

# Institutions and Transboundary Governance Capacity (TGC) in the Arctic: Insights from the TGC Framework

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Whereas many of the articles in this volume test the Transboundary Governance Capacity (TGC) framework in the context of the Laurentian Great Lakes, this article applies this framework to the Arctic. By doing so, it fills in gaps of prior scholarship on Arctic governance while also developing some of the core insights of VanNijnatten et al., 2016. After providing background on the Arctic and discussing some of the most significant transboundary institutions in the region, this article evaluates these institutions using the indicators of compliance, functional intensity, stability and resilience, and legitimacy. It concludes that the TGC framework provides keen insights into the broad mosaic that constitutes the Arctic transboundary governance system. Importantly, it also suggests that a network of actors that operate simultaneously may in fact be the best barometer of capacity in these complex systems.

**Keywords:** Transboundary Governance; Arctic; Institutions and Networks; Great Lakes; Systems Thinking

## 1. Introduction

The articles in this volume test the Transboundary Governance Capacity (TGC) framework (VanNijnatten et al., 2016) in the context of the Laurentian Great Lakes (Gaden, 2016; Greitens, 2016; Heinmiller, 2016; VanNijnatten, 2016) and other transboundary water systems (Garrick, Krantzberg, & Jetoo, 2016). This article, however, applies the TGC framework to a quite different context – the Arctic. This context is compelling for several reasons. Along with analyses of the Columbia River, Murray-Darling, and Colorado River Basins provided by Garrick, Krantzberg and Jetoo (2016), a case study of Arctic governance provides a measure of external validity for the TGC framework. Additionally, using

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the TGC framework represents a “middle-range” approach to explain Arctic governance capacity, which is important to the cumulative development of theory (Eckstein, 1990) in an area that increasingly warrants serious attention from scholars.

Scholarly attention has focused on either a single institution of Arctic governance (Axworthy, Koivurova, & Hasanat, 2012; Koivurova, 2010), or a more descriptive and normative lens for those that have noted the complexity of Arctic governance (Arctic Governance Project, 2010; Runnalls, 2014; The Aspen Institute, 2011). For those who have examined Arctic governance within a theoretical framework (Stokke, 2011; Young, 2012) they have done so without attributes or measures of capacity. This lack of emphasis can be attributed to a general dearth of rigorous models or frameworks that are appropriate for explaining governance capacity in transboundary contexts. These conceptual problems have consequences for the study of transboundary governance systems around the globe.

This article attempts to fill these gaps: it uses the TGC framework as a tool to explore and explain Arctic governance capacity and serves as a modest attempt to develop some of the core insights of VanNijnatten et al., (2016) in a different context. These insights are critical, as the Arctic is viewed as a “governance barometer” for the world (Arctic Governance Project, 2010). A deeper understanding of the conditions that promote effective transboundary governance here could lead to on-the-ground governance innovations in this region and elsewhere.

This article has three sections. The first section provides background on the Arctic and challenges facing this region. The second section outlines some of the most significant transboundary institutions in the region. The third section evaluates these institutions using the TGC indicators: compliance, functional intensity, stability and resilience, and legitimacy.

## **2. The Arctic Region in 2014**

As noted by many Arctic specialists, there is no universally agreed upon definition of the Arctic. This article defines the Arctic region as comprising the North Pole, the Arctic Ocean, and the area demarcated by the Arctic Circle, an imaginary line that marks the latitude above which the sun does not set on the day of the summer solstice and does not rise on the day of the winter solstice (Arctic Governance Project, 2010). Five countries with coastal territory lay within the Arctic Circle: the United States (via Alaska), Denmark (via Greenland), Canada, Russia, and Norway. Three other countries have significant interests in the Arctic: Finland, Sweden, and Iceland. Collectively, these eight countries are referred to generally as “the Arctic States.”

The Arctic environment is unique and serves as the bellwether for pressures humans place on the natural world. Climate change is impacting the Arctic earlier and more intensely than any other region across the globe. To fully appreciate the significance of

these biophysical changes in the Arctic to natural systems change in other parts of the world, O'Rourke (2014) explains:

“[P]hysical changes in the Arctic include warming ocean, soil, and air temperatures; melting permafrost; shifting vegetation and animal abundances; and altered characteristics of Arctic cyclones. All these changes are expected to affect traditional livelihoods and cultures in the region and survival of polar bear and other animal populations, and raise risks of pollution, food supply, safety, cultural losses, and national security. Moreover, linkages (“teleconnections”) between warming Arctic conditions and extreme events in the mid-latitude continents are increasingly evident, identified in such extreme events as the heat waves and fires in Russia in 2010; severe winters in the eastern United States and Europe in 2009/2010 and in Europe in 2011/2012;<sup>45</sup> and Indian summer monsoons and droughts. Hence, changing climate in the Arctic suggests important implications both locally and across the Hemisphere” (O'Rourke, 2014, p. 13 [citations omitted]).

In addition, the Arctic is significant because its thaw is driving a global jockeying for influence in this still relatively pristine region of the world. Because the Arctic is not a continental land mass like Antarctica, as surface ice recedes or disappears, the most significant physical impediment to wealth generation for nations around the globe also disappears. As a result, nation-states and other international actors, such as the European Union, are stumbling over each other to lay claim to the Arctic for three strategic reasons: territory; natural resources; and waterway passage. First, with respect to territory, the five Arctic littoral states—the United States, Canada, Russia, Norway, and Denmark—are in the process of preparing Arctic territorial claims for submission to the Commission on the Limits of the Continental Shelf (O'Rourke, 2014). The Russian claim to the underwater Lomonosov Ridge is the most significant. If accepted, it would reportedly grant Russia nearly one-half of the Arctic area (O'Rourke, 2014), which has profound environmental and security implications. Second and relatedly, natural resource extraction – whether minerals, untapped oil and gas, or fish stocks and livestock markets – is under careful watch (Clote, 2008, p. 197). Although the Arctic has been recognized for its abundant and invaluable natural resource supply since at least the Cold War days, its potential until recently has remained unrealized. Third, the shipping industry may benefit from the effects of the receding Arctic sea ice. These benefits will accrue not only to cruise line companies in the tourism industry, but also shipping companies in the global transportation and logistics industry because the opening of Arctic shipping lanes could reduce time and cost for carriers from Asia heading to Europe via in the Northern Sea Route and to North America via the Northwest Passage.

### **3. Institutional Arrangements**

As set forth in VanNijnatten et al., (2016), governance is a form of political steering that is not necessarily dependent on formal-legal regulation or other interventions by the nation state. It can be more participatory and collaborative, involving a wider range of

interests. Flowing from this conceptualization, institutions in this article encompass both formal and informal sets of rules and practices influencing the behaviour of actors, but also networks that link agency officials, civil society and experts through relational channels of information exchange and discussion in a transboundary context (VanNijnatten et al., 2016).

There is no one institution that holds the key to success in the Arctic context (Arctic Governance Project, 2010, p. 13); rather, the complexity of institutions lends itself to a particular type of governance system. The Arctic governance system encompasses transboundary institutions at the global, regional, and sub-national scales, along with national arrangements that have transboundary implications (Arctic Governance Project, 2010). It is beyond the scope of this article to examine every institution at play in the Arctic,<sup>2</sup> and, therefore, a handful of key institutional arrangements are selected for inquiry.

### 3.1. Global Institutions

*United Nations Convention on the Law of the Sea* Analysis of Arctic institutional arrangements begins at the global scale. The United Nations Convention on the Law of the Sea (UNCLOS) is a comprehensive multilateral treaty adopted by the Third United Nations Conference on the Law of the Sea and opened for signature, together with the Final Act of the Conference, at Montego Bay, Jamaica, on December 10, 1982 (United Nations, 1982). The Convention provides a framework for guiding state behavior with respect to the world's oceans, managing the diverse challenges associated with ocean space and its uses, and settling disputes that arise (Bates, 2006, pp. 745–746). UNCLOS sets forth six provisions relevant to the Arctic. First, UNCLOS establishes various jurisdictional zones through carefully defined baselines, i.e., what constitutes internal waters, territorial waters, archipelagic waters, contiguous zones, exclusive economic zones (EEZ), and continental shelf jurisdiction, as well as the rights and duties of sovereign nation states with respect to these areas. These jurisdictional delineations provide rights to nation-states based upon geography and proximity, and thus are directly tied to strategic value and importance. For example, coastal nations exercise sovereignty over the exploration and development of all mineral resources extending 200 nautical miles (nm) from their respective shorelines (the EEZ) (UNCLOS Articles 55-75). Nations may exceed the 200-mile limit if they can prove their continental shelves extend further into the sea (UNCLOS Articles 76-85). Littoral nations may exercise sovereignty over mineral resources within the boundaries of the extended continental shelf, up to the further of either 350nm from the shoreline or 100nm beyond the 2,500 meter bathymetric depth line (UNCLOS Article 75). Thus, each coastal Arctic state is granted jurisdiction over resources, including oil and gas, of its continental shelf. The 1.1 million square miles of open water lying north of the five Arctic EEZs, sometimes referred to as the Arctic Ocean “donut hole,” are considered

<sup>2</sup> Please see this link on the Arctic Governance Project for a more complete overview of Arctic institutions: [http://arcticgovernance.custompublish.com/filter.142123.en.html?atopic\[\]=1386&atopic\[\]=1390&atopic\[\]=1391&atopic\[\]=1392&atopic\[\]=1393&atopic\[\]=1394&atopic\[\]=1395&atopic\[\]=1396&atopicfop=OR](http://arcticgovernance.custompublish.com/filter.142123.en.html?atopic[]=1386&atopic[]=1390&atopic[]=1391&atopic[]=1392&atopic[]=1393&atopic[]=1394&atopic[]=1395&atopic[]=1396&atopicfop=OR)

high seas and outside national jurisdictions (Runnalls, 2014). These jurisdictional limits on State sovereignty are critical to inform debate over newly-available Arctic resources (Clote, 2008, p. 195).

Second, UNCLOS sets out norms with respect to navigation and transit regimes (UNCLOS Articles 35-45). Ships and aircraft from any country are allowed “transit passage” through straits used for international navigation, as long as they don’t threaten adjacent states and “proceed without delay.” Although seemingly straightforward, these norms have proven problematic in the Arctic context. The United States and the European Union, among others, maintain that the Northwest Passage is an international strait with free navigation rights, while Canada asserts that it is an inland waterway over which it maintains exclusive jurisdiction. Washington and Ottawa also disagree on their maritime boundary in the resource-rich Beaufort Sea (Runnalls, 2014). The United States also contests the Kremlin’s claims that parts of the Northern Sea Route above Siberia are internal Russian waters. Meanwhile, Denmark and Canada both claim Hans Island, an uninhabited spot of land in the center of Nares Strait that could be of strategic relevance as shipping lanes open (Runnalls, 2014).

Third, UNCLOS establishes provisions with respect to deep seabed mining and exploitation (UNCLOS Article 150-155, 193). Recognizing market forces at work and with a deep recognition to include developing country interests, these provisions provide a framework that attempts to strike a balance between necessary measures to “promote growth, efficiency, and stability” of markets while also providing mechanisms that can limit the level of mineral production (UNCLOS Article 161). As noted, several states have laid competing claims to the seabed—and any resources beneath it—of the Lomonosov Ridge, an undersea mountain range bisecting the Arctic Ocean (Runnalls, 2014).

Fourth, UNCLOS establishes provisions for protection of the marine environment, i.e., state measures regarding pollution, alien and invasive species, and the conservation and management of the coastal fisheries (UNCLOS Articles 192-237). Fifth, UNCLOS specifies principles for scientific research (UNCLOS Articles 239-265). On the high seas, which are the global commons belonging to no country, states may conduct marine scientific research “exclusively for peaceful purposes and for the benefit of mankind as a whole” (UNCLOS Article 143). The practice of science in the Arctic helps to legitimize countries’ claims to have a voice in northern affairs by showing them to be responsible and concerned Arctic actors, but it also is a visible display of technological might and prowess, for only a select few countries in the world can send an icebreaker to the Arctic (Bennett, 2014).

Sixth, UNCLOS sets forth provisions for dispute resolution that are relevant to Arctic issues. UNCLOS requires State Parties to settle disputes concerning its interpretation or application peacefully in accordance with the Charter of the United Nations (UNCLOS Article 279). In situations where settlement cannot be reached, the Convention stipulates that of one of the disputing parties request submission of the dispute to one of four mechanisms: 1) the International Tribunal for the Law of the Sea, which was established in accordance with Annex VI of the Convention and includes the Seabed Disputes Chamber; 2) the International Court of Justice; 3) an arbitral tribunal constituted in

accordance with Annex VII of the Convention; and 4) a special arbitral tribunal constituted in accordance with Annex VIII for one or more of the categories of disputes specified therein (UNCLOS Article 287). If a State does not select a mechanism, then the default is general arbitration.

Entered into force in 1994, the Convention has been ratified by 166 parties (165 nations plus the European Union), except the United States, which has historically been reticent to sign on to international treaties. However, recognizing the increasing strategic importance of the Arctic, in 2014 the Obama Administration drafted an implementation plan for its national strategy for the Arctic region that states that federal agencies should “[c]ontinue to seek the Senate’s advice and consent to accede to the Law of the Sea Convention” (United States Arctic Research Commission, 2014, p. 29).

*World Trade Organization* Another global institution relevant to the Arctic is the World Trade Organization (WTO), successor to the General Agreement on Tariffs and Trade negotiated in the post-World War II era. The WTO is not an energy-specific organization; however, with increasing global energy demands and the need for trade governance in this sector, the WTO is becoming increasingly sensitive to energy issues (Marceau, 2012, p. 385). The WTO applies to all products, including energy-related products. Although there are several WTO provisions that could theoretically impact Arctic energy production (Marceau, 2012, pp. 385–386), one of the most relevant is the most favored nation obligation pursuant to Article II of the General Agreement on Trade in Services (GATS). Pursuant to this GATS provision, members are not required to provide access to its national oil service market, but if such member provides market access for a particular service, it must do so in favor of all members equally (2012, p. 386).

Other relevant WTO provisions include dispute resolution. A dispute arises when one member country adopts a trade policy measure or takes action that one or more fellow members considers to a breach of WTO agreements or a failure to live up to obligations under the WTO. Instead of taking unilateral action, member countries use the Dispute Settlement Body (DSB) of the WTO. Briefly, the WTO dispute resolution process begins with consultation. If consultations are unsuccessful, the complaining state may request the establishment of a three-person panel to consider the matter. The panel issues a report which constitutes a ruling and may be appealed to the Appellate Body. The panel report, as it may be modified by the Appellate Body, is subject to adoption by the DSB of the WTO. Adoption is automatic unless there is a consensus not to adopt the report (Trachtman, 1999, p. 336). Afterward, the priority is for the losing state to bring its policy into line with the ruling or recommendations. The dispute settlement agreement stresses that “prompt compliance with recommendations or rulings of the DSB is essential in order to ensure effective resolution of disputes to the benefit of all Members” (World Trade Organization, 2014). If the country that is the target of the complaint loses, it must follow the recommendations of the panel report or the appeals report and state its intention to do so at a DSB meeting held within 30 days of the report’s adoption. If complying with the recommendation immediately proves impractical, the member will be given a “reasonable period of time” to do so. If it fails to act within this period, it has to enter into negotiations with the complaining

country (or countries) in order to determine mutually-acceptable compensation — for instance, tariff reductions in areas of particular interest to the complaining side. If after 20 days, no satisfactory compensation is agreed, the complaining side may ask the DSB for permission to retaliate (to “suspend concessions or other obligations”). This is intended to be temporary, to encourage the other country to comply. It could for example take the form of blocking imports by raising import duties on products from the other country above agreed limits to levels so high that the imports are too expensive to sell — within certain limits. The DSB must authorize this within 30 days after the “reasonable period of time” expires unless there is a consensus against the request ([Http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/displ\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/displ_e.htm)).

*International Labor Organization Convention on Indigenous & Tribal Peoples (No. 169)*

The ILO Convention on Indigenous & Tribal Peoples (No. 169) (ILO Convention), adopted in 1989, sets forth principles concerning this population specifically with respect to equality of treatment, basic protection against arbitrary administrative procedures, vocational and literacy training, social security and health, and, perhaps most relevant to Arctic indigenous populations, the protection of the land base, which serves as their fundamental economic resource (Swepston, 1990, p. 681). This convention was framed in a way to provide for the possibility of a separate land rights regime within the context of the national legal system—a subject that touches upon some of the most difficult and complex areas of every nation-state’s laws (Swepston, 1990, p. 696). Articles 13-19 of the ILO Convention provide extensive coverage of land rights. These range from provisions for governments to respect “the special importance for the cultures and spiritual values” of the peoples concerned of their relationship with the lands or territories – in particular the collective aspects of this relationship (ILO Convention No. 169, Article 13) to “ensuring recognition of the [t]he rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy” and “to guarantee effective protection of their rights of ownership and possession”(ILO Convention No. 169, Article 14). Perhaps most notable to the Arctic case is Article 15, which states that “[t]he rights of the peoples concerned to the natural resources pertaining to their lands shall be specially safeguarded. These rights include the right of these peoples to participate in the use, management and conservation of these resources.” This Article further states as follows:

“In cases in which the State retains the ownership of mineral or sub-surface resources or rights to other resources pertaining to lands, governments shall establish or maintain procedures through which they shall consult these peoples, with a view to ascertaining whether and to what degree their interests would be prejudiced, before undertaking or permitting any programmes for the exploration or exploitation of such resources pertaining to their lands. The peoples concerned shall wherever possible participate in the benefits of such activities, and shall receive fair compensation for any damages which they may sustain as a result of such activities” (ILO Convention No., 169, Article 15).

The use of the term “lands” in Articles 15 includes the concept of “territories,” which covers the total environment of the areas which the peoples concerned occupy or otherwise use (Article 13).

The spirit of consultation and participation constitutes the cornerstone of Convention No. 169 on which all its provisions are based. The Convention requires that indigenous and tribal peoples are consulted on issues that affect them. It also requires that these peoples are able to engage in free, prior and informed participation in policy and development processes that affect them. The principles of consultation and participation in Convention No. 169 relate not only to specific development projects, but also to broader questions of governance, and the participation of indigenous and tribal peoples in public life (<http://www.ilo.org/indigenous/Conventions/no169/lang--en/index.htm>). This Convention has been ratified by 20 countries – currently Denmark is the only Arctic country to have done so. Once it ratifies the Convention, a country has one year to align legislation, policies and programmes to the Convention before it becomes legally binding. Countries that have ratified the Convention are subject to supervision with regards to its implementation.

*United Nations Framework Convention on Climate Change* In addition to these global arrangements, several multilateral environmental agreements merit mention. The United Nations Framework Convention on Climate Change (UNFCCC) entered into force on March 21, 1994 (United Nations, 1998). The UNFCCC is a “Rio Convention,” that is, it was adopted along with the UN Convention on Biological Diversity and the Convention to Combat Desertification at the “Rio Earth Summit” in 1992. The UNFCCC recognizes that climate change is a problem and binds member states to act in the interests of human safety even in the face of scientific uncertainty. Recognizing that industrialized countries are largely responsible for current high levels of greenhouse emissions in the atmosphere due to 150 years of industrialized activity, the Kyoto Protocol operationalized the Convention by setting binding emission reduction targets for 37 industrialized countries and the European Union in its first commitment period. Overall, these targets add up to an average five per cent emissions reduction compared to 1990 levels over the five-year period 2008 to 2012 (the first commitment period). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. This launched a second commitment period, starting on 1 January 2013 until 2020. Compliance with this Convention is complex but can be characterized primarily as soft law mechanisms, including a Compliance Committee that is made up of two branches: a facilitative branch and an enforcement branch. The latter determines whether emissions of a Party have exceeded its assigned amount. When the enforcement branch has determined that the emissions of a Party have exceeded its assigned amount, it must declare that that Party is in non-compliance and require the Party to make up the difference between its emissions and its assigned amount during the second commitment period, plus an additional deduction of 30%. In addition, it requires the Party to submit a compliance action plan and suspend the eligibility of the Party to make transfers under emissions trading until the Party is reinstated. Despite the “teeth” in its name, the enforcement branch has soft law tools available to it, such as a public shaming of non-compliant parties (i.e., a public declaration that a Party is non-compliant). A decision of the enforcement branch cannot be appealed unless it relates to emissions targets, but even then, a party can only appeal if it believes it has been denied due process.



*Stockholm Convention on Persistent Organic Pollutants* One other multilateral instrument relevant to Arctic governance is the Stockholm Convention on Persistent Organic Pollutants (POPs). This treaty, signed in 2001 and effective from May 2004, aims to eliminate or restrict the production and use of POPs. The Convention defined POPs as “chemical substances that persist in the environment, bio-accumulate through the food web, and pose a risk of causing adverse effects to human health and the environment” (United Nations Industrial Development Organization, 2001). In other words, POPs are anthropogenic chemicals such as pesticides and industrial by-products that break down very slowly in the environment (Nilsson & Huntington, 2002). Similar to the UNCFCC, the POPs Convention follows the precautionary principle and allows parties to regulate additional chemicals even if complete scientific certainty of their adverse effects is lacking (United Nations Environmental Programme, 2005). This instrument is significant to the Arctic as this region is particularly vulnerable to POPs even though it is far from where these chemicals are produced or used (Burlison & Dougherty, 2012, p. 60). POPs accumulate in northern latitudes through the global distillation process (i.e., prevailing ocean and wind current carry POPs into the Arctic where they are trapped by the cold climate), ocean transport, rivers emptying into the Arctic, and migratory animals (Burlison & Dougherty, 2012, p. 60). According to Article 17 of the Convention, the Conference of the Parties must develop and approve procedures and institutional mechanisms for determining non-compliance with the provisions of the Convention and for the treatment of Parties found to be in non-compliance. Although several working groups have met over the years, there has not been to-date adoption of procedures or mechanisms on non-compliance.

### 3.2. *Regional Institutions*

*The Arctic Council* The Arctic Council is viewed as perhaps the most significant governance institution at the regional scale. The Arctic Council is an outgrowth of the Arctic Environmental Protection Strategy (AEPS), which was established in 1991 by the eight Arctic States with sovereignty over territory in that region. The AEPS, along with a Declaration on the Protection of the Arctic Environment, was established as a political—but not legal—commitment to establish a more comprehensive structure for Arctic cooperation (Bloom, 1999, pp. 712–713). The AEPS aims were fivefold: 1) protect the Arctic ecosystem including humans; 2) provide for the protection, enhancement and restoration of environmental quality and the sustainable utilization of natural resources, including their use by local populations and indigenous peoples in the Arctic; 3) recognize and, to the extent possible, seek to accommodate the traditional and cultural needs, values and practices of the indigenous peoples as determined by themselves, related to the protection of the Arctic environment; 4) review regularly the state of the Arctic environment; and 5) identify, reduce, and, as a final goal, eliminate pollution (Bloom, 1999, p. 713).

As part of the AEPS, the Arctic States established four working groups: 1) The Arctic Monitoring and Assessment Program, which monitors levels and assesses the effects of anthropogenic pollutants in the Arctic and produces assessment reports on the status and

trends in the condition of Arctic ecosystems, detects emerging problems, their possible causes and the potential risk to Arctic ecosystems, and recommends responses; 2) The Conservation of Arctic Flora and Fauna working group, which facilitates the exchange of information and coordination of research on species and habitats of flora and fauna in the Arctic; 3) The Emergency Prevention, Preparedness and Response working group, which provides a framework for cooperation in responding to the threat of environmental emergencies; and 4) The Protection of the Arctic Marine Environment working group, which takes preventive and other measures directly or through competent international organizations regarding marine pollution in the Arctic irrespective of origin (Bloom, 1999, p. 713).

Although the AEPS was competent, some nation-states – most notably Canada – advocated for transforming the AEPS into a new organization that would subsume existing AEPS working groups and programs but also address the broader issue of sustainable development (Bloom, 1999, p. 714). As a result, the Declaration on the Establishment of the Arctic Council was signed at Ottawa on September 19, 1996 (the “Ottawa Declaration”). Pursuant to the Ottawa Declaration, the Arctic Council is a “high level” forum designed to “provide a means for promoting cooperation, coordination and interaction among the Arctic states, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic” (Arctic Council, 1996). The Council also oversees and coordinates the four working groups established under the AEPS, and formalized two further groups – the Sustainable Development Working Group and the Arctic Contaminants Action Programme.

The Arctic Council comprises the eight Arctic States (Arctic Council, 1996, art. 2), permanent participants, and observer status. “Permanent Participant” is a relatively new concept in international relations and refers to special type of membership within the Arctic Council that does not have a voting right but is entitled to take part in the decision making process (Hasanat, 2013, p. 201). In the case of the Arctic Council, Permanent Participants represent either a single group of indigenous people resident in more than one arctic state or more than one indigenous people resident in single Arctic state (Arctic Council, 1996, art. 2). Six indigenous communities are now Permanent Participants in the Arctic Council: the Arctic Athabaskan Council; the Aleut International Association; the Gwich’in Council International the Inuit Circumpolar Council; the Russian Association of Indigenous Peoples of the North; and the Saami Council. “Observer” status is granted to non-Arctic states, global and regional inter-parliamentary organizations, and non-governmental organizations. At the time of this writing, twelve states (France, Germany, Poland, Spain, the Netherlands, the United Kingdom, China, India, Italy, Japan, Republic of Korea and Singapore), nine intergovernmental organizations and eleven non-governmental organizations have Observer status within the Arctic Council. The EU presently acts as an *ad hoc* Observer until further decision is made on a pending application to the Council of the EU Commission requesting Observer status (Hasanat, 2013, p. 203).

The Indigenous Peoples’ Secretariat (IPS) in Copenhagen also exists as part of the Arctic Council (Sellheim, 2012, p. 62). The IPS was established in 1993 to assist the

Arctic indigenous peoples' organizations involved in the AEPS. It continues its work as a supporting body for the Permanent Participants under the Arctic Council. Although it is not viewed as a representative body for the Permanent Participants, its task is to convey all information, documents and reports directly related the work of the Arctic Council to the Permanent Participants, provide technical support, communicate Arctic Council information and results to the indigenous peoples of the Arctic, to facilitate and coordinate meetings for the indigenous organizations, and to ensure direct participation of the Permanent Participant in the Arctic Council Working Groups (Sellheim, 2012, p. 74).

*The Northern Forum* Another governance arrangement that is regional, subnational, and international in character is the Northern Forum. Established in 1991, the Northern Forum is characterized as a non-profit, international organization comprising sub-national or regional governments from eight northern countries – Canada (Quebec and the Yukon); Iceland (Akurevri); Japan (Hokkaido Prefecture); the Republic of Korea (Gangwon Province); the Russian Federation (Chukotka Autonomous Okrug, Khanty Mansiysk Autonomous Okrug, Sakha Republic (Yakutia), and Yamal-Nenets Autonomous Okrug). The Northern Forum brings together subnational, regional leadership to address shared political, economic, and environmental issues, such as economies based upon natural resource extraction, limited infrastructure development and internal capital resources, harsh climates and vulnerable ecosystems, strong indigenous cultures and sparse populations.

The members of the Northern Forum's Board of Governors are the senior political leaders of member regions: governors, premiers and, in some cases, presidents. In seeking to work cooperatively to address broad issues of common concern, board members oversee the implementation of Northern Forum policy and provide guidance for the organization as a whole. The board also formally manages Northern Forum Inc., an Alaskan corporation that is the business arm of the organization. The Chairman of the Board is elected during the General Assembly and can serve two terms. In addition to the Board of Governors, the Northern Forum has an executive committee and regional coordinators from each member region, who work cooperatively to identify and address day-to-day issues among member regions. In addition, the regional coordinators meet bi-annually to plan the upcoming General Assembly or Board of Governors meetings. Working closely with the Regional Coordinators, the Northern Forum Secretariat, located in Anchorage, Alaska, implements meeting plans and helps members to address projects, issues of concern and opportunities. Although most members are sub-national governments, membership in the Forum is open to commercial institutions. These members, known as Business Partners, must demonstrate interests in northern issues relevant to the Northern Forum's governmental members. Their membership has to be approved by a region of the Northern Forum, and they can participate in open meetings of the Northern Forum, but do not have a vote.

*Norwegian-Russian Fisheries Regime* Bilateral institutions, such as the Norwegian-Russian Fisheries Regime, also are part of the Arctic regional governance equation. This regime is extremely critical to Arctic governance, as Norway and Russia share stocks of

cod, haddock, and capelin in the Barents Sea. Cooperation between these two countries is imperative to ensure rational fishery management. Cooperation was first institutionalized in 1959 in the field of marine research through establishment of the Convention for Fishing in the North-East Atlantic. This Convention formalized fifty years of collaboration in marine research with a specific mandate to make recommendations regarding minimum sizes, mesh width and other technical regulation measures. Management cooperation was institutionalized through two further agreements in the 1970s: a 1975 Agreement that established the Joint Norwegian-Russian Fisheries Commission, and a 1976 agreement on mutual fisheries cooperation. Both agreements are reciprocal concerning the regulation of shared fish stocks and the exchange of quotas on national stocks. The management regime comprises Russian-Norwegian co-operation and management procedures on a national level within the fields of research, regulation, and enforcement of the fisheries. The management regime is worked out at two levels; the domestic level in both Norway and Russia and the transnational level.

### 3.3. *Domestic Institutions*

*Co-Management Regimes* In addition to international and regional governance regimes, domestic regimes with transboundary implications also add to the mix. Often referred to as “co-management regimes,” these are of growing importance in the management of renewable resources, particularly in Canada, where aboriginal and non-aboriginal interests exist with respect to utilizing these resources (Notzke, 1995). “Co-management” broadly refers to the sharing of power and responsibility between government and local resource users that is achieved by various levels of integration of local- and state-level management systems (Notzke, 1995). In practice, there is a wide spectrum of co-management arrangements, ranging from “tokenism” of local participation in government research to local communities retaining substantial self-management power (Notzke, 1995). Co-management regimes may be area-specific, or they may be focused on one particular issue or species (Notzke, 1995). Canada has co-management or participatory regimes in place in a number of key areas related to the Arctic, including fish and wildlife, protected area planning, integrated coastal zone management, ecosystem health monitoring, contaminants research, environmental assessment, and climate change (Berkes et al., 2001). Also, in 1987 Canada and the United States entered into an agreement creating a co-management regime that establishes an international board to recommend management decisions relating to the migratory Porcupine Caribou Herd based on input from members of user communities as well as representatives of government agencies (Arctic Governance Project, 2010, p. 4).

### 3.4. *Non-Governmental Institutions*

Non-governmental forums also play a role in Arctic governance. The International Arctic Science Committee (IASC), for example, was established in 1990 and comprises research organizations from all eight Arctic States plus organizations from ten other states.

It is set up to encourage cooperation in Arctic research among countries engaged in this kind of research. The IASC promotes and supports leading-edge multi-disciplinary research to foster a greater scientific understanding of the Arctic region and its role in the Earth system. It accomplishes its mission through initiating, coordinating, and promoting scientific activities at a circumpolar or international level; providing mechanisms and instruments to support science development; providing objective and independent scientific advice on issues of science in the Arctic and communicates scientific information to the public; and promoting bipolar cooperation through interaction with relevant science organizations, among other activities. The IASC has six Working Groups (Cross-cutting, Terrestrial, Marine, Cryosphere, Atmosphere, Social & Human) that identify and formulate science plans, research priorities, encourage science-led programs, promote future generations of arctic scientists and act as scientific advisory boards to the Council; three Action Groups (Bipolar, Data Policy, and Geosciences) that are set up for two-year periods to provide strategic advice to the Council and Working Groups on both long-term activities and urgent needs; and one Advisory Group (International Science Initiative in the Russian Arctic) that addresses a “structural need” on a recurring or ongoing research topic. The IASC has Observer status on the Arctic Council.

Another non-governmental Arctic institution of importance is the Sustaining Arctic Observing Network (SAON). This network was established in November 2006 at an Arctic Council Ministerial meeting and was born of the need for a well-coordinated and sustained network that met scientific and societal needs. The Arctic Council Ministers requested the Arctic Monitoring and Assessment Programme to cooperate with the other Council working groups, the IASC and others to create SAON as a more coordinated effort. In January 2007, the Sustained Arctic Observing Networks Initiating Group, comprising representatives of international organizations, agencies, and northern residents involved in research and operational and local observing, was established to develop a set of recommendations on how to achieve long-term Arctic-wide observing activities that provide free, open, and timely access to high-quality data that will realize pan-Arctic and global value-added services and provide societal benefits. Members of the 2014 Board include representatives from government, universities, Arctic Council permanent participants, and non-governmental organizations such as the World Meteorological Association and the European Environmental Agency.

Last, but certainly not least, numerous indigenous civil society non-governmental organizations are part of the Arctic governance equation. For example, the Inuit Circumpolar Council (ICC) is a transnational organization representing approximately 150,000 Inuit in Alaska, Russia, Canada, and Greenland. Established in 1997, the ICC historically has been a forum representing best practices related to indigenous issues (Wilson & Smith, 2011, p. 921). Although initially focused on issues of indigenous rights and environmental issues in the Arctic, the ICC recently has devoted substantial attention to political autonomy and resource development (Wilson & Smith, 2011, p. 914). Many conclude that the ICC has enjoyed political success (Wilson & Smith, 2011, p. 910 footnote 3), reflective of a “value-laden” focus on multiple perspectives related to resource development (Wilson & Smith,

2011, p. 914). The Arctic Alliance is an entity that comprises indigenous peoples, environmental and other organizations working in the circumpolar North with a deep commitment to indigenous issues. It primarily serves as a forum for sharing information and knowledge advancing issues of mutual interest. Groups range from the Aleut International Association, Alaska Native Science Commission, Clean Air-Cool Planet, Friends of the Earth-Norway, Earthjustice, Pacific Environment, Russian Association of Indigenous Peoples of the North, the Natural Resources Defense Council, and the World Wildlife Federation.

#### 4. Institutional Indicators of Transboundary Governance Capacity

VanNijnatten et al., (2016) sets forth four indicators of TGC: nature of compliance (to what degree are rules and practices binding? What enforcement mechanisms are in place?); functional intensity (do actors collaborate, cooperate, or have harmonized practice?); stability and resilience (how long have institutions been in place? Do institutions endure in changing contexts? Do these offer learning opportunities or best practices?); and degree of legitimacy (are there mechanisms for, accountability, and transparency?). The following Figure 1 drawn from Garrick, Krantzberg and Jetoo (2016) summarizes the spectrum of indicators.

##### 4.1. Compliance

Arctic governance is hyper-institutionalized and quite complex, with mostly soft law compliance mechanisms embedded in the institutional context. With respect to Arctic governance, the UNCLOS framework has limitations, notably the menu of compliance

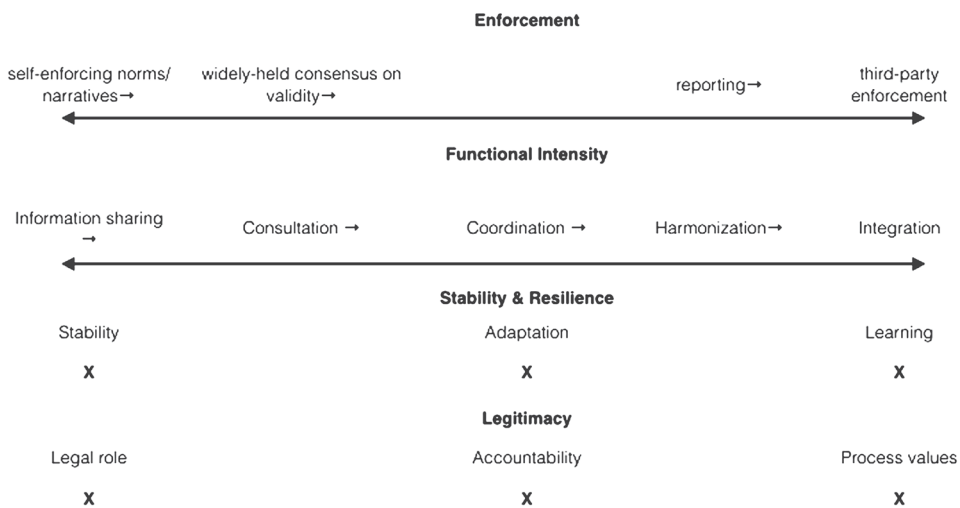


Figure 1. Transboundary Governance Capacity: Institutional Indicators Compliance (Garrick, Krantzberg, & Jetoo 2016).

mechanisms of choice. This broad array of permissible forums for dispute resolution was necessary to secure states' consent to binding dispute resolution in a "package deal" covering the range of issues arising under the UNCLOS, such as seabed mining, navigation, maritime boundaries and fishing (Penhoet, 1999, p. 8). Other international agreements relevant to the Arctic such as the ILO Convention also have weak compliance mechanisms. This could be problematic, particularly with respect Denmark's sovereignty over Greenland and land rights articulated in ILO Convention Article 14, which ensures the "rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy" and "to guarantee effective protection of their rights of ownership and possession" (International Labor Organization, 1991, art. 14). Also of interest in terms of compliance is Article 15, which states that indigenous rights to natural resources shall be safeguarded and include the rights to "the use, management and conservation of these resources." Pursuant to these provisions, Denmark would have to consult with this population and provide fair compensation for any damages sustained – however, with supervision serving as the only compliance mechanism in place, there are no guarantees that this will occur.

The CFCCC, which has soft law enforcement akin to "public shaming," and the Stockholm Convention, which does not have any compliance mechanisms in place, also are problematic, given that the bio-physical changes taking place in the Arctic will arguably worsen and continue to pose a threat to the region because of compliance weakness – there is no "hard" mechanism in place to police these environmental threats. Arguably the WTO's compliance mechanisms are the furthest along the compliance spectrum; however, WTO significance to Arctic governance currently is not particularly strong. Thus, compliance at the international scale relies on the traditional vision of one state's claims that another state has breached its obligation to it, or violated its rights, under general principles of international law (Koskenniemi, 1996). This is not unusual in international legal circles, as states generally are often disinclined to subject themselves to formal dispute resolution mechanisms for a variety of reasons, including slow and cumbersome procedures, intensifying the confrontational aspects of a dispute in an "undiplomatic" manner (Chayes & Chayes, 1995; Downs & Penhoet, 1999; Koskenniemi, 1996) and, last, but perhaps most significantly, sovereignty.

At the regional scale, institutions in place, including the Arctic Council, also are based primarily upon self-enforcing norms. Thus, governance remains characterized as "soft" or "low" (Koivurova, 2010, p. 148) with no overarching institutional compliance mechanisms in place designed or mandated to regulate the region. There is evidence, though, that this particular aspect of Arctic governance may be shifting. On May 12, 2012, Ministers of the eight Arctic States signed the Nuuk Declaration, following the Seventh Ministerial Meeting of the Arctic Council. This Declaration holds an important compliance feature that may impact the future of Arctic governance in that it approves the Agreement on Cooperation in Aeronautical and Maritime Search and Rescue in the Arctic (SAR Agreement), which represents the first legally - binding instrument crafted under the auspices of the Council (Sellheim, 2012, p. 61). The SAR Agreement defines for each Arctic state an area of the Arctic where it will have lead responsibility in organizing responses to

search and rescue incidents. The SAR Agreement also commits each Arctic state as a party to the agreement to provide appropriate assistance in the event of such an incident and to take other steps address growing search and rescue needs in the Arctic region. In addition, a second legally-binding Council accord was approved at the May 2013 Arctic Council Summit, namely, the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic. This Agreement sets out guidelines for communicating between countries, coordinating personnel and figuring out who needs to do what. It also requires Arctic States to notify each other should there be an oil spill anywhere in the Arctic.

#### 4.2. *Functional Intensity*

Functional intensity in the context of transboundary institutions measures the extent to which institutions and networks are engaged in deeper forms of collaboration (VanNijnatten et al., 2016). As noted in Figure 1, functional intensity is measured on a spectrum ranging from less intense linkages such as information sharing and consultation, to more intense activities such as cooperation, harmonization and even integration (VanNijnatten, 2006). In the context of the Arctic, this indicator suggests that governance aims fall squarely in the areas of information sharing, consultation, cooperation, and collaboration. In particular, the IASC and SAON are built around the principles scientific information-sharing and consultation. The exception here is the Norwegian-Russian Fisheries Regime. Co-operation between Norwegian and Russian authorities within the field of compliance control, mainly involving an exchange of information, has been in operation since 1993 (Hønneland & Nilssen, 1998). However, a series of technical regulations and coordination measures have been negotiated by both countries, including those related to the cod quota; the stipulation of joint conversion factors for different fish products important to the economies of both countries, such as such as different types of gutted and filleted cod; procedures for closing and opening of fishing grounds; the introduction of sorting grids in trawls and satellite monitoring of fishing vessels; cooperation regarding control between the Norwegian Directorate of Fisheries, the Norwegian Coast Guard, Murmanrybvod [the Russian fisheries inspection service] and the FSB's border service; and a regulatory "code of conduct" that serves as a management tool to ensure stability and predictability when harvesting fish stocks. This is not to say that less-intense forms of information-sharing do not exist. Indeed, these mechanisms remain very important under this regime, such as the 2006 pilot project for continuous exchange of information on satellite tracking in the Barents Sea and the Norwegian Sea (ICES I and II); the exchange of information on quotas and landings per vessel, in addition to exchange of inspectors on each other's vessels and joint control of landings in third countries. These measures have resulted in a reduction in overfishing and illegal fishing in the Barents Sea and Norwegian Sea.

#### 4.3. *Stability and resilience*

According to VanNijnatten et al., (2016), stability reflects not only the ability of an institution or set of institutions to survive the passage of time, but also to endure despite



changing conditions. The ability to endure is also at the root of the term “resilience”, drawn from the socio-ecological systems literature. When applied to an institution, a key element of resilience is the degree to which the institution is capable of adaptation (e.g., Berkes et al., 2001). An adaptive approach centers on efforts to adjust, reform, or even replace existing governance arrangements to address changes already occurring (Young, 2012, p. 78). Determining both the longevity of the institutions and networks in place, as well as their endurance in the face of changing conditions, are key measures for this indicator (VanNijnatten et al., 2016).

In assessing the stability of the Arctic transboundary governance regime, it becomes apparent that the relative stability and resilience of the Arctic governance regime reflects global interest at various historical points in time. For example, although in the post-world war II period countries were preoccupied more with strategic rivalry in the Arctic, the 1980s witnessed more attention and interest, most notably laid out by Mikhail Gorbachev in 1987 at Murmansk. As a result, governance strengthened and stabilized, and adapted in the twenty-first century, as climate change and globalization have put a point on Arctic governance. There is the distinct likelihood that Arctic governance will continue to adapt to geopolitical, climate change and globalization realities. In particular, although the United States has not joined CLOS or the Arctic Council, its interest in the Arctic is arguably strengthening. With little appetite to create a new institutional structure in the Arctic, current institutions will have to be flexible to accommodate this global power’s interest.

More specifically, one can look at various Arctic institutions to gauge resiliency of the overall regime. At the global level, the institutional legal structure established in the post-World War II era serves as the foundation for UNCLOS, the WTO, the ILO Convention, the UNCFCC, and Stockholm Convention and is remains quite stable. With respect to regional scale institutions, stability, too, seems to be the norm. According to some scholars, the mandate and institutional form of the Arctic Council did not change much in the transition from the AEPS to the Arctic Council (Koivurova, 2010, p. 147). These scholars note that Senior Arctic Affairs Officials, bureaucrats from the Arctic states, still coordinate the work within the Council; consensus is the process through which decisions are made; funding remains ad hoc in that no permanent contributions are required from the eight Arctic States or other participants; the parties used a signed declaration, rather than an international treaty, as a mechanism for establishing both entities; and both the AEPS and the current Council avoid controversial and “high level” issues, sticking to technical recommendations, guidelines, and scientific assessments (Koivurova, 2010, pp. 147–148). The only clear change that took place when transitioning was an improvement in the status of membership accorded to the indigenous peoples, and more specifically, to their international organizations (Koivurova, 2010, pp. 147–148). In the AEPS, indigenous organizations had observer status, along with non-governmental organizations and non-Arctic states. Today these entities are permanent participants.

Nonetheless, more recent steps suggest an ability of the Council to adapt to changing times. The Nuuk Declaration emphasizes the “volume and complexity” of the changes the Arctic is undergoing and which the Arctic Council needs to be able to respond to. To this

end, the ministers have decided to “strengthen the capacity of the Arctic Council to respond to the challenges and opportunities facing the Arctic [ . . .].” Thus the Council articulated steps in the May 2011 ministerial declaration to establish a permanent secretariat, to explore opportunities for the council to apply the principles of ecosystem-based management, and, more generally, to examine progressive measures to enhance the role of the council. This suggests that perhaps “soft law” mechanisms such as sharing of science and best practices might propel further changes and add to the Council’s stability and resilience.

The Fisheries Commission also reflects stability and resilience. As old conflicts over cod fishing were resolved between Norway and the Soviet Union in the 1980s, this paved the way for focus on strengthening regulation and coordination measures, and controlling fishing because overfishing and illegal fishing emerged as areas of concern. An expert group was formed to assess measures to combat breaches of regulations. This group proved so efficient at solving such problems that the Fisheries Commission decided to convert the group into a permanent committee for management and control issues in the fisheries sector.

#### 4.4. *Legitimacy*

VanNijnatten et al., (2016) sets forth an inductive approach to measuring legitimacy to determine the extent to which Arctic institutions are “widely regarded as legitimate,” allowing for a look into the sources of legitimacy and differentiating between legitimacy that is self-defined and that which is externally defined. An assessment of this indicator in the context of the Arctic leads to the conclusion that Arctic governance institutions possess a high degree of legitimacy derived from a variety of sources. For example, UNCLOS has been signed by seven of the eight Arctic States, with keen US interest increasing as the Arctic continues to undergo bio-physical change. With respect to the Council, the fact that it brought the Arctic into global climate change debates by getting it on the agenda of the UNFCCC by producing the 2004/05 Arctic Climate Impact Assessment is a sign of legitimacy in global forums (Koivurova & Hasanat, 2009). Also, the interest of non-Arctic actors to become stakeholders in Arctic affairs under the auspices of the Arctic Council shows that the Council has managed to establish itself as a legitimate co-operative forum by raising the Arctic’s momentum globally (Sellheim, 2012, p. 69). From a geopolitical perspective, perhaps the most important step taken by the Council at the May 2013 summit was enlargement; six countries—China, India, Singapore, South Korea, Japan, and Italy—were approved for permanent observer status.

Enhanced legitimacy is suggested by the fact that the Arctic Council has moved from a non-permanent secretariat, which tends to lack institutional status (Sandford, 1995) toward a permanent secretariat. In soft-law arrangements, such the Arctic Council, a permanent secretariat enables the forum to deepen and solidify its cooperation, primarily at an intergovernmental level (Sellheim, 2012, p. 63). The permanent Arctic Council secretariat contributes to the institutionalization of the Arctic Council, making it less a forum and more an international organization, despite article 1 Ottawa Declaration stating that “(t)he Arctic Council is established as a high level forum” (Sellheim, 2012, p. 70).

Some scholars suggest that a major determinant of the effectiveness of governance systems is the extent to which they are designed with the principal features of the relevant biophysical and socioeconomic systems in mind (Young, 2012). This is certainly true in the case of the Arctic. Indigenous interests are brought into the overall Arctic governance regime and strengthen legitimacy and effectiveness through the ILO Convention, the Northern Forum, the IPS, the Arctic Alliance, co-management regimes in Canada, and the ICC. Business and subnational interests add to the legitimacy equation through the Northern Forum. In addition, the participation of science NGOs such as IASC and SAON bring legitimacy to the Arctic governance regime. There is a long-standing tradition of science research lending to Arctic governance legitimacy, dating back to the AEPS and including the International Polar Years (IPY). For example, with respect to the IPY 2009, thousands of scientists from more than 60 nations, including all Arctic States, worked on over 200 projects in the physical, biological and social sciences, with the strong involvement of, and collaboration with, students, early career researchers, and teachers (Rhemann, 2012, p. 31). In this way, research is used to interpret phenomena associated with environmental and social changes, as well as to promote multi-level and multi-lateral collaboration (Berkman & Young, 2009). Science diplomacy is evident in the Arctic governance regime.

## 5. Conclusion

The TGC framework provides insights into the broad mosaic that constitutes the Arctic transboundary governance system. Viewed through the lens of VanNijnatten et al., (2016), the Arctic governance regime is broader than previously studies suggest and possesses a relatively high degree of legitimacy, stability, and resilience, but a relatively low degree of compliance and functional intensity. Also this framework illustrates another point: it can be argued that the current sense of urgency regarding the Arctic, which comes from science, is enhancing the legitimacy, stability, and resiliency of institutions already in place. Yet actors still must contend with the reality that many complex transboundary governance regimes are the products of soft law, with low levels of enforcement.

The plethora of governance institutions could be viewed as a weakness, although a decentralized system also can prove to be more effective than centralized governance systems. Like the Great Lakes, another highly decentralized system, Arctic governance as it currently stands, can allow myriad actors to achieve policy goals by many means (Friedman et al., 2015). The absence of structure, singular leadership, and formal organization are significant assets that can make the Arctic governance transboundary system more resilient (Brafman & Beckstrom, 2008). As suggested by experts elsewhere, one way forward is to work toward the development of a coherent regime complex in the sense of “an array of partially overlapping and nonhierarchical institutions governing a particular issue-area” (Raustiala & Victor, 2004). That is, a network of distinct regime elements that operate simultaneously (Young, 2012, p. 83) may be the strongest barometer of capacity for transboundary complex systems worldwide.

## References

- Arctic Council. (1996). *Declaration on the establishment of the Arctic Council*. Ottawa, Ontario, Canada: Arctic Council.
- Arctic Governance Project. (2010). *Arctic governance in an era of transformative change: Critical questions, governance principles, ways forward*. Report of the Arctic Governance Project. Retrieved from <http://arcticgovernance.custompublish.com/agp-report-and-action-agenda.156784.en.html>
- Axworthy, T. S., Koivurova, T., & Hasanat, W. (2012). *The Arctic Council: Its place in the future of Arctic governance*. Toronto, Ontario, Canada: Munk-Gordon Arctic Security Program, University of Lapland.
- Bates, C. L. (2006, Spring). U.S. ratification of the U.N. Convention on the Law of the Sea: Passive acceptance is not enough to protect U.S. property interests. *North Carolina Journal of International Law and Commercial Regulation*, 31, 745–788.
- Bennett, M. (2014). *Full steam ahead for Asian icebreakers in the Arctic this summer*. Retrieved July 28, 2014, from <http://cryopolitics.com/2014/07/04/full-steam-ahead-for-asian-icebreakers-in-the-arctic-this-summer>
- Berkes, F., Matthias, J., Kislalioglu M., & Fast, H. (2001). Canadian Arctic and the Oceans Act: The development of participatory environmental research and management. *Ocean and Coastal Management*, 44(7–8), 451–469.
- Berkman, P. A., & Young, O. R. (2009). Governance and environmental change in the Arctic Ocean. *Science*, 324(5925), 339–340.
- Bloom, E. T. (1999). Establishment of the Arctic council. *American Journal of International Law*, 93(3), 712–722.
- Brafman, O., & Beckstrom, R. A. (2008). *The starfish and the spider: The unstoppable power of leaderless organizations*. New York, NY: Portfolio Trade.
- Burleson, E., & Dougherty, S. D. (2012). Arctic justice: Addressing persistent organic pollutants. *Law and Inequality*, 30, 57–89.
- Chayes, A., & Chayes, A. H. (1995). *The new sovereignty: Compliance with international regulatory agreements*. Cambridge, MA: Harvard University Press.
- Clote, P. (2008). Implications of global warming on state sovereignty and Arctic resources under the United Nations Convention on the Law of the Sea: How the Arctic is no longer communis omnium naturali jure. *Richmond Journal of Global Law and Business*, 8, 195–248.
- Downes, D., & Penhoet, B. (1999). *Effective dispute resolution: A review of options for dispute resolution mechanisms and procedure*. Retrieved July 27, 2014, from <http://www.ciel.org/Publications/effectivedisputeresolution.pdf>
- Eckstein, H. (1990). Foreword. In P. V. Warwick (Ed.), *Culture, structure, or choice? Essays in the interpretation of the British experience*. New York, NY: Agathon Press.
- Friedman, K. B., Laurent, K. L., Krantzberg, G., Scavia, D., & Creed, I. F. (2015). The Great Lakes futures project: Principles and policy recommendations for making the lakes great. *Journal of Great Lakes Research*, 41, 171–179. doi:10.1016/j.jglr.2014.11.026
- Gaden, M. (2016). Cross-border Great Lakes fishery management: Achieving transboundary governance capacity through a non-binding agreement. *International Journal of Water Governance*, 4(1), 53–72
- Garrick, D., Krantzberg, G., & Jetoo, S. (2016). Comparing transboundary water governance capacity: Nonpoint pollution in North America and Australia. *International Journal of Water Governance*, 4(1), 111–132.
- Greitens, T. (2016). Assessing transboundary governance capacity in the Great Lakes areas of concern. *International Journal of Water Governance*, 4(1), 73–90
- Hasanat, M.W. (2013). Reforming the Arctic Council against increasing climate change challenges in the north. *Michigan State International Law Review*, 22, 195–240.
- Heinmiller, B. T. (2016). Institutions and transboundary governance capacity in the Great Lakes Basin: The case of irrigation water-takings. *International Journal of Water Governance*, 4(1), 33–52
- Hønneland, G., & Nilssen, F. (1998). The fisheries sector of Northwestern Russia-Norway's political challenge. *Studie R-Fridtjof Nansens Institutt (Norway)*, 11, 44.

- International Labor Organization. (1991). C169—Indigenous and tribal peoples convention (No 169). Retrieved July 27, 2014, from [http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_ILO\\_CODE:C169](http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169)
- Koivurova, T. (2010). Limits and possibilities of the Arctic Council in a rapidly changing scene of Arctic governance. *Polar Record*, 46(2), 146–156.
- Koivurova, T., & Hasanat, M. W. (2009). The climate policy of the Arctic Council. In T. Koivurova, E. C. H. Keskitalo, N. Banks (Eds.), *Climate governance in the Arctic*. Dordrecht, The Netherlands: Springer.
- Koskenniemi, M. (1996). New institutions and procedures for implementation control and reaction. In J. Werksmann (Ed.), *Greening international institutions*. London, England: Earthscan.
- Marceau, G. (2012, March). The WTO in the emerging energy governance debate. In *ASIL Annual Meeting Proceedings* (Vol. 106, pp. 385–389). Washington, DC: American Society for International Law.
- Nilsson, A., & Huntington, H. (2002). Arctic monitoring and assessment programme. Oslo, Norway: Arctic Pollution. Retrieved July 26, 2014, from <http://www.amap.no/>
- Notzke, C. (1995). A new perspective in aboriginal natural resource management: co-management. *Geoforum*, 26(2), 187–209.
- O'Rourke, R. (2014, August 4). *Changes in the Arctic: Background and issues for Congress*. Washington, DC: Congressional Research Service.
- Raustiala, K., & Victor, D. G. (2004). The regime complex for plant genetic resources. *International Organization*, 58(2), 277–309.
- Rhemann, J. (2012). Looking within and outside the Arctic to increase the governance capacity of the Arctic Council. In T. S. Axworthy, T. Koivurova, & W. Hasanat (Eds.), *The Arctic Council: Its place in the future of Arctic governance*. Toronto, Ontario, Canada: Munk School of Global Affairs.
- Runnalls, D. (2014, May 14). *Next steps in Arctic governance*. Retrieved August 2, 2014, from [http://www.cfr.org/councilofcouncils/global\\_memos/p32983](http://www.cfr.org/councilofcouncils/global_memos/p32983)
- Sandford, R. (1995). International environmental treaty secretariats: Stagehands or actors. In H. O. Bergesen, G. Parmann (Eds.), *Green globe yearbook of international co-operation on environment and development*. Oxford, England: Oxford University Press.
- Sellheim, N. (2012). The establishment of the permanent Arctic Council Secretariat: Challenges and opportunities. In T. S. Axworthy, T. Koivurova, & W. Hasanat (Eds.), *The Arctic Council: Its place in the future of Arctic governance* (pp. 60–82). Toronto, Ontario, Canada: Munk School of Global Affairs.
- Stokke, O. S. (2011). Interplay management, niche selection, and Arctic environmental governance. In S. Oberthür, & O. S. Stokke (Eds.), *Managing institutional complexity: Regime interplay and global environmental change*. Cambridge, MA: MIT Press.
- Swepton, L. (1990). New step in the international law on indigenous and tribal peoples: ILO Convention No. 169 of 1989. *Oklahoma City University Law Review*, 15, 677.
- The Aspen Institute. (2011). *The shared future: A report of the Aspen Institute Commission on Arctic climate change*. Washington, DC: The Aspen Institute Energy and Environment Program.
- Trachtman, J. P. (1999). The Domain of WTO Dispute Resolution. *Harvard International Law Journal*, 40, 333.
- United Nations. (1982.) *United Nations Convention on the Law of the Sea*. Retrieved June 12, 2014, from [http://www.un.org/depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf)
- United Nations. (1998). *United Nations framework convention on climate change*. Retrieved June 16, 2014, from <http://unfccc.int/resource/docs/convkp/kpeng.pdf>
- United Nations Environment Programme. (2005). *Ridding the World of POPs 12*. Retrieved June 15, 2014, from [http://www.pops.int/documents/guidance/beg\\_guide.pdf](http://www.pops.int/documents/guidance/beg_guide.pdf)
- United Nations Industrial Development Organization. (2001). *Stockholm convention on persistent organic pollutants*. Retrieved June 18, 2014, from [http://www.pops.int/documents/convtext/convtext\\_en.pdf](http://www.pops.int/documents/convtext/convtext_en.pdf)
- United States Arctic Research Commission. (2014, January). *Implementation plan for the national strategy for the Arctic region*. Retrieved June 17, 2014, from [http://www.whitehouse.gov/sites/default/files/docs/implementation\\_plan\\_for\\_the\\_national\\_strategy\\_for\\_the\\_arctic\\_region\\_-\\_fi....pdf](http://www.whitehouse.gov/sites/default/files/docs/implementation_plan_for_the_national_strategy_for_the_arctic_region_-_fi....pdf)
- VanNijnatten, D. L. (2006). Towards cross-border environmental policy spaces in North America: Province-state linkages on the Canada-US Border. *AmeriQuests*, 3(1). DOI: 10.15695/amqst.v3i1.54

- VanNijnatten, D. L. (2016). The aquatic invasion: Assembling transboundary capacity for prevention and rapid response. *Journal of International Water Governance* 4(1), 91–110.
- VanNijnatten, D. L., Johns, C., Friedman, K. B., & Krantzberg, G. (2016). Assessing adaptive transboundary governance capacity in the Great Lakes Basin: The role of institutions and networks. *International Journal of Water Governance*, 4(1), 7–32.
- Wilson, G. N., & Smith, H. A. (2011). The Inuit Circumpolar Council in an era of global and local change. *International Journal*, 66, 909–921.
- World Trade Organization. (2014). *A unique contribution. Understanding the WTO: Settling disputes*. Retrieved July 22, 2014, from [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/disp1\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/disp1_e.htm)
- Young, O. R. (2012). Arctic tipping points: Governance in turbulent times. *Ambio*, 41(1), 75–84.