societies receive endowment funds or donations, which can make them rather powerful and influential in regard to lobbying, political positions in the discipline, and beyond. A recent characteristic of many professional societies is that they want to stay nonpolitical, objective, and open for as many members they can reach. Thus, they do not take a stand on environmental issues such as carrying capacity. This intention has further led to the clearly political position to avoid controversy, that they avoid open access data sharing enforcements, climate change as a subject, or that climate change is man made. Memberships are not to be lost. A selection of professional societies, with their details and efforts regarding modern and efficient polar protection, are provided in Table 1.2. This compilation shows a wide lack of specific modern polar protection efforts and awareness in regard to subjects with which these professional societies are concerned, such as migratory species or ecology.

Table 1.1 Selection of agencies and institutions with a polar mandate and a global impact

Abbreviation	Full name	Location	Mandate (approximate wording)	Justification of global impact
USGS	U.S. Geological Service	USA	Research of Earth-Science data	Global connectivity, largest (polar) government in the world
USFWS	U.S. Fish and Wildlife Service	USA	To conserve, protect, and enhance fish and wildlife, and their habitats for the continuing benefit of the American people	Management and listing of endangered and migratory species
NOAA	National Oceanic and Atmospheric Administration	USA	Federal Agency for the Oceans and Atmosphere	Global atmosphere and oceans
NMFS	National Marine Fisheries Service	USA	Management of fisheries	Migratory and international stocks
UNEP	U.N. Environmental Program	Nairobi, Global	Coordinates United Nations environmental activities, assisting developing countries in implementing environmentally sound policies and practices	Global approach
IUCN	International Union for the Conservation of Nature	Gland, Global	To influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable	Endangered species listings
FAO	Food and Agriculture Organization	Rome, Global	Sustainable food production	Dealing with world agriculture and fisheries
CAFF	Convention on the Arctic Flora and Fauna	Akkureyri, Iceland	Arctic biodiversity	Global connections
AC	Arctic Council	Tromsøe, Norway	Arctic management	Global connections and impacts
SCAR	Scientific Committee on Antarctic Research	Cambridge, UK	Charged with the initiation, promotion and coordination of scientific research in Antarctica. SCAR also provides international, independent scientific advice to the Antarctic Treaty system and other bodies	Global connections and impacts

(continued)

Table 1.1 (continued)

Abbreviation	Full name	Location	Mandate (approximate wording)	Justification of global impact
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources	Antarctic	The Convention establishes a Commission to manage the marine living resources of the area for which it is responsible	Global connections
ICIMOD	International Center for Integrated Mountain Development	Hindu Kush-Himalaya	To enable and facilitate the equitable and sustainable well-being of the people of the Hindu Kush-Himalaya by supporting sustainable mountain development through active regional cooperation	Global connections
IPCC	Intergovernmental Panel for Climate Change	Global	Climate assessment and data	Global climate
The Bank	The World Bank	Washington, DC, USA	To fight poverty with passion and professionalism for lasting results and to help people help themselves and their environment by providing resources, sharing knowledge, building capacity and forging partnerships in the public and private sectors	Global
WTO	World Trade Organization	Global	Provision of a forum for negotiating agreements aimed at reducing obstacles to international trade and ensuring a level playing field for all, thus contributing to economic growth and development. The WTO also provides a legal and institutional framework for the implementation and monitoring of these agreements, as well as for settling disputes arising from their interpretation and application	Global connections and impact

Table 1.2 A selection of professional societies and their activity ranking regarding modern polar protection and management

Name	Specialty and focus area	Polar link	Activities in favor of efficient polar protection	Public sharing of Raw data	Promotion of metadata
Pacific Seabird Group (PSG)	Seabirds	Arctic seabird colonies and migratory polar species (Arctic and Antarctic)	Little	Very low	None
American Union for Ornithology (AOU)	Birds	Arctic migratory species	Very little	Very low	Little
The Wildlife Society (TWS)	Wildlife	Some Arctic and Antarctic wildlife	High (position statements on Arctic drilling, economic growth, polar bear hunting, etc.)	Very low	Very little
British Trust for Ornithology (BTO)	Birds	Arctic migratory species and wintering grounds	Very little	None	None
German Ecological Society	Ecology	Global ecology	Minimum	None	None
German Society for Informatics (GI)	Informatics (industrial and ecological)	Global ecology and ecology	None	Very little	Very little
BirdLife International	(Sea) Birds	Antarctic seabirds	Little	Very low	None
International Association of Landscape Ecologists (World IALE)	Landscape	Landscape of snow, ice, and mountains	Minimum	Little	None

and state and provincial governments of the Western world (Taber and Payne 2003; Paehlke 2004), as well as those with a usual international mandate such as the United Nations Environmental Programme (UNEP), International Union for the Conservation of Nature (IUCN), and Food and Agriculture Organization (FAO), and The World Bank, Asian and European Development Banks and NGOs, cannot stop the global crisis we are now facing. Yet they carry the global responsibility, or always state they are in charge and take the lead, whereas the individual citizen and our assumed democracy are already widely removed from meaningful and sustainable involvement and decision making (Paehlke 2004).

The Arctic Council and CAFF in the Arctic, along with SCAR (Scientific Committee on Antarctic Research) and CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources) in Antarctica, and many of the governments in the Himalaya regions, either are driven by outside funding, lack citizen input, or do nothing to halt the root cause of climate change. Nor do they even adapt well (Hansen and Hoffman 2011). Sometimes, they do entirely the wrong thing, or they cannot do, or do not do, enough. So then what are all their budgets (which are easily many billion dollars) truly buying us? It represents an institutional failure, because their institutional cultures simply do not allow for the achievement of relevant and concerted sustainability goals. And the global outlook does not appear any more promising, with more than 9 billion people expected on this planet by 2060, with failed Kyoto protocol goals, and (Western) budgets shrinking or shifting to other priorities. The effort to contend with endangered species alone, and entire vanishing ecosystems, will be enormous in terms of administration, financing, and recovery. Governments and their employees who still promote “business as usual,” therefore, should be a thing of the past (Hansen and Hoffman 2011). One way or another, protection of nature must be a priority; this must enter job evaluation criteria and all relevant public goals. Publishing narrow research papers in highly commercial impact journals, and based on a broken peer-review system (Riisgard et al. 2001; Wagner 2006; Hauser and Fehr 2007), holding one international science management conference after another that blur and distort the message, while no link to an effective management scheme is made, where not even the underlying raw data can be shown and documented (Huettmann 2005), must become obsolete. And how could it have ever come to this?

So-called sustainable development, and sustainable growth for the Arctic (see Klein and Magomedrova 2003 for some Arctic-wide impacts) must be stopped, at least in its current industrial and commercial form, before it further destroys the global environment (Easterly 2006). The fact that the current effort toward wise and sustainable uses fails us is already the sad truth for nations that legally must use this process and teach it as science-based. Many development and aid organizations still promote this now-dangerous concept, for example, Norway (Chaudhary et al. 2007), and The World Bank in Russia’s Arctic (Wilson Rowe 2009). However, the majority of nations do not even have a significant science budget, or relevant institutions with acknowledged capacity and throughput (see Huettmann 2011 for a Triple Digital Divide). Even in publications of global relevance such as *Life in the World’s Oceans: Diversity, Distribution, and Abundance*, edited by McIntyre (2010), and its chapters such as those by Worm et al. (2010), no relevant management model is presented,