

No Ordinary Fish Tale: Working Toward a Transnational Solution to the Cod Crisis in the Gulf of Maine

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INTRODUCTION

In response to a National Oceanic and Atmospheric Administration (NOAA)¹ survey that showed “record-low levels of abundance”² of groundfish³ in the Gulf of Maine (“Gulf”), local fisherman Brian Pearce asserted: “It concerns [me] that what [NOAA is] saying and what we [the local fishermen] are seeing is such a contrast . . . Who sees more fish in the ocean than the fishermen?”⁴ Despite Mr. Pearce’s skepticism, the state of the cod fishery in the Gulf of Maine—home to “critical”⁵ and “legendary”⁶ fishing grounds in Canadian and American⁷ territories—is, in fact, dire.⁸ According to the NOAA survey, conducted in August

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1. NOAA is a federal agency within the Department of Commerce that promulgates and enforces fishery regulations. *Our Mission*, NOAA FISHERIES, http://www.nmfs.noaa.gov/aboutus/our_mission.html [<http://perma.cc/R3AS-TNSK>].

2. Tom Bell, *Scientists, Fishermen at Odds on Cod Stock in Gulf of Maine*, PORTLAND PRESS HERALD (Sept. 4, 2014), <http://www.pressherald.com/2014/09/04/scientists-fishermen-at-odds-on-cod-stock/> [<http://perma.cc/2GT2-NCMS>]; see also Tom Porter, *Regulators Recommend Emergency Action to Preserve Gulf of Maine Cod*, MBPN NEWS (Oct. 2, 2014), <http://news.mpbn.net/post/regulators-recommend-emergency-action-preserve-gulf-maine-cod> [<http://perma.cc/LB6S-NMRR>] (reporting New England fisherman David Gaihel’s incredulity that “[w]hat is described [by NOAA] is not what is being seen on the water”).

3. “Groundfish” is a colloquial term used in New England to refer to twelve species of fish, including Atlantic cod, flounder, haddock, redfish, halibut, and pout. Roger Fleming, Peter Shelley & Priscilla M. Brooks, *Twenty-Eight Years and Counting: Can the Magnuson-Stevens Act Deliver on Its Conservation Promise?*, 28 VT. L. REV. 579, 581 n.8 (2004). This Note will focus specifically on cod.

4. Bell, *supra* note 2.

5. Patrick Whittle, *Gulf of Maine Cod Spawning at All-Time Low Level*, BOS. GLOBE (Aug. 11, 2014), <http://www.bostonglobe.com/metro/2014/08/10/codfish-numbers-key-fishery-hit-all-time-low/e41Uob0XtI8RhVuYlX6XxM/story.html> [<http://perma.cc/754E-DEWN>].

6. Fleming et al., *supra* note 3, at 581.

7. The Gulf of Maine is delineated by Cape Cod, Massachusetts, in the southwest and the southern tip of Nova Scotia in the northeast. The U.S. states that border the Gulf are Massachusetts, New Hampshire, and Maine; the Canadian provinces that border the Gulf are New Brunswick and Nova Scotia. *About the Gulf of Maine*, GULF OF ME. COUNCIL ON MARINE ENV’T, <http://www.gulfofmaine.org/2/gomc-home/the-gulf-of-maine/> [<http://perma.cc/9CAJ-YZF6>].

8. Jessica Trufant, *Gulf of Maine’s Dire Cod Stock Data Will Undergo Independent Review Next Week in New Hampshire*, SEAFOODNEWS.COM (Aug. 22, 2014),

2014, the cod population within the Gulf has dwindled to an estimated 2100 metric tons—an all-time low.⁹ To make matters worse, young cod, which generate cod production through “spawning,”¹⁰ have all but disappeared, as cod within the Gulf are spawning at an estimated three to four percent of what is considered a sustainable level.¹¹ Quite simply, the current state of the cod fishery in the Gulf is “nothing short of Armageddon.”¹²

In an effort to rehabilitate the cod fishery,¹³ the New England Fishery Management Council (NEFMC), a domestic council charged with managing fishery resources in New England,¹⁴ requested that NOAA, a federal agency, enact emergency regulations “for the remainder of the 2014 fishing year.”¹⁵ On November 10, 2014, NOAA announced a rash of emergency restrictions on cod fishing in the Gulf that lasted through April 2015.¹⁶ On May 1, 2015, the emergency restrictions were lifted, and permanent federal regulations restricting cod fishing in the Gulf were formally adopted and enacted.¹⁷

<http://www.seafoodnews.com/Story/941547/Gulf-of-Maines-dire-cod-stock-data-will-undergo-independent-review-next-week-in-New-Hampshire> [<http://perma.cc/58TA-BNFW>].

9. David Abel, *Fishery Council Urges Action on Decline of Cod*, BOS. GLOBE (Oct. 1, 2014), <http://www.bostonglobe.com/metro/2014/10/01/federal-fisheries-regulators-discuss-dramatic-cuts-cod-catch-fishermen-cry-foul/DmOwcw8NPSHgPCA35zyueO/story.html> [<http://perma.cc/9BKH-SY2A>].

10. Spawning is the act of laying a mass of small eggs to produce offspring. See WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 2185 (2002).

11. Doug Fraser, *Cod Crisis: Iconic Species Faces an Uncertain Future*, CAPE COD TIMES (Oct. 12, 2014, 2:00 AM), <http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20141012/NEWS/410120311> [<http://perma.cc/L2HG-DFX2>].

12. Sean Horgan, *Group Hopes to Win Battle for the Gulf of Maine Fishery with Soul*, BANGOR DAILY NEWS (Oct. 18, 2014, 2:03 PM), <http://bangordailynews.com/2014/10/18/news/nation/group-hopes-to-win-battle-for-the-gulf-of-maine-fishery-with-soul/> [<http://perma.cc/YDR2-44M4>].

13. Most regulations aimed at rehabilitating fisheries attempt to curb the deleterious effects of overfishing. Peter Shelley, *Have the Managers Finally Gotten It Right?: Federal Groundfish Management in New England*, 17 ROGER WILLIAMS U. L. REV. 21, 24 (2012) (“Over . . . 35 years, fishery management councils and federal regulators alike have struggled to understand . . . these often competing objectives: preventing overfishing while achieving so-called ‘optimum yield’ from [a] fishery . . .”).

14. The council is one of eight regional councils established by federal legislation. *About NEFMC*, NEW ENGLAND FISHERY MGMT. COUNCIL, <http://www.nefmc.org/about> [<http://perma.cc/7K3C-UVV2>] (last updated 2015).

15. Editorial, *As Codfish Dwindle, Communities Need to Reboot*, BOS. GLOBE (Oct. 13, 2014), <http://www.bostonglobe.com/opinion/editorials/2014/10/12/newest-cod-crash-should-spur-new-thinking-fishing-communities/3pfsPGA9rQz03tJBUGhSPO/story.html> [<http://perma.cc/9WBB-B2VS>].

16. Jennifer Levitz, *Regulators Ban Almost All New England Cod Fishing, Regulators Are Also Considering Drastic Cuts to Region’s Cod Quota*, WALL ST. J. (Nov. 10, 2014, 8:01 PM), <http://online.wsj.com/articles/regulators-ban-almost-all-new-england-cod-fishing-1415657481> [<http://perma.cc/NK3U-K7WX>].

17. These regulations, classified as “Framework 53,” cut the total allowable quota of cod to 386 tons: a seventy-five percent decrease. Framework Adjustment 53, 80 Fed. Reg. 25,110, 25,112 (May 1, 2015) (to be codified at 50 C.F.R. pt. 648); Sean Horgan, *NOAA: Emergency*

This Note argues that, while these purely domestic regulations may certainly help contribute to the rehabilitation of this unique cod fishery,¹⁸ a more multinational legal solution is needed.¹⁹ Since these cod exist in a common-pool fishery shared by the United States and Canada and are thus a “transboundary stock,”²⁰ unilateral domestic solutions that fail to treat cod as a “force[] that transcend[s] territorial or jurisdictional lines”²¹ will be ineffective. Instead, a more transnational approach to the crisis is necessary: this Note proposes that the United States and Canada form a bilateral treaty that prescribes a moratorium on cod fishing in the Gulf and incorporates effective global environmental governance solutions.²² This treaty, though prescriptive, would be enforced by each country’s relevant domestic agencies, thereby incorporating a “hybrid” of top-down and bottom-up approaches.²³ This Note will begin by offering a brief legal history of the cod fishery in the Gulf of Maine.²⁴ It will then articulate why the United States’ most recent domestic regulations will be ineffective, before explaining what a transnational solution may look like.²⁵ Finally, it will detail how to enhance the puissance of these regulations and environmental global governance generally by engaging the various parties involved with the crisis.²⁶

Much is at stake. First, and most importantly, the disappearance of cod serves as a stark example of a grave environmental issue—a viable solution is necessary to

Cod Measures Are out for 2015 and Framework 53 Is in, GLOUCESTER TIMES (Apr. 24, 2015, 12:39 PM), http://www.gloucestertimes.com/news/noaa-emergency-cod-measures-are-out-for-and-framework-is/article_6deeee52-eea0-11e4-ab4b-7fb8129b6329.html [http://perma.cc/W8HY-MA59].

18. See ALFRED C. AMAN, JR., *THE DEMOCRACY DEFICIT: TAMING GLOBALIZATION THROUGH LAW REFORM* 7 (2004) (“[G]lobal forces’ do not come from beyond our nation or beyond government, but are deeply embedded within our own domestic institutions . . .”).

19. This is not to say that domestic solutions are not transnational or global. See Alfred C. Aman, Jr., *Globalization: Legal Aspects*, in 10 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL & BEHAVIORAL SCIENCES 254 (James D. Wright, ed. 2015).

20. Bruce N. Shibles, *Implications of an International Legal Standard for Transboundary Management of Gulf of Maine-Georges Bank Fishery Resources*, 1 OCEAN & COASTAL L.J. 1, 1 n.2 (1994). Transboundary stocks are “those stocks of fish that at different times in their life cycle are found within the fisheries jurisdiction of two or more countries.” *Id.*

21. Alfred C. Aman, Jr., *Law, Markets and Democracy: A Role for Law in the Neo-Liberal State*, 51 N.Y.L. SCH. L. REV. 801, 807 (2007).

22. See generally Tun Myint, *Democracy in Global Environmental Governance: Issues, Interests, and Actors in the Mekong and the Rhine*, 10 IND. J. GLOBAL LEGAL STUD. 287, 288 (2003) (“[G]lobal solutions ‘require local approaches when global environmental crisis results from both the aggregation of local resource decisions and from the impact of the global political economy on local communities.’” (quoting THOMAS PRINCEN & MATTHIAS FINGER, ENVIRONMENTAL NGOS IN WORLD POLITICS: LINKING THE LOCAL AND THE GLOBAL 221 (1994))).

23. See Lavanya Rajamani, *The Warsaw Climate Negotiations: Emerging Understandings and Battle Lines on the Road to the 2015 Climate Agreement*, 63 INT’L & COMP. L.Q. 721, 721 (2014).

24. See *infra* Part I.

25. See *infra* Part II.

26. See *infra* Part III.

avoid disaster.²⁷ Second, this kind of problem necessitates an analysis that synthesizes and applies transnational and globalization theory to a specific and tangible example—one that features a panoply of actors operating in the wake of fledgling domestic regulations, within an international setting, and with the existence of a transnational fishery on the line.²⁸

I. SETTING THE STAGE: A HISTORY OF FAILED CONSERVATION EFFORTS IN THE GULF OF MAINE

To understand precisely why NOAA's unilateral federal regulations alone will not solve the cod fishery crisis in the Gulf,²⁹ it is necessary to establish a brief legal history of the Gulf³⁰ by delineating its present boundaries and providing a description of the key actors involved: this Part will do just that and will highlight the "fragmented"³¹ efforts that currently govern the Gulf. Further, this Part will provide background that establishes how the United States and Canada's continued failure to understand the Gulf as a common-pool fishery³² has precipitated a history of ineffective conservation efforts that have only further exacerbated the cod crisis in the Gulf.

A. The Gulf of Maine Prior to 1984: Delimiting Boundaries and Establishing a Critical Misunderstanding of the Gulf

Though the Gulf has been a fruitful and prolific fishery for over four hundred years,³³ it was not until the promulgation of the Fishery Conservation and Management Act of 1976³⁴ ("Magnuson Act") and the proposed Fishing Zones of

27. That is, the permanent disappearance of cod from the Gulf. Heather Goldstone, *Could This Be the End for Gulf of Maine Cod?*, WGBH NEWS (Aug. 6, 2014, 3:30 PM), <http://wgbhnews.org/post/could-be-end-gulf-maine-cod> [<http://perma.cc/A2PZ-EEDF>].

28. The loss of a fishery is not only catastrophic from an environmental standpoint but also cataclysmic from a sociological and humanist standpoint. GEORGE LAPOINTE, GULF OF ME. COUNCIL ON THE MARINE ENV'T, COMMERCIAL FISHERIES 24 (2013), available at <http://www.gulfofmaine.org/2/wp-content/uploads/2014/03/commercial-fisheries-theme-paper-webversion.pdf> [<http://perma.cc/H8HH-WB3S>] ("Changes in the fisheries can affect employment opportunities, income, secondary economic benefits, feelings of connection to the ocean, and sense of community.").

29. See *infra* Part II.

30. See generally Alison Rieser, *Saving Salmo: Federalism and the Conservation of Maine's Atlantic Salmon*, 16 OCEAN & COASTAL L.J. 135 (2010) (detailing the legal history of salmon fishing in the Gulf).

31. Comment, *Boundary Delimitation in the Economic Zone: The Gulf of Maine Dispute*, 30 ME. L. REV. 207, 245 (1979).

32. That is, a commonly held body of water. See, e.g., ELINOR OSTROM, ROY GARDNER & JAMES WALKER, RULES, GAMES, AND COMMON-POOL RESOURCES 8 (1994).

33. LAPOINTE, *supra* note 28, at 1. For a detailed and fascinating account of cod's significant historical impact, see MARK KURLANSKY, COD: A BIOGRAPHY OF THE FISH THAT CHANGED THE WORLD (Penguin Books 1998) (1997).

34. The Magnuson-Stevens Act established a Fishery Conservation Zone that created boundaries that extended from state waters to two hundred miles to sea. JACQUELINE

Canada Order³⁵ (“Canada’s Order”) that the Gulf officially became the domain of the United States and Canada.³⁶ The promulgation of the Magnuson Act and Canada’s Order delimited exclusive economic boundaries within the common-pool Gulf to the United States and Canada, establishing a critical and cataclysmic misunderstanding of the Gulf that would prevail for nearly forty years.³⁷

Before the implementation of the Magnuson Act and Canada’s Order, which provided an “exclusive economic zone”³⁸ of two hundred nautical miles for each country, there was “little need”³⁹ for principles of law regarding cooperative management of transboundary fisheries, because, quite simply, “fisheries management was a relatively new practice among coastal States.”⁴⁰ Perhaps the crises that have occurred in the Gulf since 1977,⁴¹ then, can be partially attributed to this late start in fishery maintenance—for the United States and Canada, managing fisheries is a relatively nascent endeavor.⁴² Nevertheless, as of 1977, pursuant to these acts, both the United States and Canada have exercised a two hundred nautical-mile fisheries jurisdiction⁴³: an “economic zone [that] has become a firmly-entrenched feature of international law by virtue of unilateral state practice”⁴⁴ These “exclusive economic zones” are significant in two ways: First, these zones created a political regime⁴⁵ to oversee a “common-pool”

ROLLERI, TAKING STOCK: THE MAGNUSON-STEVENS ACT REVISITED: BACKGROUND MATERIALS ON THE MSA 2 (Nov. 4, 2010), *available at* http://docs.rwu.edu/cgi/viewcontent.cgi?article=1017&context=law_ma_seagrant [<http://perma.cc/FEA2-4ZEJ>].

35. Fishing Zones of Canada (Zones 4 and 5) Order, C.R.C., c. 1548.

36. Emily J. Pudden & David L. VanderZwaag, *Canada—USA Bilateral Fisheries Management in the Gulf of Maine: Under the Radar Screen*, 16 REV. EUR. COMMUNITY & INT’L ENVTL. L. 36, 36 (2007). Before 1977, “many nations generated vast amounts of wealth by freely fishing as much cod as they wished off the [Gulf] coast.” André Verani, *Community-Based Management of Atlantic Cod by the Georges Bank Hook: Is it a Model Fishery?*, 20 TUL. ENVTL. L.J. 359, 361 (2007).

37. See Shelley, *supra* note 13, at 24.

38. Grupo Protexa, S.A. v. All Am. Marine Slip, 20 F.3d 1224, 1249 (3d Cir. 1994). Article 55 of the United Nations Convention on the Law of the Sea established that an exclusive economic zone is “an area beyond and adjacent to the territorial sea . . . under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed” *Id.*

39. Shibles, *supra* note 20, at 6.

40. *Id.*

41. See generally *supra* Introduction.

42. Great Britain and France began committing to fishery management efforts as early as the mid-1800s. Shibles, *supra* note 20, at 6.

43. *Canada’s Ocean Estate: A Description of Canada’s Maritime Zones*, FISHERIES & OCEANS CANADA, <http://www.dfo-mpo.gc.ca/oceans/canadasoceans-oceansducanda/marinezones-zonesmarines-eng.htm> [<http://perma.cc/Z4H4-T5RW>] (last modified Feb. 19, 2014).

44. Comment, *supra* note 31, at 225.

45. Ostrom suggested that a political regime might, in fact, encourage resource management in common-pool resources. Stephen M. Nickelsburg, Note, *Mere Volunteers? The Promise and Limits of Community-Based Environmental Protection*, 84 VA. L. REV. 1371, 1409 n.221 (1998) (“[A] political regime that allows substantial local autonomy, invests in enforcement agencies, and provides generalized institutional-choice and conflict-resolution arenas’ could facilitate [efforts]” (quoting ELINOR OSTROM, GOVERNING THE COMMONS:

fishery⁴⁶ (i.e., the Gulf); Second, the formulation of these exclusive economic zones was instrumental in developing the modern day governance structure of the Gulf.⁴⁷

In fact, while Canada's Order prescribed only new fishery boundary lines for the country,⁴⁸ the Magnuson Act prescribed boundary lines *and* a governance structure for the United States.⁴⁹ Specifically, the Magnuson Act—while recognizing that fish off the coasts of the United States constituted a valuable, albeit renewable, natural resource⁵⁰—delegated authority to domestic institutions to oversee the newly designated exclusive economic zones of the sea.⁵¹ Further, the Magnuson Act created eight Regional Fishery Management Councils throughout the United States and delegated to them the responsibility of developing fishery management plans for their respective regions.⁵² Under the framework of the Magnuson Act, each Regional Fishery Management Council⁵³ reports to NOAA,⁵⁴ which, pursuant to the Act, has authority to promulgate appropriate regulations.⁵⁵

Though the two hundred nautical-mile fisheries jurisdiction was established in both Canada and the United States by 1977,⁵⁶ the independent management of each

THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 190, 212–13 (1990)).

46. According to Elinor Ostrom, an area is a “common-pool resource” if exclusion of individuals from consuming the benefits of the area is difficult and if each individual's consumption leaves less of the good for everyone else. OSTROM ET AL., *supra* note 32, at 6–8. Though each individual's consumption of cod leaves less of the cod for everyone else, UNCLOS III's defining “exclusive economic zones” allowed Canada and the United States to exclude foreign actors from fishing the Gulf, thus precluding the condition of nonexcludability. *See* Nickelsburg, *supra* note 45, at 1377 n.45.

47. *See generally infra* notes 48–50 and accompanying text.

48. Canada's governance structure was not codified until 1997, when Canada drafted the Oceans Act. *See generally* Oceans Act, S.C. 1996, c. 31. The Oceans Act codified a “legal commitment to conserve, protect and develop the oceans in a sustainable manner” by “encourag[ing] government-wide collaboration and coordination, and respect for jurisdictional authorities; engag[ing] all Canadians interested in making decisions that affect them and their ocean environment; and assign[ing] federal responsibility to the Minister of Fisheries and Oceans Canada for new and emerging ocean-related activities . . .” *Governance for Sustainable Marine Ecosystems*, FISHERIES & OCEANS CAN., <http://www.dfo-mpo.gc.ca/oceans/management-gestion/integratedmanagement-gestionintegree/Governance-eng.htm> [<http://perma.cc/RV94-MR8B>] (last modified Aug. 13, 2014). Specifically, the Act and its recent iterations have created twenty-seven federal departments and agencies responsible for managing marine-related activities. *Id.* Regional governance bodies (similar to those created by the United States in the Magnuson Act) have been established and are “comprised of federal and provincial as well as territorial government agencies” responsible for the marine environment. *Id.*

49. *See infra* notes 52–55 and accompanying text.

50. 16 U.S.C. § 1801(a)(1) (2012).

51. *Id.* § 1801(a)(7).

52. *Gulf of Me. Fisherman's Alliance v. Daley*, 292 F.3d 84, 86 (1st Cir. 2002).

53. The New England Fishery Management Council, for example, consists of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut. 16 U.S.C. § 1852(a)(1)(A) (2012).

54. *See* Editorial, *supra* note 15.

55. It was under the color of this legal authority that the NEFMC suggested to NOAA emergency regulations and that NOAA enacted the six-month cod fishing ban. *See id.*

56. *See supra* text accompanying note 43.

country's respective fisheries caused problems in the Gulf.⁵⁷ Most notably, the two hundred nautical-mile fisheries jurisdiction overlapped in a thirty thousand square-kilometer area at the eastern tip of Georges Bank⁵⁸—a locale known for being “one of the most productive fishing grounds in the world.”⁵⁹ This overlap not only serves as an interesting foreshadowing of the glut of issues that have arisen in the Gulf since 1977,⁶⁰ but also led to a 1984 “landmark” decision by the International Court of Justice (ICJ) that further defined maritime relations between the United States and Canada.⁶¹

The case, titled *Delimitation of the Maritime Boundary in the Gulf of Maine Area* (“*Maritime Boundary Case*”),⁶² arose as a result of the dispute over the two hundred nautical-mile fisheries jurisdiction when “U.S. and Canadian fishermen suddenly became foreigners to each other”⁶³ despite the two hundred nautical-mile jurisdiction’s “excluding foreign fishing vessels and opening prospects for [Canadian and American] fishermen to . . . reap large economic gains.”⁶⁴ Accordingly, the two countries agreed to settle the dispute in front of the ICJ, which divided Georges Bank between the two countries, definitively and officially defining its jurisdictional boundaries.⁶⁵ Though the jurisdictional boundaries delimited by the ICJ did, in fact, solve the dispute and adjudicate the present-day jurisdictional delimitation of the Gulf, since cod “migrate between the American and Canadian portions of [the Gulf],”⁶⁶ the problem of managing the transboundary fishery of the Gulf remained.⁶⁷

While the ICJ’s delimitation of the Gulf provided Canada and the United States with legal boundaries to operate within, it also further imbued in each country a fundamental misunderstanding of the Gulf, precipitating a pernicious slew of ineffective conservation efforts. Despite the ICJ’s formulation of boundaries within the Gulf, nothing changed for the cod—a species that remained devoid of the sentence necessary to adhere to man-made boundaries. Similarly, nothing changed

57. Pudden & VanderZwaag, *supra* note 36, at 36.

58. *Id.*

59. *Massachusetts v. Andrus*, 594 F.2d 872, 874 (1st Cir. 1979) (quoting the final environmental impact statement issued in connection with the decision).

60. Most notably, those of managing transboundary fishery resources—the purpose of this Note. Pudden & VanderZwaag, *supra* note 36, at 36.

61. Shibles, *supra* note 20, at 1.

62. (Can./U.S.), Judgment, 1984 I.C.J. 246, 246 (Oct. 12).

63. Lawrence J. Prelli & Mimi Larsen-Becker, *Learning from the Limits of an Adjudicatory Strategy for Resolving United States—Canada Fisheries Conflicts: Lessons from the Gulf of Maine*, 41 NAT. RESOURCES J. 445, 447 (2001).

64. *Id.*

65. “On October 12, 1984, the ICJ ruled on the single maritime boundary dispute between Canada and the United States, granting Canada the water column and seabed of approximately twenty-five percent of the Gulf of Maine and . . . an area of approximately 7000 square kilometers on Georges Bank.” Lucia Fanning & Rita Heimes, *Ocean Planning and the Gulf of Maine: Exploring Bi-National Policy Options*, 15 OCEAN & COASTAL L.J. 293, 296–97 (2010).

66. Verani, *supra* note 36, at 367.

67. Pudden & VanderZwaag, *supra* note 36, at 36; *see also* Prelli & Larsen-Becker, *supra* note 63 (proposing that boundary disputes not be adjudicated politically, but rather by balancing equities, the law, and ecological concerns).

geographically for the Gulf—it remained a common-pool fishery. Indeed, since 1984, the United States and Canada’s failure to diagnose the Gulf as a common-pool fishery has effected the cod stock’s precipitous decline.⁶⁸ The following subparts will—as a means of juxtaposition with this Note’s proposed solution—provide a brief history of the ineffective international and domestic cod conservation efforts in the Gulf,⁶⁹ before highlighting the disastrous impact of each country’s failing to understand the Gulf as a common-pool fishery.

B. Moving Toward a Solution: Why International Conservation Efforts Since 1984 Have Been Ineffective

Though the Gulf’s cod crisis “cannot be resolved effectively by way of individual nation-state action alone,”⁷⁰ the problem is neither “wholly domestic nor comprehensively global.”⁷¹ Accordingly, since the ICJ’s decision in the *Maritime Boundary Case*, international conservation efforts in the Gulf have failed.⁷² The most significant international legislation concerning transboundary fisheries management since the *Maritime Boundary Case* is found in Article 63 of the 1994 Convention of the Third United Nations Conference on the Law of the Sea (UNCLOS III).⁷³

68. Prior to the *Maritime Boundary Case*, the annual average total of cod landings in the U.S. was as follows: fifty-seven million pounds in 1950, forty million pounds in 1960, fifty-three million pounds in 1970, fifty-six million pounds in 1975, seventy-seven million pounds in 1977, and one hundred and eighteen million pounds in 1980. After the *Maritime Boundary Case*, the “bottom fell out”: ninety-six million pounds in 1990, thirty million pounds in 1995, and only twenty-four million pounds in 2003. Verani, *supra* note 36, at 362. *But see id.* (“[L]andings are not necessarily indicative of the population or biomass level of a fish stock.”). This data, in conjunction with the most recent stock assessment, suggests that the cod fishery in the Gulf is at its nadir. *See* Abel, *supra* note 9.

69. *See* Verani, *supra* note 36, at 362; Bell, *supra* note 2.

70. Aman, *supra* note 19, at 255.

71. *Id.*

72. This is not to say that other factors, such as population growth; seafood demand and market forces; socio-economic conditions; and climate change and ecosystem influences, have not contributed to the plight of the cod. *See* LAPOINTE, *supra* note 28, at 2–6. However, this Note suggests previous governance structures dealing with cod have failed. Two general criticisms apply more broadly to international law: one is that international law is “too political in the sense of being too dependent on states’ political power”; the other is that law is “too political because it is founded on speculative utopias.” MARTTI KOSKENNIEMI, *THE POLITICS OF INTERNATIONAL LAW* 40 (2011).

73. Though UNCLOS III was signed in December of 1982, it did not come into force until November 1994. Amy deGeneres Berret, Comment, *UNCLOS III: Pollution Control in the Exclusive Economic Zone*, 55 LA. L. REV. 1165, 1176 (1995). For comparative analysis regarding how UNCLOS III has been ineffective to curb the deleterious effects of transboundary pollution, see *id.* at 1165.

Article 63 is titled “Stocks occurring within the exclusive economic zones of two or more coastal States or both within the exclusive economic zone and in an area beyond and adjacent to it.” United Nations Convention on the Law of the Sea art. 63, Nov. 16, 1994, 1833 U.N.T.S. 397, 422. It reads:

1. Where the same stock or stocks of associated species occur within the exclusive economic zones of two or more coastal States, these States shall seek,

UNCLOS III mandated that where transboundary stocks occur within the exclusive economic zones of two or more states (e.g., Canada and the United States), those states shall seek to agree upon measures necessary to coordinate and ensure the conservation and development of such stocks.⁷⁴ Pursuant to UNCLOS III, Canada and the United States formed a host of international organizations⁷⁵ in an attempt to curb the precipitous decline⁷⁶ of cod throughout the 1990s.⁷⁷ Despite the intent of these “traditional international regimes,”⁷⁸ organizations that have attempted to halt the disappearance of cod from the Gulf have shown to be “ineffective institutions.”⁷⁹

In fact, one such organization, the Canada-U.S. Transboundary Steering Committee (“Committee”), has dominated conservation efforts in the Gulf of Maine for the past twenty years.⁸⁰ After a series of regional bilateral discussions between Canada and the United States, the Committee was officially established in 1995 to “promote a collaborative approach to fisheries resource management in the Gulf of Maine.”⁸¹ The Committee, while serving as an international organization, operates

either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary to co-ordinate and ensure the conservation and development of such stocks without prejudice to the other provisions of this Part.

2. Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.

Id.; see also Shibles, *supra* note 20.

74. United Nations Convention on the Law of the Sea art. 63, *supra* note 73, at 422.

75. These organizations are largely nongovernmental. Though this paper will only describe the Canada-U.S. Transboundary Steering Committee, other organizations include the Gulf of Maine Council on the Marine Environment, Species at Risk, Habitat, and the Oceans Working Group. See, e.g., *About the Council*, GULF OF ME. COUNCIL ON MARINE ENV'T, <http://www.gulfofmaine.org/2/gomc-home/gomc-about-the-council/> [<http://perma.cc/8AQ8-3FYH>] (last updated 2015).

76. See Verani, *supra* note 36, at 362; see also R. Mayo, G. Shepherd, L. O'Brien, L. Col & M. Traver, *Gulf of Maine Cod*, in ASSESSMENT OF 19 NORTHEAST GROUND FISH STOCKS THROUGH 2007 2-228, available at <http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0815/crd0815.pdf> [<http://perma.cc/QKQ7-26BT>] (“[S]pring and autumn research vessel bottom trawl survey indices for Gulf of Maine cod had declined to record low levels in the mid-1990s . . .”).

77. Though, in the years following the *Maritime Boundary Case*, “Canadian and U.S. fishing activities were confined to their respective national jurisdictions and cooperative management was virtually non-existent.” Pudden & VanderZwaag, *supra* note 36, at 36.

78. Myint, *supra* note 22, at 288.

79. *Id.* How is effectiveness measured? In the environmental realm, effectiveness is easily measured: has the environmental issue improved or worsened? Here, it is clear that the issue has worsened. See *id.* at 290.

80. Pudden & VanderZwaag, *supra* note 36, at 36.

81. *Canada-U.S. Transboundary Resources Steering Committee*, FISHERIES & OCEANS CANADA, [http://www2.mar.dfo-mpo.gc.ca/science/sc/sc\(2\)-e.html](http://www2.mar.dfo-mpo.gc.ca/science/sc/sc(2)-e.html) [<http://perma.cc/DSE7-U5ZZ>] (last updated Feb. 1, 2013) [hereinafter FISHERIES & OCEANS CANADA].

as an informal advisory group to coordinate stock assessments and “sharing scheme[s]” between the two countries.⁸² The advisory group is comprised entirely of delegates of domestic institutions:⁸³ the United States is represented by members of the NEFMC, while Canada is represented by representatives from the Gulf of Maine Advisory Committee (GOMAC).⁸⁴

The regime has undertaken several initiatives since its inception⁸⁵—given the current state of the Gulf, however, it is clear that none has been particularly effective. The first initiative, the Transboundary Resources Assessment Committee (TRAC), was launched in 1998 to *review* stock assessments to *support* management activities and to *advise* decision makers on the current state of resource levels.⁸⁶ Reviewing, supporting, and advising⁸⁷ decision makers is certainly a helpful and beneficial endeavor; however, because TRAC does not license the Committee to actually make decisions or promulgate laws,⁸⁸ the Committee is limited in its ability to combat the crisis. Further, though TRAC employs a “two-tiered review process” and conducts “benchmark assessment reviews,”⁸⁹ TRAC is truly only a data provider⁹⁰—though both the United States and Canada have utilized TRAC’s data assessment capabilities,⁹¹ both countries have neglected to make laws in conjunction with one another,⁹² leading to fragmentation⁹³ and, ultimately, ineffectual law making.⁹⁴

A second initiative, called the Transboundary Management Guidance Committee (TMGC), was launched in 2000 to “develop *guidance* in the form of harvest strategies, resource sharing and management processes for Canadian and US

82. Pudden & VanderZwaag, *supra* note 36, at 37.

83. See FISHERIES & OCEANS CANADA, *supra* note 81.

84. See *infra* Part I.C.

85. FISHERIES & OCEANS CANADA, *supra* note 81.

86. Bedford Inst. of Oceanography, *Transboundary Resource Assessment Committee (TRAC)*, CANADA.CA, <http://www.bio.gc.ca/info/intercol/trac-cert/index-en.php> [<http://perma.cc/8S5S-29CP>] (last updated Aug. 13, 2015).

87. *Id.*

88. TRAC is not a law-making body. See *id.*

89. Bedford Inst. of Oceanography, *supra* note 86.

90. “[TRAC] is the scientific arm of the [Committee] which conducts the peer review of the transboundary resources considered by the [Committee].” *Transboundary Management Guidance Committee (TMGC)*, BEDFORD INSTITUTE OF OCEANOGRAPHY, <http://www.bio.gc.ca/info/intercol/tmgc-cogst/index-en.php> [<http://perma.cc/5E8Y-5VV3>] (last updated June 16, 2015).

91. See *Stock Assessment Workshop (SAW)*, NOAA, <http://www.nefsc.noaa.gov/saw/trac/> [<http://perma.cc/72CL-8L3J>] (last updated July 28, 2015).

92. See *infra* Part I.C.

93. Fragmentation can be “positive” if in conjunction with bottom-up transformation. TRAC, however, does not encourage bottom-up transformation. See Barbara Stark, *International Law from the Bottom Up: Fragmentation and Transformation*, 34 U. PA. J. INT’L L. 687, 694 (2013).

94. “Although TRAC . . . [is] international in scope, the fisheries management recommendations developed through these processes must be implemented domestically.” Pudden & VanderZwaag, *supra* note 36, at 39.

management authorities for the cod”⁹⁵ Further, the TMGC is charged with providing *nonbinding* advice for Canada and the United States.⁹⁶ Specifically, the TMGC:

1. Develop[s] process[es] for implementation of TMGC *recommendations*.
2. *Recommend[s]* . . . harvesting strategies that are consistent with US and Canadian objectives.
3. Provide[s] *guidance* on principles and options for determining a US/Canadian resource sharing strategy.
4. Make[s] *recommendations* for actual US and Canadian harvest levels.
5. Make[s] other *recommendations* that are mutually beneficial to US and Canadian fisheries.⁹⁷

Again, though *recommending*, *suggesting*, and providing *guidance* to the United States and Canada is certainly a worthwhile venture, the fact that the TMGC has been ineffective in curbing the disappearance of cod from the Gulf is not confounding—despite the TMGC’s suggestions, “Canada and the USA continue to develop and execute separate [cod] management plans.”⁹⁸ It is clear, then, that the implementation of a viable solution to the cod crisis requires domestic support, for “international standards without domestic support would accomplish very little.”⁹⁹ The next subpart will detail, however, how unilateral domestic approaches to solving the cod crisis by Canada and the United States have also been ineffective, before proposing a solution that abets cohesion at the international and domestic levels.¹⁰⁰

C. Moving Toward a Solution: Why Domestic Conservation Efforts Have Been Ineffective

Indeed, effective domestic measures are integral to creating and implementing a transnational solution to the cod crisis;¹⁰¹ measures by the United States and Canada thus far, however, have failed to synchronize domestic efforts with a global or “macroscopic” view of the Gulf as a transboundary fishery.¹⁰² Accordingly, as this

95. *Transboundary Management Guidance Committee (TMGC)*, *supra* note 90 (emphasis added).

96. *Id.*

97. *Id.* (emphasis added).

98. Pudden & VanderZwaag, *supra* note 36, at 39.

99. Aman, *supra* note 19, at 256.

100. That is, a top-down/bottom-up hybrid approach. Rajamani, *supra* note 23, at 722.

101. “[T]he treaty process—though state driven and culminating in a multilateral treaty with global coverage—could not have developed but for the politics developed at the domestic level and domestic laws that made global negotiations feasible.” Aman, *supra* note 19, at 259.

102. Gordon R. Walker & Mark A. Fox, *Globalization: An Analytical Framework*, 3 *IND. J. GLOBAL LEGAL STUD.* 375, 403 (1996) (“As far as domestic policymakers are concerned, globalization demands: first, a clear set of domestic priorities in the particular area (a microscopic view); and, second, a global view of the subject matter (a macroscopic view).”).

subpart will detail, domestic efforts have failed to treat the Gulf as a common-pool fishery and have thus been ineffective in rehabilitating or mitigating the disappearance of cod in the Gulf.

By 2006, since the Magnuson Act effectively eliminated foreign fishing fleets from the Gulf of Maine and wholly domesticized its fisheries, conservation efforts by the United States had “failed miserably.”¹⁰³ That year, recognizing this failure, the United States reauthorized the Magnuson Act—renaming it the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSA)—to provide domestic alternatives to international fishery agreements, which “[had] not been effective in preventing or terminating the overfishing of these valuable fishery resources.”¹⁰⁴

The MSA, acting as the preeminent authority on fishery conservation management, enunciated four broad goals: first, to “end overfishing” by establishing annual catch limits; second, to address illegal and unregulated fishing and by-catch; third, to encourage science to be more instrumental in decision making; and fourth, to foster cooperation at an international level.¹⁰⁵ In theory, the stated goals of the MSA suggest a viable solution to the crisis in the Gulf; in practice, however, the MSA has failed to restore or mitigate the disappearance of cod from the Gulf.

In fact, the MSA’s ineffectiveness at rehabilitating the cod population in the Gulf highlights the limited efficacy of unilateral domestic measures, particularly with regard to catch limits. In fact, in 2012, pursuant to the MSA, NOAA cut the annual cod fishing quota in the Gulf by eighty percent.¹⁰⁶ Two years later, the cod population had declined by more than thirteen percent.¹⁰⁷ Although the United States has committed to the MSA’s goals of enforcement¹⁰⁸ and implementation of scientific data¹⁰⁹ since 2007, the cod population has dipped to an all-time low.¹¹⁰

The United States has committed to all goals of the MSA, except enhanced international cooperation,¹¹¹ suggesting that the failure of the MSA could, in fact, be

103. Paul R. Bagley, Note, *Don’t Forget About the Fishermen: In the Battle over Fisheries Conservation and Management a Conservation Ethic Has Trumped Economic Concerns of the Community—Or Has It?*, 36 SUFFOLK U. L. REV. 765, 768 (2003).

104. 16 U.S.C. § 1801(a)(4) (2012).

105. Aileen M. Hooks, Elizabeth Hundt & Erika Baylor, *Recent Developments: Natural Resources*, 39 TEX. ENVTL. L.J. 187, 194 (2009).

106. See Abel, *supra* note 9.

107. *Id.*

108. Illegal and unregulated fishing efforts are monitored by the U.S. Coast Guard. UNITED STATES COAST GUARD, PROTECTING AMERICA’S FISHERIES 3, available at <https://www.uscg.mil/history/articles/Fisheries.pdf>.

109. Scientific data produced by TRAC is, in fact, used by decision makers. See *supra* Part I.B.

110. Press Release, Nat’l Oceanic & Atmospheric Admin., Statement Regarding New Information Showing Continued Decline of Gulf of Maine Cod Stock (Aug. 1, 2014), available at http://www.nefsc.noaa.gov/press_release/pr2014/other/MA1402/ [<http://perma.cc/TQY3-V6ZE>]. From 2011 to 2013 alone, landings of cod by American fishermen dropped from 17.5 million pounds to 4.9 million pounds. Levitz, *supra* note 16.

111. See Hooks et al., *supra* note 105.

remedied by *binding* bilateral cooperation and cohesion between the United States and Canada.¹¹²

Canadian domestic efforts to manage the cod fishery around the Gulf have been dissimilar to those in the United States; nonetheless, they too have been ineffective in mitigating the disappearance of cod.¹¹³ While Canada also operates under the advisement of the Committee, its governance structure differs from that of the United States.¹¹⁴ Canada's governance structure works as follows: the Committee's TMGC submits its recommendations for sustainability to the NEFMC and to GOMAC, which is comprised of federal and provincial government representatives and the Canadian Consul in Boston.¹¹⁵ GOMAC, under advisement from the Committee, then makes a fishery management recommendation to Canada's Minister of Fisheries and Oceans, who has the authority to promulgate appropriate legislation.¹¹⁶ However, as the Committee remains an advisory organization, Canada is not required to implement the recommendations of the Committee and "may opt to increase, decrease, or maintain the status quo levels for [cod yield]"¹¹⁷ This disparate governance structure presents a classic instance of Garret Hardin's tragedy of the commons¹¹⁸ and explains why Canada and the United States' continued independent management of a transboundary population of fish is ineffectual in curbing the depletion of the cod, generally.¹¹⁹

The insubstantial effect of unilateral domestic regulations on transboundary cod is particularly evinced by Canada's unilateral moratorium on cod fishing in Newfoundland in 1992.¹²⁰ By the early 1990s, the cod population in Newfoundland spiked and then completely disappeared.¹²¹ In response to this unprecedented disappearance of cod—in which the biomass of cod dropped nearly ninety-three

112. *Cf. Transboundary Management Guidance Committee (TMGC)*, *supra* note 90 (discussing initial steps in increased cooperation between the United States and Canada concerning non-binding management of the fishing industry).

113. See Janet Thomson & Manmeet Ahluwalia, *Remembering the Mighty Cod Fishery 20 Years After Moratorium*, CBC NEWS (June 29, 2012, 5:40 PM), <http://www.cbc.ca/news/canada/remembering-the-mighty-cod-fishery-20-years-after-moratorium-1.1214172> [<http://perma.cc/4DNE-L2TF>].

114. Fanning & Heimes, *supra* note 65, at 302.

115. *Id.*

116. *Id.* at 302, 313.

117. *Id.* at 302.

118. In this "tragedy," individuals are incentivized to externalize costs and exploit resources to maximize their own gain. Thus, in a common-pool cod fishery, it is in the individual fisherman's self-interest to catch as many fish as possible, without regard to resource management. Eventually, the resource is depleted so significantly that it leads to a "day of reckoning." Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1244 (1968).

119. See *id.*; see also Pudden & VanderZwaag, *supra* note 36, at 36 (illustrating the challenges of implementing independent management techniques to solve the overfishing).

120. See Thomson & Ahluwalia, *supra* note 113.

121. Goldstone, *supra* note 27. An "eerily familiar" phenomenon appears to be happening in the Gulf today. Heather Goldstone, *Is History Repeating Itself in the Gulf of Maine?*, WCAI (Aug. 18, 2014), <http://capeandislands.org/post/history-repeating-itself-gulf-maine/> [<http://perma.cc/8DEW-Y8Q8>].

percent in thirty years¹²²—Canada’s Minister of Fisheries and Oceans imposed a mandatory moratorium on cod fishing.¹²³ Meanwhile, the United States continued to fish the North Atlantic and Gulf of Maine, depleting the transboundary stock of cod.¹²⁴ The result, as we have seen, has not yielded a net increase in cod in either the Gulf¹²⁵ or Newfoundland.¹²⁶ In fact, the United States’ continued extraction of cod from the region rendered Newfoundland’s draconian measures ineffectual: although Newfoundland’s cod *appear* to have made a slight rebound,¹²⁷ the improvements have been negligible, slow, and have been debilitated by the United States’ failure to implement an identical moratorium.¹²⁸

The solution for the decimated cod population, it seems, requires a prescriptive symbiosis of domestic measures between Canada and the United States within the common-pool Gulf—continued independent operations simply have not worked, and time is running out. The next section of this Note proposes that very solution.

II. AN ALTERNATIVE TO NOAA’S RESTRICTIONS ON AMERICAN COD FISHING IN THE GULF: A TRANSNATIONAL SOLUTION

As we have seen, past and current processes have failed to either rehabilitate or mitigate the loss of cod in the Gulf: international regimes—which fill a role that is largely advisory—remain without the authority to promulgate *binding* law,¹²⁹ while purely domestic, independent measures taken by Canada and the United States have shown to be too disparate to support rehabilitation of the transnational species in the common-pool Gulf.¹³⁰ The most recent iterations of independent, unilateral domestic measures are NOAA’s six-month closure of American cod fisheries in the Gulf¹³¹ and its subsequent May 2015 “Framework 53”¹³² restrictions—since each of these regulations is a recent propagation of a disparate domestic approach that fails to understand the Gulf as a common-pool fishery, each faces the same shortcomings as

122. Jenny Higgins, *Cod Moratorium*, NEWFOUNDLAND & LABRADOR HERITAGE (2009), <http://www.heritage.nf.ca/articles/economy/moratorium.php> [<http://perma.cc/4PZE-9DG2>].

123. Michael Conathan, *Fish on Fridays: A ‘Day of Reckoning’ for the New England Groundfishery*, CENTER FOR AM. PROGRESS (May 3, 2013), <http://www.americanprogress.org/issues/green/news/2013/05/03/62295/a-day-of-reckoning-for-the-new-england-groundfishery/> [<http://perma.cc/E8E5-AMTL>].

124. *See id.*

125. *See supra* Introduction.

126. *But see* John Spears, *Newfoundland Cod Fishery Sees Glimmer of Hope*, THE STAR.COM (May 18, 2012), http://www.thestar.com/news/canada/2012/05/18/newfoundland_cod_fishery_sees_glimmer_of_hope.html [<http://perma.cc/6PFN-6YTG>] (offering that preliminary reports of an increase in the cod population provides a “glimmer of hope”).

127. *Id.*

128. The moratorium is still in effect more than twenty years after its implementation. Conathan, *supra* note 123.

129. *See Transboundary Management Guidance Committee (TMGC)*, *supra* note 90.

130. *See* Pudden & VanderZwaag, *supra* note 36, at 39.

131. *See* Levitz, *supra* note 16.

132. Framework Adjustment 53, 80 Fed. Reg. 25,110, 25,111 (May 1, 2015) (to be codified at 50 C.F.R. pt. 648). For a brief explanation of Framework 53, see Horgan, *supra* note 17.

previous domestic regulations.¹³³ They too will fail. Accordingly, this Part suggests that to solve the crisis, a bilateral agreement that places a moratorium on cod fishing in the common-pool Gulf must be adopted by Canada and the United States.

A. Why the Most Recent Restrictions Will Fail

On November 11, 2014, John Bullard, a regional administrator of NOAA, acknowledged that cod numbers were the worst the agency had seen in forty years before announcing that “[cod] are in a free fall.”¹³⁴ Accordingly, NOAA and the NEFMC enacted the “most drastic” regulations in the history of cod fishing by mandating temporary rolling bans on American fishing grounds within the Gulf until May 2015.¹³⁵ The bans effectively shut down American cod fishing fleets from Provincetown, Massachusetts to the Canadian border by prohibiting recreational and commercial fishermen from “trawling”¹³⁶ in waters that may catch cod.¹³⁷ Further, the regulations limited incidental cod catch¹³⁸ by decreasing the total allowable catch from 1550 metric tons to a mere 386 metric tons.¹³⁹

Nearly six months later, on May 1, 2015, the temporary emergency restrictions were lifted and NOAA and the NEFMC implemented “Framework 53.” Instead of eliciting “sighs of relief,”¹⁴⁰ however, Framework 53 only further incited displeasure from the Gulf’s already indignant fishermen.¹⁴¹ In fact, Framework 53 brings “little relief”¹⁴² for fishermen and serves as a more permanent affirmation of November’s

133. *See supra* Part I.C.

134. Tom Bell, *Regulators To Place Strict Limits on Cod Catch in Gulf of Maine*, *Portland Press Herald* (Nov. 10, 2014), <http://www.pressherald.com/2014/11/10/regulators-to-place-strict-limits-on-cod-catch-in-gulf-of-maine/> [<http://perma.cc/L6NX-UPRL>].

135. Anne Mostue, *Regulators Ban Cod Fishing in Gulf of Maine as Stocks Dwindle*, *NPR* (Nov. 11, 2014, 4:16 PM), <http://www.npr.org/sections/thesalt/2014/11/11/363342277/regulators-ban-cod-fishing-in-new-england-as-stocks-dwindle> [<http://perma.cc/DC34-HZG5>].

136. A “trawl” is “a net which is towed or dragged through [a] water column, capturing fish by straining the water” N.Y. ENVTL. CONSERV. LAW § 13-0341 (McKinney 2008).

137. Mostue, *supra* note 135.

138. “Incidental” catches occur when fishermen catch cod while targeting other species. *NOAA Recommends Strong Restrictions for Gulf of Maine Cod*, *FIS* (Nov. 12, 2014, 2:30 PM), <http://www.fis.com/fis/worldnews/worldnews.asp?monthyear=&day=12&id=72685&l=e&special=&nb=1%20target=> [<http://perma.cc/MJ3Z-5GE7>].

139. *NOAA Sets Restrictions on Gulf of Maine Cod Fishing, Doubles Haddock TAC*, *UNDERCURRENT NEWS* (Nov. 11, 2014, 9:42 AM), <http://www.undercurrentnews.com/2014/11/11/noaa-puts-restrictions-on-gulf-of-maine-cod-doubles-haddock-tac/> [<http://perma.cc/8NHN-8GTY>].

140. Editorial, *Latest Cod Limits Reiterates Need for Assessment Changes*, *GLOUCESTER TIMES* (Apr. 28, 2015, 12:20 AM), http://www.gloucestertimes.com/opinion/editorial-latest-cod-limits-reiterates-need-for-assessment-changes/article_07798854-b937-5f3a-b48e-b25656b825d3.html [<http://perma.cc/N3CS-BKJ6>].

141. *See* Patrick Whittle, *Lean Year for New England Cod Ahead as Shutdown Looms*, *WASH. TIMES* (Apr. 26, 2015), <http://www.washingtontimes.com/news/2015/apr/26/lean-year-for-new-england-cod-ahead-as-shutdown-lo/?page=all> [<http://perma.cc/TD33-CMYB>] (reporting that Gulf fishermen feel that they are being “driv[en] . . . out of business”).

142. Editorial, *supra* note 140.

restrictions:¹⁴³ Framework 53 imposes “extraordinarily protective measures”¹⁴⁴ that mandate the United States’ cod quota to be 386 metric tons from 2015 until 2017.¹⁴⁵

NOAA is confident that federal regulations “help halt the continued decline of cod in the hopes that [the Gulf] may rebuild to support viable fisheries in the future.”¹⁴⁶ Meanwhile, Canada continues to fish its exclusive zone of the Gulf¹⁴⁷ free of these regulations, while cod continue to swim freely and without regard for politically constructed jurisdictions.¹⁴⁸ Indeed, Framework 53 is merely an iteration of the United States and Canada’s continued disparate management¹⁴⁹ of the cod fishery in the Gulf and constitutes a classic example of a common-pool resource issue.¹⁵⁰ The consequence of this issue is that Framework 53—because it calls for

143. “Framework 53 closely mirror[s] the objectives and practical applications of the emergency measures NOAA instituted last fall in its belief the Gulf of Maine cod stock required extraordinary protective measures to halt a further decline of the iconic fish stock.” *NOAA: Emergency Cod Measures Are out for 2015 and Framework 53 Is in*, SAVING SEAFOOD (Apr. 24, 2015), <http://www.savingseafood.org/news/regulations/noaa-emergency-cod-measures-are-out-for-2015-and-framework-53-is-in/> [<http://perma.cc/64RV-9T5L>].

144. *Id.*

145. Framework Adjustment 53, 80 Fed. Reg. 25,110, 25,112 (May 1, 2015) (to be codified at 50 C.F.R. pt. 648). Two hundred metric tons will be apportioned to commercial fishing enterprises. *NOAA: Emergency Cod Measures Are out for 2015 and Framework 53 Is in*, *supra* note 143.

146. *NOAA Sets Restrictions on Gulf of Maine Cod Fishing, Doubles Haddock TAC*, *supra* note 139.

147. That is, its two hundred mile fisheries jurisdiction and boundaries as prescribed by the ICJ. *See supra* Part I.A. However, Framework 53 does propose a system in which Canada and the United States share a total quota of cod. This shared quota system is promulgated by the TMGC and is based on TRAC conducted assessments. Framework 53 states that if the United States exceeds its annual cod quota, it will reduce the U.S. cod quota in the following year in a commensurate amount to the overages. Framework Adjustment 53, 80 Fed. Reg. at 25,111. While this shared system is certainly a step in the right direction, the United States’ quota is bound by federal law, while Canada’s quota is only “advised” by the TMGC. *Id.* Thus, since the limited quota is not *binding* on Canada, this “shared system” remains without teeth and, accordingly, insufficient. *See supra* notes 89–98 and accompanying text.

148. Obviously, fish do not observe legal jurisdictions. For a discussion on “interlegality” that reconceives notions of scale and jurisdiction, see Mariana Valverde, *Jurisdiction and Scale: Legal ‘Technicalities’ as Resources for Theory*, 18 SOC. & L. STUDS. 139, 144–147 (2009) (“If the fish are deemed to be Canadian, then the logic of ‘natural resources’ will certainly be deployed to govern them, but the political consequences of unemployment in East Coast fishing villages will also be taken into account: the who, then, ends up determining much of the how . . . [Accordingly], an animal rights group could perhaps try to claim that the fish in the sea are not a resource but rather individual rights-bearers, a move that would draw on a completely different jurisdictional apparatus . . .”) (internal quotation marks omitted).

149. *But see supra* text accompanying note 147.

150. *See* Charlotte Hess & Elinor Ostrom, *Ideas, Artifacts, and Facilities: Information as a Common-Pool Resource*, 66 LAW & CONTEMP. PROBS. 111, 116 (2003).

disparate management of the cod fishery—will perpetuate the plight of the codfish¹⁵¹ and fail to mitigate the depletion of the imperiled stock.¹⁵²

To analyze a common-pool resource, it is first necessary to avoid confusion by identifying the relationship between the “resource system” and the “flow of resource units”¹⁵³—in this instance, the common-pool resource system is the Gulf itself while the flow of resource units is the total bycatch of cod stock.¹⁵⁴ Prior to the boundary delimitations in the late 1970s,¹⁵⁵ the common-pool resource system (the Gulf) was not subject to jurisdictional assignment; thus, no actor was bound to specific state-based regulations regarding the flow of resource units (cod). Accordingly, the Gulf remained “freely appropriable”¹⁵⁶ and, in theory, might have “stimulate[d] the opportunistic individual behavior of accumulation and ultimately destructive and ‘inefficient’ consumption.”¹⁵⁷ However, the implementation of Canada’s Order and the United States’ Magnuson Act have since separated the Gulf into two distinct economic zones, suggesting that a “tragedy”¹⁵⁸ of the cod fishery in the Gulf should have been avoided. Contrarily—even in spite of the United States’ most recent regulations—the tragedy has been exacerbated, while the Gulf remains “freely appropriable.”¹⁵⁹

The boundary delimitation of the Gulf lends itself, albeit unsuccessfully, to a conservation solution proposed by Elinor Ostrom.¹⁶⁰ Ostrom proposed eight “design” principles for appropriately managing a commons.¹⁶¹ One such principle stipulates that the institution of well-defined boundaries around a community of users and around the resource system that the community uses “helps to internalize the positive and negative externalities produced by participants.”¹⁶² Further, well-defined boundaries allow for “co-management” fishery law, in which authority for managing stocks is shared between the fishing industry and government agencies.¹⁶³ In practice,

151. See H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124, 134 (1954) (“[T]he inefficiency of fisheries . . . stems from the common-property nature of the resources of the sea [and] is further corroborated by the fact that one finds similar patterns of exploitation and similar problems in other cases of open resources.”).

152. See Hess & Ostrom *supra* note 150, at 112.

153. *Id.* at 121.

154. See *id.*

155. See *supra* Part I.A.

156. Ugo Mattei, *First Thoughts for a Phenomenology of the Commons*, in *THE WEALTH OF THE COMMONS: A WORLD BEYOND MARKET & STATE* 37, 40 (David Bollier & Silke Helfrich eds., 2012).

157. *Id.*

158. Hardin, *supra* note 118, at 1244.

159. Mattei, *supra* note 156, at 40.

160. See ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (1990).

161. *Id.* at 90

162. Michael Cox, Gwen Arnold & Sergio Villamayor Tomás, *A Review of Design Principles for Community-Based Natural Resource Management*, 15 *ECOLOGY & SOC’Y.*, no. 4, 2010, at 38, 43.

163. James Acheson, Terry Stockwell & James A. Wilson, *The Development of the Maine Lobster Co-management Law*, 9 *ME. POL’Y REV.*, no. 2, 2000, at 52, 53.

the delimitation of elucidated zones has been particularly effective in supporting successful co-management techniques for the lobster industry in the Gulf of Maine.¹⁶⁴ In fact, a “co-management law” was applied to the Maine lobster industry in 1997.¹⁶⁵ The law created seven zones within the Gulf, each to be co-managed by an assigned independent council comprised of lobster fishermen and members of the state legislature.¹⁶⁶ The law has been a resounding success,¹⁶⁷ as independent co-management of lobster fisheries within the construct of pellucid boundary lines has helped the Maine lobster fishery become “one of the world’s most successful fisheries.”¹⁶⁸

Perhaps if codfish’s migratory habits were more akin to those of lobster, the delimitation of two hundred nautical mile fisheries jurisdictions within the Gulf would allow for successful independent resource management.¹⁶⁹ Indeed, if cod remained confined to the boundary delimitations of the Gulf, co-management¹⁷⁰ and other appropriate and effective unilateral resource management solutions would help encourage conservation and engender rehabilitation of the cod fishery in the Gulf. However, cod exist as a transboundary species that are more mobile than lobster¹⁷¹ suggesting that the independent management of the cod fishery within each country’s exclusive economic zone nullifies the efficacy of unilateral conservation efforts. Despite politically constructed zones,¹⁷² the Gulf remains one common resource system.¹⁷³ Thus, though NOAA’s most recent regulations ameliorate the strain of overfishing domestically, that Canada remains unencumbered by the regulations’ cod fishing ban suggests that cod remain “appropriable” by Canadian fishermen¹⁷⁴ and susceptible to “exploitation.”¹⁷⁵ The most recent regulations, then, will be ineffective at curbing the disappearance of cod from the Gulf.

B. A Solution

Indeed, “[e]nvironmental conditions make necessary some vehicle which will prevent the resources of the community at large from being destroyed by excessive

164. *Id.*

165. *Id.* at 54.

166. *Id.*

167. *Id.* at 58.

168. *Id.* at 53.

169. See OSTROM, *supra* note 160; Nickelsburg, *supra* note 45, at 1409 n.221.

170. Co-management techniques are successful not only for lobster fisheries; they can be successful for all fisheries. That cod migrate between two unilaterally regulated boundaries (Canada and the United States), however, makes co-management options untenable.

171. *But see* Leslie M. MacRae, *It’s Time for the Lobster Monopoly To End: Maine Needs to Grow Up Like Its Lobsters*, 18 J. NAT. RESOURCES & ENVTL. L. 171, 190 (2004) (“[Lobsters are] capable of migrations . . .”).

172. See, e.g., Nickelsburg, *supra* note 45, at 1409 n.221 (“[A] political regime that allows substantial autonomy, invests in enforcement agencies, and provides generalized institutional-choice and conflict-resolution arenas’ could facilitate [efforts]” (citation omitted)); Valverde, *supra* note 148, at 146.

173. See Hess & Ostrom, *supra* note 150, at 112.

174. See Mattei, *supra* note 156, at 40.

175. Gordon, *supra* note 151, at 134.

exploitation.”¹⁷⁶ Accordingly, an effective vehicle to solve the cod crisis must recognize two environmental conditions: first, that cod are a transboundary species incapable of adhering to man-made boundaries; and second, because man-made boundaries do not have any effect on cod’s behavior, the Gulf should be understood and regulated as one common-pool fishery.¹⁷⁷ Instead of promulgating domestic regulations to mitigate the loss of cod from the Gulf, Canada and the United States must spare the cod fishery from irrevocable demise¹⁷⁸ by forming a bilateral treaty that imposes a temporary moratorium on cod fishing throughout the entire resource system (that is, the entire Gulf).

What might the architecture of a bilateral agreement that imposes a temporary moratorium on cod fishing in the Gulf look like? The most salient solution is one that incorporates a “hybrid” top-down, bottom-up approach¹⁷⁹—that is, a prescriptive treaty created at an international level but enforced and regulated domestically.¹⁸⁰ This architecture is favorable because an internationally prescribed solution—here, a moratorium—promulgates measures that are “clear, transparent and quantifiable”¹⁸¹ for both the United States and Canada, thus alleviating the inefficiency engendered by disparate unilateral measures.¹⁸² Though the measures themselves will be enunciated and prescribed from a top-down, international level, for them to be puissant, it is necessary that they be “imbued with legal force domestically.”¹⁸³ Again, only domestic institutions in Canada and the United States have any law-making authority within each nation’s exclusive economic zone. By using the architecture of a hybrid approach, however, the United States and Canada can transcend legal boundaries while harnessing the top-down clarity of an international approach. Quite simply, the United States and Canada must regulate the Gulf by creating an “agreed outcome [moratorium] with legal force.”¹⁸⁴

Conveniently, the Gulf’s current regulatory framework lends itself perfectly to the structure of this hybrid solution—in fact, the processes are already in place. Internationally, the moratorium itself would be prescribed by the Committee, which—acting pursuant to the power vested in it by UNCLOS III’s Article 63—would advise Canada and the United States of the necessity of an agreement.¹⁸⁵ Using data from the Committee’s TRAC and oversight from the Committee’s TMGC, the

176. *Id.*

177. That is, Canada and the United States should treat the cod fishery in the Gulf as though they were one “sole owner” of the pool. See Anthony Scott, *The Fishery: The Objectives of Sole Ownership*, 63 J. POL. ECON. 116, 117 (1955).

178. Unlike, say, the bluefin tuna, whose population has dropped so precipitously in the Northern Pacific that they are considered “endangered.” Fiona Harvey, *Overfishing Causes Pacific Bluefin Tuna Numbers To Drop 96%*, GUARDIAN (Jan. 9, 2013, 12:17 PM), <http://www.theguardian.com/environment/2013/jan/09/overfishing-pacific-bluefin-tuna> [<http://perma.cc/C7J2-J7YQ>].

179. Rajamani, *supra* note 23, at 722.

180. *See id.* at 739.

181. *Id.* at 728 (internal quotation marks omitted).

182. As the above has shown, previous disparate unilateral measures have failed. Well-articulated prescription will create necessary cohesion. *See id.*

183. *Id.* at 739.

184. *Id.* (internal quotation marks omitted).

185. *See Transboundary Management Guidance Committee (TMGC)*, *supra* note 90.

Committee would appeal to the law-making regulatory bodies in Canada and the United States—GOMAC and NOAA, respectively.¹⁸⁶ With international oversight and a more precise understanding of the Gulf as a common-pool fishery¹⁸⁷ (as opposed to two different exclusive economic zones), GOMAC would implore Canada's Minister of Fisheries and Oceans to impose the internationally prescribed moratorium—pursuant to her law-making powers, the Minister would regulate the Gulf accordingly.¹⁸⁸ Acting in concert with GOMAC, under the advisement of the Committee's moratorium, and with the regulatory powers vested in it by the Magnuson Act, NOAA would similarly promulgate the moratorium in the United States. Indeed, the processes are in place to marry the international standards and domestic support needed to accomplish a solution to the crisis.¹⁸⁹

Though this type of bilateral agreement would certainly be new to the cod fishery in the Gulf, the architecture of the proposed agreement is hardly specific to fisheries and has proved quite effective at successfully regulating transboundary issues in the past.¹⁹⁰ In fact, a very similar structure was used to create 1991's "Agreement Between the Government of the United States of America and the Government of Canada on Air Quality" ("Agreement"),¹⁹¹ an agreement known as a "successful chapter in the 'world's most successful bilateral environmental relationship.'"¹⁹²

The Agreement itself was prescribed at an international level through an International Joint Commission and an International Joint Statement, and compelled Canada and the United States to "commit[] to reduc[ing] certain types of transboundary air pollution identified as injurious to health, ecosystems and property."¹⁹³ Born from the International Joint Commission and Joint Statement was a joint coordinating committee¹⁹⁴—an international organization similar to the Gulf's Committee—that enunciated pollution mitigation goals,¹⁹⁵ produced scientific data,¹⁹⁶ and encouraged specific pollution remedies.¹⁹⁷ The efforts of the joint coordinating committee facilitated the signing of the prescriptive, top-down Agreement,¹⁹⁸ which articulated pollution staving measures for each country while

186. See *supra* Part I.C.

187. See OSTROM, *supra* note 160, at 30.

188. See Fisheries Act, R.S.C. 1985, c. F-14, § 35(3) (Can.).

189. Cf. Aman, *supra* note 19.

190. Here, transboundary air pollution. Jon Ricci, *Transboundary Air Pollution Between Canada and the United States: Paper Solutions to a Real Problem*, 5 J. INT'L. L. & PRAC. 305 (1996).

191. Agreement on Air Quality, U.S.-Can., Mar. 13, 1991, 30 I.L.M. 676.

192. Jeffrey L. Roelofs, Note, *United States-Canada Air Quality Agreement: A Framework for Addressing Transboundary Air Pollution Problems*, 26 CORNELL INT'L L.J. 421, 421 (1993) (quoting *Bush Says U.S.-Canada Air Quality Agreement Signifies 'Extraordinarily Strong' Relations*, 14 INT'L ENVTL. REP. (BNA) 174 (1991)).

193. *Id.* at 439.

194. *Id.* at 440.

195. See *id.* at 445.

196. *Id.* at 447.

197. See *id.*

198. *Id.* at 444.

leaving the development, initiation, and enforcement of the measures to each party's domestic programs.¹⁹⁹

This hybrid approach was largely successful. Since 1991, the level of toxic nitrogen oxide gas emissions in the Canadian/American atmosphere declined from approximately 800,000 metric tons to approximately 300,000 metric tons,²⁰⁰ while the Agreement has solidified itself as “a model of successful bilateral cooperation that has achieved tangible improvements in the environment over its 20-year history.”²⁰¹ If the United States and Canada were to follow the architecture of this model to impose a bilateral moratorium on cod fishing in the Gulf, the countries could add yet another “chapter” to the “world's most successful bilateral environmental relationship.”²⁰²

*C. But Why a Moratorium? Placating Fishermen and Mobilizing
Them as Nonstate Actors*

Understandably, NOAA's six-month cod fishing ban and Framework 53 have drawn opprobrium from American fishermen, who are mounting a “battle”²⁰³ against “premeditated murder” on the fishing industry.²⁰⁴ While this Note's proposed bilateral agreement—which imposes a ban on the Gulf—would likely draw similar ire from the fishing industry, “[t]here should be regular opportunities for citizen input”²⁰⁵ throughout the implementation of the moratorium in order for a transnational solution to the cod crisis to be effective.

Accordingly, for a bilateral moratorium to be effective, cod fishermen, acting as nonstate actors, must be engaged, empowered, and educated.²⁰⁶ For the Gulf's cod fishermen to be engaged, they must be indoctrinated with an understanding of the efficacy of a transnational moratorium. Indeed, fishermen are “central players in the governance of global environmental resources . . . [and] in the creation of [an effective

199. *Id.* at 452.

200. INT'L JOINT COMM'N, UNITED STATES-CANADA AIR QUALITY AGREEMENT PROGRESS REPORT 2012 25 (2012), available at <https://ec.gc.ca/Publications/D9D6380B-4834-41C4-9D36-B6E3348F1A39%5CCanadaUnitedStatesAirQualityAgreementProgressReport2012.pdf> [<http://perma.cc/MTN3-SYZA>].

201. *Id.* at 68.

202. Roelofs, *supra* note 192, at 421 (quoting *Bush Says U.S.-Canada Air Quality Agreement Signifies 'Extraordinarily Strong' Relations*, 14 INT'L ENVTL. REP. (BNA) 174 (1991)).

203. Steve Holt, *Can New England's Cod and Fishermen Both Survive?*, TAKEPART (Nov. 21, 2014), <http://www.takepart.com/article/2014/11/21/new-cod-catch-limits> [<http://perma.cc/S6DU-3ALU>]. Politicians, too, have joined the “battle”; for example, Massachusetts governor-elect Charlie Baker publicly questioned the accuracy of NOAA's stock assessment while offering support for the “nonsensical” system. Laura Crimaldi, *Baker Questions Federal Findings on Fishing Limits*, BOS. GLOBE (Nov. 15, 2014), <http://www.bostonglobe.com/metro/2014/11/15/baker-meets-with-fishermen-about-new-regulations/U6AfdCrBJaj616mrdz8QM/story.html> [<http://perma.cc/LAP3-HBE8>].

204. Editorial, *supra* note 15.

205. AMAN, *supra* note 18, at 13.

206. See S. Mackinson, D.C. Wilson, P. Galiay & B. Deas, *Engaging Stakeholders in Fisheries and Marine Research*, 35 MARINE POL'Y 18 (2011).

transnational] environmental regime[.]"²⁰⁷ Their participation, then, is necessary for a transnational solution to be successful.

For the Gulf's cod fishermen to be appropriately engaged, it is pivotal that they understand that a transnational moratorium, which focuses on the Gulf as one common-pool resource and understands cod as a transnational species, will be effective in rehabilitating the cod industry.²⁰⁸ Confidence in the efficacy of the moratorium would enhance the puissance of the moratorium by engendering the necessary "buy-in" from cod fishermen, who have political and pecuniary²⁰⁹ interests in the long-term health of the Gulf's cod fishery.²¹⁰ To engender the necessary "buy-in" cod fishermen must understand not only the aforementioned analysis of the Gulf as a common-pool fishery but also the success of similar moratoria historically.

For example, in 1994, the Gulf's stocks of haddock—a groundfish similar to cod²¹¹—plummeted to their "nadir"²¹² and faced imminent "collapse."²¹³ In an effort to rehabilitate the floundering haddock, the United States and Canada each agreed to "halt" haddock fishing in the Georges Bank.²¹⁴ In December 1994, Canadian officials "closed off" haddock fishing within 9600 square kilometers of Georges Bank.²¹⁵ Meanwhile, the United States' NOAA imposed "emergency" regulations that prohibited all vessels within the United States' exclusive economic zone from possessing or landing haddock.²¹⁶ Here, though the United States and Canada did not establish a bilateral treaty per se, their cooperative and complementary moratoria utilized an appropriate transnational analysis of the Gulf as a common-pool fishery and the haddock as a transnational species. Canada and the United States' appropriate

207. Myint, *supra* note 22, at 287.

208. Compare Allison Lorenc, *As 2015 Fishing Season Kicks off, a Still Uncertain Future for Cod Remains*, CONSERVATION L. FOUND. (May 1, 2015), <http://www.clf.org/blog/ocean-conservation/as-2015-fishing-season-kicks-off-a-still-uncertain-future-for-cod-remains/> [<http://perma.cc/DTJ4-QZX5>] (stating that Framework 53's restrictions are "not enough" to protect the "future of New England's iconic species"), with *supra* Part II.A (discussing the current regulations, whose unilateral domestic focus inhibits the efficacy of the moratorium, leading to negligible rehabilitation and the needless alienation of and economic hardship for the region's fishermen).

209. See Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV., no. 2, May 1967, at 347, 347.

210. See Michael Edwards & Simon Zadek, *Governing the Provision of Global Public Goods: The Role and Legitimacy of Nonstate Actors*, in PROVIDING GLOBAL PUBLIC GOODS 200, 206 (Inge Kaul, Pedro Conceição, Katell Le Goulven & Ronald U. Mendoza eds., 2003).

211. Fred Decker, *Differences Between Haddock & Cod*, EHOW, http://www.ehow.com/info_8459908_differences-between-haddock-cod.html [<http://perma.cc/D52X-PDCN>].

212. That is, their lowest point. Fleming et al., *supra* note 3, at 582.

213. NAT'L MARINE FISHERIES SERV., REPORT OF THE 18TH NORTHEAST REGIONAL STOCK ASSESSMENT WORKSHOP 173 (1994).

214. John H. Cushman, Jr., *Commercial-Fishing Halt is Urged for Georges Bank*, N.Y. TIMES (OCT. 27, 1994), <http://www.nytimes.com/1994/10/27/us/commercial-fishing-halt-is-urged-for-georges-bank.html> [<http://perma.cc/TF9X-QEVA>].

215. *The Sorry Story of Georges Bank*, AM. MUSEUM OF NAT. HIST. (March 2002), <http://www.amnh.org/explore/science-bulletins/bio/documentaries/will-the-fish-return/the-sorry-story-of-georges-bank> [<http://perma.cc/W8CD-7F9U>].

216. 50 C.F.R. § 651.9(a)(11) (1994).

analyses and corresponding simultaneous moratoria were a resounding success. In 1993, the biomass of haddock in the Gulf was at a “historical low” of 10,300 tons; today, the biomass of haddock is at an “all time high” of approximately 245,000 tons.²¹⁷

The success of Canada and the United States’ haddock moratoria in the Gulf—dubbed the “poster child of [fisheries] management success”²¹⁸—presents a promising precedent for the Gulf’s cod fishermen. As opposed to the disparate and ineffectual domestic management measures employed by Canada and the United States in the past, the haddock precedent makes clear the resounding success of appropriate cooperative measures while presenting a viable “second best” alternative to this Note’s proposed treaty. The cod crisis affects the entire Gulf while the haddock crisis was limited to the Georges Bank; accordingly, the current crisis necessitates a prescriptive treaty that presents a “clear, transparent and quantifiable”²¹⁹ moratorium for Canadian and American fishermen throughout the entire Gulf. However, while the situation that precipitated the haddock moratoria is certainly distinguishable from the present case, the haddock precedent suggests that cooperative or simultaneous domestic moratoria may be “second best” alternatives to this Note’s proposed treaty and highlights the efficacy of moratoria on fishery rehabilitation, generally.

By understanding the Gulf as a common-pool fishery and treating the cod as a transnational species, a moratorium will, as it has in the past, be effective in resolving the Gulf’s crisis. As opposed to NOAA’s unilateral cod bans—which have only alienated Gulf fishermen—an effective bilateral moratorium would engender a confidence and understanding that will, coupled with a stakeholder’s interest in the future health of cod stocks within the Gulf, ensure the engagement, compliance, and support of the Gulf’s fishermen. Indeed, with the buy-in of the nonstate-actor fishermen, the moratorium will be a viable, successful, and powerful vehicle for rehabilitating the cod species, exemplifying the efficacy of applying transnational legal solutions to local, global, and international crises.

CONCLUSION

The existence of a culturally revered and economically important species is in flux: indeed, cod within the Gulf of Maine are on the brink of extinction. While the current fragility of the species is hardly surprising to those familiar with the steady decline of the species within the Gulf, NOAA’s most recent regulations remain confounding. A unilateral moratorium cannot be an effective solution for rehabilitating a transboundary species, in a transnational fishery, within a common-pool resource system.

In so arguing, this Note has explained the history of the Gulf: how the delimitation of boundaries has precipitated a fundamental misunderstanding of the Gulf, how international regimes have lacked the requisite authority to promulgate appropriate rehabilitative measures, and how unilateral domestic laws have perpetuated ineffective independent fishery management by both Canada and the United States.

217. Brett Bundale, *Haddock Stocks in Full Recovery*, HERALD BUS. (Jan. 22, 2014, 6:46 PM), <http://thechronicleherald.ca/business/1181458-haddock-stocks-in-full-recovery> [<http://perma.cc/DP78-CVED>].

218. *Id.* (quoting Dalhousie University marine biology professor Boris Worm).

219. Rajamani, *supra* note 23, at 8 (internal quotation marks omitted).

NOAA's most recent regulations serve only as a propagation of ineffective domestic laws and will thus be ineffective at rehabilitating the cod fishery.

Instead, a transnational solution is necessary: one that properly treats the Gulf as a common-pool resource system and the cod as a transboundary resource. This solution comes in the form of a bilateral treaty, which enunciates and promulgates a top-down moratorium at the international level while being enforced bottom-up at the domestic level. This treaty's "hybrid" architecture has been effective in remedying transnational issues historically. Further, it is necessary to engender cod fishermen buy-in by apprising them of the historical efficacy of cooperative moratoria.

The crisis in the Gulf necessitates a transnational solution: more traditional legal approaches simply will not suffice. This Note's proposal provides that solution: a solution that will effectively rehabilitate the Gulf's cod and will serve as a tangible example of the efficacy of transnational legal solutions to local, global, and international crises. It is time, now, for the United States and Canada to act. For cod's sake.