

Nathalie Gravel

Tending Nature

Fostering Eco-Citizenship
in the Americas




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*To my daughters, Anne Salomé and Juliette,
You are the light of my life,
The guide of my actions,
The reason to keep hope,
The druid and elf that keep me on my toes,
My biggest fans and motivators.
Thank you for being you!*

Preface

This book aims to provide a geographical framework for rethinking eco-citizenship based on bioregionalism principles, emphasizing the importance of community learning and participation in shaping public policy and normative frameworks for environmental protection.

It argues that eco-citizenship should be re-embedded in the lived regions of communities, where individuals can collectively define their “common good” and work towards environmental protection. The book examines successful Blue-Green-Bee conservation initiatives in the Americas, focusing on their collaborative management practices and environmental outcomes. It also discusses the concept of environmental citizenship, emphasizing the need for citizens to shape their duties and responsibilities based on their impacts on the environment and their sense of belonging to a place.

The book suggests that “bringing the state back in” as an actor of governance is crucial to accompany and support citizen-led initiatives and develop policies to protect the environment. It highlights the importance of institutionalizing change and fostering a shared environmental ethic through comprehensive environmental legislation at all levels of decision-making.

Overall, this book presents case studies from various countries in the Americas to demonstrate innovative approaches to Blue-Green-Bee conservation planning at municipal and regional scales and participatory natural resource management. It emphasizes the need for a deeper environmental awareness across society and highlights the role of public policies and municipal bylaws in promoting environmental sustainability to better face future challenges and enhance resilience. The book calls for a comprehensive approach to addressing multiscale environmental challenges, adapting programs to the diverse needs of communities and individuals, and shifting from a crisis-oriented discourse to one focused on creating transition landscapes.

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I deeply appreciate their invaluable contributions to this work. I appreciate my undergraduate students for their eagerness to learn about conserving nature in their own backyard and getting involved in environmental groups to become engaged citizens. The conversations we've had in class over the last 20 years have been inspiring and have fueled my commitment to continue. This book is another stone in the bridge I am building to get us to the other side of the river. No matter how wide the river is and how long it takes to build the bridge, never ever give up! The Earth will cry when we give up.

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About This Book

This book aims to explore the complex theme of achieving harmony between the natural environment and human society by reframing the concept of ecological citizenship at the local scale of foodsheds and watersheds. Showcasing an innovative Blue-Green-Bee Framework to help understand the complex mesh of intertwining ecological dimensions of tending Nature, the chapters bring out successful experiences of policies and initiatives from various countries in the Americas. These initiatives span diverse spheres, including forest, river, agricultural, and urban ecosystems, as well as land-use planning for the conservation of wild pollinator habitats. The work underscores the urgency of comprehensive environmental education programs and sustained outreach endeavors to cultivate ecological awareness and responsible behaviors among citizens.

This book highlights the significance of implementing community governance of the commons, reinforced by multi-level action plans to translate Blue, Green, and Bee conservation public policies into tangible, sustainable actions. Furthermore, it underscores the importance of community-based learning and citizen involvement as integral aspects of participatory governance, with the goal of addressing the prevailing environmental inequities in our modern world.

Divided into two parts with a total of ten chapters, this book provides a geographical framework for the re-evaluation of eco-citizenship, drawing inspiration from the principles of bioregionalism. After establishing the need to reintegrate eco-citizenship within the local communities' lived spaces and presenting the analytical framework based on the foodshed/watershed scale (Chaps. 1 and 2), the first part explores "The Strength of Eco-Networking" across four chapters. By showcasing case studies from Canada (Chaps. 3 and 5), Costa Rica (Chap. 4), and the United States (Chap. 6), this section anchors participatory governance in the formation of alliances, either horizontally with a diverse range of stakeholders or multiscalarly, linking local initiatives with regional and national partners who share similar aspirations for environmental preservation.

The second part of the book, titled "The Role of Social Innovation and Public Policies in Designing Transition Landscapes," comprises three chapters. It is strategically written to engage policymakers, encouraging active involvement in

sustainable territorial planning. Drawing on fieldwork conducted in the United States and Cuba (Chap. 7), Brazil (Chap. 8), and Mexico (Chap. 9), this section explores the concept of “transition landscapes.” It underscores the urgency of comprehensively safeguarding both natural and urban ecosystems, not only for human interests but also for non-human entities, guided by principles of care and compassion. This transition presents a pragmatic approach to moving humanity away from crisis scenarios and toward a more comfortable zone where the quality and diversity of natural assets are guaranteed as a heritage for future generations.

The work also offers a comprehensive examination of the concept of environmental citizenship. It underscores the profound interconnectedness between humans and the broader ecosystem, emphasizing the necessity of defining the civic commons that communities aspire to protect and the responsibilities that align with the environmental consequences of stakeholders’ actions, whether within or beyond their national borders. The case is made for the revitalized role of the state, particularly at the municipal and regional levels, as an active participant in environmental governance, fostering collaboration with other societal actors rather than seeking to preserve decision-making dominance. This collaborative approach aims to shape policies that prioritize the well-being of both humans and the integrity of ecosystems.

In conclusion, the book emphasizes the necessity of developing comprehensive environmental legislation to protect citizen-led initiatives from the influence of powerful interests and to formalize transformative actions and landscapes. It underscores the importance of adapting Blue, Green and Bee conservation measures to be inclusive of marginalized groups and tailoring programs to involve them as contributors in sustainable planning. Furthermore, it highlights how political and economic factors can significantly impact civil society initiatives and make their plans vulnerable. In the context of planning smart cities and Blue-Green-Bee programs, it stresses the critical importance of strategic multiscale alliances between stakeholders and media members, multidisciplinary training for individuals engaged in environmental governance, and a legislative capacity that empowers them to adapt programs to the diverse needs and perspectives of various communities while countering subversive moves from detractors.

The main objective of this book is to enhance the comprehension of the essential elements and ethical aspects related to citizen involvement in environmental protection. This goal will be achieved through a comprehensive examination of cases that demonstrate successful collaborative environmental governance throughout the Americas.

Some of the most important specific goals include:

- Contribute to the theoretical discourse on ecological citizenship, participatory environmental governance, and sustainable management of the commons by examining various case studies and re-evaluating existing literature from a fresh perspective.
- Highlight the potential of eco-networking facilitated by non-governmental actors and their influence on transformative actions at municipal, regional, and national levels.

- Investigate the challenges and opportunities for environmental conservation and protection in the Americas, exploring the dynamics of actors who support successful environmental stewardship.
- Document and share successful stories of citizen participation and civil society collaborations that have played significant roles in the decision-making process, leading to socio-ecological transformations in the Americas.
- Provide insights for public policymakers on how to promote behavioral change and move toward the co-management of public natural resources and transition landscapes.
- Introduce the Blue-Green-Bee framework as a foundational approach for reevaluating projects and public policies within the context of bioregions, serving as an operational guide for future knowledge generation and action plans.

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About the Author



Nathalie Gravel, Ph.D. is a geographer deeply committed to environmental sustainability. She earned her Ph.D. from Université Laval in Quebec City, Canada, in 2003, and later completed a post-doctoral fellowship at Yale University’s Agrarian Studies program and Council for Latin American Studies and the Caribbean. Since 2005, she has held the position of associate professor at Laval University, where she teaches courses on rural and food geography, Latin America, globalization, and chairs the Agroforestry graduate programs.

Dr. Gravel’s research is focused on participatory natural resources governance, food security, rural studies, and regenerative agriculture, leading her to present at numerous conferences and publish scientific papers. Proficient in French, English, Spanish, and Portuguese, she served as the President of the Canadian Association of Geographers (2022–2024) and actively participates in various boards and associations.

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Contributors

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Sonia Emilia Silva Gómez, Ph.D. graduated with a Bachelor's degree in Social Anthropology from Universidad Veracruzana in 1983. In 1993, she achieved a Master's in Strategies for Regional Agricultural Development (EDAR) from Colegio de Postgraduados en Ciencias Agrícolas (ColPos). Later, in 2001, she completed her Ph.D. in EDAR. Her research is predominantly centered on the sustainability of rural-urban systems, environmental pollution, and social risk. She has assumed leadership and collaborative roles in various research projects covering diverse themes, including native corn varieties, rural housing, water management in rural areas, risks posed to populations by environmental contamination, peasant knowledge, and ecotourism. She currently holds the position of professor researcher at the Department of Sustainable Development, Scientific Institute of the Benemérita Universidad Autónoma de Puebla (BUAP). She is recognized at National Researchers System Level I, has a PRODEP Profile, and is listed in the BUAP Researchers Registry. Additionally, she has authored and co-authored numerous scientific articles and books.

Abbreviations

APA	Environmental Protection Area (Brazil)
ASOTUR	Association of Tourist Guides in the Irazú Volcano Region
BC	Branch Committee
CATIE	Tropical Agricultural Research and Higher Education Center
CBVCT	Central Talamanca Volcanic Biological Corridor
CC	Central Committee
CEPAGRO	Center for the Study and Promotion of Group Agriculture
Cobri-SURAC	Reventado Agua Caliente Biological Corridor
CONAGUA	Mexican National Water Commission
CONAPO	Consejo Nacional de Población
CSA	Community-Supported Agriculture
DEP	Department of Environmental Protection
DIA	Diversity, Integration, and Autonomy
EIA	Energy Intensive Agriculture
ENGO	Environmental Non-Governmental Organization
EPA	Environmental Protection Agency
ESD	Education for Sustainable Development
FERC	Federal Energy Regulatory Commission
GEF	Global Environment Facility
GRCA	Grand River Conservation Authority
GTA	Greater Toronto Area
IMFN	International Model Forest Network
KRAC	Kennebec River Valley Anglers' Coalition
MF	Model Forest
MINAET	Ministry of Environment, Energy, and Telecommunications of Costa Rica
MOFGA	Maine Organic Farmers and Gardeners Association
MPAP	Multistakeholder Policy Formulation and Action Planning
MRSP	Metropolitan Region of São Paulo
MUDA	Urban Agroecology Movement
MZO	Special Zoning Order

NASCO	North Atlantic Salmon Conservation Organization
PAA	Food Acquisition Program
PANC	<i>Planta Alimentícia Não Convencional</i> (Unconventional Food Plant)
PES	Payments for Ecosystem Services
PLANAPO	Plan for Agroecology and Organic Production
PMAU	Municipal Urban Agriculture Program
PNAPO	National Policy of Agroecology and Organic Production
PPD	<i>Programa de Pequenas Donaciones</i> (Small Grants Program)
PR plants	Pollen-Rich plants
PRO-AURP	Urban and Peri-Urban Agriculture Program
PRONAF	Program to Strengthen Family Farming
PT	<i>Partido dos Trabalhadores</i> (Workers' Party)
RMF	Reventazón Model Forest
SESC	Community Service Center
SGP	Small Grants Program
SINAC	<i>Sistema Nacional de Áreas de Conservación</i> (National System of Conservation Areas)
SPSS®	Statistical Package for Social Sciences
SRT	Social Regulation Theory
UA	Urban Agriculture
UNPD	United Nations Development Program
UPA	Urban and Peri-urban Agriculture
USDA	U.S. Department of Agriculture
WWW	Wellington Water Watchers

Chapter 1

Introduction



Abstract Landowners grapple with extensive dilemmas in managing private properties, from tree cutting to riverbank protection, amid an industrialized landscape reshaped by irreversible environmental impacts. Despite nature’s regenerative capacity, human intervention remains crucial in safeguarding ecological integrity amid escalating environmental crises.

Recent shifts in stakeholder awareness toward sustainable practices reflect growing commitments driven by reputational concerns and intergenerational responsibilities. This introduction explores cultural contexts shaping environmental stewardship and societal attitudes toward ethical resource usage, laying the groundwork for the book’s exploration of transformative social alliances and innovative policy integrations.

This chapter advances the book’s thesis on Nature–Human reconciliation through ecological citizenship and participatory governance, emphasizing grassroots initiatives. It underscores successful eco-networks and innovative policy integrations as pathways toward sustainable landscape transitions, guided by inclusive conservation efforts and sustainable development goals.

Keywords Environmental sustainability · Industrialization impacts · Human · Nature connection · Stakeholder awareness · Sustainable practices · Environmental stewardship · Ethical resource usage · Social alliances · Policymaking · Ecological citizenship · Participatory governance · Grassroots initiatives · Eco-networks · Sustainable transitions

1.1 Introductory Remarks

The dilemmas faced by landowners in managing nature on private lots can be extensive, ranging from decisions about tree cutting, septic tank installation, protection of riverbanks, to the maintenance of flowering vegetation, weeding, and dealing with perceived nuisances like bugs. Often, humans forget their inherent connection to nature, viewing it as something to be manipulated rather than embraced as a part of

themselves. Industrialization has provided the means to reshape landscapes dramatically, altering rivers, deforesting, and clearing riverbanks with sometimes irreversible consequences. Once environmental degradation reaches a certain point, reversing the trend becomes challenging. Land can be so profoundly impacted that it resembles a total war on nature.

In agricultural fields, unsustainable practices have led to the disappearance of soil organisms, fauna, and insects in and above the ground. Despite some displayed willingness, reversing these trends can be difficult, requiring time and patience to see initial results. Eventually, with the right conditions, nature can begin to heal itself. We've witnessed the recovery of endangered species like the bald eagle in the United States, which was removed from the endangered list following changes in the paper-making industry and the removal of dams, allowing the resurgence of fisheries and free-flowing rivers (see Chap. 6). Despite these notable achievements, nature still requires human assistance.

Humans, who have significantly altered the course of nature since the Anthropocene, must now act as stewards to defend and protect nature's rights for the benefit of both the natural world and future generations. The urgency to save nature's bounty is critical, as humanity stands at the precipice. The participation of all stakeholders is essential for such a collective endeavor.

In recent years, a noticeable shift in awareness has emerged among various stakeholder groups, with many expressing a surprising interest in changing their practices. This transformation often stems from the realization that their reputations were at stake, and the recognition that their children would bear the consequences. In his work "Spaces of Hope," David Harvey advocates for a shift in how we relate to work and the environment, expressing faith in human qualities to achieve a utopian dream grounded in the realization of socio-environmental justice. This book takes a step further by showcasing victories of social groups and alliances that have reversed trends in unexpected ways.

The wisdom embedded in the alliances detailed in the following chapters empowers individuals, rekindling the light that, for many, has flickered amid eco-anxiety, particularly among the youth. While Elinor Ostrom has paved the way for understanding the logic of civil society groups in managing public natural resources (the commons) and caring for their local environment successfully, the book goes beyond the dynamics of decision-making and organizing. It delves into the historical and cultural context of local residents and other actors, examining the discourses they produce, their interactions with higher governmental hierarchies, and the coexistence of diverse knowledge, from scientific expertise to locally based know-how and belief systems.

The relationship that humans have developed with common natural resources, those not owned by anyone but by all, is complex. It's easy to transfer the responsibility of managing them to others and not feel concerned about their future. However, as Ostrom emphasized, we will collectively suffer the consequences while blaming others for abusing the resources more than we do. The perception, care, and protection of common resources raise important questions. How do we use them when no one is looking? Do we refrain from using or abusing these resources out of fear of

punishment from social regulations or authorities, or do we have a self-censoring mechanism preventing us from taking advantage of resources that don't belong to us?

Studying human behavior when faced with free resources is insightful. Do people delve into them to take advantage of free items, or do they consider leaving some for others, or even refuse to take any at all? For example, when foraging in a forest for edibles, do individuals serve themselves to the point of leaving nothing behind, or do they respect the plants and trees that offer their bounties, allowing the vegetation to survive and reproduce? These questions provide valuable insights into human attitudes toward common resources and the ethics that guide their use.

Do we leave enough of Nature for the next person to visit, or, by extension, for the next generations to enjoy? Unfortunately, many individuals leave marks of their presence in natural settings, such as cigarette butts, empty bottles, and various types of garbage. This behavior raises the question of why people leave traces of their visit when the natural amenities are the primary reasons for their exploration. Introducing outside materials to nature contributes to diminishing these amenities, making places less attractive to visitors and even to those who left the litter the next time they return. This highlights the importance of responsible and sustainable practices when interacting with natural environments to preserve their beauty and ecological integrity for future generations.

As a child, I participated in a class experiment where I picked up trash on my way to school, and the amount I collected left a lasting impression. Throughout my life, I have continued to clean up public and private spaces, including streets, riversides, beaches, and parks. During several summers, I served as a park guardian in an urban riparian park along the St. Lawrence River in the province of Quebec, Canada. However, this role wasn't always conducive to making friends, as people often dislike being reprimanded for improper behavior. This sentiment was particularly evident during the pandemic, where parks became havens for freedom, but at the expense of the surrounding environment.

While visitors craved freedom, frustrations over social distancing and restrictions led to rule violations. Unleashed dogs, littering, failure to clean up after pets, building unattended fires, and leaving ashes on the river shore became common occurrences. Despite clear rules posted at trail entrances and associated fines for violations, some acted as if environmental education had never begun, reminiscent of the 1970s.

My approach as a park guardian evolved from confrontation to education over time. I discovered that the most effective way to address issues was by asking questions, attempting to spark an interest in the park rather than confronting individuals. While it was heartbreaking to witness unleashed dogs trampling endangered marsh plants that the foundation worked hard to protect, I realized that those who enjoyed nature needed just a little encouragement to become better stewards. To kindle this spark, especially among younger generations, I started creating videos on social media.

The park provided proper infrastructure for garbage disposal, yet individuals emptied ashtrays in parking lots near bins and disregarded designated disposal areas. Park managers were continually astonished by the lack of consideration. The