FRAGMENTATION OF INTERNATIONAL ENVIRONMENTAL LAW AND THE SYNERGY: A PROBLEM AND A 21ST CENTURY MODEL SOLUTION

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INTRODUCTION

International environmental law focuses on promoting the wellbeing of humans and the environment, yet it is composed of moving parts that are complex and multi-level. While its goal is "to promote cooperation among states in order to achieve joint gains,"[1] international environmental law notoriously treats issues in isolation and lacks the capacity to deal with the constant push and pull between humans and nature.[2] The international agreement method allows any number of parties to negotiate and agree to any combination of terms and to make relationships on the international stage between local, national, and regional parties, whose interests and mutual obligations vary. Parties can continue to create multilateral environmental agreements (MEAs) even if they overlap, contradict, and yield less-than-satisfactory results. The outcome of the international agreement method is the proliferation of MEAs, which inevitably creates fragmented regimes. Fragmentation leads to the disarray of regulated entities and a lack of foundation and legal order for the international community, which "jeopardizes the credibility, reliability, and, consequently, the authority of international law."[3]

Although fragmentation is a persistent feature of international environmental law, the cooperation and coordination measures implemented among three conventions that regulate chemicals, called the

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1. DANIEL BODANSKY, THE ART AND CRAFT OF INTERNATIONAL ENVIRONMENTAL LAW 21 (2011).

2. Cinnamon Carlarne, *Delinking International Environmental Law & Climate Change*, 4 MICH. J. ENVTL. & ADMIN. L. 1, 18 (2014) (describing international law as "an essential but idealized system that often conceptualizes and treats issues in isolation").

3. Gerhard Hafner, *Pros and Cons Ensuing from Fragmentation of International Law*, 25 MICH. J. INT'L L. 849, 856 (2004).

"Synergy,"[4] is a pragmatic example of how to solve problems associated with fragmentation. When the parties to the Basel, Rotterdam, and Stockholm Conventions created the Synergy, they avoided creating duplicate institutions. Instead, they undertook the greatest international treaty merger of the 21st century by enhancing information-sharing measures and strengthening their core administrative relationships. The Synergy is the leading example of how to solve the problem of fragmentation throughout international environmental law.

While its primary focus is on how the Synergy overcame the problem of fragmentation in chemical regulation, this article also sheds light on the inherent problems fragmentation creates for international environmental law. The Synergy is a formal cooperation and coordination between the Stockholm, Rotterdam, and Basel Conventions.[5] The Synergy's governing body is similar to the governing body of any other MEA because it has a Secretariat and a Conference of the Parties (COP).[6] But the parties did not have to rewrite the texts of the three chemical conventions to create the Synergy. Instead, the Synergy combines the Secretariats and the COPs of the three chemical conventions, which met simultaneously for the first time in 2010.[7] Individually, each convention remedies different harms posed by hazardous chemicals. Together as the Synergy, they increase international efficiency, decrease international costs, and provide standards that protect humanity and the environment. This article concludes that synergies between MEAs should be created as a step toward reducing fragmentation in other areas of international environmental law, and it provides two case studies to illustrate areas of international environmental law that are ripe to form synergistic characteristics.

This article differs from past scholarship about fragmentation because it is the first to use the Synergy as a model solution for reducing fragmentation in other areas of international environmental law. Daniel C.

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4. *Regional Centres*, SYNERGIES AMONG BASEL, ROTTERDAM, & STOCKHOLM CONVENTIONS, https://perma.cc/RHT4-EQA2 (last visited Sept. 1, 2016) (referring to the three conventions as the "Synergies"); Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 U.N.T.S. 126 (entered into force May 5, 1992) [hereinafter Basel Convention]; Stockholm Convention on Persistent Organic Pollutants, May 22, 2001, 2256 U.N.T.S. 119 (entered into force May 17, 2004) [hereinafter Stockholm Convention]; The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Sept. 10, 1998, 38 I.L.M. 1, 2244 U.N.T.S. 337 [hereinafter Rotterdam Convention].

5. *See* LEE ALEXANDER RISBY & TERESA AMADOR, REVIEW OF THE ARRANGEMENTS ADOPTED PURSUANT TO THE "SYNERGIES DECISIONS" ON COOPERATION AND COORDINATION AMONG THE BASEL, ROTTERDAM AND STOCKHOLM CONVENTIONS 1 (2013) (describing the origins of the Synergy in the Stockholm, Rotterdam, and Basel Conventions).

6. *Id.* at 5.

7. *Id.* at 1.

Esty's work leads academia by utilizing the Global Environment Organization (GEO) as a model to remedy deficiencies in international environmental law.[8] Forming a GEO involves consolidating organizations that oversee truly transnational issues, such as preserving global commons resources.[9] But forming synergies between MEAs that oversee similar environmental issues is a more pragmatic and realistic solution than forming a GEO. A GEO would be too cumbersome due to the sheer number of environmental issues looming over the 21st century. This is the first full-length article to analyze the Synergy in depth and apply the characteristics that led to its creation to other areas of international environmental law.

Part I begins by explaining how the current international agreement method leads to fragmented international regimes. Many areas of international environmental law are fragmented. The Basel, Rotterdam, and Stockholm Conventions were a perfect example of fragmentation before they became the Synergy. Part II explains how the three chemical conventions became the Synergy. It analyzes the natural relationships between the three conventions prior to forming the Synergy and shows how the Synergy increased efficiency for global chemical regulation. Part III analyzes and rebuts competing theories to reduce fragmentation, such as creating a GEO and redrafting MEAs altogether. It also provides factors parties can use to determine whether other areas of international environmental law are ripe to synergize. Part IV contains two case studies that provide practical examples of where forming synergies can solve the problem of fragmentation in other areas of international environmental law.

I. FRAGMENTATION OF INTERNATIONAL ENVIRONMENTAL LAW

Fragmentation of international environmental law is the result of "the emergence of specialized and relatively autonomous spheres of social action and structure."[10] Parties create ad hoc agreements to solve international problems. This ad hoc agreement method creates confusion for regulated entities due to the sheer amount of resulting agreements and their overlapping, duplicative, and contradictory nature. Further, the current international agreement method enables parties to satisfy their self-serving motives to solve impending problems without considering the totality of the

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8. *See* Daniel C. Esty, *Breaking the Environmental Logjam: The International Dimension*, 17 N.Y.U. ENVTL. L. J. 836, 838 (2008) ("I urge consideration of a new, streamlined international body: a Global Environment Organization . . . .").

9. *Id.* at 848–49.

10. Int'l Law Comm'n Rep. on the Work of Its Fifty-Eighth Session, ¶ 7, U.N. Doc. A/CN.4/L.682 (Apr. 13, 2006).

environmental circumstances. This current method results in apparent inequities to the parties involved in negotiating the MEAs.

A. The Flawed Ad Hoc Approach to Creating MEAs

International environmental law "has never had the luxury of mapping out the field and developing a comprehensive strategy for addressing environmental problems in a pre-crisis, joined-up, and efficient way. Rather, [it] arose out of an immediate need to address pre-existing and rapidly worsening environmental degradation."[11] The proliferation of ad hoc agreements is rampant. It is estimated that "states have negotiated more than 1100 multilateral, 1500 bilateral, and 250 'other' environmental treaties, with the vast majority of these being negotiated since 1960."[12] Each of the approximately 1,100 MEAs typically has its own institutional arrangements, including a COP, a secretariat, advisory bodies, and technical expert groups. [13] The administrative processes of the institutional arrangements alone take time and manpower to implement and carry out.

Unfortunately, it is easy to address international environmental issues with ad hoc agreements, because each issue only gains public attention once it enters crisis mode and states act only according to public demand. When states make agreements about individual topics to please the public, they cut short-term costs. Because parties to MEAs typically do not take entire issues under consideration at once, the agreement method forces the proliferation of MEAs and ultimately leads to fragmentation. [14] Fragmentation of international environmental law does not create a foundation with which future generations can successfully solve international environmental problems, because it requires perpetually establishing new institutions.

B. The Result of the Ad Hoc Approach to Creating MEAs

If parties opt for entering into new MEAs and establishing new institutions to handle impending issues in lieu of condensing and combining

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11. Carlarne, *supra* note 2, at 21.

12. *Id.* (citing Ronald B. Mitchell, *International Environmental Agreements Database Project*, U. OR., https://perma.cc/5XXA-FUUB (last visited Nov. 6, 2014)).

13. Philippe Roch & Franz Xaver Perrez, *International Environmental Governance: The Strive Towards a Comprehensive, Coherent, Effective and Efficient International Environmental Regime*, 16 COLO. J. INT'L ENVTL. L. & POL'Y 1, 6 (2005).

14. *See* BODANSKY *supra* note 1, at 35 (describing "treaty congestion" as a similar result of the proliferation of MEAs, which "creates the potential for duplication in effort, lack of coordination, and even conflict between different environmental regimes").

existing institutional structures, they will inevitably endorse inconsistencies. New MEAs and institutions will undoubtedly overlap, contradict, yield less-than-satisfactory and binding results, and splinter international relationships. At the core of the agreement method comes the problem: the ad hoc method will not yield sustainable international relationships because it inherently lays fragmented and dysfunctional foundations. Parties inevitably agree to terms they cannot uphold because of the ever-increasing amount of MEAs that the current agreement method permits. The buildup of inconsistent international institutions will become unmanageable, and eventually force parties to renege on promises.

Fragmentation frustrates efforts to implement international agreements because "the provisions of the different MEAs and the decisions of the different environmental processes are often inconsistent."[15] For example, the Convention on Biological Diversity (CBD) seeks to promote, enhance, and maintain plant species diversity in forests.[16] But climate change regimes, such as the United Nations Framework Convention on Climate Change (UNFCCC)[17] and the Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto Protocol),[18] also consider forests and their role in global warming. To climate change regimes, forests with young trees and other young plant life act as carbon sinks, which have the potential to absorb carbon dioxide throughout their lifetime.[19] On the other hand, while old-growth forests accumulate large amounts of carbon dioxide over time, they eventually disperse carbon back into the atmosphere when they are harvested, burned, or when they die and decompose.[20] Climate change regimes do not seek to maintain a balance between young and old growth forests; instead, they incentivize parties to reduce emissions. The UNFCCC requires its parties to publicly report annual carbon dioxide emissions by sources and carbon dioxide removal by

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15. Roch & Perrez, *supra* note 13, at 6 (citing Hilary French, *Reshaping Global Governance*, in STATE OF THE WORLD 174, 177 (Linda Starke ed., 2002)).

16. *See* Convention of Biological Diversity, art. 8(d), June 5, 1992, 1760 U.N.T.S. 6 (entered into force Dec. 29, 1993) [hereinafter CBD] (providing *in situ* conservation measures for biodiversity, including "the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings").

17. *See* United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 (entered into force Mar. 21, 1994) [hereinafter UNFCCC] (stipulating parties to the UNFCC must "promote . . . the conservation and enhancement [of] forests").

18. Kyoto Protocol to the United Nations Framework Convention on Climate Change, *opened for signature* Mar. 16, 1998, 2303 U.N.T.S. 148 [hereinafter Kyoto Protocol].

19. Harro van Asselt, *Managing the Fragmentation of International Environmental Law: Forests at the Intersection of the Climate and Biodiversity Regimes*, 44 N.Y.U. J. INT'L L. & POL. 1205, 1214 (2011); *see also Sources of Greenhouse Gas Emissions, Land Use and Forestry*, U.S. ENVTL. PROT. AGENCY, https://perma.cc/KG8H-LCDP (last visited Sept. 26, 2016).

20. Asselt, *supra* note 19.

sinks.[21] In addition, the Kyoto Protocol allows its parties to consider carbon sinks to achieve their required emissions reduction targets.[22] The provisions of the Kyoto Protocol and UNFCCC may incentivize their parties to maintain forests of young species, but they enable their parties to take actions that directly contradict the *in situ* protections guaranteed by the CBD.[23]

Inconsistencies weaken the binding nature of MEAs, which is why individual MEAs are typically criticized for having soft provisions that lack the teeth or legal backbone to be legally enforceable.[24] Parties lack a sense of responsibility to fulfill commitments under MEAs that have inconsistent terms. For example, suppose a party acts consistent with Agreement A, but that act is simultaneously inconsistent with Agreement B. Alternatively, the party acts consistent with Agreement B, but that act is also inconsistent with Agreement A. This scenario creates a lose-lose situation for all parties to Agreement A and Agreement B. Parties to both agreements lack a sense of responsibility to fulfill their obligations because any action will put them out of compliance with one of the agreement's provisions.

The current fragmented regime certainly results in inequities for the parties that negotiate MEAs. For example, parties may choose to opt out of an obligation created by a specific provision within an MEA—escaping that provision's restrictions—but remain associated with and protected by the international community that adopted the MEA.[25] Also, countries may choose not to ratify an MEA—completely escaping the MEA's binding nature—but still benefit from the cooperation of others that choose to ratify the MEA.[26] Because it is up to the parties to comply with and enforce MEA provisions on their own, parties may use the current agreement method to take advantage of one another. This further frustrates parties' willingness to

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21. *See* UNFCCC, *supra* note 17, at art. 4 ¶ 1(a) (stating that parties must update and publish greenhouse gas sources and sinks).

22. Kyoto Protocol, *supra* note 18, 2303 U.N.T.S. at 219.

23. *See* CBD, *supra* note 16, at art. 8 (stating the *in-situ* conservation responsibilities of parties to the CBD).

24. Roch & Perrez, *supra* note 13, at 16–17.

25. *See, e.g.*, *Commercial Whaling*, INT'L WHALING COMM'N, https://perma.cc/QYZ8-87TS (last visited Sept. 1, 2016) [hereinafter IWC]. In 1946, Norway signed the International Convention for the Regulation of Whaling, and is therefore part of the International Whaling Commission (IWC). *Id.* However, when the IWC "paused" commercial whaling in 1982, Norway filed a timely objection, so it is not subject to the to the commercial whaling moratorium. *Id.* Norway benefits from being a member of the IWC because its "catch" is still protected by the moratorium—other states are prohibited from whaling. *Id.*

26. *See, e.g.*, Anilla Cherian, *Grappling with the Global Climate Challenge*, *in* GLOBAL ENVIRONMENTAL ISSUES 65, 73–74 (Frances Harris ed., 2d ed. 2012). In 1997, the UNFCCC fully negotiated the Kyoto Protocol, which sets a binding emissions reduction of 5% of 1990 levels by 2012 for developed states. *Id.* They must achieve this goal between 2008 and 2012 through both domestic and international action. *Id.*

comply with MEAs, because the extent to which parties comply depends partially on the extent to which parties involved think that they are taking part in a fair deal.[27]

Similarly, when an MEA does not provide a remedy to the international problem that the negotiating parties sought to solve, it creates inequities for the parties, degrades the MEA's authority, and ultimately increases fragmentation. When the Organization for Economic Cooperation and Development (OECD) adopted the Decision and Recommendation on Transfrontier Movements of Hazardous Waste (1984 Final Decision),[28] an early international agreement addressing transboundary movement (TBM) of hazardous waste, the OECD failed to remedy one of the main problems with TBM of hazardous waste: that developed states flagrantly disposed of hazardous waste in developing states' territory without receiving prior informed consent.[29] Just two years after its adoption, the Khian Sea waste disposal incident[30] proved that the agreement was inadequate to regulate TBM of hazardous waste. States continued to dishonestly dispose of hazardous waste within other states' borders and had no structure with which to ensure proper disposal elsewhere. The agreement missed the mark and enabled states to dispose of hazardous wastes in prohibited territories, shifting the burden to other states. The Basel Convention ultimately remedied this problem by prohibiting TBM of hazardous waste if the parties to the transaction fail to comply with the notification requirements in the Convention.[31] Indeed, parties that continue to create ad hoc institutions will encounter problems similar to preceding parties that also created ad hoc agreements.

Despite the inherent problems that result from ad hoc agreements, proponents argue that ad hoc agreements are an adequate device for making agreements on the international stage and that they actually may benefit the

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27. Oran R. Young, *Effectiveness of International Environmental Regimes: Existing Knowledge, Cutting-Edge Themes, and Research Strategies*, 108 [50] PROC. NAT'L ACAD. SCI. U.S. AM. 19837, 19857 (2011).

28. *See generally* Org. for Econ. Co-operation and Dev., *Decision-Recommendation of the Council on Transfrontier Movements of Hazardous Waste*, (C(83)180/FINAL Feb. 1, 1984), https://perma.cc/9J3N-8VVM.

29. Olanrewaju A. Fagbohun, *The Regulation of Transboundary Shipments of Hazardous Waste: A Case Study of the Dumping of Toxic Waste in Abidjan, Cote d'Ivoire*, 37 HONG KONG L.J. 831, 837 n.18 (2007).

30. *See generally* Jim Detjen, *Khian Sea Ash Dumped in Ocean, Captain Testifies It Was Done on the Orders of the Ship's Owners, Said Arturo Fuentes. They Are on Trial in Delaware*, INQUIRER (May 25, 1993), https://perma.cc/KLM9-MELT. In 1988, a ship loaded with 11,000 tons of incinerator ash "laced with small amounts of arsenic, lead, mercury, cyanide, chromium, dioxins[,] and other chemicals," dumped an estimated 3,000 tons of ash onto a beach in Haiti until it was forced away, and ultimately dumped the remaining 11,000 tons of the ash into the Atlantic and Indian Oceans. *Id.*

31. Basel Convention, *supra* note 4, 1673 U.N.T.S. at 126.

international environmental community. Proponents suggest that the current agreement method upholds cultural "norms"[32] and state sovereignty. They also argue that fragmented agreements increase efficiency and flexibility of international institutions. But the proponents' arguments ignore and contradict the facts of the international legal system: fragmentation of international environmental law "leads to inefficiencies, a lack of synergy, fragmentation of rules, and a proliferation of institutions."[33]

Proponents argue that the international agreement method upholds cultural norms because it gives parties the autonomy to agree to whatever terms they choose. Parties to an MEA expect their norms to be binding because, to those parties, norms' "status as law constitutes an independent reason for action."[34] However, norms do not have legal status for parties that do not adopt them.[35] Because there is no international legal dispute settlement mechanism to resolve violations of legal norms,[36] a party may simply choose not to follow the terms of an agreement if it has not adopted the norms in question.[37] Thus, the proponents' argument is flawed because MEAs only bind "those states that have given their explicit consent through ratification or accession."[38] In addition, because parties are free to reject provisions of MEAs, it is difficult to truly agree to norms on the international stage. Therefore, the agreement method does not necessarily uphold norms. Parties uphold norms if they choose to follow the agreement's terms, or parties can simply choose not to comply. The current agreement method may allow parties to agree to norms, but it does not give norms the force of law.

Proponents support the ad hoc approach to international environmental law as essential to maintaining state sovereignty because the primary decision-making process within MEAs is through the parties' national

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32. BODANSKY, *supra* note 1, at 87 ("A norm of international environmental law is a community standard that aims to guide or influence behavior—traditionally, the behavior of states, but also, more recently, the behavior of institutions and private actors.").

33. Roch & Perrez, *supra* note 13, at 16.

34. BODANSKY, *supra* note 1, at 91.

35. *See generally* Maria Baghramian & Adam Carter, *Relativism*, STAN. ENCYCLOPEDIA PHIL., https://perma.cc/H8S6-H7VS (last visited Sept. 1, 2016) (explaining that the idea of cultural relativism accepts that there is a broad spectrum of norms in the international community, so no individual international actor may judge another for acting according to cultural beliefs, and no individual can impose moral obligation on any other individual based on one party's cultural beliefs and explaining that knowledge and emotions within any state or region are the result of historical events, and the outcome of interaction is bound to be diverse).

36. BODANSKY, *supra* note 1, at 101.

37. *See* IWC, *supra* note 25 (explaining that both Norway and Iceland are examples of states that do not follow the IWC due to an objection or reservation); BODANSKY, *supra* note 1, at 103.

38. BODANSKY, *supra* note 1, at 103.

legislatures.[39] As demonstrated by the United States' lack of participation in the Kyoto Protocol, [40] the current agreement method may uphold sovereignty, but at what cost to the international community and to the environment? The main reason parties meet to make agreements is because they hope for a mutual, positive outcome. When parties are allowed to withdraw whenever they please, they undermine one another, demonstrate unreliability, and ultimately increase costs for all other parties involved.

Proponents also argue that, under the current international agreement method, efficiency is increased and transaction costs are reduced because ad hoc institutions are equipped to deal with one issue at a time. This assertion, however, ignores the realities of the international stage: newly created institutions pile on top of one another and continue to pile until they overlap and contradict. For example, the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) and the Kyoto Protocol both aim to reduce the effects of climate change on the atmosphere. However, the Montreal Protocol prescribes substituting hydroflourocarbons (HFCs) for other ozone-depleting substances,[41] while the newer Kyoto Protocol phases out the use of HFCs because they are destructive greenhouse gases (GHGs).[42] Instead of these contradictory ad hoc institutions, permanent, centralized, and coordinated institutions based on subject matter are best equipped to handle international environmental issues.[43] Such centralized institutions make predictable decisions and increase international efficiency because they receive the long-term experience necessary to make forward-looking decisions that provide necessary support now and into the future. While the current international agreement method deals with problems as they arise, it does not create long-term efficiency.

Finally, while proponents believe the inner-workings of international institutions allow for flexibility through quick responses to issues or imminent threats, the increasing number of institutional components only increases the likelihood for contradiction or duplication. COPs are the most

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39. *See* Kathryn Hay, *A Pacific Human Rights Mechanism: Specific Challenges and Requirements*, 40 VICTORIA U. WELLINGTON L. REV. 195, 206 (2009) (explaining that states "maintain sovereignty in these regional or international agreements").

40. *Status of Ratification of the Kyoto Protocol*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, https://perma.cc/MB72-GDUU (last visited Sept. 2, 2016).

41. Montreal Protocol on Substances that Deplete the Ozone Layer art. 1, Sept. 16, 1987, T.I.A.S. No. 11,097, 1522 U.N.T.S. 3.

42. *See* Kyoto Protocol, *supra*, note 18, at art. 3 ¶ 8; HARRO VAN ASSELT, CENTER FOR CLIMATE & ENERGY SOLUTIONS, ALONGSIDE THE UNFCCC: COMPLIMENTARY VENUES FOR CLIMATE ACTION 2 (2014).

43. *See* BODANSKY, *supra* note 1, at 120.

vital component to an international institution's success.[44] COPs typically meet once a year to discuss amending terms of agreements, adding new terms, or even creating new agreements altogether. As demonstrated by the Synergy, a single COP and secretariat to oversee an entire field of international issues is more efficient than multiple secretariats and COPs for each sub-issue.

C. The Old Fragmented Chemical Regulation Regime

For decades, international chemical regulation has been particularly subject to fragmentation because of its complexity—the multiple treaty regimes must cover all forms of hazardous chemicals and wastes during international trade and other transboundary movements, from their production to their disposal. While the existing international chemical laws were created with human and environmental protection as their goal, each one was passed to address a direct need or to solve an impending problem. Therefore, they have different structures, and they approach their goals in different ways. Individually, the major MEAs governing chemicals were a perfect example of fragmentation in international environmental law, but together they are leading the international community in remedying the problem of fragmentation.[45]

Initially, the three major chemical conventions were created and functioned separately. The Basel Convention, which entered into force in 1992, aims to reduce TBM of hazardous wastes and ensure environmentally sound management (ESM) of hazardous wastes.[46] As global economies grew, TBM of hazardous waste from developed states to developing states increased, and the developing states had trouble implementing ESM practices for the wastes they received.[47] Some parties to the Basel Convention adopted the Ban Amendment, which prohibits exports of hazardous wastes from developed states into developing states and solidifies Basel's original efforts to implement ESM to all TBM of hazardous waste.[48] Although the Ban Amendment is not binding on all parties to the Basel Convention, it has currently been ratified and

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44. *See id.* at 121 (pointing out that regular meetings of the COP are so important that the parties to the Ramsar Convention initially failed to provide for such meetings but "went to elaborate lengths to amend the convention in order to correct this omission").

45. *See* Karen N. Scott, *International Environmental Governance: Managing Fragmentation Through Institutional Connection*, 12 MELBOURNE J. INT'L L. 177, 196 (2011) ("This process began what is arguably evolving into the most successful cooperative arrangement to date.").

46. Fagbohun, *supra* note 29, at 837–38.

47. *The Basel Convention Ban Amendment*, BASEL CONVENTION, https://perma.cc/9C2X-VNXE (last visited Sept. 1, 2016).

48. *Id.*

implemented by 87 parties.[49] Next, the Rotterdam Convention, which entered into force in 2004, responds to the increased global trade in hazardous chemicals. It includes a legally binding Prior Informed Consent (PIC) procedure that allows states to deny imports of a volatile list of hazardous substances that are banned by the Rotterdam Convention or banned by the individual states.[50] Finally, the Stockholm Convention, which entered into force in 2004, eliminates or reduces the release into the environment of Persistent Organic Pollutants (POPs).[51] POPs are chemicals that: exist in the environment for extended periods of time; accumulate in the fatty tissue of humans and wildlife; multiply from one host to the next; and cause cancers, birth defects, and other health problems in a variety of species.[52]

Each of the separate chemical conventions sought important solutions to impending issues within international chemical law. The Conventions' common goal is to protect human health and the environment from hazardous chemicals. But when they were implemented individually, they forced unnecessary administrative costs on governing bodies and industries that sought to comply with their terms because three separate entities oversaw international chemical regulation as opposed to one overseeing body. For example, the three individual conventions require the secretariats to collect information about hazardous substances and submit reports to the parties.[53] The individual conventions imposed excess administrative burdens on the parties because they created three separate databases designated for exchanging hazardous chemical information. Individually, the three separate administrations created more friction than inertia for the international chemical industry. The Synergy remedied fragmentation in chemical regulation, because it combined the functions of the three secretariats and created a single clearing-house mechanism to provide data storage and information exchange required by the three conventions.[54]

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49. *Ban Amendment to the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal,* BASEL CONVENTION, https://perma.cc/QTP9-ZCKU (last visited Nov. 4, 2015).

50. *Overview*, ROTTERDAM CONVENTION (2010), https://perma.cc/EUB5-BB9A (last visited Sept. 10, 2016).

51. *Overview*, STOCKHOLM CONVENTION (May 22, 2001), https://perma.cc/AK4P-6QBH (last visited Sept. 26 2015).

52. *Id.*

53. Basel Convention, *supra* note 4, 1673 U.N.T.S. at 142–43 (stating that the Secretariat must "prepare and transmit reports based upon information received in accordance with Articles 3, 4, 6, 11, and 13"); Rotterdam Convention, *supra* note 4, at art. 5 (requiring parties to give the Secretariat a list of chemicals listed on Annex III that they accept for import, and then the Secretariat must circulate the information it receives to the parties every six months); *see* Stockholm Convention, *supra* note 4, at art. 9 (stating that the Secretariat serves as a clearing-house mechanism for information on POPs).

54. *See infra* Part III.

Indeed, the method in which the Synergy combines international administrative resources provides a model approach for the 21st century's crusade away from fragmented, independently created MEAs and toward an era of large-scale cooperation and coordination between MEAs.

II. OVERVIEW OF THE SYNERGY

Although international environmental law has historically been controlled by a great number of regulatory entities, the Synergy demonstrates that a single regulatory entity has an advantage to successfully implement MEAs and other international environmental agreements. The Synergy represents supreme international cooperation and coordination between three conventions that regulate hazardous chemicals on a global scale. Around the year 2002, the COPs of the three conventions each favored exploring the possibility of a Synergy, in hopes of reducing the excess administrative costs associated with similar information exchange and reporting requirements between the parties and the conventions' respective secretariats.[55] It took nearly ten years to combine all of the moving parts, from the first discussion about synergizing to the legal act of combining the three secretariats.

While the provisions of the three conventions cover different aspects of chemical regulation, the Synergy promotes a natural give and take between them, and regulates hazardous chemicals from cradle to grave. The Synergy reduces fragmentation by ameliorating the administrative deficiencies for the parties to the conventions and the three secretariats. The experience with chemical regulation shows that coordination and cooperation between MEAs, rather than further proliferation of ad hoc agreements, provides the necessary inertia to cultivate international environmental relationships into the 21st century.

A. Forming the Synergy

The formation of the Synergy was a multistep process. In 2002, the first discussion between the parties about the Synergy began following the World Summit on Sustainable Development.[56] In 2005, the parties to each convention decided to explore the idea of creating the Synergy and asked the three respective secretariats to collect and present information about how a synergy between the three conventions would function.[57] Next, in

55. RISBY & AMADOR, *supra* note 5, at 2.
56. *Id.*
57. *Id.*

2006, the parties to each convention created the first formal body of the Synergy, the Ad-hoc Joint Working Group (AHJWG), which is composed of 45 representatives of the parties, 15 from each convention.[58]

Ultimately, the AHJWG's recommendations constitute the "backbone" of the Synergy's process.[59] The AHJWG's recommendations uphold the centrality of the individual COPs, but also recognize the need for a new decision-making structure by adding three Extraordinary meetings of the Conferences of the Parties (ExCOPs) to the three original COPs.[60] The parties of each convention adopted the AHJWG's recommendations in 2008 and 2009 through their decisions on coordination and cooperation on the global, national, and regional level.[61] Thereafter, in 2010, the parties convened the ExCOPs,[62] the outcome of which was the "omnibus decision."[63] The omnibus decision created a documented, formal foundation for the Synergy, but it did not rewrite the text of the three conventions. Fundamentally, the three conventions still operate as they did before the Synergy, but now many of their administrative functions are combined.

Next, the parties aimed to centralize control. In 2011, the parties established a joint Executive Secretary[64] of the Synergy for a two-year period to be reviewed by the ExCOPs in 2013, and adopted decisions to further enhance cooperation and coordination between the parties.[65] In 2012, the joint Executive Secretary implemented a proposal for a single secretariat,[66] which "represented a shift from the programmatic structure consisting of three separate Secretariats dedicated to each respective Convention with a joint convention services group to a single Secretariat matrix structure based on functions."[67] Subsequently, the COPs and ExCOPs met consecutively in 2013,[68] and only the COPs met in 2015.[69]

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58. *Id.*
59. *Id.* at 3.
60. *Id.* at 2–3.
61. *Id.* at 3.
62. *Id.*
63. *Id.* The omnibus decision elaborated on the 2008-2009 synergies decisions and called upon parties, other stakeholders, and the secretariats to undertake cooperative and coordinated activities to implement the synergies decisions at all levels and to establish the joint services on a permanent basis. *Id.*
64. *Id.* at 3–4.
65. *Id.* at 4.
66. *Id.*
67. *Id.*; *Functional Organigram*, SYNERGIES AMONG BASEL, ROTTERDAM & STOCKHOLM CONVENTIONS (Sept. 1, 2015), https://perma.cc/RQY6-PYX7.
68. *See History of the Synergies Process*, SYNERGIES AMONG BASEL, ROTTERDAM & STOCKHOLM CONVENTIONS, https://perma.cc/6AFM-UA2G (last visited Sept. 2, 2016) (citing BC.Ex-2/1, RC.Ex-2/1 and SC.Ex-2/1). The dual meetings in 2013 allowed for more effective decision-making on policy, technical and budgeting matters, and joint activities. *Id.* In addition, each Party adopted new omnibus decisions to enhance coordination and cooperation, endorsed the organization of the new

With a single secretariat to oversee matters pertaining to all three conventions, the Synergy has centralized control rooted in its foundation. The strong foundation combined with centralized control allows the Synergy to function smoothly as a single, complex entity.

B. The Natural Relationship Between the Three Chemical Conventions

The Synergy is a successful product of three separate conventions that merged into one coherent regulatory approach, ensuring the protection of human health and the environment and reducing fragmentation of international chemical regulation. The Synergy took MEAs governing hazardous chemical regulation, that were created with little foresight about their potential relationships, and aligned them into a unified structure with which the parties can operably regulate hazardous chemicals from their inception to their disposal. The Synergy successfully overcomes fragmentation because it allows a unified entity to regulate hazardous chemicals. The resulting fluidity ultimately reinforces protections for human health and the environment, because it provides oversight for chemicals from the beginning to the end of their lives.

Each convention individually regulates a unique aspect of hazardous chemicals, but together they support a "life-cycle"[70] approach to chemical regulation, in which each convention has a role in regulating a chemical throughout its lifespan. While the Stockholm Convention's provisions seek to prohibit or eliminate use of a relatively short list of POPs,[71] the Rotterdam Convention's provisions[72] supersede those of Stockholm if a

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Secretariat and the "matrix-based management approach," and agreed to follow up on the decisions in the COPs of 2017. *Id.*

69. *See id.* In 2015, the individual COPs made six identical decisions to enhance coordination and cooperation among the parties: (1) international cooperation and coordination (BC-12/17, RC-7/9, SC-7/27); (2) implementation of the integrated approach to financing (BC-12/18, RC-7/8, SC-7/22); (3) enhancing cooperation and coordination among the Basel, Rotterdam, and Stockholm Conventions (BC-12/20, RC-7/10 and SC-7/28); (4) clearing-house mechanism for information exchange (BC-12/20, RC-7/11, SC-7/29); (5) from science to action (BC-12/22, RC-7/12, SC-7/30); (6) venue and date of the next meetings of the conferences of the parties to the Basel, Rotterdam, and Stockholm Conventions (BC-12/22, SC-7/31, RC-7/13). *Id.*

70. RISBY & AMADOR, *supra* note 5, at 25–26 ("Life-cycle management of toxic and hazardous chemicals in the interests of protecting health and environment refers to both prevention and control measures undertaken from a chemical's development to its ultimate destruction. Management is therefore comprehensive ('cradle-to-grave').").

71. *See* Stockholm Convention, *supra* note 4, at arts. 3, 5 (explaining measures that the parties must take to eliminate or reduce hazardous substance releases from intentional and unintentional production and use of POPs).

72. Rotterdam Convention, *supra* note 4, 2244 U.N.T.S. at 397 (applying PIC procedures to chemicals listed in Annex III); *see* Secretariat of the Basel, Rotterdam, and Stockholm Conventions, *International Trade Control Measures under the Basel, Rotterdam, and Stockholm Conventions*, UNEP/BRS/2014/12, at 4–5 (Mar. 2015) [hereinafter Secretariat] (explaining that the Rotterdam

POP is also listed in Rotterdam's Annex III.[73] The Basel Convention[74] is much broader than Stockholm and Rotterdam, and acts as a final backstop to regulate chemicals with ESM practices once they are in waste form.[75] The Basel Convention regulates wastes whether such wastes contain POPs or listed Annex III chemicals—Basel's provisions will supersede those prescribed by both Rotterdam and Stockholm in the context of hazardous wastes.[76] Further, Basel's provisions extend to a TBM even if only one party to the transaction considers the substance a "waste" or "hazardous."[77] The outcome of the Synergy is a unified system that carefully regulates chemicals throughout their entire lifespans. The Synergy models the precautionary principle because it seeks to eliminate risks to humans and the environment instead of trying to eliminate existing harms.[78] Accordingly, a party to the Synergy will not create a hazardous chemical, export or import a hazardous chemical, or dispose of a hazardous chemical without the Synergy regulating that chemical at some point during its life.[79]

C. The Synergy as the Remedy to Fragmentation

In addition to decreasing the inherent administrative burden of holding three sets of meetings between three separate COPs, there are three ways the unified entity behind the Synergy increases administrative efficiency, reduces fragmentation, and improves chemical regulation. First, the single

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Convention regulates imports and exports of chemicals listed in Annex III, or chemicals not listed in Annex III but that are banned by an individual state). Rotterdam also has a legally binding PIC procedure for listed chemicals and an Export Notification procedure for non-listed chemicals. *Id.*

73. *See* Secretariat, *supra* note 72, at 6–7 (explaining that Rotterdam will supersede Stockholm if "the POPs fall within the scope of the . . . Rotterdam Convention" and that, as of 2013, Annex III lists "13 of the 19 intentionally produced POPs covered by the Stockholm Convention"); *see also* Rotterdam Convention, *supra* note 4, at art. 8 (applying PIC procedures to chemicals listed in Annex III).

74. Secretariat, *supra* note 72, at 2. The Basel Convention regulates TBM of hazardous waste by ensuring that states agree to chemical waste disposal within their borders, and making all participants in the disposal process follow a standard of ESM for disposal of hazardous wastes. *Id.*

75. Basel Convention, *supra* note 4, 1673 U.N.T.S. at 131–32 (giving the parties general authority to prohibit importing substances that the party deems hazardous).

76. Secretariat, *supra* note 72, at 7 (explaining that Basel will supersede Rotterdam and Stockholm in the context of wastes).

77. Secretariat of the Basel Convention, *Controlling Transboundary Movements of Hazardous Wastes*, UNEP/SBC/2011/10, at 3–4 (Dec. 2011) ("Under paragraph 1 (b) of Article 1 of the Convention, Parties have the right to define as 'hazardous wastes' wastes other than those listed in the Annexes of the Convention."). Article 6, of the Basel Convention aims to provide clarity in circumstances when solely the state of export, solely the state of import, or solely the state of transit have different definitions of "hazardous" or "waste." *Id.*

78. BODANSKY, *supra* note 1, at 61.

79. Basel Convention, *supra* note 4, at 131. So long as a party has a substance listed as hazardous, if that arty is ever involved with the transaction for the disposal of that substance, at least one of the conventions will apply to that substance at a point during its lifespan. *Id.*

secretariat is best equipped to provide information and education to the parties and other entities involved with international chemical trade. Second, the clearing-house mechanism improves uniformity of information consolidation measures, which creates inertia for data transfers between the parties and all regulated entities. Finally, unified oversight of regional centres provides superior localized technical assistance and ensures parties and interested private entities each have equal access to support. Although deconstruction of the three secretariats initially burdened the offices,[80] the establishment of a single secretariat facilitates information flow, which reduces the deficiencies created by the fragmented regimes.

Prior to the Synergy, the conventions did not coordinate attempts or try to build a common strategy for public outreach and awareness.[81] But with one secretariat there is a common approach to educate parties about chemicals and the impacts that chemical releases have on human health and the environment.[82] The single Secretariat maintains records that were previously held by the three secretariats and is able to provide information based on those records. The centralized control of a single secretariat is best equipped to draw conclusions from the information it collects and determine how to provide such information to the regulated community, because it has access to all relevant data and is not constrained to a certain mold.[83] The establishment of a single secretariat ultimately reduces the effects of fragmentation by facilitating "the exchange of relevant information between the technical and scientific bodies of the three Conventions through the sharing of information with one another, . . . and with other relevant intergovernmental bodies."[84]

The Synergy reduces the effects of fragmentation through the clearing-house mechanism, which ensures close cooperation and coordination between the parties and facilitates information sharing nationally within and

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80. RISBY & AMADOR, *supra* note 5, at 54 ("In the transitional phase however the administrative burden has increased with staff allocating a significant amount of their time to administrative issues, dismantling the old platforms and creating an integrated one, etc.").

81. *Id.* at 42.

82. *Id.*; *see, e.g.*, *Webinar Library*, SYNERGIES AMONG BASEL, ROTTERDAM, & STOCKHOLM CONVENTIONS, https://perma.cc/PC76-SJP7 (last visited Sept. 1, 2016) (linking to the *Webinars Library* where a party may view webinars about issues arising under each of the Conventions); *Manual for Customs Officers*, SECRETARIAT AMONG BASEL, ROTTERDAM, & STOCKHOLM CONVENTIONS, https://perma.cc/A4PV-5BJK (last visited Nov. 3, 2016) ("The interactive Manual for Customs on hazardous chemicals and wastes . . . will enhance your knowledge of the three global treaties that contribute to safely managing the production, movement, use and disposal of hazardous chemicals and wastes.").

83. For example, the Secretariat to the Basel Convention would be constrained to collecting and providing information about hazardous wastes.

84. RISBY & AMADOR, *supra* note 5, at 5.

internationally between all interested entities.[85] The clearing-house mechanism is operated by the Secretariat under oversight of the parties.[86] It combines the information exchange requirements of each convention into a single multi-stakeholder mechanism that consolidates available resources about the three conventions, facilitates sharing of information about good management practices between the parties, and facilitates transfer of expertise.[87] Because data previously collected by the three individual secretariats is now held by a single entity, the information consolidation measures incentivize information flow by increasing the ability of the parties and interested private entities to reach pertinent information about chemical trade.[88] The clearing-house mechanism reduces fragmentation by coordinating the relationship between national regulations, which helps industry stay in compliance and ultimately increases protections for human health and the environment. Indeed, the clearing-house mechanism provides a uniform method for the parties to access information, which allows the parties to make informed decisions when handling hazardous substances.

Finally, the Synergy reduces fragmentation because it provides unified oversight of regional centres, increasing the flow of technical assistance among the parties through collaboration at the local level.[89] Regional centres work within their regions to deliver training sessions and develop and maintain regional networks of experts and institutions.[90] They provide technical assistance at the parties' requests or based on the parties' special needs.[91] This technical assistance gives parties the genuine opportunity to implement coherent and uniform environmentally sound practices, which ultimately improves industry's ability to comply with international chemical regulation. Under each convention, developed states provide technical assistance to developing states to assist them in building their

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85. *Clearing-House Mechanism*, SYNERGIES AMONG BASEL, ROTTERDAM, & STOCKHOLM CONVENTIONS, https://perma.cc/48LX-UA6U (last visited Sept. 2, 2016).

86. *Id.*

87. *Id.*

88. Basel Convention, *supra* note 4, 1673 U.N.T.S. at 142–43; Rotterdam Convention, *supra* note 4, 2244 U.N.T.S. at 396; Stockholm Convention, *supra* note 4, at art. 8 (stating the Secretariat's role in providing information to the parties when it lists new chemicals into Annexes A, B, and C); *see also* Stockholm Convention, *supra* note 4, at art. 20(2)(a)–(f) (providing that the Secretariat will ensure all information collected pursuant to Article 15 is available to the parties).

89. *See Regional Centres*, *supra* note 4 ("There are a total of 23 regional centres of which 14 are Basel Convention Regional Centres (BCRCs) and 16 are Stockholm Convention Regional Centres (SCRCs). Seven of the centres serve both Conventions.").

90. *See* RISBY & AMADOR, *supra* note 5, at 5.

91. *Technical Assistance: Overview*, SYNERGIES AMONG BASEL, ROTTERDAM, & STOCKHOLM CONVENTIONS, https://perma.cc/4PSM-LJ76 (last visited Sept. 27, 2016).

ability to handle hazardous substances, and the localized support from regional centres helps all states achieve this mission.[92]

Under the current regime, regional centres reduce the effects of fragmentation, because prior to the Synergy, they were operated under their respective secretariats; however, now their management is unified.[93] Management under a single secretariat frees up resources otherwise necessary to disperse technical assistance to the parties, increasing global, regional, and national capacity to manage hazardous substances.[94] Regional centres enhance protections to human health and the environment, because they provide the necessary foundation for developed states to lend extra support to developing states.[95] The positive effect that the Synergy has had on reducing fragmentation of international chemical regulation shows that closely coordinated institutions have the potential to be the key for forward-looking attempts to remedy the problem of fragmentation in other areas of international environmental law.

III. THE SYNERGY'S LESSONS FOR OTHER AREAS OF INTERNATIONAL ENVIRONMENTAL LAW

Although there are competing theories to the Synergy that merit review, the most efficient way to reduce fragmentation in international environmental law is by creating synergies among similar MEAs. While creating a GEO may pose certain benefits, the value of creating a GEO weighed against the likelihood of a GEO's success, proves that a GEO is not a realistic remedy for fragmentation.[96] Similarly, redrafting MEAs may seem like an attractive, less-complex option to reduce fragmentation; however, redrafting MEAs poses problems because changing an MEA's language may not have the desired effect.[97] Instead, to increase efficiency between regimes, parties must establish which MEAs are ripe to synergize by determining which MEAs have similar institutional arrangements and

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92. *See id.* (explaining that in addition to regional centres, parties may also increase their technical abilities by discussing technical innovation through face-to-face or through online training).

93. *Regional Centres*, *supra* note 4, at 88.

94. *But see* RISBY & AMADOR, *supra* note 5, at 31 ("[Regional centres] reported similar constraints to supporting synergies activities such as lack of regular budgetary resources; staff and capacity to deliver technical assistance, collate and disseminate guidance and good practices; competition between [regional centres] and between UN agencies and [regional centres] for project funds; and lack of participatory approach to the synergies decision-making process.").

95. *See Technical Assistance*, *supra* note 91 (stating that technical assistance is provided to developing country parties and parties with economies in transition in order to assist them in building their capacity [human resources, policy, legal and institutional frameworks] to fulfill their obligations in protecting human health and the environment from hazardous chemicals and wastes).

96. *Infra* Part IV.A.1.

97. *Infra* Part IV.A.2.

fundamental principles. After determining which MEAs are ripe to synergize, parties can create close relationships that increase administrative efficiency, which will enhance their capacity to ameliorate international environmental problems.

A. Competing Proposals to the Synergy

The Synergy demonstrates the advantage that a single regulatory entity has over ad hoc counterparts, which is why it should be used as a model for relationship-building between MEAs in the 21st century. But the synergies approach is not without competition. The distinguished international environmental scholar, Daniel C. Esty, argues that creating a GEO is necessary to handle urgent environmental issues.[98] Because the GEO approach seeks to centralize nearly all of the functions of existing MEAs across different subject areas, it will create an entity that will bite off more environmental responsibility than it can chew. Therefore, the GEO approach is not compatible with the synergies approach. In lieu of creating a GEO or forming synergies, simply rewriting MEAs may seem to provide an avenue to reduce fragmentation. But redrafting MEA language would be time intensive and likely result in unwanted changes that affect the ability to implement existing MEAs. While these two approaches warrant analysis, they do not yield the same potential as the synergies approach for efficient and forward-looking international relationships.

1. Creating a GEO

If parties decided to create a GEO, it would address purely global issues.[99] The GEO would address issues such as climate change,[100] the oceans, and other global commons resources, with a limited scope over issues that are "common across nations but not transboundary—such as water quality, water availability, and local air pollution."[101] The GEO

98. *See* Esty, *supra* note 8, at 838 (positing that global response to climate change requires global governance).

99. *See* Daniel C. Esty & Maria H. Ivanova, *Making International Environmental Efforts Work: The Case for a Global Environmental Organization*, YALE CTR. FOR ENVTL. L. & POL'Y, Oct. 6–8, 2001, at 13 (Document Prepared for Presentation at Opening Meeting of Global Environmental Change Research Community, Rio de Janeiro) (explaining that a GEO should not be confused with a World Environment Organization (WEO), which is a global organization formed to address "issues that span the globe but have only local impact").

100. *See generally* Daniel C. Esty, *Revitalizing Global Environmental Governance for Climate Change*, 15 GLOBAL GOVERNANCE 427, 427–28 (2009) (arguing that a new global environmental governance would better address climate change).

101. Etsy, *supra* note 8, at 849.

would be a centralized agency comprised of experts with numerous extensions into all of the matters that affect the global environment.[102] Proponents of the GEO advocate for creating a GEO that is "focused, network-based, and largely 'virtual.'"[103] The experts that lead the GEO would have access to extensive databases of information, so that they can make streamlined decisions.[104] Indeed, a GEO is similar to creating synergies, except that a GEO seeks to combine existing institutions, even if their subject matter is not compatible.

The proposition for creating a GEO may be widely popular, yet it misses the mark in several respects. Proponents argue that a GEO is a better option than having a few decentralized institutions for trying to ameliorate transnational environmental problems, due to the nature of environmental issues exceeding national borders.[105] Yet, this argument is flawed for three reasons.

First, the proponents do not account for the complexity of, and incompatibility between, transnational environmental problems. The nature of transnational environmental issues requires separate governance structures to ensure precision in the remedies that organizations create. Proponents argue that a GEO will be "a streamlined agency . . . supported by a decentralized and largely virtual structure of outside experts."[106] GEOs will also provide the mechanism to store environmental data and likely will centralize information exchange.[107] But these proffers lack a realistic foundation, because they do not account for the efficiency created when organizations set goals to ameliorate problems in specific issue areas.

Second, a single entity to regulate all transboundary issues is impractical because of the sheer number of international environmental issues that a GEO would have to address. Forming a GEO would include: consolidating existing secretariats to the MEAs that govern global issues, creating a permanent staff to draw on expertise from around the world, and developing clear goals, strong commitments, and core principles.[108] All of the existing institutions have goals and priorities for each issue they are

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102. *Id.*

103. *Id.* at 838.

104. *Id.* at 848–49.

105. *Id.* at 840 ("The bottom-line is straightforward: if we take seriously the idea that smaller scale problems argue for decentralized regulatory authority, the parallel logic says that when the scope of a harm extends beyond national borders, policy activity needs to be taken at a supranational level.").

106. *Id.* at 848.

107. *See id.* at 849 (describing a GEO as the core of an extensive data network).

108. Esty, *supra* note 100, at 428 ("[T]he new international organization would need clear goals, a compelling set of core principles, carefully specified functions and capacities, and a strong commitment to 'good governance.'").

assigned; yet, the GEO expects to consolidate them all, while keeping up with new issues as they arise. Individual institutions based on subject matter are flexible and can preemptively address issues as they arise. But the increasing number of international environmental issues that a single organization would have to consider will undermine the GEO's ability to efficiently create solutions to environmental problems. Therefore, a GEO on any scale would be inadequate to ameliorate environmental issues, because a single organization could not efficiently address every transboundary environmental issue.

Third, the experts within a GEO would not be able to provide the same degree of specificity to each issue they seek to regulate. To truly implement "best available techniques," an entity must be assigned a specific set of tasks and approach such tasks with a group of specialized research personnel. Conversely, individual entities created solely to respond to international environmental issues arising out of a single subject area are best equipped to respond to such problems. A GEO would be stricken with many tasks, such as reaching climate change goals and ameliorating problems arising in the sea. Alternatively, a synergy would facilitate relationships between all entities involved with climate change without forcing them to combine resources with entities that consider wholly different issues. Although the GEO would consolidate several fragmented institutions, its power would be spread too thin to be effective.

2. Redrafting the Language of MEAs

Redrafting the language of MEAs is not the most practical way to increase efficiency in international environmental law, because redrafting leaves open questions about who would draft the language and what the language would say. Parties would likely have to go through the amendment process of their MEAs in order to change the language of the MEA. Redrafting language of MEAs cannot solve the problem of fragmentation, because it will not reduce the number of institutions that MEAs create. Even if parties sought to redraft their MEAs and combine them into a single agreement whereby the institutional arrangements merged as well, rewriting an MEA could change its substance and function, ultimately causing problems for implementing the MEA's provisions. Redrafting MEA language could be disastrous, especially if the substance of the MEA is altered. Such changes would cause ripple effects throughout the MEA's institutions and would ultimately affect the industry that the MEA regulates. Therefore, instead of creating a GEO or redrafting their MEAs, parties should seek out the ripest areas of international

environmental law to form synergistic relationships and begin to implement cooperation and coordination measures among them.

B. Determining Which Areas of Law Are Ripe for Synergies

The flexibility guaranteed by the synergies approach offers a pragmatic vehicle to reduce fragmentation in the 21st century, because environmental institutions "wax and wane in terms of their capacity to solve problems."[109] To use synergies efficiently in other areas of international environmental law, the first step is to determine the issue areas that are ripest to develop synergies between them.[110] MEAs that are ripest to form synergies are those that contain similar, fundamental problem-solving principles, including MEAs that have compatible rules and norms.[111] In addition, the extent to which MEAs' institutional arrangements coincide will help determine how ripe they are to form synergies. Forming synergies where issue areas are ripe is a pragmatic approach to ameliorating problems associated with fragmentation.

1. The Relationships Between Institutional Arrangements

The extent to which MEAs' institutional arrangements coincide will help parties determine which MEAs are ripe enough to synergize. MEAs typically designate a secretariat or leave the appointment decision up to the COP, and many MEAs appoint secretariats from existing intergovernmental organizations.[112] Individually, Basel, Rotterdam, and Stockholm use the United Nations Environment Programme (UNEP) as the Secretariat, with the exception that Rotterdam jointly uses the UNEP and the Food and Agriculture Organization.[113] Together, they use a single joint secretariat with a "matrix structure."[114] As demonstrated by the previous compatibility between the individual secretariats of Basel, Rotterdam, and Stockholm, the

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109. Young, *supra* note 27, at 19855.

110. *See id.* at 19858 ("What we need to know here is more about the conditions leading to synergy rather than interference in institutional interactions and the conditions under which regime complexes produce flexibility and adaptability rather than chaos and confusion.").

111. *See* Kristin Rosendal, *Impacts of Overlapping International Regimes: The Case of Biodiversity*, 7 GLOBAL GOVERNANCE 95, 97–98 (2001) (explaining that overlapping and compatible rules and overlapping and compatible norms create the ripest scenario to form synergies).

112. Robin R. Churchill & Geir Ulfstein, *Autonomous Institutional Arrangements in Multilateral Environmental Agreements: A Little-Noticed Phenomenon in International Law*, 94 AM. J. INT'L L. 623, 627 (2000).

113. Basel Convention, *supra* note 4, 1673 U.N.T.S. at 143; Stockholm Convention, *supra* note 4, 2256 U.N.T.S. at 112; Rotterdam Convention, *supra* note 4, 2244 U.N.T.S. at 404.

114. *Functional Organigram*, *supra* note 67 (showing the matrix structure of the single Secretariat).

compatibility between MEAs' designated secretariats is one factor that helps determine whether MEAs are ripe to form synergies.

In addition to the relationship between the secretariats, the relationship between the institutional arrangements of the COPs will help determine how ripe MEAs are for synergistic relationships. The COP is the supreme, autonomous institution of an MEA.[115] Because the powers MEAs afford to COPs are internal[116] and external,[117] the extent to which those powers are related, help determine whether the MEAs are ripe to synergize. For example, internal COP procedural decisions are generally taken by a majority vote, so "quite extensive powers may be exercised by majority voting, such as adopting a binding work program for developing new substantive commitments, establishing subsidiary organs and determining their composition, and, presumably, expelling states parties."[118] Although it is not always the case,[119] most COPs make internal decisions in a similar fashion.

In contrast, external powers of COPs, such as the ability to seek and build relationships with parties in the international community, can be limited by the text of an MEA. Although some MEAs may not afford COPs broad external powers, COPs are the supreme, autonomous institutions of MEAs.[120] Therefore, at a minimum, COPs hold the power to enter into agreements proposed by other COPs.[121] In addition, broad language in the text of MEAs grants a COP its authority to operate and can show the COP's power.[122] While the relationships between institutional arrangements of COPs help determine whether MEAs are ripe to synergize, other compatibilities are important considerations as well.

2. The Relationships Between MEAs' Fundamental Principles

The relationship between the fundamental problem-solving approaches of MEAs is also a factor that helps determine whether MEAs are ripe

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115. Churchill & Ulfstein, *supra* note 112, at 631.

116. *Id.* at 631–632.

117. *See id.* at 655 ("The institutions of MEAs should be considered to possess international legal personality and the capacity to act on the external plane, particularly in relation to the conclusion of agreements in the form of treaties with other subjects of international law.").

118. *Id.* at 634.

119. *Infra* Part V.

120. Churchill & Ulfstein, *supra* note 112, at 631.

121. *See id.* at 649 ("[I]nstitutions have implied powers to act on the external plane, including the capacity to enter into treaties when necessary to carry out their functions.").

122. CBD, *supra* note 16, at 16 ("[The COP shall] [c]onsider and undertake any additional action that may be required for the achievement of the purposes of this Convention in the light of experience gained in its operation."); Convention on International Trade in Endangered Species of Wild Fauna and Flora, art. 11(3)(e) Mar. 3, 1973, 8249 TIAS i. [hereinafter CITES].

enough to synergize. For example, while an MEA that provides incentive mechanisms may increase ongoing innovation and decrease the chance that the MEA results in the tragedy of the commons, incentive mechanisms may not benefit other MEAs that cover subject areas plagued with scientific and financial uncertainty.[123] Because some issues do not have the required flexibility to allow for any leniency through incentives, command and control measures may be an imperative alternative to ameliorate certain issues.[124] Where one MEA provides incentives to remedy a problem and another MEA uses a command and control approach, the two MEAs may not be ripe to form a synergy because they take fundamentally different approaches to address environmental issues. Their diametrically opposed approaches prevent a close relationship even if the two MEAs seek to achieve similar goals and are otherwise compatible.

If MEAs are not fundamentally incompatible, a look at the relationship between their rules and norms will help determine whether they are ripe to synergize.[125] Here, "norms" refer to the principles and policies embedded in MEAs that their parties consider valid,[126] and "rules" are the specific regulations that parties implement pursuant to an MEA's underlying norms.[127] For example, Basel's, Rotterdam's, and Stockholm's norms overlap because they each seek to reduce environmental harms posed by hazardous substances in international trade. In addition to other overlapping rules,[128] Basel's and Rotterdam's rules overlap because they require PIC,[129] and Basel's and Stockholm's rules overlap because they provide measures for POPs waste management.[130] Although formation of the Synergy highlighted the ripe relationships between the three chemical Conventions, two other areas of international environmental law are exceptionally ripe to form synergies: the governmental institution and MEAs that preserve the Arctic, and the MEAs that maintain biodiversity.

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123. Young, *supra* note 27, 19858.

124. *See id.* ("There are important cases (e.g. climate change) in which it is difficult to make calculations regarding both the costs of leaving the problem unattended and the costs of taking effective action to alleviate the problem.").

125. *See* Rosendal, *supra* note 111, at 97 (explaining how rules and norms form the basis for analyzing institutional overlap).

126. *Id.*

127. *Id.*

128. *Clearing-House Mechanism*, *supra* note 85.

129. Rotterdam Convention, *supra* note 4, 2244 U.N.T.S. at 396; Basel Convention, *supra* note 4, 1673 U.N.T.S at 134.

130. *See* Basel Convention, *supra* note 4, at 134 (requiring a disposer to have "environmentally sound management" of hazardous waste); *see also* Stockholm Convention, *supra* note 4, at 9 (stipulating the creation of disposal strategies for wastes and stockpiles containing chemicals listed in Annex I and II, including POPs).

IV. THE CASE STUDIES

The following two case studies illustrate how the synergies approach is the key to reducing fragmentation in other areas of international environmental law. The first case study analyzes the potential for synergies between three MEAs that protect biodiversity: the CBD,[131] the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention),[132] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).[133] It depicts how the three biodiversity MEAs can form synergistic relationships. The second case study analyzes the potential for synergies between the Arctic Council and MEAs that reduce environmental degradation and conserve biodiversity in the Arctic. It describes how the problems facing the Arctic's environment would be best addressed through synergies that coordinate the Arctic's existing governance structures.

A. Case Study #1: Synergies Between MEAs that Protect Biodiversity

This case study analyzes the three biodiversity MEAs and explains how they can form close synergistic relationships. The three key components that highlight the existing relationships between these MEAs are compatible fundamental principles, similar institutional arrangements, and information reporting requirements. The analysis of these three components shows that there is potential to reduce fragmentation and strengthen international cooperation and coordination between the three biodiversity MEAs by forming synergies between them.

1. The Fundamental Principles of the Biodiversity MEAs

Currently, the CBD, Ramsar, and CITES are three of the ripest MEAs to develop synergistic characteristics.[134] These three biodiversity MEAs each take their own approach to alleviate burdens that humanity imposes on nature. The CBD has three goals: conservation of biodiversity, sustainable use of biodiversity, and equitable benefit sharing of genetic resources.[135] It

131. CBD, *supra* note 16.

132. Convention on Wetlands of International Importance Especially as Waterfowl Habitat, *registered* Feb. 2, 1971, 996 U.N.T.S. 245 (entered into force Dec. 21, 1975) [hereinafter Ramsar Convention].

133. CITES, *supra* note 122.

134. Rosendal, *supra* note 111, at 98.

135. *See* CBD, *supra* note 16, at 3 (providing that the objectives of the CBD are to reach sustainable use and fair and equitable sharing of genetic resources of plants and animals).

accomplishes these goals by providing measures for technology transfer, sustainable use of biodiversity, and benefit sharing.[136] CITES, however, has just one goal: to maintain all species of plants and animals by protecting them from becoming or remaining subject to unsustainable international trade.[137] It accomplishes its goal through three strict permitting schemes laid out in the three appendices to the MEA.[138] Finally, Ramsar's goal is to protect wetlands and maintain their function as habitats for migratory species.[139] It accomplishes this goal by requiring its parties to create a list of at least one designated wetland that needs protection[140] and allowing its parties to create nature reserves on listed and non-listed wetlands to promote conservation of waterfowl and the wetlands themselves.[141] While these three MEAs do not create identical requirements for their parties, their rules and norms contain apparent similarities.

The norms that the three biodiversity MEAs promote are compatible because they each provide protections for wildlife. They seek to ensure that species can continue to flourish by decreasing trafficking of endangered species,[142] conserving habitats of certain species,[143] and maintaining genetic diversity of species.[144] Their rules are also compatible because the CBD encourages its parties to create and implement rules to "integrate . . . the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies."[145] Pursuant to the CBD, these policies include implementing legislation for the protection of endangered species.[146] It is quite possible for a party to implement a policy under the CBD that is compatible with the permitting scheme that

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136. *Id.*; *See also* Dagmar Lohan, *A Framework for Assessing the Input of Scientific Information into Global Decisionmaking*, 17 COLO. J. INT'L ENVTL. L. & POL'Y 1, 9 (2005-2006) (describing the objectives of CBD).

137. CITES, *supra* note 122, at art. 2.

138. *See* Lohan, *supra* note 136, at 11 ("Appendix I lists species whose commercial trade is prohibited, while Appendix II lists species whose controlled trade is permitted. Appendix III allows a Party to list species to which it grants protection under domestic legislation but which are not listed in Appendix I or II.").

139. Ramsar Convention, *supra* note 132, at 246.

140. *See id.* at 247 (providing protections over wildlife found in wetlands that are parties to the Convention included on the List of Wetlands of International Importance, which are protected under the treaty).

141. *See id.* ("Each Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether they are included in the List [of Wetlands] or not . . . .").

142. CITES, *supra* note 122, at art. 3.

143. *See generally* Ramsar Convention, *supra* note 132 (promoting the conservation of wetlands habitat, especially for waterfowl).

144. *See* CBD, *supra* note 16, at 3 (describing "conservation of biological diversity" as a primary objective of the CBD).

145. *Id.* at 5.

146. *Id.* at 7.

parties implement pursuant to CITES to protect endangered species.[147] In addition, Ramsar's rules are compatible with the "in-situ conservation" measures prescribed by the CBD because its parties should "[r]ehabilitate and restore degraded ecosystems and promote the recovery of threatened species."[148] These fundamental similarities only scratch the surface of the compatibilities that exist between the three MEAs.

2. The Institutional Arrangements of the Biodiversity MEAs

The respective secretariats of CITES, the CBD, and the Ramsar Convention are potentially ripe to form synergistic characteristics. While CITES and the CBD use the UNEP as the Secretariat, Ramsar uses a nongovernmental organization called the International Union for the Conservation of Nature as its secretariat.[149] However, as shown by the Synergy, if the secretariats to MEAs have different institutional arrangements, it does not necessarily proscribe a synergistic relationship. For the parties to CBD, the Ramsar Convention, and CITES to form synergistic characteristics between the three conventions, they must determine how to maintain the Secretariats' key functions and efficiently synchronize the respective secretariats' components.

In addition, the external powers of the three biodiversity MEAs' COPs provide a forum where synergies can occur. For example, under the CBD, the COP shall contact executive bodies of conventions dealing with similar matters covered by the CBD to establish "appropriate forms of cooperation with them."[150] Therefore, the COP of the CBD has express authority to implement external measures toward cooperation and coordination with parties of similar MEAs.[151] The COP of the CBD has broad external authority. For example, at their 12th meeting in 2014, the COP collaborated with the Secretariat and decided to form an additional advisory group tasked with preparing a workshop to include elements of a road map for parties to the various biodiversity conventions—including the Ramsar Convention and CITES—to enhance synergy and efficiency between

147. *See generally* CITES, *supra* note 122, at 3 (requiring presentation of an import permit and an export permit to import any species included in Appendix I).

148. CBD, *supra* note 16, at 6.

149. CITES, *supra* note 122, at art. 12; Ramsar Convention, *supra* note 132, at 248 (stating that the International Union for the Conservation of Nature will execute the Convention's "continuing bureau duties"); CBD, *supra* note 16, at 16; Churchill & Ulfstein, *supra* note 112, at 627.

150. CBD, *supra* note 16, at 16; Churchill & Ulfstein, *supra* note 112, at 654.

151. Churchill & Ulfstein, *supra* note 112, at 654.

them.[152] In addition to the implied authority to accept an offer from the CBD's COP, the Ramsae's COP also has external authority to cooperate with outside organizations.[153] Although CITES does not explicitly grant external authority to the COP, the COP has in fact established relationships with pertinent organizations.[154] The relationships between these external powers show that the COPs of the three biodiversity MEAs are ripe to form synergistic relationships.

Another relevant factor is the internal power that the biodiversity MEAs grant their COPS to amend their MEAs. Where CITES and Ramsar allow their COPs to amend by a two-thirds majority vote of the parties present and voting,[155] the CBD allows the COP to amend by a two-thirds majority vote of the parties present and voting only if the COP has exhausted all efforts to reach a consensus.[156] If these three conventions seek to synergize, the parties must consider which amendment procedures to carry forward into the new relationship. They must determine whether to keep the CBD's provision requiring the parties to exhaust all possibilities of reaching a consensus before making an amendment. The issue here is which internal powers of the individual institutions are going to transfer into the newly synergized arrangement. The existing amendment process is one of many factors to consider when determining the compatibility between MEAs' institutional arrangements.

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152. *See* CBD COP Dec. XII/6, Doc. UNEP/CBD/COP/12/29, at 57–59 (2014) (reaffirming CBD COP Decision X/20, which recognizes the need for the Secretariat to review and update working arrangements between CBD and Ramsar, and CBD and CITES and also requesting the informal advisory group to consider opportunities for new synergies by taking into account "the experience of the Chemicals conventions in improving synergies") (citing CBD COP Dec. X/20, Doc. UNEP/CBD/COP/10/27, at 180 (requesting the Secretariat of the CBD to collaborate with the Secretariat of CITES to develop working arrangements that are mutually supportive to the implementation of both Conventions)); CBD COP Dec. III/21, at ¶ 2, Doc. UNEP/CBD/COP/3/38, at 112 (1996); CBD COP Dec. IV/15, at ¶ 3 (1998) (noting that Article 23(4)(h) of the CBD is also the basis for an older memoranda of cooperation between the Secretariat of the CBD and the Secretariat of the Ramsar Convention, and the Secretariat of the CBD and the Secretariat of CITES).

153. Ramsar Convention, *supra* note 132, at 248 (allowing the conferences "to request relevant international bodies to prepare reports and statistics on matters . . . affecting wetlands").

154. Lohan, *supra* note 136, at 16 n.67 (citing Telephone Interview with Tom De Meulenaer, Secretariat, CITES (Oct. 18, 2002)).

155. CITES, *supra* note 122; Ramsar Convention, *supra* note 132, at 248, art. 7.

156. *See* CBD, *supra* note 16, at 19 (describing the convention or protocol amendment process and parameters).

3. The Information Reporting Requirements of the Biodiversity MEAs

The CBD, the Ramsar Convention, and CITES each prescribe information reporting requirements to the parties of the conventions.[157] Synergistic characteristics between CBD, the Ramsar Convention, and CITES would certainly centralize data transfers between the three conventions. A synergistic relationship between the biodiversity MEAs requires that the respective parties determine how to use large shared databases. This will ensure that all entities have access to pertinent information related to biodiversity protection, preservation, and conservation. Indeed, as demonstrated by the Synergy, close relationships between information sharing and reporting requirements will be the crux of synergies between all international institutions.

B. Case Study #2: Synergies Between Institutions that Protect the Arctic

This case study analyzes the institutions that protect the Arctic and provides a framework for them to increase efficiency through synergistic relationships. Although at first glance the issues in the Arctic are regional, remedying inefficiencies in the Arctic's environmental governance system should be a global priority.[158] The Arctic's regional problems precipitate threats to greater humanity. Because the Arctic is mostly composed of ice, it is not land in the traditional sense.[159] Therefore, all MEAs that promote oceanic conservation and biodiversity, and protect oceans from marine pollution also contain protections for the Arctic.[160]

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157. *See* CBD, *supra* note 16 ("Contracting Parties shall facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries."); *see* Ramsar Convention, *supra* note 132, at 247, art. 3 ("Each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List [of Wetlands] has changed, is changing[,] or is likely to change as the result of technological developments, pollution[,] or other human interference."); *see* CITES, *supra* note 122, at art. 7 ("Each Party shall prepare periodic reports on its implementation of the present Convention and shall transmit to the Secretariat: (a) an annual report containing a summary of the information specified in subparagraph (b) of paragraph 6 of this Article; and (b) a biennial report on legislative, regulatory and administrative measures taken to enforce the provisions of the present Convention.").

158. *See* Richard J. Ansson, Jr., *The North American Agreement on Environmental Protection and the Arctic Council Agreement: Will These Multinational Agreements Adequately Protect the Environment?*, 29 CAL. W. INT'L L.J. 101, 120 (1998) ("[A]s these [Arctic] States become more active in the Arctic region, risks to the environment increase . . . . In the Arctic, human interaction and activity has become more prevalent and has increased the likelihood of potential international environmental concerns.").

159. *See id.* at 117 (stating that "the Arctic is an ocean").

160. *See id.* (naming a few of the various MEAs protecting the Arctic).

Most of the MEAs that lend protections to the Arctic do not address problems in the Arctic as a specific region, yet the Arctic Council, which is not an MEA, is an organization established solely to maintain the Arctic's environment.[161] Synergies between all of the institutions that lend protections to the Arctic will utilize the Arctic Council as the hub of data collection and information sharing procedures. Indeed, parties to the synergies discussion in the Arctic must narrowly tailor their approaches to increase administrative efficiency and effectiveness in an effort to create concrete protections and maintain the fragile balance of the Arctic's environment.

1. The Relationship Between Current Arctic Regimes

Currently, the Arctic is governed by many MEAs that do not specifically address issues in the context that they arise. First, the United Nations Convention on the Law of the Sea (UNCLOS)[162] is an overarching MEA that pertains to all oceans and "establishes rights and duties regarding navigation, pollution, conservation, deep seabed mining, dispute resolution, jurisdiction, and exploitation of resources."[163] UNCLOS prevents the Arctic's environment from being degraded by creating duties for its parties "to prevent, reduce, and control pollution; and to refrain from introducing harmful alien species."[164] In addition to the general protections that UNCLOS guarantees the Arctic region and its wildlife, many other MEAs offer protections for wildlife in the Arctic.[165]

Second, although UNCLOS does not detail pollution standards,[166] the MEAs that reduce marine dumping also protect the Arctic's environment

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161. *Infra* Part IV.B.1.

162. *See generally* United Nations Convention on the Law of the Sea, *concluded* Dec. 10, 1982, 1833 U.N.T.S. 397 (entered into force Nov. 16, 1994) [hereinafter UNCLOS] (establishing UNCLOS).

163. Bonnie A. Malloy, *On Thin Ice: How a Binding Treaty Regime Can Save the Arctic*, 16 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 471, 482 (2010). In addition to creating environmental responsibilities, UNCLOS sets forth jurisdictional measures for all of the world's oceans. *Id.* at 482–84 (explaining the jurisdictional zones of UNCLOS).

164. *Id.* at 484 (citing UNCLOS, *supra* note 162, at 481–85).

165. *See, e.g.*, United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, *opened for signature* Dec. 4, 1995, Hein's No. KAV 6137, 2167 U.N.T.S. 88 (seeking to conserve and manage migratory fish stocks); *see, e.g.*, Ramsar Convention, *supra* note 132 (protecting wetland habitat, especially for waterfowl, which could be in the Arctic region); *see generally* CITES, *supra* note 122 (protecting biodiversity generally regardless of region); *see also* CBD, *supra* note 16 (promoting the protection of "ecosystems," including the Arctic).

166. Malloy, *supra* note 163, at 485.

from degradation due to pollution.[167] The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) is a marine dumping convention that provides pollution regulations for ships, including for accidental spills and operational dumping.[168] Of all the marine dumping conventions, MARPOL 73/78 has the strongest force of law.[169] Annexes I and II of MARPOL 73/78 ban releases of oil and noxious liquids in certain oceanic zones and are not optional provisions for the Parties.[170] Third, the UNFCCC prevents environmental degradation in the Arctic caused by the albedo effect.[171] All of these MEAs protect the Arctic's environment by using core principles, such as conserving and protecting biodiversity, and reducing and preventing environmental degradation. However, these MEAs are all flawed as applied to the Arctic, because they aim to address broader problems in the global environment. None are specifically tailored for issues as they arise in the Arctic region.

When the eight Arctic States created the Arctic Environmental Protection Strategy (AEPS) in 1991, they formed an MEA that would later become the foundation for the most prominent institution, giving its parties tailored responsibilities toward the many problems facing the Arctic's environment.[172] AEPS's priorities include reducing: oil pollution, heavy

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167. *See, e.g.*, Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter, *opened for signature* Dec. 29, 1972, 26 U.S.T. 2403, 1046 U.N.T.S. 120 (seeking to reduce the dumping of wastes in the ocean by ships through binding provisions, such as requiring the contracting party to obtain a permit before dumping chemical and biological warfare agents, metals, oils, and other contaminants); International Convention on Oil Pollution Preparedness, Response and Co-Operation, Nov. 30, 1990, 1891 U.N.T.S. 51 (entered into force May 13, 1995) (requiring parties' coastal authorities to have emergency pollution plans on vessels, to report pollution spills at sea, and to stockpile oil pollution response equipment); International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 12 I.L.M. 1319 (entered into force Oct. 2, 1983) [hereinafter MARPOL 73/78].

168. Malloy, *supra* note 163, at 486 (citing DAVID HUNTER, ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 791 (3d ed. 2007)) ("MARPOL also supplies applicable pollution regulations, which cover a ship's operational discharges of pollution and accidental spills or releases.").

169. *See generally id.* (discussing and comparing all the regulatory regimes in the Arctic).

170. *See* MARPOL 73/78, *supra* note 167, at 1339 (stipulating that these regulations apply to all ships under the flag of signatory parties).

171. *See* UNFCCC, *supra* note 17, at 6 (stating that parties must "elaborate appropriate and integrated plans" for managing terrestrial and aquatic ecosystems). The albedo effect: as the Arctic's shiny surface melts, bare rock and water absorb more of the sun's heat, which in turn melts more of the Arctic's glaciers. *See How Is the Arctic Affected by Climate Change?*, WWF GLOBAL, https://perma.cc/8MUZ-MBN9 (last visited Feb. 8, 2016).

172. *See generally* Arctic Environmental Protection Strategy, Can.-Den.-Fin.-Ice.-Nor.-Swed.-Russ.-U.S., June 14, 1991, 30 I.L.M. 1624 [hereinafter AEPS] (summarizing the text and goals of the AEPS). The eight Arctic States are Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States. *Id.*

metals, noise, radioactivity, acidification, and POPs that reach the Arctic.[173] The responsibilities AEPS imposes are very broad. They include increased data collection, sharing between parties, and general duties to comply with current international environmental standards.[174] Consequently, AEPS has been criticized as "a fairly low-committal exercise with weak institutional structure." [175] The criticisms of the AEPS led the Arctic States to subsequently create the Arctic Council,[176] which is an effort to maximize their potential under the AEPS to lend concrete aid and oversight to the Arctic's environment.[177]

Although it has apparent shortcomings, the Arctic Council is currently the strongest international attempt to address regional issues and provide tailored remedies to environmental problems as they arise in the Arctic. In addition to six international organizations that represent Arctic indigenous people, the Arctic States all participate as members of the Arctic Council.[178] The Arctic Council gives the Arctic States a forum to take action in the Arctic, such as overseeing existing programs and creating new initiatives.[179] The Arctic Council maintains the same institutional structure as the AEPS by incorporating the four environmental working groups of AEPS along with two new working groups.[180] The six working groups have their own individual research bodies and secretariats[181] and create programs aimed at protecting the Arctic's environment.[182] The Arctic States expanded their

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173. *Id.* at 1633–34 (stating that the six pollution "issues [shared by all eight nations] were associated with persistent organic contaminants, oil, heavy metals, noise, radioactivity, and acidification").

174. *Id.* at 1661–63 (outlining the future actions and responsibilities for all parties).

175. T. Koivurova et al., *Canada, the EU, and Arctic Ocean Governance: A Tangled and Shifting Seascape and Future Directions*, 18 J. TRANSNAT'L L. & POL'Y 247, 260 (2009).

176. *See* Joint Communiqué and Declaration on the Establishment of the Arctic Council, Sept. 19, 1996, 35 I.L.M. 1382, 1386 (1996) [hereinafter Arctic Council] (stating that when the Arctic States created the Arctic Council they signed the Declaration on the Establishment of the Arctic Council).

177. *See* Ansson, *supra* note 158, at 103 ("[The Arctic Council] agreement seeks to protect the Arctic's pristine environment through a quasi-legislative intergovernmental forum charged with recommending, implementing, and developing environmental policies.").

178. *Member States*, ARCTIC COUNCIL, https://perma.cc/BL3Y-U6SN (last visited Sept. 2, 2016).

179. *Id.* at 1388–1389.

180. *See* Koivurova et al., *supra* note 175, at 260. The original four Working Groups are Conservation of Arctic Flora and Fauna (CAFF), Protection of the Arctic Marine Environment (PAME), Emergency Prevention, Preparedness and Response (EPPR), and the Arctic Monitoring and Assessment Programme (AMAP). *Id.* The two new Working Groups are the Sustainable Development Working Group (SDWG), and the Arctic Contaminants Action Program (ACAP). *Id.*

181. Malloy, *supra* note 163, at 487 (citing Erika Lennon, *A Tale of Two Poles: A Comparative Look at the Legal Regimes in the Arctic and the Antarctic*, 8 SUSTAINABLE DEV. L. & POL'Y 32, 34 (2008)).

182. *See* Timo Koivurova, *Environmental Protection in the Arctic and Antarctic: Can the Polar Regimes Learn from Each Other?*, 33 INT'L J. LEGAL INFO. 204, 211 (2005) (showing two of the

original focus under the AEPS from protecting the environment to also promoting sustainable development in the Arctic.[183] However, while the Arctic Council successfully applies preliminary considerations, such as taking a truly regional approach and using a few existing structures, it has been criticized for lacking the force of law.[184] The Arctic Council certainly underutilizes the potential to tap existing frameworks in its effort to prevent environmental degradation and protect biodiversity in the Arctic.

2. The Inadequacy of the Current Arctic Regimes

The lack of cohesion between the working groups and all of the MEAs that protect the Arctic leaves the Arctic's environment vulnerable. There is yet to be a truly effective policy or framework to protect the Arctic's environment.[185] The numerous overlapping marine pollution MEAs and the MEAs aimed at preserving biodiversity are patchwork attempts to create effective measures to protect the Arctic's environment. The powers of such MEAs extend further than just the Arctic, which is why they create a hodge-podge of inadequate protections for the fragile region.[186] All of the MEAs have varying degrees of national participation, which further dilutes their territorial authority. The working relationship between the MEAs becomes even more convoluted when their efforts are not coordinated with the Arctic Council or the individual working groups. The number of entities with a stake in Arctic governance makes it difficult to establish binding policies for the Arctic's environment and leaves the Arctic with an array of mismatched regulations and inadequate supplemental protections.

The Arctic Council does not create laws to regulate the region, rather it sets environmental priorities for the working groups.[187] The working groups' purpose is to treat issues that face the Arctic in an organized

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programmes are the Arctic Council Action Plan to Eliminate Pollution in the Arctic (ACAP) and the Arctic Climate Impact Assessment (ACIA)).

183. *Member States*, *supra* note 178, at 138.

184. *See* Koivurova et al., *supra* note 175, at 260 (criticizing the Arctic Council as a "soft-law" organization without power to make binding decisions and pointing out "that the Arctic Council is fairly resistant to change" but predicting that over time the Arctic Council will become a "stronger forum for cooperation").

185. Koivurova, *supra* note 182, at 214.

186. Michael T. Geiselhart, Note, *The Course Forward for Arctic Governance*, 13 WASH. U. GLOBAL STUD. L. REV. 155, 171 (2014) (explaining that the numerous MEAs that govern the Arctic "are not specifically designed for the Arctic region, taking into account the unique needs of the Arctic context. One criticism leveled against UNCLOS as a method of regulating in the Arctic is the fact that its scope is worldwide, not specifically focused on the regulatory and governance needs of the Arctic").

187. Koivurova, *supra* note 182, at 214; *see* Malloy, *supra* note 163, at 491 ("The current legal framework in the Arctic, with its mixed sources and non-binding nature, leaves compliance up to the individual.").

fashion pursuant to an individualized and tailored plan; however, their efforts are futile because they lack authority to establish rules that are binding on interested parties. Although the working groups each have their own individual tasks, the Arctic States apply their mismatched national laws to oversee the Arctic, which is why "the most the Arctic Council has been able to do - as a soft-law organization - has been to adopt guidelines and recommendations on how the Arctic [S]tates should apply their regulations in those areas." [188] The Arctic Council is constrained to activities, such as studying international laws to see which apply to the Arctic and creating manuals on various subjects to propose remedies for environmental concerns.[189] However, the manuals do not account for the fact that even when the Arctic Council accomplishes its goals, the Arctic's environment remains in the same vulnerable position. While these manuals are an important part of information reporting in the Arctic, they do not provide the real-time data transfers that are necessary to ameliorate urgent environmental issues that face the region.

Information reporting is an essential function of an effective regime, yet data transfers need to be coordinated between all entities involved with regulation. Therefore, the working groups' attempts to address environmental concerns are inadequate because they do not coordinate with other institutions that have similar priorities in the Arctic and lead to binding regulations based on their findings. To truly protect the Arctic, the Arctic Council must centralize its control over the working groups, coordinate practices between the working groups, and encourage the working groups to coordinate and consolidate information sharing measures with external institutions that also lend protections to the Arctic region.

3. The Method to Synergize the Current Arctic Regimes

The most efficient method to synergize the institutions that protect the Arctic will involve top-down coordination between the Arctic Council Secretariat (ACS) and the working groups, and bottom-up coordination between the external MEAs that protect the Arctic and the working groups. First, the ACS must provide top-down control and act as a central data center for the working groups to collect and share information. A single ACS is the best entity to control information flow between the working groups and keep data transfers centralized. Second, the working groups will determine which external MEAs are compatible with their objectives and

188. Koivurova, *supra* note 182, at 214.
189. *Id.*

collect information from those MEAs in a bottom-up fashion. Compatible external MEAs are in the best position to provide data to each of the working groups, because each working group has issue-specific goals toward protecting the Arctic's environment. The working groups will enter the external information into the Arctic Council's database and use the information to draw conclusions and create protective measures. Third, once the parties coordinate and are ready to ameliorate problems within the Arctic's environment, they must implement protective measures that are narrowly tailored to individual issues affecting the Arctic.

The first step to increase efficiency in the Arctic is to replace the individual secretariats of the working groups with a single ACS. The ACS should take the sole responsibility of facilitating information flow between the working groups. The ACS currently serves as the liaison of the Arctic Council, and it facilitates communication and availability of the Arctic Council's information.[190] In addition to other administrative tasks,[191] the ACS transmits reports to and from the Arctic States, working groups, task forces, and other bodies.[192] However, the ACS is in the best position to coordinate information transfers within and between each of the individual working groups and to provide substantive oversight of their objectives. Having a single ACS to oversee all of the working groups will reduce administrative processes and ensure each working group is functioning toward a unified goal. With a top-down approach to controlling its working groups, the Arctic Council will be better organized, and Arctic governance will have a better chance at addressing urgent environmental issues. A consolidated ACS will also allow the Arctic Council to concentrate its resources in the working groups, which will execute programs that are necessary for the Arctic's protection. While a single ACS is in the best position to facilitate data transfers among the working groups and the Arctic States, the working groups are equipped to conduct studies, use resources, and implement measures based on information that they collect from internal and external sources.

The second step to increase efficiency in the Arctic is to determine which working groups and external MEAs are ripe to form synergies. For example, because the Protection of the Arctic Marine Environment working group takes integrated approaches and addresses new and old issues that

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190. *The Arctic Council Secretariat*, ARCTIC COUNCIL (Sept. 22, 2015), https://perma.cc/QE65-ZFAQ.

191. *Id.*

192. ARCTIC COUNCIL SECRETARIAT, TERMS OF REFERENCE, DMM02-15 (May 15, 2012), *revised* 2015.

arise due to human activity in the marine environment,[193] it would benefit from information reporting and close coordination with the marine dumping conventions, including MARPOL 73/78. [194] Similarly, because the Conservation of Arctic Flora and Fauna working group maintains biodiversity in the Arctic, studies habitat and ecosystem health, and communicates its findings to the Arctic States and residents of the Arctic,[195] it would benefit from information sharing with the three biodiversity conventions.[196] Although only one of Sustainable Development Working Group's (SDWG's) many tasks is to implement adaptation strategies related to climate change,[197] it would be beneficial for the SDWG to coordinate with climate change conventions to promptly share new information. Furthermore, the Arctic Contaminants Action Program, with the primary purpose of reducing chemicals in the Arctic's environment, [198] would benefit from closer relationships with the Synergy. Finally, functions of the Arctic Monitoring and Assessment Programme and the Emergency Prevention, Preparedness and Response working group could collapse into the single ACS, which would ensure that the ACS remains accountable to the individual missions of each working group. [199] These potential relationships demonstrate a portion of the potential external relationships that the working groups should consider. Ultimately, the working groups must be able to tailor their attempts to address issues as they arise in the Arctic.

The final step for the synergies process in the Arctic is to determine which solutions are most appropriate for the Arctic's environmental problems. The issues that face the Arctic are so unique that the working groups must consider the circumstances surrounding their specific issues in order to develop amelioration measures. For example, Oran Young argues

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193. *Protection of the Arctic Marine Environment (PAME)*, ARCTIC COUNCIL, https://perma.cc/3PYA-TL8D (last visited Sept. 2, 2016).

194. *See* MARPOL 73/78, *supra* note 167, at 1406 (stating that Regulation 13(4) develops guidelines for the parties engaged in dumping at sea, which certainly is a human activity in the marine environment).

195. *Conservation of Arctic Flora and Fauna (CAFF)*, ARCTIC COUNCIL (May 21, 2015), https://perma.cc/6YU4-U83Y.

196. *See, e.g.*, CBD, *supra* note 16 (promoting the protection of "ecosystems," including the Arctic).

197. *Sustainable Development Working Group (SDWG)*, ARCTIC COUNCIL (June 29, 2015), https://perma.cc/LPK3-BF9M.

198. *Arctic Contaminants Action Program (ACAP)*, ARCTIC COUNCIL (June 29, 2015), https://perma.cc/Z7VC-ECWT.

199. *See Arctic Monitoring and Assessment Programme (AMAP)*, ARCTIC COUNCIL (Dec. 11, 2015), https://perma.cc/4C32-Z57H. The AMAP currently produces scientific reports about the Arctic on which other working groups rely. *Id.* In addition to the AMAP's working with the various groups, the EPPR works with the remainder of the working groups to help ensure emergencies are addressed in their activities. *Id.*

that anticipatory and adaptive measures are necessary to deal with degradation of the Arctic due to climate change.[200] Young explains that adaptive measures in the Arctic would account for the fact that the yearly reduction in permafrost and sea ice makes nonrenewable resources even more valuable to sustain the Arctic's ecosystem.[201] Anticipatory measures include developing the response capacity to deal with abrupt yet unavoidable changes in the environment that occur in situations of scientific uncertainty.[202] Young ultimately argues that a regime complex is best suited for handling the impending problem of climate change in the Arctic, thereby ruling out a single, comprehensive agreement and accepting fragmentation between Arctic agreements.[203]

While his approach to address climate change in the Arctic fails because it results in fragmented regimes, Young frames the issue involved with reducing fragmentation: whether the parties that synergize will implement measures that have the capacity to adapt to current dilemmas and anticipate future changes in light of scientific uncertainty. These issue-specific considerations are exactly what the working groups must consider when determining how to remedy individual problems in the Arctic. The Arctic institutions' capacity to synergize and address existing and future issues will be yet another pivotal factor in determining the success of Arctic governance.

CONCLUSION

Although fragmentation is an imminent problem of global significance, there is hope. Proliferation of institutions only stifles efficiency and the ability to address issues, yet humanity is moving toward an era of supreme technological organization. Luckily, the Synergy shows the way toward a more efficient future for international environmental law. The Synergy also shows that it is possible to look back in time and apply forward-looking

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200. Oran R. Young, *Arctic Tipping Points: Governance in Turbulent Times*, 41 ROYAL SWEDISH ACAD. SCI. 75, 78 (2012) ("An adaptive approach centers on efforts to adjust, reform, or even replace existing governance arrangements to address changes already occurring. An anticipatory approach . . . emphasizes responses to changes expected to occur in the future.").

201. *See id.* at 79 ("The prominent roles of sea ice, permafrost, and photoperiodicity in this region heighten the importance of minimizing environmental impacts associated with the extraction of the region's nonrenewable resources.").

202. *See id.* at 80 (explaining that rapid response systems are needed in the face of unpredictable change).

203. *See id.* at 82–83 ("The result, at least for now, will be a regime complex located somewhere in the middle of the continuum ranging from unacceptable fragmentation to unattainable integration.").

techniques to correct deficiencies that the international agreement method creates.

With the large number of functioning, yet overlapping international institutions, there is no longer the opportunity to create a panacea agreement to face impending environmental challenges. A panacea agreement will also ultimately overlap, contradict, and create a range of problems that result from the fragmented system. Now, the international community must address deficiencies through cooperation and coordination between existing MEAs wherever feasible.

The synergies approach trumps all other methods of reducing fragmentation. This flexible, 21st century approach will ensure compliance by considering the extent to which parties are involved with the creation of synergies and whether the parties think that the synergistic relationships are fair deals.[204] Moreover, because "it would be unfortunate if this issue were to lead to a situation in which one set of tools dominates our thinking about governance to the exclusion of others,"[205] the key to reducing fragmentation is the willingness and ability of parties to make use of a well-stocked toolkit. [206] Synergies provide the arena to forge unique relationships, depending on the circumstances between the existing institutions.

Indeed, "[i]t is generally a mistake to assume that there is one true path that must be identified and followed in efforts to solve specific environmental problems."[207] With an international stage that is constantly expanding and contracting, there are ever-increasing opportunities for parties to take steps in the right direction: away from fragmented and broken regimes and toward unified systems of international governance with common goals and innovative technologies. The Synergy is certainly not the last of its kind.

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204. Young, *supra* note 27.
205. *Id.* at 19858.
206. *Id.*
207. *Id.* at 19856.

VERMONT JOURNAL of ENVIRONMENTAL LAW

Volume 18, Issue 2