ADVOCATES, EXPERTS OR COLLABORATIVE EPISTEMIC COMMUNITIES?
DEFINING THE SCIENTIFIC ROLE OF NGOS IN
INTERNATIONAL ENVIRONMENTAL NEGOTIATIONS

by

LINDSAY EMMA JOHNSON
B.A., University of Victoria, 2003

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES

(Political Science)

THE UNIVERSITY OF BRITISH COLUMBIA

April 2006

© Lindsay Emma Johnson, 2006
Abstract

This thesis analyzes the extent to which nongovernmental organizations (NGOs) are able to act as experts and participate in scientific communities surrounding international environmental negotiations. It argues that in international environmental negotiations of a complex, scientifically-uncertain nature, many NGOs have been able to contribute as experts on issues of policy and science. Rather than engaging in "symbolic politics," many NGOs have oriented their activities towards developing expertise and scientific research by working in collaboration with a number of scientific communities.

The evidence from NGO activity in three case studies: the Intergovernmental Panel on Climate Change (IPCC), the Great Lakes Water Quality Agreement (GLWQA) and the North American Waterbird Conservation Plan (NAWCP) – suggests that many NGOs are able to produce knowledge, commit to a shared set of normative and causal beliefs based on scientific principles, exercise a similar set of criteria for validating knowledge, and work in partnership-mode with other members of the scientific community in order to advance the shared cause of their respective international environmental negotiation. Several causes are identified to explain why many NGOs shift their activities away from advocacy and symbolic politics and towards developing expertise.

The empirical findings of these case studies have implications for several theories of international relations. Theorists of international relations have, for the most part, described the activities of environmental NGOs in terms of their ability to persuade, pressure and gain leverage over much more powerful organizations. Theoretical concepts such as the "transnational advocacy network" and the "epistemic community" underestimate the scientific role that many NGOs have been able to play in complex and scientifically-uncertain issue areas such as climate change, water pollution and waterbird conservation.

This thesis asserts that an alternative theoretical concept is necessary to account for the expert role of NGOs in several international environmental negotiations. Specifically, it coins and develops the term collaborative epistemic community as a more inclusive and accurate concept that accounts for the multitude of participants within expert communities and the scientific role of NGOs demonstrated in this study.
# Table of Contents

Abstract.................................................................................................................................................. ii

Table of Contents ................................................................................................................................... iii

Acknowledgements.................................................................................................................................... iv

Introduction................................................................................................................................................ 1

CHAPTER I Theoretical Literature: Conceptualizing the Role of Experts and NGOs......................... 10

1.1 Defining International Regimes.......................................................................................................... 10

1.2 Epistemic Communities...................................................................................................................... 16

1.3 Conceptualizing the Role of NGOs in International Relations Theory......................................... 22

1.4 Conclusion........................................................................................................................................ 35

CHAPTER II NGOs in Action: An Empirical Examination of Several Complex Issue Areas............. 37

2.1 The Intergovernmental Panel on Climate Change (IPCC).................................................................. 37

2.2 The Great Lakes Water Quality Agreement (GLWQA).................................................................... 49

2.3 The North American Waterbird Conservation Plan (NAWCP)...................................................... 55

2.4 Motivating Factors for the Scientific Activity of NGOs.................................................................. 68

CHAPTER III Re-Conceptualizing the Role of Nongovernmental Organizations.................................. 72

3.1 The Scientific Role of NGOs in International Environmental Negotiations............................... 73

3.2 Analysis of Theoretical Literature.................................................................................................... 76

3.3 The Collaborative Epistemic Community.......................................................................................... 81

Conclusion............................................................................................................................................. 85

Bibliography......................................................................................................................................... 91
Acknowledgements

To my husband, Chris. I could not have written this thesis without his continuous love, support, and guitar accompaniment.

To my family, who, even when they weren't sure exactly what it was I was working on at university for all those years, supported me throughout.

To my supervisor, Professor Peter Dauvergne, for all of the constructive criticisms and for keeping me on track.

To my undergraduate Professors at the University of Victoria: Dr. A. Claire Cutler for inspiring me to pursue graduate studies and for sparking my interest in the “retreat of the state”; Dr. Michael C. Webb for all of the advice and assistance in applying to graduate schools; and Dr. R. Jeremy Wilson for allowing me to use much of the work we did together on waterbird communities in my thesis.

Special thanks to Les Johnson for his assistance with proofreading my thesis in the final hours.
Introduction

Traditionally, the field of international relations has viewed states as the central actors in international politics. There is an increased recognition, however, that this approach tends to ignore or downplay other forces at work in world politics.¹ Global climate change, water pollution and species extinction, for instance, have consequences that are unconstrained by territorial state boundaries. Largely in response to the multitude of international environmental agreements that have emerged to address these complex problems, an increasing number of analysts have highlighted the role of transnational scientific and technical groups in international politics. Scholars have examined how scientific expert groups are appointed to advise diplomats in the preparation of negotiations and how the issues discussed at expert group meetings are often important keys to the origins of definitions and the central understanding of the environmental problem being addressed.²

The most prevalent way of theorizing about this development has been the concept of the *epistemic community*. Peter Haas developed this concept to describe a broad coalition of actors including scientists, government officials, and politicians, who share a set of normative, principled and causal beliefs, similar criteria for weighing and validating knowledge, and a common policy enterprise associated with a set of problems

---


to which their professional competence is directed. Members of an epistemic community share a common interpretation of the science behind an environmental problem and the broad policy and political requirements in response. The literature on epistemic communities has been used to describe networks involving: stratospheric ozone depletion, international nuclear arms control, and monetary and macroeconomic issues—to name a few.

However, despite the large body of literature that exists on scientific and technical experts’ influence on the policy process, there is little mention of the way in which nongovernmental organizations (NGOs) often work as scientific experts. Theorists of global environmental politics have, for the most part, described the activities of environmental NGOs in terms of their ability to persuade, pressure and gain leverage over much more powerful organizations. The concept of the transnational advocacy network (TAN), for example, has been developed by Keck and Sikkink to examine extensive forms of voluntary, reciprocal, and horizontal patterns of communication and exchange across borders by NGOs. This type of network “stresses fluid and open relations among committed and knowledgeable actors working in specialized issue areas” and is called an “advocacy network” because its members promote the cause of others or defend a cause or proposition. Transnational advocacy networks usually share several characteristics among their members: the centrality of values or principled ideas, the belief that individuals can make a difference, the creative use of information, and the

---

employment by nongovernmental actors of sophisticated political strategies in targeting their campaigns.\textsuperscript{6}

This thesis expands upon the existing literature of international relations by examining the extent to which nongovernmental organizations can act as scientific experts and participate in the epistemic communities of international environmental institutions. Although there are some exceptions,\textsuperscript{7} for the most part, the literature on nongovernmental organizations underestimates the expert, scientific role that NGOs can play in international environmental institutions. While many scholars of international relations agree that NGOs do make a difference in global environmental politics,\textsuperscript{8} it is contestable whether they view NGOs as actors in their own right, or merely as background participants whose central role is to persuade and pressure states. Some scholars have observed how greater NGO access to international negotiations means that they have increasingly provided information and lobbied for particular policy outcomes. Yet, as this thesis will examine, little of the existing literature on the role of NGOs has touched upon the scientific, expert role that NGOs can play in international environmental negotiations, and many studies have focused solely on NGO advocacy techniques.\textsuperscript{9}

\textsuperscript{6} Keck & Sikkink, Activists Beyond Borders, 9.
\textsuperscript{7} Clair Gough and Simon Shackley argue that in the issue of climate change, NGO representatives have become highly expert in issues of climate change policy and science, and have been able to belong to the epistemic community built up around climate change. See Clair Gough and Simon Shackley, “The respectable politics of climate change: the epistemic communities and NGOs,” International Affairs 77, 2 (2001): 329-345.
\textsuperscript{9} Keck & Sikkink, Activists Beyond Borders, 1.
This thesis argues that in international environmental negotiations of a complex, scientifically-uncertain nature, many NGOs have been able to contribute as experts on issues of policy and science. In order to increase their legitimacy and access, many NGOs have shifted their terms of reference away from overtly political, advocacy-oriented activities and towards scientifically-oriented research and principles – enabling them to belong to epistemic communities. In many cases, this shift has occurred in response to the difficulty many NGOs face in mobilizing a clear and active constituency around complex environmental problems. In response to such challenges, many NGOs produce knowledge, commit to a shared set of normative and causal beliefs based on scientific principles and exercise a similar set of criteria for validating knowledge. Rather than acting as critical agents demanding issue recognition and action, many NGOs have adapted their role to that of working in collaboration with scientists in order to advance the shared cause of their respective international environmental negotiation.

Environmental NGOs, therefore, can be a political force in their own right – not just “interest groups” whose only method of dealing with environmental problems is by working through states.

This thesis asserts that existing theoretical terms such as the *transnational advocacy network* and the *epistemic community* underestimate the scientific role that many NGOs have been able to play in complex and scientifically-uncertain issue areas such as climate change, water pollution and waterbird conservation. According to Keck and Sikkink, NGOs usually frame issues in simple terms and interpret information to their strategic benefit. Keck and Sikkink’s concept of the *transnational advocacy network*, therefore, can not account for the knowledge-generating role that NGOs have
been able to play in the case studies examined in this thesis. According to Haas, “interest groups” such as NGOs are fundamentally different from epistemic communities because they do not possess shared belief systems and would not withdraw from a policy debate if they were confronted with anomalies that undermined their causal beliefs. Haas' definition of the epistemic community, therefore, can not explain the way in which many environmental NGOs studied in this thesis committed to the norms, causal beliefs and values, and principles of their respective scientific community – both verbally and in practice.

In order to support the overall theoretical assertions of the study, this thesis looks at three case studies. First, it considers the activity of NGOs working within the formally appointed scientific advisory body to the UN Framework Convention on Climate Change (UNFCCC) – the Intergovernmental Panel on Climate Change (IPCC) – in forming a scientific consensus over the causes and effects of climate change. The IPCC was established in 1988 under the auspices of the United Nations Environment Programme and the World Meteorological Organization for the purpose of assessing “the scientific, technical and socioeconomic information relevant for the understanding of the risk of human-induced climate change.”

Scientists from 120 nations participate in the preparation of the IPCC assessment reports, which are widely viewed as the most definitive compilation of what is known about climate change and the conclusions of “mainstream” science on the subject. Second, this thesis looks at the Great Lakes Water Quality Agreement (GLWQA). Established in 1972, the GLWQA first aimed to improve

---

water quality, but later its overall intent evolved to include the maintenance of ecological integrity of the largest freshwater system on the globe. Essentially, the Great Lakes Water Quality Agreement (GLWQA) recognized that the Great Lakes had limited capacity to assimilate human pollution and abuse. This bi-national accord between Canada and the United States is one of a growing number of treaties, conventions, and agreements that respond to the environmental degradation of natural resources across boundaries between nations. Third, this thesis looks at the North American Waterbird Conservation Plan (NAWCP). Released in 2002, the NAWCP provides an overarching framework and guide for conserving waterbirds and sets forth goals and priorities for waterbirds in all habitats throughout North America, Central America, and the Caribbean. In all three case studies examined in this thesis, a strong degree of scientific uncertainty and complexity made the role of experts central to the negotiations in question, and NGO participation, as well as those who are normally considered “nonscientists,” was strong. An examination of these cases provides empirical support for the central argument in this thesis that there is a need to re-evaluate and expand upon the existing literature in international relations.

This thesis is organized as follows: Chapter One provides an overview of the theoretical literature and debates of international relations that relate to the role of scientific experts and NGOs in international environmental negotiations. Here, Peter Haas’ definition of an “epistemic community” is provided, and a summary of how international relations literature considers scientific expert groups working within international environmental negotiations. Important to understanding the concept of the “epistemic community,” however, is an understanding of the literature on the formation of international regimes. A debate exists within the scholarly literature of international
relations as to whether state power relationships explain the formation of an international regime surrounding issues such as climate change, or whether a regime forms in order to facilitate state-to-state collective action in combating climate change. Here, an overview of power-based and interest-based hypotheses to explaining regime formation is provided. It is important to note that while much literature on international regimes examines the extent to which they are effective and aid in the implementation of international environmental agreements, for the purpose of this study, the focus remains solely on regime formation.

Chapter One also examines how the “epistemic community” literature considers the role of NGOs. Are NGOs providers of expert advice, or simply advocacy and lobbying groups with little scientific expertise? An overview of the main theories conceptualizing the role of NGOs in international relations is provided. Realist, Westphalian-inspired theories of state-centricity and Keck and Sikkink’s concept of the “transnational advocacy network” are discussed – as well as debates between private vs. public actors in international relations. The purpose of Chapter One is to provide a theoretical grounding and approach upon which the case studies can be applied.

Chapter Two provides the empirical evidence for the thesis through the use of three separate case studies, as mentioned above. A separate section for each case study – the IPCC, the GLWQA and the NAWCP– is provided to give an overview of the history and structure of each negotiation. After introducing the general background of each agreement, an analysis of NGO participation in the scientifically-oriented activities of each body is undertaken. Evidence of the scientific involvement of NGOs is presented. Reports on the effects of climate change prepared by NGOs such as the WWF and
Greenpeace, for instance, provide examples of ways in which NGOs engage in knowledge construction and participation in academic or policy-inspired exercises on environmental policy. It will also consider whether there are instances in which NGOs have been able to use advocacy techniques in combination with developing expertise and scientific research. It will consider whether professional scientists and academics view the scientific input of NGOs as legitimate and credible, or whether NGOs are simply viewed by the epistemic community as amateurs and “advocates” who deliberately politicize issues.

Integral to Chapter Two is an analysis of why, in each case study, NGOs have shifted their activities towards developing expertise and scientific research and away from strictly playing an advocacy role in their respective policy area. Have NGOs shifted their tactics due to the complexity of the issues at hand? Does the complex, abstract nature of environmental policy issues such as climate change and biodiversity make it difficult for NGOs to mobilize a clear and active constituency compared to tangible issues with readily identifiable solutions? The purpose of Chapter Two is not only to provide background and evidence for each case study, but also to analyze why NGOs might decide to change their tactics in environmental issues of scientific complexity and uncertainty. Why have NGOs become experts rather than advocates on complex environmental issues such as climate change and water quality?

Chapter Three of the thesis considers the evidence provided from the case studies in Chapter Two and places it in the context of the theoretical literature examined in Chapter One. It is devoted to assessing the extent to which the theories presented adequately explain and account for the activities of NGOs in the IPCC, the GLWQA and
the NAWCP. For example, does the existing literature explain how NGOs shifted their terms of reference towards scientifically-oriented research and principles and away from overtly political, advocacy-oriented activities in the case of the IPCC, the GLWQA and the NAWCP? Can any one existing theory account for the participation of NGOs in the epistemic community surrounding international environmental problems?

Chapter Three considers the dominant theories of international relations presented in Chapter Two, and considers whether an alternative theoretical term and explanation is needed to account for the scientific activity of NGOs in international environmental negotiations. Chapter Three asserts that the epistemic communities surrounding international environmental negotiations such as the IPCC, the GLWQA and the NAWCP may better be described as a collaborative epistemic community involving scientists, policy makers and nongovernmental organizations. This thesis concludes this alternative theoretical concept that accounts for all experts who participate in complex, technical policy arenas better reflects current practice in international relations.
Chapter One
Theoretical Literature: Conceptualizing the Role of Experts and NGOs

1.1 Defining International Regimes

The interest in international regimes sprang from dissatisfaction with dominant conceptions of international order, authority, and organization. The sharp contrast between the competitive, zero-sum "anarchy" of interstate relations and the "authority" of domestic politics did not account for cooperation among the advanced industrial states.\(^\text{12}\)

The subfield of international organization generated rich theoretical debates during the 1960s; however, the field still focused on formal organizations and missed a range of state behaviour that appeared regulated and organized in a broader sense.\(^\text{13}\) In 1975, John Ruggie attempted to fill this gap in theory by defining the term *international regime* as a "set of mutual expectations, rules and regulations, plans, organizational energies and financial commitments which have been accepted by a group of states."\(^\text{14}\)

Since Ruggie's introduction of the term in 1975, a plethora of contending theories have explained regime creation, maintenance, and transformation. However, the seminal work appeared in 1983, with the publication of *International Regimes* - an edited volume in which Stephen Krasner defined regimes as "set of implicit or explicit principles, norms, rules, and decision-making procedures around which actor's expectations converge in a given area of international relations."\(^\text{15}\) Krasner's influential definition seeks a middle ground between "order" and explicit commitments and stresses the

\[^{12}\] Stephan Haggard and Beth Simmons, "Theories of International Regimes," *International Organization* 41, 3 (Summer 1987): 491.
\[^{13}\] Haggard and Simmons, "Theories of International Regimes," 491-492.
normative dimension of international order. However, his definition has been criticized for being a vague concept that cries out for conceptual development as it does not allow us to identify regimes with precision or to separate regimes easily from the rest of international relations. In an effort to address this problem, Krasner offers the following elaboration:

Principles are beliefs of fact, causation and rectitude. Norms are standards of behaviour defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for actions. Decision-making procedures are prevailing practices for making and implementing collective choice.

Since the publication of *International Regimes*, most discussions of international regimes begin with – or at least refer to – this “consensus definition.” While it is acknowledged that there is perhaps no single coherent regime theory, this thesis adopts the consensus definition as provided by Krasner.

The concept of an international regime has been used by scholars of international organization to explain state coordination surrounding monetary issues (for example, the Bretton Woods system and its successors), international trade in commodities (for example, the coffee agreement), human rights (for example, the Helsinki Accords), the control of armaments at the international level (for example, the nuclear nonproliferation regime), as well as the advancement of various environmental issues. International regimes already regulate human activities in Antarctica, the dumping of oily wastes at

---

16 Haggard & Simmons, “Theories of International Regimes,” 493.
20 Humphreys, “Regime Theory,” 91.
sea, transboundary air pollution, whaling, trade in endangered species, and the preservation of natural and cultural heritage sites, to name a few.\textsuperscript{22}

Several major theoretical approaches from international relations theory have attempted to explain why international regimes come into existence. This thesis looks specifically at three broad explanatory arguments in explaining regime formation: power-based hypotheses, interest-based hypotheses and knowledge-based hypotheses.

\textit{a) Power-based Hypotheses}

Scholars who accept the tenets of realist or neo-realist perspectives on international relations argue that it is the distribution or configuration of power in international society that explains collective outcomes. Specific regimes come into existence when those possessing sufficient power take the necessary steps to create them.\textsuperscript{23} According to proponents of power-based hypotheses of regime formation, regimes are structured by and reflect the interests or preferences of the dominant members(s) of the international system.\textsuperscript{24}

The most analytically developed and widely espoused hypotheses of the power-based theorists stress the role of a hegemon (a single state possessing a preponderance of material resources) in the process of regime formation. Theorizing about the role of hegemons arose and has been applied most systematically to explain the formation of a group of monetary and trade regimes that emerged in the aftermath of World War II

when the United States played a dominant role in the promotion of world economic
order. A debate has arisen concerning the viability of existing international institutions
in the wake of the presumed decline of American dominance in international affairs.

The main hypothesis of power-based theorists is that the presence and interest of a
hegemon is a necessary condition for regime formation at the international level. The
dispersion of power to a number of parties possessing substantial bargaining strength is
regarded as a barrier to regime formation because it can increase transaction costs to a
level that precludes agreement. Regimes are most likely to form, therefore, when power
is concentrated in the hands of a single, dominant state – and when that state sees regime
formation as promoting its interests. According to power-based theorists, a hegemon is
able to create regimes by inducing others to accept its preferences by agreeing to take on
a disproportionate share of the costs of supplying regimes treated as public goods.
Alternatively, a hegemon may induce regime creation by exploiting the other members of
the regime. A hegemon uses its power to impose the institutional arrangements it prefers
on a group, regardless of the preferences of other members. Other actors in the
international system tolerate the regime imposed by the hegemon because they have no
other choice. The hegemonic power approach holds that the primary factor determining
regime formation is the relative strength of the nation-state actors involved in a particular
issue and that “stronger states in the issue system will dominate the weaker ones and
determine the rules of the game.”

25 Young, Polar Politics, 9.
26 See Robert O. Keohane, After Hegemony: Cooperation and Discord in the World Political Economy
b) Interest-based Hypotheses:

The fundamental premise of interest-based arguments is that regimes and other social institutions are formed when self-interested parties engaged in interactive decision-making approach a problem in contractual terms and seek to coordinate their behaviour to obtain joint gains. The underlying logic behind these rationalist explanations for regime formation is functional: various barriers to collective action are matched with efficient institutional remedies along the various dimensions of regimes. An agreement is struck and a regime forms when the participants reach closure on the terms of a mutually acceptable and mutually beneficial constitutional contract.

Interest-based approaches to regime formation are often based on game theory and utilitarian models of bargaining. Applying metaphors from games or from markets, interest-based models of regime formation portray regimes as rational institutional responses to collective sub-optimality problems. In game theory, the bargaining situations are distinguished by the number of parties involved, the nature of the conflict (zero-sum or non-zero-sum), and an assumption that the actors are rational. This approach suggests that small groups of states or coalitions are more likely to be able to successfully negotiate an international regime than a large number because each player can more readily understand the bargaining strategies of other players. The prisoners’ dilemma informs much of the thinking of interest-based approaches to regime formation and is grounded in a notion of tacit understanding. It is premised on the idea that actors

---

30 Young, *Polar Politics*, 11.
anticipate the reactions of other actors. \(^{32}\) The rationality about states' choice of cooperative strategies is assumed, where actors possess "consistent, ordered preferences, and ... calculate costs and benefits of alternative courses of action in order to maximize their utility in view of these preferences." \(^{33}\) Variation among cases is explained by differences in the interdependence situation, which is defined in terms of the configuration of preferences. \(^{34}\) While preferences may infringe on a state’s overall preferences, most research emphasizes that actors are primarily constrained by the structure of the interstate game. Game theory has recently been used to explain how cooperation can evolve under anarchic conditions, which lack supranational authority to enforce compliance. \(^{35}\)

c) Knowledge-based Hypotheses:

Knowledge-based explanations of regime formation have been developed by some scholars of international relations in response to dissatisfaction with mainstream power- and interest-based explanations of regime formation. Knowledge-based (or cognitive) theories are centred on the premise that ideas matter too. The ideology, the values, the beliefs that actors hold about the interdependence of issues, and the knowledge available to actors about how they can realize specific goals all play a direct role in regime formation. \(^{36}\) While there are many variants of knowledge-based theory, the epistemic community model has been used most widely by scholars of regime theory to


\(^{33}\) Robert Keohane, quoted in Newell, *Climate for Change*, 27.

\(^{34}\) Schram Stokke, "Regimes as Governance Systems," 41.

\(^{35}\) Haggard and Simmons, "Theories of International Regimes," 499-504.

\(^{36}\) Haggard and Simmons, "Theories of International Regimes," 510.
explain the direct role of shared scientific knowledge and values in regime formation. It is this theory that is central to the analytical framework of this thesis.

1.2 Epistemic Communities

The concept of the *epistemic community* was developed by Peter Haas to describe a broad coalition of actors including scientists, government officials, and politicians, who share a set of normative, principled and causal beliefs, similar criteria for weighing and validating knowledge, and a common policy enterprise associated with a set of problems to which their professional competence is directed. "Members of an epistemic community share a common interpretation of the science behind an environmental problem and the broad policy and political requirements in response. The literature on epistemic communities has been used to describe networks involving: stratospheric ozone depletion, international nuclear arms control, and monetary and macroeconomic issues—to name a few." In contrast to the institutional approach of power-based and knowledge-based theories of regime formation, Haas offers an approach that focuses on the importance of policy-relevant and consensual knowledge for the formation of a regime and the shaping of its patterns. From the perspective of such an approach, it is not the interests of the actors (states) that shape the regimes, but consensual knowledge. Consensual knowledge has the power to mould the interests of the actors. Through different empirical studies, Haas stresses the usefulness of this approach. In the context of

---

37 Haas, "Introduction: Epistemic Communities,” 3.
38 Haas, "Introduction: Epistemic Communities,” 1-36.
international environmental politics, environmental regimes are not only driven "by state power, but by the application of scientific understanding about ecological systems to the management of environmental policy issues with which decision makers are unfamiliar." Therefore, knowledge — consensual and trusted knowledge — is a necessity for successful environmental cooperation.

a) Definition

In 1992, a special issue of *International Organization* was dedicated to epistemic communities. Peter Haas defines the concept as follows:

An epistemic community is a network of professionals from a variety of disciplines and backgrounds. They have (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity — that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and (4) a common policy enterprise — that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence.

In addition to this formal definition, other characteristics are identified:

Members of an epistemic community share intersubjective understandings; have a shared way of knowing; have shared patterns of reasoning; have a policy project drawing on shared causal beliefs, and the use of shared discursive practices; and have a shared commitment to the application and production of knowledge.

---


The claim to authority through which members of epistemic communities may become politically empowered is through their ability to generate acceptance of their knowledge as valid. Here, the point often made is that the knowledge they generate becomes politically important and influential when the consensus among the epistemic community is sufficient to be convincing to the external political community.\textsuperscript{43} It is important to note that the implications of this approach are different from those of an approach that focuses on consensus as a spur to political action. It is not necessary to have full consensus between all relevant “experts.” The point is that the epistemic community may be able to, under certain circumstances, make sure it is they to whom policymakers turn under conditions of uncertainty.\textsuperscript{44}

\textit{b) Epistemic Community Formation}

Various factors explain the emergence of epistemic communities in the policymaking process which Haas labels as ‘uncertainty,’ ‘interpretation,’ and ‘institutionalization.’\textsuperscript{45} The increasingly complex and technical nature of the range of issues considered on the international agenda has contributed to the uncertainties faced by decision-makers – who have turned to specialists to elucidate the uncertainties, and help them understand the current issues and anticipate future trends. These issues include, among other things, international environmental issues where decision makers are uncertain of the complex interplay of components of the ecosystem and are therefore unable to anticipate the long-term consequences of measures designed to address one of

\textsuperscript{44} Paterson, \textit{Global Warming and Global Politics}, 136-37.
\textsuperscript{45} Haas, “Introduction: Epistemic Communities,” 2-3.
the many environmental issues under current consideration. Under the epistemic community model of regime formation, a network of experts offer authoritative and concordant advice in areas in which policy makers are poorly informed. By creating a common set of ideas, causal beliefs and values, and by communicating their ideas persuasively to policy-makers, epistemic communities are argued to lead to regime formation.

c) Actors

Who constitutes an epistemic community? Excluded are a broader scientific community, or those working in the same profession and/or discipline, unless they work in accordance with their principled values. Ethical standards based on principles are more important to members of an epistemic community rather than from a professional code. The members of the epistemic community can be distinguished from these people as they try to obtain a goal they believe in. In other words, for a knowledge-based group to be included in Haas’ definition, it is important that the members share principled normative and causal beliefs. Yet, some scholars argue that the disadvantage of applying Haas’ definition of epistemic communities is that its rigidity makes it difficult to find a community of experts who sufficiently fulfil Haas’ conditions. In his article on Mediterranean pollution control, Haas notes that an epistemic community formed comprised of a community of ecologists and marine scientists, as well as UNEP officials, some secretariat members from other specialized agencies, and like-minded government

officials in the region. In this case, the members of the epistemic community had similar beliefs about the need to preserve the quality of the environment, but most importantly, they had similar views on the origins and severity of pollutants, the policies necessary to control pollution, and the research needed to determine the physical linkages between sources of pollution and the health of the sea. The principle of ecology facilitated the formation of coalitions among scientists who would otherwise be incompatible.50

In his discussion of epistemic communities, Haas prescribes his definition to a broad coalition of actors including scientists, government officials, and politicians, who share a set of normative, principled and causal beliefs, similar criteria for weighing and validating knowledge, and a common policy enterprise associated with a set of problems to which their professional competence is directed. He mentions that NGOs may contribute to epistemic community formation. However, he notes that where NGOs contribute to epistemic community formation, they perform a specific and limited role. According to Haas, NGOs can play a role that members of epistemic communities – such as policy-makers, academics and scientists – who are usually less familiar with advocacy work – are not so equipped to play.51 Due to their experience in advocacy work, NGOs are able to communicate an epistemic community’s findings to government and policy-making elites through the use of lobbying techniques. However, Haas argues that “interest groups” such as NGOs are fundamentally different from epistemic communities. Haas points to M.J. Peterson’s work on the whaling community as an example of this

50 Haas, “Do Regimes Matter?” 386.
51 Humphreys, “Regime Theory,” 90-115.
difference. According to Haas, in the case of whaling, the epistemic community of cetologists differed from the economic interest group of whaling industry managers and the issue-oriented lobbying coalition of environmentalists. He notes that “if confronted with anomalies that undermined their causal beliefs, the [epistemic communities] would withdraw from policy debate, unlike interest groups.”\textsuperscript{52} According to Haas, it is the combination of having a shared set of causal and principled (analytical and normative) beliefs, a consensual knowledge base, and a common policy enterprise (common interests) that distinguishes epistemic communities from various other groups such as NGOs. Members of what Haas terms an epistemic community are not merely policy entrepreneurs, but are bound by normative and principled commitments based on ethical standards. Haas claims that social movements such as NGOs, however, do not possess shared belief systems and consensual knowledge bases and therefore can \textit{not} be part of an epistemic community.\textsuperscript{53}

It is this theoretical limitation of his definition that will be examined further in this thesis. The rigidity of Haas’ definition does not allow for the scientific role that members of some environmental NGOs have played in the case studies provided in this study. While knowledge-based explanations of regime formation such as the \textit{epistemic community} might help to explain the formation of regimes surrounding complex, scientific issue areas such as environmental degradation more than power- and interest-based hypotheses, some scholars argue that the theoretical literature on regime formation needs to be expanded to better account for the formation of regimes by non-state actors such as nongovernmental organizations (NGOs). Before examining the way in which

\textsuperscript{52} Haas, “Introduction: Epistemic Communities,” 18.
\textsuperscript{53} Haas, “Introduction: Epistemic Communities,” 18.
NGOs can be members of epistemic communities with shared sets of causal and principled beliefs and interests based on scientific consensus, it is necessary to look at the way in which international relations theory to date has conceptualized the role of NGOs in international relations.

1.3 Conceptualizing the Role of NGOs in International Relations Theory

There is an increased interest and recognition in international relations literature about NGOs, and environmental NGOs constitute a large field of study in international environmental politics. Many observations and theories are suggested in this literature. From an environmental protection point of view, some analysts are encouraged by the emergence of environmental NGOs, which they view as new forms of political organization embodying a transnational ecological consciousness. Others claim that NGO participation in international environmental diplomacy does not mean that states have become less powerful or have less control over outcomes of international environmental politics. This thesis will now examine the various observations and theories within international relations literature that have discussed and conceptualized the role of nongovernmental organizations in international politics.

a) Realist Theory

The question of which actors are relevant in international politics has been a source of contention and debate between international relations theorists. Realist scholars

---

approach the debate from a state-centric perspective – regarding states as dominant and able to minimize the influence or significance of other, non-state, actors such as NGOs. Most variants of the realist approach are pessimistic: believing that either the imperialist nature of statesmen, the expansionist logic of the nation state or the anarchy in the international system leads to insecurity, struggles for power among states, and ultimately violence and war. Some extent of security and co-operation among states is still possible, but only under conditions of hegemonic rule or a balance of power. Within such power games, there is little or no room for players other than states, specifically, large and powerful states. Non-state players such as NGOs, therefore, are considered to be background participants in international relations. Bas Arts, for example, quotes realist scholars Reynolds and McKinlay:

As far as INGOs are concerned it is evident that the consequences of the activity of many of them are trivial. (...) They may serve in some degree to alter the domestic environment of decision-makers, but with some exceptions their effect either on capabilities or on objectives is likely to be minimal, and in no way can they be seen themselves as significant actors.

In the context of global environmental governance, the realist view posits that environmental problems can best be addressed by existing nation-states under the rubric of the contemporary state system. States, as the main actors in international affairs, are the primary mechanisms able to reach into and influence the lives of vast numbers of people and, as such, represent the entity for undertaking environmental protection.

---

Recent realist theory does admit that nongovernmental organizations play a role; however, only to the extent that they influence states.\textsuperscript{61} Analysts often conclude that “state actors are still primary determinants of issue outcomes in global environmental politics.”\textsuperscript{62} Realists point to agreements such as the Montreal Protocol on Substances that Deplete the Ozone Layer as instances of successful multilateral accords and use them as models to argue that states, themselves, can and will address transboundary and global environmental problems.\textsuperscript{63}

\textbf{b) Critics of Realist Theory}

Many scholars criticize realist theory, and international relations theory in general, for being too state centric. The historically state-centric nature of international relations theory can perhaps be traced to the acceptance by realists of the Westphalian system. The Westphalian system is premised upon the existence of nation-states and dates from 1648 at the end of Europe’s Thirty Years’ War and the destruction of the Holy Roman Empire. The system is based on the centralization of power in some form of ruler and clear, defined boundaries under which the nation is sovereign. The Westphalian system supposedly established state sovereignty as the fundamental ordering principle of the states system, placing the state at the centre as the “unambiguous locus of authority.”\textsuperscript{64}

\textsuperscript{63} Wapner, \textit{Environmental Activism}, 8.
Many scholars, however, argue that the Westphalian system is not reflective of modern-day reality. The Westphalian system does not effectively address issues such as pollution and acid rain that are generated in one country and transcend borders into another. Furthermore, governmental authority is being eroded, resulting in the undermining of the Westphalian system.\(^6\) As environmental legal scholar, Keith Suter notes, some national governments have difficulty in keeping their states in one piece.\(^6\) Some theorists believe that the Westphalian model of rule never successfully captured international practice.\(^7\) Stephen Krasner argues that Westphalia did not, in fact, present a definite definition of the state as the absolute administer of authority; rather, sovereignty has been persistently challenged by the creation of new institutional forms that better meet specific material needs.\(^8\) Ozone depletion, global climate change, acid rain and species extinction, for instance, have consequences that are little restricted by territorial state boundaries. Just as the state is unable to maintain control over its domestic economy due to forces of economic globalization, the state is also unable to manage issues of environmental degradation that transcend state borders. The state no longer has an effective monopoly on the governance of environmental politics developed under conditions of territorialism; rather, governance has shifted from a "unidimensionality of statism to a multidimensionality of local, national, regional and global layers of regulation."\(^9\)

---


\(^{6}\) Suter, "Reforming the United Nations," 254.

\(^{7}\) Cutler, "Critical Reflections," 133.


According to A. Claire Cutler, “Westphalian-inspired notions of state-centricity” fail to capture the significance of non-state actors such as transnational corporations and individuals. Susan Strange believes that the Westphalian system is more accurately, a “Westfailure system.” This system, according to Strange, is presupposed upon the ascription of sole political authority and the monopoly of the legitimate use of violence to territorially defined states. However, this state system has failed in its “inability to avert environmental damage that threatens survival of all that is living.”

Theoretical challengers of realism argue that labeling a theory of international relations “dominant” invites the pitfall of failing to engage in an honest consideration of alternatives. In response, literature on transnational civil society (TCS) points to the disadvantages of realism over the last decade. TCS scholarship offers a broad theoretical challenge to approaches that privilege other agents or structures, namely, the statism of realism and neoliberalism. Civil society in general is commonly employed to refer to a “third system” of agents, namely, privately organized citizens as distinguished from government or profit-seeking actors. Scholars such as Ann Florini employ the term “transnational civil society” to self-organized advocacy groups that undertake voluntary collective action across state borders in pursuit of what they deem the wider public interest. Besides being distinguished from other transnational agents such as

70 Cutler, “Critical Reflections,” 133.
private economic actors or government authorities institutionally empowered by the state, the term “civil society” differentiates actors from what could be termed “uncivil society.” Unlike terrorists and other transnational criminals, these actors eschew the deployment of armed violence for their ends.  

This thesis considers NGOs as one type of actor within transnational civil society.

c) Nongovernmental Organizations as Actors in International Relations

An increasing number of analysts have highlighted the role of NGOs in international relations. In their co-edited volume Environmental NGOs in World Politics, Thomas Princen and Matthias Finger comprehensively critique the realist theory of international relations and instead point to the ‘NGO phenomenon’ – presenting much empirical evidence of the worldwide growth and diversity of NGOs. They see NGOs as agents of change who play a critical role in social learning and in connecting world politics and biophysical changes. Princen and Finger assume that regime change processes will not be led by states; rather, the technical nature of the issue and the analytical processes needed to protect the environment reduce the role of state diplomats in environmental diplomacy. Princen and Finger predict that the key players in regime development are epistemic communities, individuals and ENGOs, but they do not identify more precisely the roles these actors will perform.

In the context of international regimes, critics of “dominant” realist theory argue that civil society can also play a significant role in regime formation, development, and stability; therefore, we need to pay more systematic attention to the participation of non-

---

76 Princen and Finger, “Introduction,” 32.
state actors such as NGOs in international regime formation. For example, Oran Young argues that NGOs were a motivating force in establishing the regime over trade in endangered species in conjunction with the Convention on International Trade in Endangered Species. Porter and Brown argue that civil society can influence international regimes in five ways:

1. by influencing the global environmental agenda by defining a new issue or redefining an old one;
2. by lobbying their own or other governments;
3. by proposing entire draft texts of conventions;
4. by lobbying international negotiations; and
5. by monitoring the implementation of conventions.

It is important to note that in each of these cases, the role of civil society is defined by how it operates in the context of state-supported international regimes. Other scholars have supported this viewpoint: that the “success of governance beyond the nation-state depends essentially on states themselves. [The] willingness and ability [of states] to cooperate remain the decisive preconditions for the emergence and for the ultimate effectiveness of transnational policy regimes.”

Kal Raustiala focuses on environmental NGO participation in international environmental diplomacy, however, he claims that NGOs do not supersede states in international environmental politics. Although he identifies seven ways in which environmental NGOs assist governments involved in international environmental negotiations — policy research, monitoring of state commitments, monitoring

---

delegations, negotiations reporting, bridging the two-level game, revealing the win-set and ‘hard wiring’ – and argues that “states gain advantage from NGO participation,” he asserts that “the states remain in control of the [environmental politics] process, and that the specific forms of NGO participation granted are systematically linked to the specialized resources NGOs possess.”83

Similarly, scholar Elizabeth Corell argues that NGOs configure their activities according to the actions (or inactions) of states within international regimes.84 In her study of non-state actor influence in the negotiations of the Convention to Combat Desertification, she provides several indicators in determining the influence of non-state actors in international environmental negotiations:

- the ability to define the environmental problem addressed;
- the provision of written information (such as newsletters, information leaflets, research reports or papers) supporting a particular position to relevant government ministries or to the negotiation sessions;
- the provision of verbal information (through statements, information meetings, or seminars during negotiation sessions) supporting a particular position;
- the provision of specific advice to or interaction with government delegations;
- the presence at the negotiations;
- and the ability to ensure that certain text supporting a particular position is incorporated in a Convention.85

Other scholars, however, have focused on the way in which NGOs can configure their activities outside the structure of the state system. According to Virginia Haufler, the “activities of private organizations [such as NGOs] can be similar to the activities of

states in establishing the contours of an international regime”\textsuperscript{86} and that there is “no obvious reason why private actors, such as corporations and NGOs, might not establish principles, norms, rules, and decision-making procedures affecting activities in areas of concern to them.”\textsuperscript{87} Haufler notes that the way in which the public/private distinction obscures the activities of non-state actors such as environmental NGOs by viewing the state as the main actor in international relations is an example of the way in which theory fails to account for current international practice. The accepted definition of a regime need not be limited to interaction among states alone.”\textsuperscript{88} Haufler argues that “[we] need to acknowledge that most international regimes are mixed in nature. They are not purely the result of inter-state relations, as depicted in standard regime analysis, nor are they entirely established through private efforts.”\textsuperscript{89}

Regime theory is not the only theory of international relations that has been faulted for its distinction between public and private actors. The public and private distinction in international relations deems states as the authoritative agents in the exercise of public power in international affairs.\textsuperscript{90} The public/private distinction is used by students of international relations as well as domestic and international law and has many different connotations. In the context of nongovernmental organizations, however, it provides the foundation for the distinction in liberal political theory between the “state” and “civil society.”\textsuperscript{91} According to A. Claire Cutler, however, the public/private

\textsuperscript{87} Haufler, “Crossing the Boundary between Public and Private,” 97.
\textsuperscript{88} Haufler, “Crossing the Boundary between Public and Private,” 97.
\textsuperscript{89} Haufler, “Crossing the Boundary between Public and Private,” 101.
\textsuperscript{91} Cutler, “Artifice, Ideology, and Paradox,” 265.
distinction is growing increasingly incoherent. A "blurring" of the distinction caused by empirically changes has occurred; while the distinction may have at one time reflected empirical conditions, it has ceased to do so. 92 Cutler notes that:

The public/private distinction is not a natural, organic or inevitable attribute of the landscape of international law. It is an analytical construct that evolved in response to the growing individuation and territoriality of state power and authority. The distinction played a critical role in reconciling the notions of state sovereignty and autonomy with the idea of commitment to a broader community outside the state... it does not capture the rich and variable sources of authority in international relations. 93

International relations scholar Paul Wapner has examined the involvement of environmental NGOs in civil societies and markets, and emphasizes that their impact on government policies is only a minor facet of their overall political and ideological impact on global politics. 94 He takes a sociological approach in his study of how environmental NGOs disseminate an ecological sensibility, pressure corporations or empower local communities, and thereby change world politics. True to his focus on extra-state spheres, Wapner makes only implicit claims about state-NGO relationships but claims that NGOs through such activities influence states. Scholar Ronnie Lipschutz also emphasizes the importance of NGOs. He sees Greenpeace as one participant in the networks of global civil society. In contrast, international regimes simply "serve the specific interests of state and governments." According to Lipschutz, the state-centric approach tends to ignore or downplay other political forces at work in world politics. 95

Although scholars such as Haufler, Wapner and Lipschutz highlight how NGOs can have a broader impact outside of simply working within the state system, for the most

---

94 Wapner, Environmental Activism.
95 Lipschutz, "Reconstructing World Politics," 397.
part, theorists of international relations have described the activities of NGOs in terms of their ability to persuade, pressure and gain leverage over much more powerful organizations and governments. The goal of NGOs, therefore, is usually thought to be one of changing the behaviour of states and international organizations.  

This thesis will now touch upon the ways in which NGOs have been argued to persuade, pressure, and gain leverage over states. Whether this way of analyzing the activities of NGOs is entirely accurate and inclusive, however, will be further examined in Chapter Three of this thesis.

Few studies have undertaken a systematic analysis of the manners and conditions under which NGO actors actually exert influence on the outcome of international political process. Recently, however, Betsill and Corell have provided a more carefully designed and theoretically stringent analytical framework for analyzing nonstate influence.  

In their approach, nonstate influence is limited to the international level: to international environmental negotiations. At this level, the influence tactic available to nonstate actors is persuasion: “Nonstate actors can only try to influence the talks by persuading or convincing government representatives, who have formal power to make decisions, to accept the nonstate actors’ perspective.” On the basis of this reasoning and the definition of influence developed by Knoke, Betsill and Corell adopt an information-based definition of nonstate influence: “in the context of international environmental negotiations, influence can be said to have occurred when one actor intentionally

96 Keck and Sikkink, Activists Beyond Borders, 1.
transmits information to another that alters the latter's actions from what would have occurred without that information.¹⁰⁰ Betsill and Corell's analysis covers the importance of influence of NGOs via persuasion and is limited to nonstate influence solely at the international policy-making level. Effective action by NGOs at the national scale has typically been thought to involve mobilizing public opinion through the media and exerting pressure directly and indirectly upon influential policy networks and coalitions.¹⁰¹

As was mentioned in the introductory chapter of this thesis, the concept of the transnational advocacy network (TAN) has been developed by Margaret E. Keck and Kathryn Sikkink in their book Activists Beyond Borders to examine extensive forms of voluntary, reciprocal, and horizontal patterns of communication and exchange across borders by NGOs. Keck and Sikkink note that actors in a TAN may come from a variety of backgrounds including: international and domestic nongovernmental research and advocacy organizations; local social movements; foundations; the media; consumer organizations; and parts of the executive and/or parliamentary branches of government.¹⁰² Moreover, they describe how TANs are most likely to emerge around those issues where channels between domestic groups and their governments are blocked or hampered; where activists or political entrepreneurs believe that networking will further their missions and campaigns; or where conferences and other forms of international contact create arenas for forming and strengthening networks.¹⁰³

¹⁰⁰ Betsill and Corell, "NGO Influence in International Environmental Negotiations," 74 (emphasis deleted).
¹⁰² Keck & Sikkink, Activists Beyond Borders, 9.
¹⁰³ Keck & Sikkink, Activists Beyond Borders, 12.
Some scholars, however, note that while TANs rely on information, for them it is the interpretation and strategic use of information that is most important. Members of TANs interpret facts and testimony, usually framing issues simply – in terms of wrong or right. In a case on the whaling policy community, M.J. Peterson distinguishes actors in epistemic communities from those in transnational advocacy networks. Whereas epistemic community members are usually constrained by “canons of reasoning,” members of TANs often frame issues in simple terms, dividing the world into “bad guys” and “good guys.” Members of TANs, according to Peterson, share a vaguely holistic approach to nature, but they do not share or feel constrained by any one canon of reasoning. Peterson notes that the environmentalists concerned with whaling have not qualified as an epistemic community as they do not share causal beliefs, canons of validity, or principles.  

Keck and Sikkink note that to the frequent consternation of scientists and policy makers who often succeed in getting issues on the agenda initially, advocacy networks deliberately politicize issues. While epistemic communities seek to design sound policies and try, on the basis of their authoritative knowledge, to persuade governments to adopt them, advocacy networks look for leverage over actors and institutions. Advocacy networks also insist on different criteria of expertise based on direct testimony. Because advocacy organizations often lack the scientific expertise needed to participate in scientific and technological debates, they embark on mobilization strategies that emphasize the potential threats of the position that they oppose rather than

---


the scientific aspects of their own position. Scholars refer to this type of strategy as "symbolic politics."\textsuperscript{106}

1.4 Conclusion

As we have seen in the above survey of the literature on the role of NGOs in international relations, and the role that experts can exercise in international environmental negotiations, no one theoretical term such as the \textit{transnational advocacy network} and the \textit{epistemic community} allows for the expert, scientific role that NGOs can play in several complex issue areas of international environmental politics.

In contrast to theorists such as Keck and Sikkink, who see the primary role of NGOs in advocacy and "symbolic politics," and Betsill and Corell, who focus on influence tactics in defining the characteristic of NGO influence, this thesis asserts that in international environmental negotiations of a complex, scientifically-uncertain nature, many environmental NGOs have been able to act as members of epistemic communities. In order to increase their legitimacy and access, many NGOs shift their terms of reference away from overtly political, advocacy-oriented activities and towards scientifically-oriented research and principles – enabling them to belong to the epistemic community.

As was noted in the introduction of this thesis, the scientifically-oriented nature of many environmental NGOs has changed their role from that of outside critical agents demanding issue recognition and action, to that of partners in developing workable frameworks and principles for implementing actions. Environmental NGOs, therefore,

\textsuperscript{106} Agnes G. Schaefer, "Re-examining the Political Linkages Between Advocates and Scientists: Lessons Learned from Five Transnational Environmental Cases," working paper, Woodrow Wilson School of Public and International Affairs, Princeton University, 18.
can be a political force in their own right – not just “interest groups” whose only method of dealing with environmental problems is by working through states.

This thesis will now demonstrate that there is much empirical evidence supporting the assertion that many environmental NGOs not only act as pressure groups by lobbying states in order fulfill their goals; but also become highly expert in issues of policy and science, and as such have contributed their expert judgment somewhat separately from their political judgment as an NGO.
Chapter Two

NGOs in Action: An Empirical Examination of Several Complex Issue Areas

2.1 The Intergovernmental Panel on Climate Change (IPCC)

a) The History and Structure of the IPCC

It was due to widely-publicized warnings from scientists in the 1980s that the public in Western democracies became interested in the risks involved with an enhanced greenhouse effect induced by anthropogenic emissions of carbon dioxide, leading to a human-induced global warming – and its associated effects, such as sea-level rise. During the latter half of the 1980s, the climate issue increasingly gained saliency among the public, scientists and policy-makers. At the Toronto Conference of the Atmosphere in 1988, where more than 300 scientists and policy-makers from 48 countries, UN organizations, IGOs and NGOs participated, an explicit policy recommendation was agreed upon – calling upon national governments to reduce carbon dioxide emissions by 20% from 1988 levels by 2005.107

The issue of climate change is certainly an area around which problems of ‘uncertainty’ and ‘interpretation’ discussed by Haas in his definition of epistemic communities have developed. The causes of climate change are global in origin and highly distributed across society; therefore, it is more difficult to identify a single or small number of culprits who ultimately can be blamed. Moreover, the modes of responding to climate change are many and varied. There is no single obvious alternative

to existing policy, technology or practice that will solve the problem. The response to climate change requires separate consideration of adaptation and mitigation, and in both cases there are multiple options and multiple reasons for or against adopting each option. These factors, therefore, combine to make climate change a rather abstract issue in a world full of pressing social and environmental concerns.

Because the societal changes implied by the different solutions proposed for solving the global-warming problem are quite varied and drastic, one of the first steps politicians took to address the problem was to ask scientists to regularly assess the state of climate science, as well as the possibilities for adaptation to climate change and mitigation of the problem by reducing anthropogenic greenhouse-gas emissions. Therefore, the Intergovernmental Panel on Climate Change (IPCC) was established in 1988 under the auspices of the United Nations Environment Programme and the World Meteorological Organization for the purpose of assessing “the scientific, technical and socioeconomic information relevant for the understanding of the risk of human-induced climate change.” The agency’s goal is to represent fairly the full range of credible scientific opinion. Where possible, it attempts to identify a consensus view on the most likely scenario(s); however, when consensus cannot be reached, the agency’s charge is to summarize the major viewpoints and the reasons for disagreement. IPCC reports are intensively peer-reviewed, and are regarded by most scientists and political leaders as the

---

single most authoritative source of information on climate change and its potential impacts on environment and society.  

Scientists from 120 nations participate in the preparation of the IPCC reports. The IPCC is organized into a variety of task forces or special committees, a small secretariat in Geneva, and around three working groups that were set up to attain the stated objectives of the IPCC:

1) Working Group I: assesses the scientific aspects of the climate system and climate change;

2) Working Group II: assesses the scientific, technical, environmental, economic and social aspects of the vulnerability (sensitivity and adaptability) to climate change of, and the negative and positive consequences (impacts) for, ecological systems, socio-economic sectors and human health, with an emphasis on regional, sectoral and cross-sectoral issues;

3) Working Group III: assesses the scientific, technical, environmental, economic and social aspects of the mitigation of climate change, and through a task group (multi-disciplinary team), assesses the methodological aspects of cross-cutting issues (e.g. equity, discount rates and decision-making frameworks).

The IPCC has issued major assessment reports in 1990, 1995, and 2001, which are designed to facilitate negotiations on international agreements to address the problem. The Third Assessment Report (TAR) is the latest comprehensive assessment report to be produced and was released in stages between January and April 2001. During the Third Assessment Report, Working Group I was charged with assessing the scientific aspects of the climate system and climate change, Working Group II was charged with addressing the vulnerability of human and natural systems to climate change, and Working Group III

---

113 Alfsen and Skodvin, “The Intergovernmental Panel on Climate Change and scientific consensus,” 9.
was charged with assessing options for limiting greenhouse gas emissions and other types of mitigation. A separate Task Force oversaw a program to compile national greenhouse gas inventories. At its eighteenth session in September 2001, the IPCC decided to continue to prepare comprehensive assessment reports and agreed that the Fourth Assessment Report will be completed in 2007.\textsuperscript{114}

Each Working Group of the IPCC is co-chaired by a leading scientist from a developed and developing country. An additional set of government representatives (frequently trained scientists) nominated by countries make up the Bureau for each Working Group. Together, the two co-authors and the bureau members function as an executive committee for the Working Group. The team of scientists actually drafting individual chapters is sometimes referred to as the “scientific core.”\textsuperscript{115} Appointed scientists – who typically are widely recognized experts – come from academia, research facilities, industry, government and nongovernmental organizations. Experts are those who have established research or technical credentials in a field related to the chapters being reviewed. A two-tier process involving comprehensive expert reviews and then reviews by all IPCC member governments and accredited organizations occurs – including NGOs and experts who participate in the first round of the review. Documents are also made available to stakeholder groups, including environment and industry organizations.\textsuperscript{116}

\textsuperscript{114} Intergovernmental Panel on Climate Change. [Internet, www], ADDRESS: http://www.ipcc.ch/activity/act.htm [Accessed: March 30, 2006].
It is important to note that although the IPCC is organized within a political institutional framework, it is fundamentally a scientific body – made up and led by scientists from around the world. Members of the IPCC share principled normative and causal beliefs that allow them to remain true to the scientific mandate of the IPCC and to maintain scientific objectivity; moreover, they are careful to avoid making policy recommendations or shaping research programs. Because the assessments of the IPCC are the most comprehensive and balanced evaluations of the climate change issue, however, its work is probably the single most important foundation upon which climate policy is built.\textsuperscript{117}

\textit{b) The Scientific Activity of NGOs in the IPCC}

One critical strategy in ensuring scientific credibility and political legitimacy of IPCC reports is to strive for a fair representation of the range of scientific opinion on climate change matters. Accredited nongovernmental organizations, therefore, have observer status at the opening plenary and some other sessions over the course of the assessment cycle. The Climate Coalition and the Climate Council, for example, are accredited NGOs participating in the review process. The IPCC also seeks to involve experts from outside the traditional set of research institutions; therefore, climate change experts from environmental organizations have been involved in the IPCC process. It is important to note that in the case of the IPCC, the line between what constitutes "governmental" and "non-governmental" is highly permeable and often very blurred. The IPCC is heavily dominated by scientists who have either worked for government-funded

laboratories, or are dependent upon government contracts. According to Peter Newell, however, this does not preclude looking at what may still be considered principally non-state actors that identify themselves more strongly as part of a scientific community than as representatives of a particular government.\textsuperscript{118}

Actors from environmental NGOs have included, among others, climate expert Michael Oppenheimer from Environmental Defense as a lead author, and experts from NGOs such as the Union of Concerned Scientists, the Natural Resources Defense Council, as contributing authors and reviewers.\textsuperscript{119} The legitimacy of NGOs as environmental actors in the IPCC emerges from their claim to represent a sizeable body of public opinion that is not adequately represented elsewhere in the policy process. This claim is bolstered by large paid memberships, the results of public surveys, support for direct actions, and so on.\textsuperscript{120}

What is significant about the involvement of NGOs in the IPCC, however, is not just their ability to participate and represent a sizeable body of public opinion; but rather, their ability to directly shape the scientific consensus surrounding climate change. NGOs operating in the IPCC do not orient their activities around "symbolic politics" as described by the literature on transnational advocacy networks; but rather, they have become experts in issues of climate change policy and science.

According to Peter Newell, environmental NGOs working within the IPCC perform the sort of agenda-setting function that Haas attributes to knowledge-based epistemic communities. NGOs helped to nurture an "embryonic consensus" among

\textsuperscript{118} Newell, Climate for Change, 42-43.
\textsuperscript{120} Gough and Shackley, "The respectable politics of climate change," 329.
scientists and force states to respond to their initiatives and quicken the pace of political action on the issue.\textsuperscript{121} In the early rounds of negotiations of the IPCC Third Assessment Report, for example, NGOs' knowledge of the science and politics of climate change enabled them to make "notable contributions" – bringing expertise to bear that would otherwise have been unavailable to states.\textsuperscript{122} The fact that governments' own positions were both ill-informed and underdeveloped on the issue of climate change made them more amenable to the scientific advice of environmental NGOs. As groups acquire greater technical capability, they are accorded greater access derived from their ability to provide technical research input of immediate and obvious use to the negotiators.\textsuperscript{123} In 1990, attorneys from the Environmental Defense Fund (EDF) participated as observers at IPCC meetings – actively contributing both to the ministerial declaration and to the scientific and technical statements of the IPCC.\textsuperscript{124}

Another way in which NGOs engage in knowledge construction within the IPCC is by participating in academic or policy-inspired exercises on climate change policy. This activity involves the production of research papers aiming to illustrate or introduce new evidence on the topic. According to Gough and Shackley, the respectability of such papers depends upon the credibility and apparent neutrality of the authors. NGOs, therefore, often commission established academics to produce research papers in order to gain respect within the scientific community.\textsuperscript{125} For example, during the negotiation of the IPCC Third Assessment Report, the WWF commissioned relatively weighty reports

\textsuperscript{121} Newell, \textit{Climate for Change}, 131.
\textsuperscript{122} Newell, \textit{Climate for Change}, 142.
\textsuperscript{123} Newell, \textit{Climate for Change}, 142-43.
\textsuperscript{124} Newell, \textit{Climate for Change}, 140.
\textsuperscript{125} Gough and Shackley, "The respectable politics of climate change," 338.
on the effects of climate change and biodiversity\textsuperscript{126} and extreme weather events.\textsuperscript{127} Greenpeace’s \textit{Pacific in Peril} reviews the biological, economic and social impacts on Pacific coral reefs.\textsuperscript{128} These examples can be seen to represent explicit efforts by the NGOs to be part of the epistemic community surrounding climate change, employing scientific arguments and methods to convey their message.\textsuperscript{129} These examples also suggest that as groups acquire greater technical capability they are accorded greater access – derived from their ability to provide technical research input of immediate and obvious use to the negotiators.\textsuperscript{130} In his discussion of the IPCC, Peter Newell notes that the provision of studies on the regional impacts of climate change and other technical and policy-relevant research by Climate Change Network (CAN) has “undoubtedly aided its integration into the decision-making process at the international level.”\textsuperscript{131} Created in 1989, CAN is a global network of almost 300 environmental NGOs working to curb human-induced climate change to ecologically sustainable levels. To achieve this end, CAN members exchange information, work out joint position papers at climate change negotiations and co-ordinate strategies at international, national and local levels. Being the recognized umbrella NGO in the international climate change negotiations, CAN unites activist and advisory environmental NGOs in one network.\textsuperscript{132}

\textsuperscript{126} J. Malcolm and A. Markham, \textit{Global Warming and terrestrial biodiversity in decline} (Report prepared for WWF Switzerland, August 2000).
\textsuperscript{127} P. Vellinga and W.J. van Verseveld, \textit{Climate Change and extreme weather events} (Report prepared for WWF Switzerland, September 2000).
\textsuperscript{129} Gough and Shackley, “The respectable politics of climate change,” 338.
\textsuperscript{130} Newell, \textit{Climate for Change}, 143.
\textsuperscript{131} Newell, \textit{Climate for Change}, 144.
A more direct way that NGOs are able to provide expert, scientific knowledge to the IPCC is by participating directly as authors of the actual IPCC Report and as members of the roster of experts for the UNFCCC. For example, during the IPCC Third Assessment Report, Donald W. Altken of the Union of Concerned Scientists was listed as a member of the roster of experts. Steven Hamburg and Michael A. Replogle, both from the Environmental Defense Fund, were also listed as official UNFCCC experts. Interestingly, Steven Hamburg is an Associate Professor in Biology at Brown University who publishes papers on the impacts of climate change for the Environmental Defense Fund. This demonstrates the way in which NGOs, as described above, often commission established academics in order to gain respect and inclusion in the scientific community. Moreover, the NGOs to which these experts both belong advocate scientific principles in their mission statements. Founded in 1967 and representing more than 400,000 members, The Environmental Defense Fund notes in its mission statement that "[they] are guided by scientific evaluation of environmental problems, and the solutions [they] advocate will be based on science, even when it leads in unfamiliar directions." Similarly, the Union of Concerned Scientists notes in its mission statement that it is a "nonprofit partnership of scientists and citizens combining rigorous scientific analysis, innovative policy development and effective citizen advocacy to achieve practical environmental solutions."

It is important to note that NGOs do not always simply go along with the dominant consensus within the IPCC; rather, they often use the interpretative flexibility of scientific knowledge to argue for a more precautionary stance. The significant point, however, is that these NGOs have accepted the basic credibility of global climate models and the instrumental records. Hence, they are not challenging the science in the way in which some industry organizations have endeavoured to do.\footnote{Gough and Shackley, "The respectable politics of climate change," 332-333.} Climate change NGOs working within the IPCC have a "shared set of normative and principled beliefs"; and a "common policy enterprise" with other scientific experts surrounding climate change. Gough and Shackley argue that NGO membership of this coalition of scientists, governments and NGOs has resulted in a ‘respectable politics’ of climate change through which certain codes of conduct are recognized in order to achieve progress in terms of international agreements. Hence, many environmental NGOs have accepted the legitimacy of the Kyoto Protocol targets, signing up to global reductions of greenhouse gas emissions of 5-6 percent in the next decade, even though a more radical position could have been justified by the scientific evidence for 60 percent reduction to achieve stable atmospheric concentrations of carbon dioxide.\footnote{Gough and Shackley, "The respectable politics of climate change," 340.} NGOs and other advocacy groups involved with the IPCC have adapted to the norms and practices of the epistemic community within the network in order to increase their legitimacy and work in partnership with scientists and policy-makers.

According to Gough and Shackley, NGOs that have helped to create the climate change epistemic community have needed to move their own terms of reference towards science and technical/policy measures and responses, and away from ethical and overtly
political matters. A distinctive knowledge-based approach to climate change assessment and policy has emerged within the IPCC in which NGOs have been instrumental, both as expert advisors and in providing the legitimacy of inclusiveness needed for the epistemic community to have sufficient authority.\textsuperscript{139} They do, however, note that one NGO: the Global Commons Institute (GCI) – has resided largely outside the climate change epistemic community. The GCI promoted ethical and political questions connected with global development and focused upon the uncertainty of climate prediction – casting doubt on whether global climate models are adequate tools for generating predictions at all, and finding reasons why the observational record is also inadequate.\textsuperscript{140} The NGOs in the epistemic community, however, saw the GCI as “upsetting the apple cart,” and risking delay in publication of the entire Second Assessment Report.\textsuperscript{141}

The scientific expertise that NGOs have provided on climate change issues is not unique to the IPCC. During the early days of climate change policy development, NGOs helped to organize the 1985 Villach scientific conference on greenhouse gases, which called for policy responses to climate change from governments and other scientific organizations. The International Council of Scientific Unions (ICSU) was the most significant NGO in organizing this conference – which led to a two-stage workshop in 1987 in Villach, Austria and Bellagio, Italy. It was largely as a result of these efforts that Working Group I of the IPCC was able to conclude that a global approach to the problem of global warming was desirable.\textsuperscript{142}

\textsuperscript{139} Gough and Shackley, “The respectable politics of climate change,” 332.
\textsuperscript{140} Gough and Shackley, “The respectable politics of climate change,” 334.
\textsuperscript{141} Gough and Shackley, “The respectable politics of climate change,” 332.
Interestingly, although environmental NGOs have adapted to the scientific-based strategies of climate change negotiations, they are still able to use their unique skills and strategies for the benefit of the community as a whole. A collaborative community has formed within the IPCC that has been able to accommodate the needs of all actors involved with climate change by creating individual roles for the different groups involved in the planning process. As will be discussed later, it has been difficult for climate change NGOs to focus solely on traditional advocacy techniques because of the complexity of the issue. However, there is still possibility for environmental NGOs to assist the scientific community by disseminating complex scientific information to a point where it can be understood by the public. While professional scientists and policymakers of the community may find it difficult to reach out to the public due to the highly scientific nature of the issues, the NGOs and advocacy groups involved are able to develop creative ways to translate scientific information into language that can be used to mobilize the public.\(^{143}\) The NGOs and advocacy groups involved with the IPCC climate change network could be said to play a “translational” role. This term has been defined by Schaefer as “the deliberate distillation of scientific information to a point where it can be understood by the general public and used by grassroots advocacy groups to mobilize around an issue.”\(^{144}\) Schaefer cites the case of invasive species as an area where scientific NGOs such as the World Conservation Union’s Invasive Species Specialist Group (ISSG) was able to generate and disseminate scientific information but also distill that

\(^{143}\) Schaefer, “Re-examining the Political Linkages,” 19.

\(^{144}\) Schaefer, “Re-examining the Political Linkages,” 19.
information to a point where it could be understood by the public to persuade them to support a particular policy stance.\textsuperscript{145}

In the case of the IPCC, a symbiotic relationship between traditional scientists and NGO groups has developed. NGOs have faced the uphill battle of establishing their political credibility and have had to establish their scientific credibility with regard to their knowledge of the technical aspects of climate change science. Therefore, NGO groups ally with traditional scientists to help mobilize; and, in turn, scientists ally with NGOs to help them gain credibility in these highly technical areas.\textsuperscript{146} Overall, despite any advocacy-oriented activities they may partake in, the science-based nature of the NGOs involved with the IPCC network allows them to be part of the epistemic community within the IPCC.

2.2 The Great Lakes Water Quality Agreement (GLWQA)

a) The History and Structure of the GLWQA

The Great Lakes Water Quality Agreement (GLWQA) was formed in 1972 following a 1964 report by the International Joint Commission (IJC) that concluded that extensive pollution of boundary waters was coming from both the American and Canadian sides of the border to the detriment of health and environment in the region. Shared between Canada and the United States, the Great Lakes basin contains approximately 20 percent of the Earth's fresh surface water and is home to some 35

\textsuperscript{145} Schäfe, "Re-examining the Political Linkages," 17.
\textsuperscript{146} Schaefer, "Re-examining the Political Linkages," 19.
million people as well to intense industrial and agricultural development. Significant environmental stress is characteristic of the region, including: contamination of all media from toxic substances, shoreline erosion with fluctuating water levels, introduction of exotic species, loss of native fish species, and loss of wetlands and biodiversity. The two national governments involved, therefore, decided to address the environmental problems through an international agreement because of the strong binational scientific consensus, the unanimous recommendation by the IJC for a new agreement, and the strong expressions of public support for coordinated action. The agreement created a standing reference to the IJC under the Boundary Waters Treaty to study the Great Lakes' water quality, and it set out the principles, policies, and objectives needed to guide the two governments in their actions to clean up the Great Lakes. The GLWQA placed the IJC in a central position with respect to research, data gathering, and oversight of agreement implementation and new national bodies were created to assist the IJC in carrying out these functions, including the Great Lakes Water Quality Board and the Science Advisory Board. The Water Quality Board (WQB) serves as the principal advisor to the IJC on all matters pertaining to the GLWQA. The Science Advisory Board serves the broader, less focused purpose of advising the Commissioners on research and scientific matters and calling attention to new and emerging issues. The current regime is built upon this organizational foundation, although a second revised agreement in 1978

148 Valiante, Muldoon, Botts, "Ecosystem Governance," 197.
149 Valiante, Muldoon, Botts, "Ecosystem Governance," 201.
150 Valiante, Muldoon, Botts, "Ecosystem Governance," 201.
provides the central substantive directives and overall goal of the GLWQA: “to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem.\textsuperscript{152}

Under the 1978 agreement, the governments committed themselves to an “ecosystem approach” to environmental protection – which viewed the entire Great Lakes basin as an integrated ecosystem, thus requiring cooperative efforts not just on water quality, but also on sediments, air pollution, and land-based activities. The agreement, therefore, prohibits the discharge of certain toxic substances and enunciates a number of general objectives and specific water quality objectives – as well as actions for a number of programs.\textsuperscript{153} This “ecosystem approach” is somewhat similar to the principle of ecology that occurred within the epistemic community surrounding Mediterranean pollution control described by Haas. Members of the epistemic community within the GLWQA had similar beliefs about the need to preserve the quality of the environment, as well as similar views on the origins and severity of pollutants, the policies necessary to control pollution, and the research needed to determine the physical linkages between sources of pollution and the health of the Great Lakes. The ecosystem approach within the GLWQA facilitated the formation of coalitions among scientists who would otherwise be compatible.

The complex of organizations and individuals involved in the activities of the GLWQA is an evolving governance structure comprised of bilateral institutions; federal, state and provincial agencies; the “expert community” of professional and informal networks of scientists; environmental advocates; native activists; financial, industrial and

\textsuperscript{152} Valiante, Muldoon, Botts, “Ecosystem Governance,” 201-202.
\textsuperscript{153} Valiante, Muldoon, Botts, “Ecosystem Governance,” 202.
tourism interests; hunters and anglers; the press; and others.\textsuperscript{154} Implementation of the agreement, however, is the responsibility of the two national governments.

According to Valiante, Muldoon and Botts, one of the oldest and most influential components of the Great Lakes community is the scientific sector. Since the 1950s and 1960s, US and Canadian scientists with an interest in the Great Lakes have worked together to advance knowledge about the basin and its ecological decline and have shared and publicized their research in an annual conference. In 1968, the International Association for Great Lakes Research (IAGLR) was formed to coordinate this conference, to assist scientific investigation, and to publicize these investigations in a journal. Through the 1964 reference to the IJC, the joint work of both academic and government scientists formed the basis for government action in establishing and refining the Great Lakes Water Quality Agreement, and their influence has expanded since the agreement was adopted in 1972.\textsuperscript{155} Scientists from both countries have had a strong presence within formal agreement structures and a high level of influence on the direction of the regime. The regional office and working boards of the IJC promoted strong links and relied upon Great Lakes scientists. The advancement of the GLWQA regime has depended upon continuing research and on workshops in which the research community, including nonscientists, took an active role.\textsuperscript{156}

\textit{b) The Scientific Role of NGOs in the GLWQA}

Nongovernmental organizations are an important component of the Great Lakes community and have played an important role in defining the issues surrounding Great

\textsuperscript{154} Manno, "Advocacy and Diplomacy," 8.
\textsuperscript{155} Valiante, Muldoon, Botts, "Ecosystem Governance," 218.
\textsuperscript{156} Valiante, Muldoon, Botts, "Ecosystem Governance," 218.
Lakes policy-making. In 1989, the International Joint Commission wrote in its Fifth Biennial Report on Great Lakes Water Quality:

The emergence of strong, sophisticated and effective non-governmental organizations over the past decade has been a positive development. Composed of many thousands of Great Lakes basin residents and others from both sides of the international boundary, these organizations are important in focusing political attention on the integration of Agreement objectives into domestic priorities and programs... As such, these organizations fill a distinct niche in the Great Lakes institutional framework...  

Several NGOs have been given observer status on the Binational Executive Committee composed of senior level representatives of Canadian and US governments, state and provincial, tribal, and First Nation agencies that are responsible for delivering major programs that respond to the GLWQA. The NGO involvement with the GLWQA began with observer status in the 1978 agreement and expanded to the role of participants in the shaping of the direction of the 1987 protocols.  

Canadian and U.S. NGO representatives from Great Lakes United, the Sierra Club, and the National Wildlife Federation, for example, were given observer status in the negotiations of the 1987 Protocol that amended the 1978 Agreement as their participation was considered, not as a complication to be avoided, but as a useful contribution to the process. NGOs involved with the GLWQA are also essential to the implementation of the agreement. Perhaps the most important in terms of Great Lakes activities is Great Lakes United. Founded in 1982, Great Lakes United is an international coalition of individuals and NGOs dedicated to preserving and restoring the Great Lakes-St. Lawrence River ecosystem. Its members include organizations representing environmentalists, conservationists, hunters and

---

anglers, labour unions, community groups, and citizens of the United States, Canada, and First Nations and Tribes.  

However, most relevant to this thesis, NGOs working with the GLWQA are active contributors to the science surrounding the environmental degradation of the Great Lakes. According to Jack Manno, NGOs involved with the GLWQA were thoroughly involved in discussing every aspect of the Agreement and brought with them a high degree of technical knowledge and the ability to articulate technically-supported positions. They are several Great Lakes NGOs that engage in scholarly activity that produces scientific research on the Great Lakes. For example, the Canadian Water Resources Association and the International Association for Great Lakes Research (IAGLR). IAGLR, whose activities include those associated with other great lakes, such as Africa’s Lake Victoria, in addition to the Laurentian Great Lakes, attracts members from a wide range of disciplines including biology, chemistry, physics (and physical limnology), geography, planning, economics, and law. Moreover, it operates the Journal of Great Lakes Research, a journal devoted to research in the Great Lakes. According to Isobel W. Heathcore, water management in the Great Lakes has involved the sharing of responsibility with industry, NGOs, the public and the scientific/technical community. A shift has occurred from a “paternalistic” role for government to a system of partnerships and inclusive decision-making processes including NGOs. The participatory framework of the GLWQA allows the “lay” to generate scholarly expertise.

---

This perhaps explains why the NGOs involved with the GLWQA embraced and identified with the GLWQA’s goals and objectives. According to Manno, the technical expertise and fluency developed by NGOs in the GLWQA lent credibility to their positions and provided them with important leverage in the negotiations. Strong links between scientists and the NGOs helped the development of sophisticated participants and enhanced their credibility. NGOs embraced the principles of the regime, especially the ecosystem concept; therefore, NGOs were able to translate the technical issues into policy options — articulating their position on the environmental consequences of alternative policy choices.\(^{164}\) The environmental NGOs shared a common vocabulary and certain assumptions drawn from their “common understandings of the environmental sciences and environmental politics”; therefore, the NGO representatives involved in the negotiations had a disproportionate influence in the negotiations.\(^{165}\) According to Valiante, Muldoon and Botts, NGOs led by trained, knowledgeable individuals were able to have a significant influence on the progressive direction of the GLWQA regime.\(^{166}\)

### 2.3 The North American Waterbird Conservation Plan (NAWCP)

#### a) The History and Structure of the NAWCP

In September 2002, the Waterbird Conservation for the Americas released the North American Waterbird Conservation Plan (NAWCP). The NAWCP provides an overarching framework and guide for conserving waterbirds and sets forth goals and priorities for waterbirds in all habitats throughout North America, Central America, the

---

165 Manno, “Advocacy and Diplomacy,” 56.
166 Valiante, Muldoon, Botts, “Ecosystem Governance,” 220.
islands and pelagic waters of the Caribbean Sea and the U.S.-associated Pacific Islands and pelagic waters of the Pacific. It advocates continent-wide monitoring; provides an impetus for regional conservation planning; proposes national, provincial, state, and other local conservation planning and action; and creates a larger context within which local habitat conservation can rest.167

The NAWCP came about as a result of several other bird planning initiatives that were developed during the mid-1980s and the 1990s. The concept of monitoring populations of species at the national scale had been growing for decades among wildlife biologists and within the avian conservation community, but few comprehensive programs existed at the national level to coordinate such an effort. However, this changed in 1986, when the North American Waterfowl Management Plan (NAWMP) was signed by the governments of the United States and Canada (and joined by Mexico in 1994). The NAWMP’s primary goal was to restore waterfowl populations to the 100 million level that was estimated to have existed in the 1970s. The North American Wetlands Conservation Act (NAWCA) of 1989 provided funding for the implementation of the NAWMP -- primarily through partnership arrangements known as Joint Ventures (JVs). The flurry of legislative, funding, and management activities surrounding the NAWMP stimulated other sectors of the avian research and conservation community into action.168 Thus, by the mid-1990s, NAWMP Joint Ventures, Partners in Flight Regional Working

---


Groups, and Shorebird Regional Working Groups were busy creating conservation and management plans for their respective assemblages of birds.\footnote{Keisman, "Developing the North American Waterbird Conservation Plan," 3.}

One area of bird conservation, however, was yet to be addressed by this wave of bird conservation planning. The needs of seabirds, colonial waterbirds, and marshbirds were not being considered in the decision-making process regarding avian habitat management. This changed in 1995, when Dr. James A. Kushlan, a prominent heron researcher, instigated a process of planning activities that eventually formed the North American Waterbird Conservation Plan. Although he was unaware of the NAWMP and PIF activities that were underway, Kushlan was aware of the BBS (which stood as the only real nationwide standardized non-game avian survey in existence). Kushlan had always been frustrated by the "lack of persistence" of efforts to establish comprehensive nationwide monitoring programs and centralized data repositories to complement the BBS.\footnote{Keisman, "Developing the North American Waterbird Conservation Plan," 3.} Kushlan believed that a permanent position with base funding in the federal government was necessary to standardize and coordinate waterbird surveying efforts across state and regional boundaries; consequently, he developed a vision for a consolidated National Inventory and Monitoring Program for the Department of Interior, which would be located at Patuxent.\footnote{Keisman, "Developing the North American Waterbird Conservation Plan," 3-4.} Kushlan realized that colonial waterbirds needed to be included in habitat management planning processes; specifically, a fourth continent-scale conservation plan focusing on colonial waterbirds was needed in addition to the NAWMP, the Shorebird Plan, and the Partners in Flight strategies.\footnote{Keisman, "Developing the North American Waterbird Conservation Plan," 4.} It was this realization that spurred the ensuing NAWCP planning process.
The vision of the NAWCP is that the "distribution, diversity, and abundance of populations and habitats of breeding, migratory, and nonbreeding waterbirds are sustained or restored throughout the lands and waters of North America, Central America, and the Caribbean." In light of this vision, the NAWCP community formulated several specific goals into the Plan targeting species and population, habitat, education and information, and coordination and integration:

- **Species and population**: to ensure sustainable distributions, diversity and abundance of waterbird species throughout each of their historical or naturally expanding ranges in the lands and waters of North America, Central America, and the Caribbean;
- **Habitat**: to protect, restore, and manage sufficient high quality habitat and key sites for waterbirds throughout the year to meet species and population goals;
- **Education and information**: to ensure that information on the conservation of waterbirds is widely available to decision-makers, the public, and all those whose actions affect waterbird populations;
- **Coordination and integration**: to ensure that coordinated conservation efforts for waterbird in the Americas continue, are guided by common principles, and result in integrated and mutually supportive waterbird conservation actions.

In order to achieve the vision and goals for waterbird conservation, the Plan provides a common framework for managers and conservationists to proceed with actions intended to benefit waterbirds. The Plan aims to facilitate continent-wide planning and monitoring, national-state-provincial conservation planning and action, regional planning and coordination, and local habitat protection and management; moreover, it stresses that conservation is an international, national, regional, and local matter that requires multiple scales of planning and implementation, and involvement of numerous partners from...

---

government and nongovernmental organizations, from the scientific community, and from local citizenry.\textsuperscript{175}

The resulting "common framework" lays out a continental-scale framework for the conservation and management of 210 species of waterbirds, including seabirds, coastal waterbirds, wading birds, and marshbirds utilizing aquatic habitats in 29 nations throughout North America, Central America, and the Caribbean. According to the Plan, birds as "familiar" as herons, loons, pelicans, and gulls, as well as the "lesser known" albatrosses, petrels, auks, and rails are among the species considered. The Plan notes that these birds' dependence on aquatic habitats and open pelagic waters make them especially vulnerable to numerous threats facing water and wetland resources globally.\textsuperscript{176}

The Plan identifies and examines the state of waterbird populations and waterbird habitats, including associated issues and threats. Furthermore, it recommends measures of conservation action that should be taken at a continental scale in order to reverse the current problems facing waterbirds. The Plan also recognizes that most waterbirds, if monitored at all, have been surveyed by various parties using different methodologies over multiple scales, resulting in data sets that are very difficult to compare. The lack of available data and the need to "fill the gaps" of information are concerns that are echoed throughout the Plan. In an attempt to solve this problem, the Plan has established a Waterbird Monitoring Partnership that will aim to centralizing data storage and management, develop standardized census methods, develop statistically valid and

\textsuperscript{175} Kushlan et al, \textit{Waterbird Conservation for the Americas}, 7-8.

\textsuperscript{176} Kushlan et al, \textit{Waterbird Conservation for the Americas}, 3.
logistically feasible waterbird sampling schemes, and identify and fill in gaps in
continental waterbird monitoring programs. 177

It could be said that a “veil of uncertainty” faces waterbird conservation planning
due to the multiple species, multiple threats, multiple jurisdictions, and multiple policy
responses and measures available. Certainly, governments are faced with a great deal of
uncertainty and interpretation in the policy-making process surrounding waterbird
conservation.

The listed authors of the NAWCP are from varying government agencies,
research groups, nongovernmental organizations, and academic institutions such as the
U.S. Geological Survey, the U.S. Fish and Wildlife Service, Patuxent Wildlife Research
Center, BirdLife International, and the Cornell Laboratory of Ornithology. During an
initial scoping meeting in April 1998, attendees included representatives from Ducks
Unlimited, Wetlands International, the International Association of Fish and Wildlife
Agencies (IAFWA), the National Audubon Society, Manomet Conservation Center, the
American Bird Conservancy, the Ornithological Council, and the U.S. Fish and Wildlife
Service’s Office of Migratory Bird Management and North American Waterfowl and
Wetland Offices. 178 This group of actors eventually became known as the “Steering
Committee.” By December 1998, the advisory committee alone had 84 members
representing universities, NGOs, refuge managers, regional-level wildlife biologists, and
NAWMP Joint Venture Coordinators, as well as workers from several federal
agencies. 179 When the plan was officially unveiled at the First International Conference
on the Conservation Plan on October 30, 2000, 120 individuals from state/provincial

177 Kushlan et al, Waterbird Conservation for the Americas, 32.
agencies, academia, and nongovernmental organizations within the United States, as well as representatives from Canada, South America, and the Caribbean, attended the conference. The NAWCP network maintains a similar composition today.

Aside from their shared passion for waterbirds, the participants of the NAWCP community share a common understanding that the broad policy and political responses to waterbird conservation must be grounded on scientific findings and principles. The Plan notes that “wherever possible, conservation strategies should be based on rigorous scientific and practical knowledge.”\(^\text{180}\) Statements regarding the importance of science in achieving waterbird conservation strategies are echoed throughout the entire Plan. Although the actors may argue over details of scientific data, or the extent to which pure science should be prioritized over immediate conservation action, it can be said that the participants in the NAWCP community share scientific principles. For example, Manomet Centre for Conservation Sciences, an environmental research center heavily involved in the NAWCP planning process, focuses its efforts on “[building] science-based, cooperative solutions to environmental problems.”\(^\text{181}\) The overall theme of Manomet’s mission statement is echoed in the mission statements of the other NAWCP participants’ organizations.

It can also be said that the participants in the NAWCP network are conservation oriented. That is, they believe that achieving sustainable waterbird populations and managing waterbird habitats throughout the Americas is important. The introduction of the Plan states:

The most encouraging revelation that occurred to us during the years it took to develop this Plan was the great number of individuals, representing all


factions of society, that were willing and eager to unite to accomplish waterbird conservation. This shared passion for waterbirds will continue to be the force that moves waterbird conservation ahead in the Americas.182

Although the plan stresses the importance of scientific knowledge, it recognizes that “conservation cannot always wait for complete information” and urges that “critical conservation action be initiated with due speed based on best available knowledge but in an adaptive manner.”183

b) The Scientific Activity of NGOs in the NAWCP

It could be said that the participants of the NAWCP community, due to their commitment to both science and conservation, are “conservation biologists.” This term has been used by scholars to describe scientists who enter ecosystem research because they are deeply concerned about ecological issues and hold a deep ecology perspective. Conservation biologists usually take on the role of both academic and practitioner and “do science and practice conservation.”184 The mission of conservation biologists is to preserve and sustain as much of the earth’s biodiversity as possible in the context of looming crises of global habitat loss and mass extinction; therefore, they tend to be actively engaged in roles additional to those typically ascribed to scientists.185

In the NAWCP community, the dichotomy between scientists and advocates is not so apparent. Kathy Parsons, a senior scientist at Manomet and a key player in the NAWCP planning process, notes that although there are often conflicts and tensions

between NGOs and other actors within the NAWCP community, they "all view science-based information as the meeting ground for resolving issues." Compared to the single-issue campaigning style generally associated with the approach of environmental NGOs, a distinctive knowledge-based approach to waterbird conservation and policy exists within NGOs and advocacy groups involved in the NAWCP community. In order for NGOs and other advocacy groups to participate in the NAWCP community, they have been required to move their own terms of reference towards science and technical/policy measures and responses, and away from ethical and overtly political matters. NGOs and other advocacy groups involved with the NAWCP network have adapted to the norms and practices of the epistemic community within the network in order to increase their legitimacy and work in partnership with scientists and policy-makers.

There is a long history of close cooperation among government bird biologists working within the NAWCP, their professional associates at organizations such as Manomet and the Cornell Laboratory of Ornithology, and the intensely involved amateurs mobilized by NGOs such as the National Audubon Society. This cooperation is evident in the work of the dozens of monitoring and banding projects that have played important roles in assembling data on population trends. These include the Breeding Bird Survey (conducted annually since 1966 by thousands of volunteers, initiated by the USFWS, managed since 1993 by the National Biological Survey under the Department of Interior, U.S. Geological Survey, Biological Resources Division); the International Shorebird Survey (conducted since 1974 by volunteers, coordinated by Manomet); the Breeding Bird Census (conducted annually since 1937 by hundreds of volunteers,

sponsored by the National Audubon Society and managed by the Cornell Laboratory of Ornithology); Project Feederwatch (a bird ‘irruption’ monitoring program involving nearly 7,000 volunteers, run since 1987 by the Cornell Laboratory and Canada’s Long Point Observatory); and the Christmas bird counts (conducted annually since 1900 by thousands of volunteers, sponsored by the National Audubon Society and managed by the Cornell Laboratory of Ornithology). In British Columbia, the Waterbird Watch Collective involves advanced and amateur birders in the protection of marine habitat by monitoring and recording waterbird numbers, species, and locations. Volunteers help to map and monitor eagle, osprey, heron, cormorant and black oystercatcher nesting sites around Salt Spring Island.187

Amateur ornithologists do more than simply identify, list, and count. They are also involved in a wide range of bird biology studies, participating in mist-netting, banding, weighing, and other activities critical to development of data bases.188

The Cornell Laboratory of Ornithology, Manomet and the USFWS are all listed as authors of the NAWCP and all relied on “behind-the-scenes” volunteers to compile the data needed to develop the NAWCP. The scientists and “experts” of the NAWCP community rely on information and mass mobilization provided by amateur and volunteer ornithologists who belong to NGOs. Harold F. Mayfield, a contributor to the Quarterly Journal of Ornithology, describes the importance of amateurs:

Although the last quarter of a century has brought a vast increase in the number of professionals and consequently a relative decline in the prominence of amateurs ... 12% of the papers in the four leading American

187 See the Waterbird Watch Collective website [Internet, www], ADDRESS: www.conservationconnection.bc.ca [Accessed: March 30, 2006].
ornithological journals in 1975 were written by people not employed in biology ... Some aspects of ornithology would seem to depend on amateur assistance indefinitely. It is difficult to imagine large-scale investigations of populations, migration, or reproductive success without the help of volunteers.  

The activity of amateurs and volunteers has often been termed “citizen science,” where citizens act as researchers. The concept of citizen science has been described by some scholars as science that is developed and enacted by citizens. Rather than a community that includes just scientists and policy makers, the NAWCP community includes a large number of behind-the-scenes “lay scientists” who help the community develop sound waterbird conservation strategies by providing necessary data.

It is important to note that although amateurs and professionals may share the same normative, principled, and causal beliefs, they do come to the community with different motives and skills. The differences that exist between the two actors, however, only bring additional richness to ornithology through diversity. Amateurs are able to involve themselves in ornithology without the need to seek government grants or academic status; therefore, amateur are free to “tread the byways of inquiry” without pressure for immediate results or conformity to current themes. This differs from the professional scientist, who may be restricted in his or her research by the need to pursue a certain path of research in the aim of obtaining funding or academic status. Although amateurs may come to their work from a different perspective and motivation than the trained scientist, they pursue research based on professional norms, principles, and causal

---

190 Krajnc, “Conservation Biologists,” 228.
beliefs. Amateurs and volunteers involved with scientific waterbird research are mentored and trained to use traditional scientific research methods. The amateurs are not just randomly compiling data; rather, they are taught to research waterbirds according to shared notions of validity required by the scientific community. Rather than it being a matter of citizens going it alone, nearly all cases reveal the involvement of an expert of some sort. 194 This relationship has been described in a commentary article by the American Ornithologists Union:

> Although solid work is performed by some amateurs on their own, the full potential of the whole group will not be developed without professional collaboration... in field observations many amateurs have skills few professionals can match, and their forte is the gathering of data, but the full value of their work will not be realized without professional assistance to see the facts within the larger conceptual framework of biology. Thus, the professional touch is often vital in pinpointing the information needed, planning the studies, and analyzing the results. 195

There exists, therefore, a symbiotic and collaborative relationship between citizens, members of NGOs and scientists in the NAWCP community. According to Harold F. Mayfield, "ornithology is fortunate never to have drawn a clear line between the amateur and professional." 196 This fact is especially demonstrated within the NAWCP community, where a symbiotic and collaborative relationship between professionals and amateurs thrives.

Interestingly, although NGOs have adapted to the scientific-based nature of the NAWCP community, they are still able to use their unique skills and strategies for the benefit of the community. The NAWCP community has been able to accommodate the

needs of all actors involved with waterbird conservation by creating individual roles for the different groups involved in the planning process. The NAWCP formed a Waterbird Conservation Communication Committee, for example, in order to facilitate advocacy activity within the NAWCP. Kathy Parsons, a member of the NAWCP “Council,”
discusses the role of this Committee:

We... decided as a group ... that we have an advocacy committee on the Council. We have a committee that is looking at issues that need letters written to Senators, Congressmen and Parliament ... The advocacy committee (Conservation Communication Committee) develops strategies for using advocacy or conservation action to meet the goals of the waterbird plan ... \(^{197}\)

Parsons goes on to note that many of the individuals on the NAWCP Council are prohibited from lobbying individually; therefore, the Conservation Communication Committee is able to write letters to public officials on certain issues on behalf of the NAWCP, and individual members of the Council can decide individually whether they have the authority to sign on to the letter. The NGO actors within the NAWCP network are able participate in advocacy activities at a level that government actors are not and are able to use their link to the NAWCP network as a means to augment their credibility and strengthen their overall political goals. Therefore, NGOs who are interested in and able to participate in advocacy activities are able to serve the scientific-based waterbird community as a whole by advocating \textit{scientific-based} policy. The Plan notes that “the dissemination of information is an essential component of waterbird conservation” but that this “dissemination” should be of “scientifically valid information.”\(^{198}\) The Waterbird Conservation Communication Committee reports to the NAWCP Council on


\(^{198}\) Kushlan et al, \textit{Waterbird Conservation for the Americas}, 35.
its activities; therefore, the typical single-issue campaigning style associated with advocacy groups is prevented.

Similar to the case of the IPCC, the NGOs and advocacy groups involved with the NAWCP network could be said to play a “translational” role as defined above by Schaefer. As will be discussed later, although the scientists and policy-makers of the NAWCP community may find it difficult to reach out to the public due to the highly scientific nature of the issues, the NGOs and advocacy groups involved are able to develop creative ways to translate scientific information into language that can be used to mobilize the public.\(^{199}\) What is significant about this activity is the way in which NGOs and professional scientists are able to collaborate through the NAWCP organizational structure in order to best serve the needs of waterbirds. Moreover, NGOs are able to use advocacy techniques without sacrificing their scientific principles and beliefs.

### 2.4 Motivating Factors for the Scientific Activity of NGOs

There are several reasons as to why NGOs participating in the international environmental negotiations discussed in the case studies of this thesis have shifted their activities towards developing expertise and scientific research and away from engaging in “symbolic politics” as discussed by scholars such as Keck and Sikkink.

In the case of the IPCC, the main reason for this shift is the fact that engaging the public is particularly challenging in the case of climate change.\(^{200}\) The causes of climate change are global in origin and highly distributed across society; this means that it is more difficult to identify a single or small number of culprits who can ultimately be

---

\(^{199}\) Schaefer, “Re-examining the Political Linkages,” 19.

blamed. Communicating to the public of industrialized nations that they are responsible for climate change as a result of the day-to-day activities they engage in unlikely to be a popular message for NGOs to convey.\textsuperscript{201} By analogy, the issue of ozone depletion was far more straightforward, since there were a small number of multinational chemical firms (Du Pont, ICI) that could be presented as being motivated primarily by profit at the expense of the integrity of the Earth’s atmosphere.\textsuperscript{202} NGOs attempting to mobilize the public surrounding the conservation of the Great Lakes face a similar strategic problem. Because the environmental degradation of the Great Lakes involves a shared ecosystem between the US and Canada, it is difficult to lay blame to one party over another. The causes of water pollution are distributed across society and attributing responsibility to one party in particular is not possible.

A second factor that makes it difficult for NGOs involved in climate change, waterbird conservation, and water conservation to adopt traditional advocacy techniques is the fact that these issues are ones of complexity; moreover, the rhetoric of the issues is inseparable from complicated scientific evidence. Political debate is articulated in terms incomprehensible to the uninitiated. In the case of climate change, for example, discussions of loopholes, carbon sinks, flexible mechanisms, emissions trading and natural versus human causes makes climate change an issue that is difficult to express to the public in simplistic, easy-to-grasp terms. The same could be argued for the issue of waterbird conservation as the lack of available data and the need to “fill the gaps” of information are issues of concern echoed through the NAWCP. There are multiple species, multiple threats, multiple jurisdictions, and multiple possible policy responses

\textsuperscript{201} Gough and Shackley, “The respectable politics of climate change,” 330.
\textsuperscript{202} Gough and Shackley, “The respectable politics of climate change,” 330.
and measures available in addressing waterbird conservation; therefore, it is difficult to convey a single message to the public that can be easily understood.

A third factor that makes it difficult for NGOs to adopt advocacy and mobilization techniques in the case studies discussed is the lack of “headline” type impacts with which to illuminate, visualize and dramatize the effects of climate change, the plight of waterbirds, and the pollution of the Great Lakes in a distinct geographical or political entity with which people and organizations identify. In the case of climate change, the pattern of anthropogenic climate change and its impacts at the global scale is far more certain than the pattern and its impacts at regional and local scales. The impacts are likely to be small to medium in many localities and for many sectors, especially in the industrialized countries of the northern hemisphere. Gough and Shackley note that without “headline” type impacts with which to illuminate, visualize and dramatize the effects of climate change, “NGOs face an uphill struggle in mobilizing the media and public support independently of scientific experts and assessment organizations such as the Intergovernmental Panel on Climate Change (IPCC).” Similarly, because many of the key impacts of climate change, waterbird extinction and water pollution will not occur in the near future, the impacts are intangible to the public and stakeholders. The extent to which support can be mobilized often depends upon the occurrence of extreme weather events and environmental catastrophes and whether they are perceived as being caused by climate change and pollution specifically.

Finally, it is difficult for NGOs to engage the public with the issues discussed in the case studies because the modes of responding to each environmental problem are many and varied. There is no single obvious 'alternative' to existing policy, technology

or practice which will ‘solve’ the problem. Gough and Shackley note that communicating
the issue of climate change, for example, can again be contrasted with that of ozone
depletion. In that case, there was an alternative of replacement substances such as
HCFCs, hydrocarbons and other chemicals. The availability of a readily identifiable
solution is an effective weapon for NGOs to use in persuading policy actors of the need
to take action. The response to climate change, on the other hand, requires separate
consideration of adaptation and mitigation, and in both cases there are multiple options
and multiple reasons for or against adopting each option.\textsuperscript{204}

The above factors combine to make climate change, waterbird conservation and
water pollution rather abstract issues. In all three cases, NGOs find it difficult to mobilize
a clear and active constituency whose opinions they maintain are representing in the
political process. In these cases, therefore, NGOs have responded to this challenge by
adapting their role to that of working in partnership mode to help pursue the objectives of
the IPCC, the NAWCP and the GLWQA.\textsuperscript{205} As was demonstrated in the above case
studies, NGOs have moved away from an advocacy role and towards a scientific,
research-oriented role. Some NGO representatives have become highly expert in issues of
policy and science, and as such they have contributed their expert judgment somewhat
separately from their political judgment as NGOs.

This thesis will now consider the extent to which the theories presented in
Chapter One adequately explain and account for the activities of NGOs described in the
case studies presented in this chapter.

\textsuperscript{204} Gough and Shackley, “The respectable politics of climate change,” 330-331.
\textsuperscript{205} Gough and Shackley, “The respectable politics of climate change,” 331.
Chapter Three

Re-Conceptualizing the Role of Nongovernmental Organizations in International Environmental Negotiations

The empirical evidence presented in the previous chapter demonstrates that NGOs have, indeed, been able to provide scientific expertise and knowledge to the complex issue areas of climate change, water pollution and waterbird conservation within the IPCC, the GLWQA and the NAWCP. Two questions remain about the applicability of these case studies to the overall theoretical debates within international relations. First, do the existing theories of international relations as presented in Chapter One explain the activities of NGOs in the case studies presented in the previous chapter? For example, does the existing literature explain how NGOs shifted their terms of reference towards scientifically-oriented research and principles and away from overtly political, advocacy-oriented activities in the case of the IPCC, the GLWQA and the NAWCP? Second, if no one theory can explain the scientific activity of NGOs in the case studies presented in this thesis, what theoretical alternatives should be explored to account for the scientific role of nongovernmental organizations in international environmental politics?

This chapter addresses these two questions, and concludes that there are important lessons to be learned from the case studies presented in this thesis, both for the future study of the role of experts in international environmental politics, and for the role of nongovernmental organizations in the existing theoretical literature of international relations. This chapter considers the evidence provided in the case studies in Chapter Two and places it in the context of the theoretical literature examined in Chapter One. An
alternative theoretical term and explanation is provided to account for the scientific activity of NGOs discovered in the case studies of this thesis.

3.1 The Scientific Role of Nongovernmental Organizations in International Environmental Negotiations

Three characteristics unify the case studies presented in this thesis. First, in all three cases, NGOs participating in their respective international negotiation engaged in knowledge production. Whether through the writing of papers and reports, or the conducting of field work and surveys, NGOs demonstrated a shared commitment to the production of scholarly, scientific research on issues of climate change, water pollution and waterbird conservation. Second, although there were some exceptions (most notably, the Global Commons Institute in the case of the IPCC), the NGOs in the case studies exhibited a commitment to a shared set of normative and causal beliefs based on scientific principles, as well as a similar set of criteria for validating knowledge. In some cases, this commitment was a strategic choice made in order to increase their legitimacy within the scientific community as a whole; however, in others it was due to already existent professional standards voiced within the NGO’s mission statement. Finally, NGOs collaborated with other members of the scientific community in order to advance the shared cause of the international environmental agreement in question.

a) Production of Knowledge

The previous chapter established that NGOs effectively participated in the production of scientific knowledge and expertise within the IPCC, the GLWQA and the
NAWCP. In the IPCC, for example, it was found that NGOs such as the WWF and Greenpeace commissioned weighty reports on the effects of climate change and biodiversity, as well as on extreme weather events—employing scientific arguments and methods to convey their message. Interestingly, in the case of the IPCC, employees of several NGOs participated as official authors of the IPCC’s Third Assessment Report and were listed on the official roster of experts of the UNFCCC. Some scientists, therefore, simultaneously wore “NGO” and “scientific adviser” hats. During the negotiations of the GLWQA, NGOs produced scientific research on the environmental degradation of the Great Lakes through the publication of the peer-reviewed *Journal of Great Lakes Research*. Within the NAWCP, NGOs such as the National Audubon Society, Manomet and the Waterbird Watch Collective compiled a wide range of scientific data on waterbird population trends through the banding, weighing and monitoring of waterbirds. This research was conducted not only by NGO employees, but also by thousands of “lay” volunteers who were mentored by professional scientists.

*b) Commitment to Scientific Norms, Principles and Causal Beliefs*

In the cases examined, NGOs demonstrated a commitment to the norms, causal beliefs and values, and principles of the relevant scientific community. The mission statements of several participating NGOs in the IPCC, for example, emphasize their commitment to analytical and normative beliefs based on methods of scientific enquiry. NGOs adapted to the norms and practices of the scientific community within the IPCC in order to increase their legitimacy and by working in partnership-mode with scientists and policy-makers; moreover, they moved their terms of reference away from ethical and
overtly political matters and towards a strict knowledge-based approach to climate change assessment. During the negotiations of the GLWQA, NGOs embraced scientific norms and principles in order to lend credibility to their positions and provide them with leverage in the negotiations. NGO representatives in the GLWQA were able to have a great deal of influence in the negotiations because they shared a common vocabulary and common understanding of the science behind water pollution. The same credibility was enjoyed by NGOs working within the NAWCP. The commitment to scientific principles is echoed in the mission statements of participating NGOs such as the Manomet Centre for Conservation Sciences. What is especially interesting about the case of the NAWCP is the way in which even “lay scientist” volunteers with the NGOs involved were able to embrace scientific norms and principles through their activity as “citizen scientists.” Although amateur ornithologists came to their work from a different perspective and motivation than the trained scientist, they pursued research based on the professional norms, principles and causal beliefs required by the scientific community.

c) Collaboration with Scientific Community

Although the environmental NGOs surveyed in the case studies adapted to the science-based norms, principles and research methods of experts and scientists, they were still able to use their unique skills and advocacy techniques for the benefit of the policy community as a whole. In the case of the IPCC, for example, a symbiotic relationship between traditional scientists and NGOs was observed in which NGOs assisted scientists with the distillation of complex scientific information to a point where it could be understood by the general public. In turn, scientists assisted NGOs by helping them to
gain credibility in highly technical areas. Therefore, despite any advocacy-oriented activities that NGOs engaged in, the collaborative nature of the IPCC community allowed them to maintain scientific credibility. The same was exhibited in the GLWQA - where NGOs were able to translate technical issues into policy options and maintain links with scientists. During the negotiations of the NAWCP, NGOs were able to assist scientists and government officials by advocating science-based policy solutions to the public. Although professional scientists and policy-makers of the NAWCP community often found it difficult to reach out to the public due to the highly scientific nature of the issues, the NGOs involved were able to develop creative ways to translate scientific information into a language that could be used to mobilize the public. Through the collaboration of professional scientists, policy-makers and expert members of NGOs, the policy communities surrounding the case studies discussed were able to use advocacy techniques without sacrificing scientific principles and beliefs.

3.2 Analysis of Theoretical Literature

Can any one of the theories presented in Chapter One explain the activities of nongovernmental organizations operating in the IPCC, the GLWQA and the NAWCP? This thesis examined in detail various contending theories that have attempted to explain regime creation including power-based, interest-based and knowledge-based arguments. Specifically, this thesis looked at Peter Haas' *epistemic community* model – which has been used most widely by scholars of regime theory to explain the direct role of shared scientific knowledge and values in regime formation. In surveying the dominant theories of international relations that attempt to characterize the role of NGOs in international
environmental politics, this thesis looked at the ways in which many NGOs have been argued to persuade, pressure and gain leverage over states. This thesis also examined Keck and Sikkink's concept of the *transnational advocacy network* (TAN) – which is often used to describe networks that promote the cause of others or defend a cause or proposition.

This thesis argues that no one existing theoretical term accounts for the expert, scientific role that NGOs have been able to play in the case studies presented in this thesis. Existing theoretical terms such as the *transnational advocacy network* and the *epistemic community* do not fully explain the expert, scientific role that NGOs were able to play in the IPCC, the GLWQA and the NAWCP.

First, the theories presented in Chapter One do not explain how or why NGOs were able to engage in the production of scientific knowledge as described above. Peter Haas' concept of the *epistemic community* states that NGOs can not possibly be part of an epistemic community because they do not possess the shared knowledge base required by the scientific community. Although he acknowledges that NGOs may contribute to epistemic community formation, he focuses solely on the way in which NGOs’ experience in advocacy techniques renders them well versed in the lobbying techniques best fitted to communicate the community’s findings to government and other policy-making elites. Haas overlooks the way in which NGOs are able to act as scientific advisors and experts on environmental issues of complexity and uncertainty such as climate change, water pollution and waterbird conservation. The finding that NGOs were, in many instances, integral providers of expertise and knowledge through the writing of scientific reports and the authoring of international environmental agreements – suggests...
that Haas' definition of the *epistemic community* needs to be expanded to include not only professional scientists and policy makers – but also NGOs. International environmental institutions such as the UNFCCC recognize some NGOs on their roster of official experts; yet, the main theoretical tool of international relations most commonly used to conceptualize the role of such experts fails to account for current practice.

Unfortunately, the international relations literature that focuses solely on the role of NGOs in international relations underestimates the scientific, expert function that NGOs can play in international environmental negotiations. Keck and Sikkink's suggest in their definition of the *transnational advocacy network* that NGOs may employ sophisticated political strategies and rely upon information in targeting their campaigns. Yet, they overlook the knowledge-generating role that NGOs can play by focusing their argument on the assertion that NGOs lack the scientific expertise needed to participate in scientific and technological debates. They focus on the ways in which NGOs embark on mobilization strategies and "symbolic politics" that emphasize the potential threats of the position that they oppose rather than the scientific aspects of their own position.

According to Keck and Sikkink, NGOs usually frame issues in simple terms and interpret information to their strategic benefit. Keck and Sikkink's concept of the *transnational advocacy network*, therefore, can not account for the knowledge-generating role that NGOs have been able to play in the case of the IPCC, the GLWQA and the NAWCP.

Second, the theories presented in Chapter One do not explain NGOs' demonstrated commitment to scientific norms, principles and causal beliefs as described above. In his definition of the *epistemic community*, Haas' stresses that members of these communities share a set of normative, principled and causal beliefs – as well as similar
criteria for weighing and validating knowledge. For a knowledge-based group to be included in Haas’ definition of an epistemic community, therefore, it is vital that the members share principled normative and causal beliefs. It would seem, therefore, based on the evidence provided in the case studies of this thesis, that NGOs were part of the epistemic communities surrounding issues of climate change, water pollution and waterbird conservation. As demonstrated above, NGOs embraced scientific norms and principles and emphasized their commitment to analytical and normative beliefs based on methods of scientific enquiry. Haas’ description of an epistemic community seems open enough to allow for NGOs’ inclusion in the definition; however, upon reading his consideration of the roles in which NGOs may play with respect to epistemic communities, it is apparent that he expressly excludes NGOs from his formal definition. According to Haas, “interest groups” such as NGOs are fundamentally different from epistemic communities. He points to the case of whaling to support his assertion and notes that interest groups do not possess shared belief systems and would not withdraw from a policy debate if they were confronted with anomalies that undermined their causal beliefs. Haas places this definitional limitation based on his understanding of one particular case study. Yet, his definition does not account for the way in which environmental NGOs working within the IPCC, the GLWQA and the NAWCP committed to the norms, causal beliefs and values, and principles of their respective scientific community – both verbally and in practice.

NGO-inclusive concepts such as the transnational advocacy network also fail to acknowledge NGOs’ demonstrated commitment to scientific norms, principles and causal beliefs. While Keck and Sikkink note that TANs usually share the centrality of values or
principled ideas among their members, their definition of "values" and "principles" differs from those of the scientific community. Keck and Sikkink argue that, much to the consternation of scientists and policy makers, NGOs deliberately politicize issues. Using the example of the whaling community also mentioned by Haas, Keck and Sikkink note that while epistemic communities seek to design sound policies and try to persuade governments to adopt them, NGOs look for leverage over actors and institutions. Not bound by scientific norms, canons of validity, and beliefs, NGOs insist on different criteria of expertise; therefore, according to the TAN concept, they are not qualified as members of an epistemic community. The concept of the transnational advocacy network, therefore, is of little use in explaining the ways in which NGOs involved with the IPCC, GLWQA and the NAWCP embraced the scientific norms, principles and beliefs of their respective scientific communities.

Third, neither the concept of the epistemic community or the transnational advocacy network can explain the collaborative nature of the scientific communities of the IPCC, GLWQA and the NAWCP. Keck and Sikkink’s discussion of TANs suggests that scientists and policy makers are usually in direct conflict with NGOs and become frustrated by the way in which NGOs “deliberately” politicize issues. By focusing on environmental cooperation and the generation of consensual knowledge, Haas’ discussion of the epistemic community could perhaps explain the collaborative nature of the scientific communities in the case studies discussed; however, as mentioned earlier, Haas’ definition explicitly excludes NGOs from consideration. Neither the concept of the transnational advocacy network or the epistemic community, therefore, can account for
the symbiotic relationship between traditional scientists and NGOs that took place within the IPCC, GLWQA and the NAWCP.

3.3 The Collaborative Epistemic Community

This thesis has argued thus far that NGOs have been able to act as scientific experts in the case of the IPCC, the GLWQA and the NAWCP. It has also claimed that existing theoretical terms such as the transnational advocacy network and the epistemic community underestimate the influence of the expert, scientific role that NGOs can play in international environmental politics. However, the question remains: if no one theory of international relations can explain the scientific activity of NGOs in the case studies presented in this thesis, what theoretical alternatives must be explored in future studies of the role of experts and the role of nongovernmental organizations in international environmental politics?

In order to account for the scientific role of NGOs in international environmental negotiations, the current literature on epistemic communities needs to be expanded. Haas' definition of an epistemic community accurately explains the characteristics of the scientific communities surrounding climate change, water pollution and waterbird conservation. Members of these communities fulfill all of Haas' criteria in defining an expert community as an epistemic community:

- a shared set of normative and principled beliefs which provide a value-based rationale for the social action of community members;
- shared causal beliefs;
- shared criteria for weighing and validating knowledge;
- a common policy enterprise;
- shared patterns of reasoning;
- and the shared commitment to the application and production of knowledge.
Moreover, the environmental policy areas of climate change, water pollution and waterbird conservation all involve uncertainty, interpretation and institutionalization. The complex and technical nature of the issues discussed in the case studies of this thesis are perfect examples of the uncertainties faced by decision-makers and demonstrate how governments turn to scientific experts for authoritative and concordant advice on issues of which they are poorly informed. Yet, as was discussed earlier, the concept of the epistemic community is insufficient in explaining the multitude of participants of the expert communities discussed in this thesis due to the fact that Haas explicitly excludes NGOs from his definition.

An alternative theoretical concept – similar in wording to Haas’ original definition of the epistemic community listed in Chapter One of this thesis – but that accounts for all experts who participate in complex, technical policy arenas would better reflect current practice in international relations. The epistemic communities surrounding international environmental negotiations such as the IPCC, the GLWQA and the NAWCP may better be described as a collaborative epistemic community involving scientists, policy makers and nongovernmental organizations. A collaborative epistemic community can be defined as follows:

A collaborative epistemic community is a network of professionals from a variety of disciplines and backgrounds including, but not exclusive to, academia, government, nongovernmental organizations and industry. Members of a collaborative epistemic community have: (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity or defined criteria for
weighing and validating knowledge in the domain of their expertise; (4) a common policy enterprise or set of common practices to which their professional competence is directed; and (5) a shared commitment to the application and production of knowledge and a common policy project through collaboration with the diverse members of the community.

The changes made to Haas’ original wording of his definition are important because they allow not only for the participation of NGOs in epistemic communities, but also allow room for the symbiotic relationship that often exists between traditional scientists and NGOs in which NGOs assist scientists with the distillation of complex scientific information to the point where it can be understood by the general public and, in turn, scientists assist NGOs in helping them to gain credibility in highly technical areas. Overall, despite any advocacy-oriented activities they may partake in, the science-based nature of some NGOs allows them to be part of the collaborative epistemic community. Moreover, the revised definition of the epistemic community developed in this thesis does not exclude any group from participating in the community so long as they adhere to the shared sets of normative and principled beliefs, causal beliefs, notions of validity, common practices and commitment to the application and production of knowledge. Simply having a shared commitment to the application and production of knowledge would not alone be sufficient criteria to be considered a member of a collaborative epistemic community; rather, the application and production of knowledge must be in conduct with the other sets of criteria listed in the definition. In order to be considered a collaborative epistemic community, members must fulfill all the criteria listed in the above definition; the requirements are not exclusive of one another.

The inclusive concept of the collaborative epistemic community allows, theoretically, for environmental NGOs to be considered as members of epistemic
communities in international environmental negotiations of a complex, scientifically-
uncertain nature. An expansion of the existing theoretical concepts of international
relations literature means that theory is able to account for current practice in
international environmental politics.
Conclusion

This thesis set out to examine the extent to which nongovernmental organizations can act as scientific experts and participate in epistemic communities surrounding international environmental negotiations. The preceding discussion and case studies presented in this thesis demonstrate that in international environmental negotiations of a complex, scientifically-uncertain nature, environmental NGOs have been able to act as members of epistemic communities. The empirical evidence presented in the case studies of the IPCC, the GLWQA and the NAWCP makes it apparent that existing theories of international relations are not reflective of current practice as they underestimate the influence that NGOs can have on international environmental negotiations.

In the case studies examined in Chapter Two, a strong degree of scientific uncertainty and complexity made the role of experts central to the negotiations in question, and NGO participation was strong. In the case of the IPCC, it was found that NGOs moved their terms of reference away from ethical and overtly political matters and towards science and technical/policy measures and responses. NGOs operating within the IPCC did not orient their activities around "symbolic politics"; but rather, they acted as experts on issues of climate change policy and science. In this case study, it was found that NGOs are often able to nurture a consensus among scientists, as well as engage in knowledge construction through the participation in academic or policy-inspired exercises. Interestingly, it was found that several authors of the official IPCC Assessment Report belonged to NGOs; and these members were also listed as official experts on the UNFCCC's roster of experts. Moreover, NGOs were found to work in partnership mode with professional scientists and policy-makers in order to increase their legitimacy by
adapting to the norms and practices of the epistemic community. Although they adapted to the science-based strategies of the climate change negotiations, they were still able to play a unique role in the epistemic community by disseminating complex scientific information into language that could be used to mobilize the public. NGO groups were found to ally with traditional scientists to help them mobilize; and, in turn, scientists allied with NGOs to help them gain credibility in highly technical areas. Overall, despite any advocacy-oriented activities they participated in, it was demonstrated that the science-based nature of the NGOs involved with the IPCC network allowed them to be part of the epistemic community within the IPCC.

Similar findings were observed in the case of the GLWQA and the NAWCP. NGOs were found to produce scientific research on the Great Lakes through the operation of academic journals. NGOs involved with the GLWQA embraced and identified with the GLWQA’s goals and objectives; moreover, their technical expertise and fluency lent credibility to their positions and provided them with important leverage in the negotiations. It was demonstrated that within the NAWCP, as well, a distinctive knowledge-based approach to waterbird conservation and policy exists. Although conflicts and tensions between NGOs and other actors within the NAWCP often occurred, all members of the community viewed science-based information as the meeting ground for resolving issues. As with the other case studies examined, NGOs involved with the NAWCP network adapted to the norms and practices of the epistemic community within the network in order to increase their legitimacy and work in partnership with scientists and policy-makers. NGOs, as well, collaborated with volunteer “citizen scientists” who assisted them with the compilation of on-the-ground scientific
data. Yet, NGOs were also able to use advocacy skills and strategies for the benefit of the epistemic community without sacrificing their scientific principles and beliefs. NGOs were able to participate in advocacy activities in collaboration with professional scientists and policy-makers by advocating and disseminating scientific-based policies of a technical nature.

Four factors were demonstrated to explain why NGOs participating in the international environmental negotiations discussed in the case studies of this thesis shifted their activities towards developing expertise and scientific research and away from engaging in “symbolic politics.” First, engaging the public is particularly challenging in the issue areas of climate change, water pollution and waterbird conservation due to the fact that the causes are global in origin and highly distributed across society. Therefore, it is difficult to identify a single or small number of culprits who can ultimately be blamed. Second, these issues are ones of complexity and the rhetoric of the issues are inseparable from complicated scientific evidence. Political debate is articulated in terms incomprehensible to the uninitiated. Third, NGOs in the case studies discussed are not able to adopt the strategies of “symbolic politics” due to the lack of “headline” type impacts with which to illuminate, visualize and dramatize the effects of climate change, the plight of waterbirds, and the pollution of the Great Lakes in a distinct geographical or political entity with which people and organizations identify. Finally, climate change, water pollution and waterbird conservation are all rather abstract issues to mobilize a clear and active constituency around because the modes of responding to each environmental problem are many and varied. In each case study, therefore, it was demonstrated that NGOs have responded to these challenges by adapting
their role to that of working in partnership mode with the scientific community to help pursue the objectives of the IPCC, the NAWCP and the GLWQA. NGOs were found to move away from “symbolic politics” and towards a scientific, research-oriented role.

Three broad generalizations can be made about NGOs participating in the international environmental negotiations discussed in this thesis. First, NGOs engaged in knowledge production and exhibited a shared commitment to scholarly, scientific research through the writing of papers, reports, and the conducting of field work. Second, NGOs exhibited a commitment to a shared set of normative and causal beliefs based on scientific principles as well as a similar set of criteria for validating knowledge. These shared principles and beliefs were exercised when engaging in scientific research. Third, NGOs collaborated and worked in partnership-mode with other members of the scientific community in order to advance the shared cause of their respective international environmental negotiation.

The empirical findings from the case studies examined in Chapter Two of this thesis emphasized the need to question the existing theories of international relations surveyed in Chapter One. By placing the case studies in the context of existing theoretical concepts such as the *epistemic community* and the *transnational advocacy network*, this thesis demonstrated that no one theoretical term could fully explain the expert, scientific role that NGOs were able to play in the IPCC, the GLWQA and the NAWCP. The empirical and theoretical findings of this thesis, therefore, emphasize the need for further study and research into the scientific, expert role of NGOs in international environmental negotiations.
This thesis attempted to provide a theoretical alternative that could perhaps be adopted to explore the role of experts and the role of nongovernmental organizations in future studies of international environmental politics. An alternative theoretical concept: the *collaborative epistemic community* – was coined as a more inclusive and accurate term for describing the epistemic communities within the IPCC, the GLWQA and the NAWCP. This thesis claimed that this alternative theoretical concept better accounts for *all* experts – scientists, policy makers and nongovernmental organizations – who participate in complex, technical policy arenas. This term allows for environmental NGOs to be considered as members of epistemic communities in international environmental negotiations of a complex, scientifically-uncertain nature.

There are important lessons to be learned from this analysis, both for the study of the role of experts in international environmental politics and for the role of nongovernmental organizations in international relations. First, expanding the concept of who belongs to an expert group opens the door for other actors who possess relevant knowledge to be considered as participants in international politics. Future studies may be able to further examine how issue-relevant knowledge can be provided by scientists, NGOs and, perhaps, citizens as well. Enlarging the conception about the types of knowledge that are employed in international environmental politics allows for new and interesting questions to be asked. For instance, what is the interaction between scientific and local/traditional knowledge? Future research may be able to further investigate the interaction among scientific advisers, NGOs and “lay” scientists. Second, recognizing that NGOs are a political force in their own right – not just “interest groups” whose only method of dealing with environmental problems is by working through states – opens the
door for further research into the important role that NGOs can play in international politics. Only when international relations theory accounts for current international practice can the potential role of nongovernmental organizations in addressing international environmental problems be realized.
Bibliography


Schaefer, Agnes G. "Re-examining the Political Linkages Between Advocates and Scientists: Lessons Learned from Five Transnational Environmental Cases." Working paper. Woodrow Wilson School of Public and International Affairs, Princeton University.


Soroos, Marvin S. "Global Climate Change and the Futility of the Kyoto Process." Global Environmental Politics 1, 2 (May 2001): 1-9.


Waterbird Watch Collective. [Internet, www], ADDRESS: www.conservationconnection.bc.ca [Accessed: March 30, 2006].


