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## **Fishing for Security**

Daniel Schaeffer

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**JACK D. GORDON INSTITUTE  
FOR PUBLIC POLICY**

# **FISHING FOR SECURITY**

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**TAKING ON ILLEGAL FISHING IN  
LATIN AMERICA**

**AUTHOR**  
DANIEL SCHAEFFER



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Over the decades, innumerable experiences and people have shaped my perspective and knowledge. Through shared knowledge and experiences, we can better understand the challenges and find collective solutions to address an issue that is both a threat and an opportunity for maritime governance and the rule of law.



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## INTRODUCTION

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Over 25 years ago, illegal fishing was seen as a significant threat to international fisheries. Extraordinary efforts, such as the adoption of the UN Fish Stocks Agreement and the UN Compliance Agreement, illustrated the importance of addressing illegal fishing at the global level. The countries in Latin America and the Caribbean (LAC) have a long history of addressing fisheries interests by leading global efforts. The Santiago Declaration of 1952 established a 200 nautical mile fisheries zone leading to the codification of the concept in the United Nations Convention on the Law of the Sea (UNCLOS). It also created a regional coordination mechanism, the Permanent Commission of the South Pacific (CPPS), which has recently begun efforts to establish a regional plan of action to combat illegal, unreported, and unregulated (IUU) fishing in accordance with the United Nations (UN) Food and Agriculture Organization (FAO) International Plan of Action on IUU. The intervening decades have seen interest and ensuing resource commitments ebb and flow. Today, the global community is recognizing that the impacts of IUU fishing are not just a fisheries issue.

The LAC countries are experiencing a surge in foreign fishing activity and a rapid increase in global demand for seafood products that are impacting the sustainability of renewable fisheries resources.<sup>1</sup> The loss of fisheries resources can impact food security and employment opportunities and reduce national revenue. Fishing vessels can be associated with other nefarious activities beyond IUU fishing to include crimes associated with fishing such as corruption, document, tax and customs fraud and convergent crimes like human and arms trafficking, and drug smuggling.

Addressing IUU fishing in LAC is wrought with challenges that include a vast maritime area, limited enforcement resources, capability limitations, data analysis and sharing difficulties, legal constraints, and international frameworks that can constrain efforts. To overcome the challenges of IUU fisheries enforcement in LAC, regional solutions should focus on cooperation, including interagency, regional, and international partnerships. Non-traditional partners, such as naval and security forces, should be engaged because IUU fisheries enforcement is a gateway

mission to achieve broader maritime security objectives at the national and regional levels.

Examples from outside the region can provide valuable lessons in collective efforts to address IUU fishing. This includes exploring operational cooperation at the regional level, developing regional cooperative enforcement frameworks, incorporating the academic community to help identify and find solutions for IUU fishing enforcement, and using international instruments to facilitate national and coordinated regional enforcement.

Technology and information analysis and dissemination are essential elements, but they must be applied and used as part of the solution and developed with a view toward sustainability. Any new technology should be a solution to a current problem and not an existing technology looking for a problem to solve. Finally, technology solutions should be evaluated for their applicability, sustainability, and utility to address the problem.

IUU fisheries enforcement offers an opportunity for external partners to provide value to LAC through increased cooperation. Cooperation and support can include capacity development through sustained training and engagement, deployment of operational resources and personnel, support for regional implementation efforts, and robust information collection, analysis, and dissemination. Such support provides benefits to the partner nations demonstrating commitment, increasing the prospect for operational collaboration.

It is worth noting that the issues and impacts of IUU fishing and the solutions must originate within LAC, with the support of external partners.

The global fishing industry impacts nearly every coastal and island nation with an estimated US\$401 billion first sale value.<sup>2</sup> The true value can be three times this number, potentially contributing more than US\$1 trillion to the global economy.<sup>3</sup> More than 3.3 billion people worldwide rely on fish for 20 percent of their animal protein, which disproportionately impacts developing island and coastal nations. The industry employs about 60 million people directly, with almost three million used in the LAC region alone. IUU fishing diminishes the fish stocks, taking from the legitimate participants to benefit illicit actors who are often outside the

region where the fish are caught.

The granularity and quality of data make it difficult to fully quantify the economic impacts of IUU fishing. A range of published works provide varying levels with staggering global numbers, such as US\$26 billion to US\$50 billion in losses,<sup>4</sup> up to one in five fish sold being illegal, and regional values—including the Argentine stated losses of more than US\$2 billion annually.<sup>5</sup> While the methodologies and absolute values may be debated, the relative impacts are significant. Yet, a broader perspective of the impacts of fisheries resources beyond financial losses paints an even darker reality. The price paid for fish differs from the cost, with significant repercussions that cannot readily be quantified.

Combating IUU fishing is not just about preserving a country's fish stocks, nor is it about ensuring the long-term health of any particular fish species. Protecting fisheries resources is about safeguarding a valuable renewable resource that has national security implications. For most coastal and island nations, protecting their fisheries is imperative. The fisheries are a national revenue source that helps ensure local and regional stability through food security, improved health, and better employment opportunities. Fighting IUU fishing by supporting fisheries enforcement efforts has corollary benefits of providing a maritime force that can be developed as multi-mission and thus address the full range of maritime security threats.

When the topic of fisheries enforcement comes up, it is often quickly compartmentalized into a “fish box” and immediately delegated to fisheries officials and agencies to address. Too often viewed as an environmental or conservation issue, fishery resources have implications as both a cause for and prevention of regional instability. The external threat of IUU fishing includes the number of foreign fishing vessel fleets operating just beyond the exclusive economic zones (EEZs) of coastal nations targeting squid, hake, shrimp, and other transboundary species. This includes vessels from the European Union, China, and countries in the region. Transshipment, distant water fishing ports, and subsidies all contribute to IUU fishing in LAC. It is time to acknowledge the national and regional threat of illegal fishing as broader than just a matter of fish.

## BEYOND JUST FISH

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### Source of Protein

The world population continues to grow, and with it, the increased need for a secure and sustainable source of protein. The latest UN FAO Status of World's Fisheries Report (FAO SOFIA) maintains that nearly half the world's population gets 20 percent or more of its protein from fisheries.<sup>6</sup> Yet, as with any resource, the amount available is finite. There are fewer fish available to feed a population that needs more. This trend has led to increased pressure and competition for what remains.

This competition for fisheries is even greater when small-scale and domestic commercial fishers are forced to deal with the impacts of large-scale industrial fishing, including direct competition, habitat destruction, or the decimation of fish stocks. Fishing vessels from other countries, including Spain, South Korea, China, and even from within LAC, can compete with domestic, commercial fleets and are often larger, more efficient, subsidized, and operate outside established regulatory regimes. This is illustrated by the many Chinese fishing vessels operating in South America that would not profit without subsidies.<sup>7</sup> This leads to less fish for domestic, commercial fishers and a loss of a secure protein source for small-scale ones.

When the ability to provide a source of food for families and communities evaporates, alternative sources will be pursued. The alternatives may be increased pressure on terrestrial wildlife, seeking fish beyond authorized areas and regulatory limits, or nefarious activities that provide income to buy needed food. Their catches can feed their families and communities. It is not just fish; it is a secure source of food.

### Employment

Fisheries extraction offers opportunities for employment to millions of people and includes industrial fishing to artisanal fishers. It is estimated that more than two million people in LAC are directly or indirectly linked to small-scale fisheries.<sup>8</sup> However, it is not just those that catch fish that are employed. The fish that feed the world is extracted by people. It is processed

by people ashore. The value of fish only shows one level. It does not speak to the secondary and tertiary down and upstream industries that support and are supported by the fishing industry. There are suppliers that provide fuel and stores; boat builders, gear suppliers and menders; market sellers; processing plants, and restaurants. An intricate web will collapse when fish are no longer available, taking down an entire business ecosystem and its associated employment.

People will seek alternatives when they lose their jobs and can no longer provide for their families. They may choose to migrate in search of employment, seek other sources of local income, or turn to illicit activities that enable them to survive and earn a living.<sup>9</sup> It is not just fish; it is a source of direct and indirect employment that supports families and communities.

### **National Revenue**

Beyond people feeding their families and making a living, countries gain from extracting this public resource. This comes from direct sources of revenue—including access fees and taxes on the landed catch, which can provide a significant portion of a coastal nation's income. Even greater are the impacts derived from the industries that support them and the associated businesses they attract. Fisheries' economic impacts can be as much as three times the direct monetary economic impacts.<sup>10</sup> Fisheries are base industries with primary, secondary, and tertiary impacts on businesses up and downstream.<sup>11</sup> This includes port facilities and supporting infrastructures like food vendors, suppliers, and shipyards.

When a large source of government revenue is derived directly and indirectly from the extracted public resource that is fish, it needs protection if those sources of funding are to remain. In 2018, the combined export value of Argentina, Brazil, Chile, Peru, and Uruguay exceeded US\$15 billion.<sup>12</sup> If the fish are no longer available for harvest, that revenue will disappear. The shortfall in funding will have to be made up from other sources or will simply be lost. When the fish are gone, so is the revenue generated, and when the money is gone, the shortfall will need to be made up. It's not just fish; it is a source of national revenue both up and downstream.

### **More than a Fishing Boat**

A fishing vessel is a multipurpose platform that can be used for more than fishing. The cargo capacity, range, and seakeeping capabilities make fishing vessels ideal platforms for more than just transporting fish. Fishing vessels have been found transporting a range of illicit cargo to include narcotics, illegal weapons, contraband in the form of illegally harvested wildlife, lumber, and untaxed goods.<sup>13</sup>

A fishing vessel can conceal illicit activity among the legitimate activities of the fishing industry.<sup>14</sup> The fishing industry is not inherently associated with criminal activity, but instead, fishers engage sporadically either voluntarily or through coercion, as identified in a recent study on the linkage between fisheries and drug smuggling.<sup>15</sup> This makes detection difficult when most fishing vessels encountered will not be involved or linked to criminal activities. Illicit actors are hiding in plain sight.

Fishing vessels can be implicit in various nefarious activities that exploit humans, ranging from human rights violations, labor abuses, slavery and slave-like conditions, and human trafficking.<sup>16</sup> A 2020 U.S. Congressional Report on "Human Trafficking in the Seafood Supply Chain" highlighted the existence of labor abuses in LAC. It listed Ecuador and Honduras among 29 countries at risk for human trafficking and labor abuses in the fishing industry.<sup>17</sup> Fishing vessels operate in areas with little oversight, and what happens between the rails of the boat can easily be concealed. The traditional perspective that the master of the vessel is the undisputed ruler pervades maritime culture.

## **DEFINING IUU FISHING**

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It is important to note that IUU Fishing is multifaceted and not simply illegal fishing. The International Plan of Action to Combat IUU Fishing (IPOA) does not provide a definition but describes what is generally accepted as the meaning of IUU fishing.<sup>18</sup> The IPOA text states:

### 3.1 Illegal fishing refers to activities:

3.1.1 conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations.

3.1.2 conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or

3.1.3 in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.

### 3.2 Unreported fishing refers to fishing activities:

3.2.1 which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or 3.2.2 undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.

### 3.3 Unregulated fishing refers to fishing activities:

3.3.1 in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or

3.3.2 in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent

with State responsibilities for the conservation of living marine resources under international law.

LAC should have a universally accepted definition of the term IUU to ensure all facets are addressed and that legal definitions adopted within each nation are harmonized within the description provided by the IPOA. An example of misalignment with the IPOA is found in the U.S. definition of IUU in its High Seas Driftnet Fishing Moratorium Protection Act, which lists and holds countries to account for not taking sufficient actions to control IUU fishing.<sup>19</sup>

The definition of IUU deviates and excludes activities within the EEZ of other nations. This has caused significant issues when attempting to hold accountable bad actors that engage in illegal fishing in other nations' EEZs.<sup>20</sup> It is necessary to avoid weakening regional enforcement efforts in a similar way, and this type of limitation can be addressed by a harmonized and agreed-upon regional definition of IUU.

## CAPACITY CHALLENGES

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Operating in the maritime environment presents challenges to address unwanted behavior, and the enforcement of fisheries is no exception. The physical challenges include long distances, extensive ocean areas, and meteorological and oceanographic conditions. The EEZ's in LAC are enormous, with the ocean areas often greater than the land areas of the nations.<sup>21</sup> The distance from logistic support bases increases the relative capability needs of enforcement resources requiring enhanced seakeeping capability, endurance, and speed along with communications, navigation, and detection capabilities. The human capacity needs also increase with more crew needed to operate the vessels and small boats, board vessels, and have the latent capability to handle emergencies and the increased needs law enforcement actions may require.

The resource constraints and capacity limitations can be complex and multiplied when illicit activity occurs in the maritime domain. The size of the areas makes traditional policing

and enforcement impractical. Argentina, Brazil, Chile, Ecuador, and Peru alone have a combined EEZ of more than 9.2 million square kilometers.<sup>22</sup> The tyranny of distance makes persistent physical presence difficult and expensive.

The region should embrace a collective security approach underpinned by legal frameworks to address asset capacity limitations. Ship rider programs have been used successfully in LAC for counter-narcotics efforts and in other regions with a fisheries enforcement focus. The ability to embark ship riders to exercise authority on flagged vessels extends jurisdictional reach and maximizes limited available resources for broader collective security.

Partner militaries within and external to the region can facilitate regional cooperation through joint military exercises such as the annual UNITAS exercises. This annual event has been conducted since 1960 to develop and exercise joint operations with naval and maritime forces in South America. A less formal exercise structure—a passing exercise (PASSEX)<sup>23</sup> conducted between two or more countries as opportunities arise—can also support partner nations' operational capacity needs, data collection, and analysis.

Exercises can and should include a whole of government approach to address illegal fishing. As noted above, fisheries enforcement is a complex issue involving various government agencies. Military resources are an essential element of national and regional fisheries enforcement. To achieve maximum utility, all actors must work together to achieve a successful result. Integrating fisheries enforcement into military exercises requires the incorporation of the full range of government agencies.

The operational constraints and challenges faced by naval and operational units need to be understood by those operating ashore, such as prosecutors and policymakers. This challenge was highlighted by efforts to control piracy. After capturing pirates, the drafting of the charges against the perpetrators, jurisdictional issues, political concerns, and technical issues prevented prosecution.<sup>24</sup> The knowledge gaps also need to be addressed, with operating units needing to understand the legal proceedings and obstacles faced ashore. Through better

understanding across the range of actors, creative solutions can be identified and applied to conduct fisheries enforcement operations efficiently.

## DATA COLLECTION AND INFORMATION SHARING

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Data availability and the utility of the collected data presents challenges. Data collection trends toward high-tech remote sensing and tracking and includes more traditional collection methods such as sightings from aircraft, vessels, and ashore; radar detection; human observation, and intelligence collection. With this data comes the need to interpret the information and make it actionable. If the data and resulting analysis are not useful in addressing IUU fishing, the information loses value and becomes meaningless.

Information-sharing obstacles degrade cooperative fisheries enforcement efforts. Barriers include physical limitations in infrastructure, legal constraints on what can be shared and with whom, privacy restrictions, and the type and format of the information. Classification and protection of law enforcement sensitive information, the security of existing operations, and investigations are additional limitations.

Constraints can be across borders or between agencies. Information systems may not be compatible or able to process the available volume of data. There is also a reticence to share information that comes from legitimate concerns as well as general mistrust. There is a perception that all information needs to be shared, but this may not be the case. Information and derived products offer actionable information that facilitates cooperation and minimizes the need to protect data and expensive information-sharing protocols and systems that complicate the issue.

A recent report by the Centre for Economics and Business Research identified the importance of information sharing in addressing illegal fishing.<sup>25</sup> The agent-based model identified the benefits of information sharing as a powerful tool to deter illegal fishing. The model illustrated many benefits, even when the sharing is limited

or only in one direction. The modeling showed that any information sharing, even when not reciprocated, increased the level of biomass, decreased the propensity of IUU fishing, increased revenue from fines, and decreased the amount of illegal catch in the fishery.<sup>26</sup>

Moreover, if an information system is to be used, it needs to be durable. Essential for sustainability is the region's acceptance of it as the primary information exchange system. For this to happen, there must be trust in the integrity of the system to collect, secure, and disseminate information under appropriate security protections. A method to maintain the system must also be in place. Finally, there should be value shown for the resources committed.

## **LEGAL FRAMEWORKS/ DOMESTIC AND INTERNATIONAL LIMITATIONS**

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Legal frameworks support all enforcement activities empowering agencies with authority to enforce laws and regulations. They also provide constraints to protect the rights of citizens, thus legitimizing government actions and control. When legal restrictions present barriers to effective enforcement, it is necessary to review existing guidelines and revise the process to facilitate enforcement. Clear delineation of authorities and adjudicative procedures are essential for effective fisheries enforcement. The knowledge of judicial proceedings and the requirements for successful prosecution must be understood by those tasked with enforcement actions. It is also necessary for the adjudicator and policymakers to understand the operational constraints faced by enforcement officials.

Actions that attempt to exert control on foreign flagged vessels in areas beyond national jurisdiction are bounded by international agreements, most notably UNCLOS.<sup>27</sup> Exclusive flag state jurisdiction is the underlying principle protecting vessels operating on the high seas; it also restricts actions by coastal states on foreign-flagged fishing vessels. For example, Article 73 of UNCLOS limits the punitive actions available to coastal states on foreign flagged

vessels for fisheries violation within the EEZ, prohibiting imprisonment absent an agreement that allows it.<sup>28</sup>

The global community has recognized the destructive impacts of IUU fishing and has taken significant actions to address it. This has included the UN Fish Stocks Agreement (FSA),<sup>29</sup> Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement), the Code of Conduct for Responsible Fisheries,<sup>30</sup> the International Plan of Action to end IUU Fishing,<sup>31</sup> and the Port State Measures Agreement. These instruments provide a framework, but implementation has been elusive as global interest in the issue has ebbed and flowed since the FSA was adopted. With the recent rise in awareness and calls to address IUU fishing, there is an opportunity to fully realize the potential to curtail it.

At the regional level, these tools provide an overarching framework for national and regional cooperation to address IUU. For parties to the agreement(s), the agreed actions specify the necessary legal boundaries for national legal instruments and laws to facilitate regional cooperation.

## **REGIONAL COOPERATION AT THE OPERATIONAL LEVEL**

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Cooperative enforcement activities across national boundaries are limited by the existence or absence of cooperative agreements. The process to share official information can be complicated by domestic legal systems requiring formal engagement for approval and are bounded by bureaucratic processes. The East African regional task force FISH-i Africa offers an example of how operational partnerships can overcome legal obstacles.

Illegal fishing was rampant in East Africa for decades with minimal law enforcement capacity available and no established ways to work collaboratively on the issue. Fishing vessels would move from one country to another, avoiding detection and prosecution by operating in multiple countries with little risk of being caught. Attempts to create a regional agreement

for a coordinated response were elusive, and the need for enforcement continued to grow.

In December 2012, FISH-i Africa was created with the mandate to establish cooperative enforcement action against illegal fishing activity through information sharing and analysis and coordinated enforcement actions. This task force is a non-government-led initiative operating outside traditional political structures, focusing on the operational level between fisheries enforcement agencies. From the start, FISH-i Africa has increased regional compliance demonstrating significant operational results and has grown to include eight East African coastal and island nations.

The success of FISH-i Africa comes from the underlying principles that guide its efforts. Regular meetings are essential to establish positive working relationships through trust. The persistent and process-driven sharing of analysis and information has created a collective knowledge base and built cohesion among members reinforcing the concept of working together as stronger than working alone. Widely communicating successful actions and partnerships encourages collaboration. The final element is creating and using a technical assistance team providing operational and legal support to the collective.

There are examples of similar efforts within LAC that can be enhanced along the same principles as FISH-i Africa. The Global Maritime Crime Program of the UN Office of Drugs and Crime is advancing the Caribbean Forum on Maritime Crime (CFMC). This initiative, still in development, will aim to coordinate technical and political efforts to address maritime crime at the regional level.<sup>32</sup> The CFMC will focus on regional coordination and information exchange and encourage dialogue to find regional solutions.

## **REGIONAL COOPERATIVE ENFORCEMENT FRAMEWORK**

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Cooperative enforcement requires the participating nations to have an agreement in place to allow and facilitate enforcement actions. The limitations of not having adequate governing documents to facilitate joint operations and cooperative enforcement can challenge cooperation. The Niue Treaty Subsidiary Agreement (NTSA) was created in the Pacific to address this issue.

The NTSA illustrates a comprehensive framework that allows for cooperative enforcement across the range of maritime threats. It establishes broad guidelines at the national level, providing flexibility for the nations and operators to further refine operational procedures without having to resort to a new agreement through arduous international mechanisms. The NTSA facilitates cooperative surveillance, enforcement activities, and information sharing for fisheries and more comprehensive maritime law enforcement. The agreement establishes the ability to have cross-vesting enforcement powers and an information exchange system and sets minimum standards for information sharing.

The cross-vesting of enforcement authorities enables agencies from different countries to work cooperatively on a range of operations that include at-sea patrols, aerial surveillance, evidence collection, investigative assistance, and port inspections. It magnifies the capabilities of resource-limited EEZ-size challenged nations extending authorities beyond national jurisdiction and using collective actions to address maritime threats.

Formal information protocols are established in the NTSA, creating minimum data- and intelligence-sharing standards supported by a regional information management system administered by the regional Forum Fisheries Agency. The information is required to be exchanged and allows for the sharing and receiving of data from the broader law enforcement community beyond fisheries agencies.

A regional agreement in LAC, similar in structure and content to the NTSA, can provide a powerful coordination tool to facilitate enforcement

across the region while retaining exclusive flag-state authority on vessels and citizens. This type of agreement can remove barriers to cooperation and eliminate the ability of illicit actors, that do not respect national boundaries, to flee from one jurisdiction to another. The issue of foreign fishing vessels engaged in IUU in Argentina in 2020 provides an example of vessels evading interdiction by fleeing into Uruguayan jurisdiction.<sup>33</sup> Many foreign vessels fished in international waters just beyond the Argentine EEZ and turned off their automated tracking systems to avoid detection. They then proceeded into the Uruguayan port of Montevideo. If an agreement were in place for joint enforcement to allow Argentina to pursue vessels into Uruguay's jurisdiction, the fishing vessels that also fished in the Argentine EEZ could have been apprehended.

Other maritime cooperation mechanisms such as the Central American Commission of Maritime Transport, the Operative Network of Regional Cooperation of Maritime Authorities of the Americas, and the Central America Fisheries and Aquaculture Organization show the willingness and ability to apply regional solutions. These existing regional coordination bodies can be adapted to address illegal fishing in the region, including information-sharing systems and protocols, governance structures, and legitimacy.

## **REGIONAL MECHANISMS BRIDGING ACADEMIC AND OPERATIONAL APPROACHES AND SOLUTIONS**

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Knowledge is the underlying requirement to understand and identify solutions to complex issues, including IUU fishing. The academic world offers essential knowledge that should be applied to operational problems to identify the issues and underlying causes and help develop practical solutions. Through targeted research, the academic community can provide fact-based knowledge to inform maritime security leaders' decision-making.

The Association of Southeast Asian Nations (ASEAN) Defense Ministers Meeting (ADMM) is its military and security body that guides the

regional military activities of its members. It meets annually with an established process of annual meetings, sub-meetings, and working groups. Embedded in the process is the inclusion of track 1.5 dialogues that enable the consideration of inputs and recommendations from the Network of ASEAN Defense and Security Institutions and ASEAN-Institutes of Strategic and International Studies on possible areas of cooperation that add value to the work of the ADMM.

The track 1.5 dialogues offer government and non-government participants the opportunity to sit at the same table for open discussions. The meetings are unofficial and non-binding to allow open discourse without constraint. The accompanying track 2 dialogues are discussions without a government presence, while the track 1.0 dialogues are for government-only participants. This work has resulted in the acceptance of a concept paper discussed in a track 1.5 meeting, raising awareness of the effects of IUU in the region and the adoption of proposed guidelines for military support of solutions to address IUU fishing.

There are more than 1,000 think tanks in LAC,<sup>34</sup> including well-respected institutions like Fundação Getúlio Vargas in Brazil, Fedesarrollo in Colombia, Ethos Public Policy Lab in Mexico, Center for the Study of State and Society in Argentina, and Centro de Estudios Públicos in Chile.<sup>35</sup> In addition, a number of universities and centers of academic excellence offer opportunities to identify and seek solutions to complex maritime security issues, including ways to address IUU fishing through regional fisheries enforcement. Leveraging institutions within and focused on LAC offer insights that are organic to the region and not an adaptation of external research done by external partners.

## **INTERNATIONAL INSTRUMENTS TO COORDINATED ACTIONS TO ADDRESS ILLEGAL FISHING**

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International instruments provide limits to actions that can address many issues associated with IUU fishing. The FAO Port State Measures Agreement (PSMA), the Cape Town

Agreement,<sup>36</sup> and the UN International Labour Organization's Work in Fishing Convention 2007 (No. 188) and Recommendation, 2007 (No. 199),<sup>37</sup> are recent international agreements that address the landing of IUU fish, standards of fishing vessel safety, and the need to protect fishers onboard commercial fishing vessels. If fully adopted and implemented, the overarching UNCLOS agreement and the associate FSA and compliance agreements would significantly improve deficiencies and address many challenges of combating IUU fishing in the region. These instruments include provisions for the actions of responsible flag states to control the activities of their fishing vessels and identify and share relevant information about fishing vessels and activities.

Addressing IUU fishing should include actions at the port level in which economic impacts to the fishing vessel are immediate and more easily achieved than sea enforcement alone. The global community recognizes the value of this approach and has begun to put it into practice through the PSMA,<sup>38</sup> whose success is predicated on implementation by most coastal states. A vessel must not be allowed to simply move to another port.

As the first binding international agreement to specifically target IUU fishing, the PSMA is also a mechanism to facilitate regional coordination and cooperation to address illegal fishing. The PSMA eliminates the difficult step of negotiating and adopting multilateral agreements and allows countries to implement the agreed procedures. Within these procedures are tools that can be applied more generally to the problem of illegal fishing, such as port inspection guidelines, sharing of inspection reports, and coordination of enforcement actions. At the national level, the implementation of the PSMA requires and facilitates interagency coordination and offers the chance to review and revise existing regulations and laws related to fisheries and associated activities as needed.

## TECHNOLOGY

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Technology brings both positive and unintended negative aspects. When approached as a tool that is applied correctly and to the right task, technology can be a force multiplier enhancing

enforcement and compliance efforts. When it is viewed as a panacea, it will fall short of expectations and can become a drain on both fiscal and human capacity. Understanding how to evaluate technology and apply it is essential to gain the greatest utility and ensure the cost in monetary and human capacity does not become a drain on limited resources.

The evaluation of technology begins with identifying the problem. This includes the need to define the desired use of the technology, the end result of the outputs from the technology, and how it will be used. When used as an enforcement tool, the purpose can be to achieve compliance with fisheries regulations and laws, lead to successful prosecution, or act to deter undesired behavior. It is essential to avoid a technology solution looking for a problem to solve.

A challenge to effective fisheries enforcement is the acquisition and use of actionable information. While increased data collection adds to the quantity of available information, the utility of big data is limited by the ability to transform mass data into an easily used form. It is akin to the internet without the powerful analytical search engines that return desired results. The early internet required users to know what they were looking for and where to find it. Given the amount of data available on the internet at present, that same approach would be impossible and yield limited value. Today, the underpinning complex algorithms of online search engines comb through petabytes of data, returning a tailored search answer in seconds.

Analysis adds utility to the vast amounts of data being collected and removes the veil of concealment from illicit activity. This involves data collection, production of evidence, and the best use of technology to collectively transform subsequent analysis from mere data points on a chart to actionable information. The utility of actionable information is better achieved by sharing data and procedures across organizations and between nations and having adequate legal frameworks to reach an end game.

The end-user must be considered when examining the utility and purpose of intelligence analysis—what do they need to get the job done?

The short answer is to prioritize the vessels to examine and narrow the focus of actions to the highest probability of success. This does not have to be complex, and on the user end, it should not be. The purpose of the operational intelligence and support apparatus is to support and enable action at the operational level. Detailed analysis on generic threats has limited benefit. There is little value to intelligence reports and high-level briefings if, in the end, all that exists is an educated leadership with the field left in the dark.

Data collection and dissemination are subject to legal frameworks established to protect government, business, and citizen rights and privacy. This impacts the ability to collect and share information outside of official government use, between agencies, and with partner nations and organizations. The frameworks need to be understood, and information-sharing protocols must comply with the legal requirements.

Adjudication procedures have unique requirements on the admissibility of evidence for use in prosecuting a violation. Knowledge of the requisite format, collection methods, equipment used, and chain of custody as they relate to adjudication is essential. Legal consideration should include accepting remote technology as evidence to support elements of a violation, required chain of custody, and use of foreign- or non-government-obtained information as legally acceptable.

The durability of a technology solution ensures the vested time and fiscal resources used to implement the technology are worth the investment. Long-term use sustainability requires commitment for funding, maintenance, technical training and proficiency of personnel, and the infrastructure to support the use of the technology.

Key points in the evaluation of technology solutions:

- Avoid technology solutions that do not address the existing problem.
- Ensure that capacity, in terms of human and financial, are available.
- Any technology utilization must have added value.
- The outputs must have utility and be actionable.
- The sustainability of the system needs consideration.

## **VALUE PROPOSITION FOR MILITARY AND SECURITY ENTITIES**

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The complexity of the maritime environment is increasing with a growing number of identified challenges to maritime governance and fisheries. Illegal fishing is a common challenge that can present a way for like-minded countries to achieve broader regional and national maritime governance goals. Fisheries transcend various jurisdictions with at sea, port, judicial, and security implications. The return on collective investment on fisheries enforcement will produce overall maritime governance mitigating all maritime-related threats. All agencies can benefit from developing proficiency, and fisheries enforcement demonstrate value for investing resources at the national and regional level.

### **Proficiency**

Training and education develop skills and knowledge, but proficiency is achieved by exercising those skills. Increased iterations and operational tasks lead to expertise, and with expertise comes proficiency in tradecraft. Fisheries provide an opportunity to exercise the full range of the military and security apparatus on an ongoing basis from intelligence collection, analysis, and dissemination to on-the-water operations and command and control, through interagency cooperation and coordination. This was illustrated in August 2020, when the Ecuadorian Navy and U.S. Coast Guard conducted a joint operation to support fisheries enforcement in the Galapagos Islands.<sup>39</sup>

Removing the concept of fisheries as the precipitating illicit activity, the mechanisms to achieve compliance for other nefarious maritime activities are identical: the identification, detection, and response to a threat. The difference resides in the illicit activity that is being investigated and the adjudication process that follows. The enforcement process uses the same monitoring, analysis, and decision-making to engage a target. The same operational mechanics are used to intercept a vessel. The small boat operations and initial boarding process are equivalent. These can all be exercises on fishing vessels leading to the proficiency of tradecraft.

### Value Added

The rising tide of the blue economy has elevated the global community's attention on both the opportunities and threats of the oceans. The lack of governance and the rule of law threaten economic opportunities.

Maritime security forces are being tasked by their governments to address illegal fishing, which is segregated from traditional maritime security missions. As nations increasingly devote more attention to the impacts of the blue economy, fisheries resources and marine environmental protection are emerging as a primary focus for many countries, including Argentina, Chile, Peru, and Ecuador, and as a result, are also issues maritime security entities are being tasked to address.

As a relatively new area of focus, the tyranny of distance, flag state sovereignty, and insufficient legal regimes hamper the ability of countries to adequately address the challenges. A common identified threat that limits IUU enforcement in LAC is the ability to identify fishing vessels that turn off tracking systems to evade detection or dark targets. While dark target identification is a challenge and these vessels are a major threat, it is not the only issue that needs to be addressed. Illicit fishing appears to be the primary problem, however, it is only a symptom of the larger issue of effective governance and the rule of law in maritime sovereignty.

The perspective that naval forces primarily exist to fight other naval forces in what is known as blue water conflicts is outdated, with an increasing need for naval forces to engage

in constabulary actions. Blue water conflict is less of a threat in LAC than the degradation of sovereignty wrought by repeated violations of national laws throughout the range of illicit maritime activities. A focus on addressing the gamut of maritime threats through persistent presence and action can lead to an increased perception of being detected, leading to a decrease in unwanted behaviour.

The use of military force for law enforcement can only be successful when partnering with subject experts and agencies with the necessary expertise and authorities. Operation Green Brazil exemplifies how a military solution to an environmental law enforcement problem has limitations. In August 2019, Brazil's military was tasked with ending the illegal logging, mining, and land clearing that devastate the Amazon basin. Despite the military's resources and capabilities, they lacked the subject matter expertise and could not achieve their objective as a military operation.<sup>40</sup> Effective results will only come from whole of government and cross-disciplinary actions.

## RECOMMENDATIONS

This report analyzed fisheries as more than "just fish" with a need for cooperation to achieve the larger goal of maritime governance. Recommendations for the region follow:

1. Cooperation at the interagency and regional levels is the only way to overcome capacity and capability limitations.
2. It will take interagency coordination to address IUU fishing adequately. No individual agency can accomplish the mission alone because of jurisdiction, legal and policy constraints, and limited capabilities. Interagency and whole of government efforts are needed.
3. Conduct interagency tabletop exercises at the regional and national levels to fully explore the strengths and gaps in existing efforts and identify alternative approaches.
4. Explore cooperative efforts external to the region to derive lessons learned that could be applied in LAC.

5. Multi-mission operations can be demonstrated and reinforced through regional and bilateral exercises, such as UNITAS and the November 2018 PASSEX with Ecuador.
6. Technology used to fight IUU fishing needs to be evaluated to determine its utility and sustainability.
7. Look to fisheries as a path to achieve the larger goal of maritime governance and rule of law.

comes from a non-traditional vector. A focus on fighting illegal fishing is a des a gateway to achieve regional maritime security.

## CONCLUSION

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The impacts of illegal fishing go beyond the loss of a secure source of food, employment, and national revenue. Beyond legitimate activities, fishing vessels can engage in other nefarious behaviors, including smuggling contraband and human exploitation. Fisheries-related crimes facilitate continued illegal fishing by concealing activity and allowing illegal fishing to flourish. Nations suffer losses of the public resource but also the loss of income from taxes and other fees.

Fisheries enforcement faces significant challenges, including resource constraints, the realities of operating in the marine environment, and information sharing. The legal frameworks at the national and international levels are complex and can constrain the ability to take enforcement action. To overcome the challenges, there must be a whole of government approach that uses different agency capacities, authorities, and mandates. The coordination of national efforts at the regional level further enhances fisheries enforcement impacts through collective action.

The fight for fish is an opportunity for multiple nations and agencies to work together and utilize various areas of expertise to arrive at a common end. Illegal fishing—by distant water foreign fishing fleets, regional fishers, or domestic fishers—has become a real threat to the region and presents challenges in establishing and maintaining maritime governance and protection of the region's renewable natural resources. The defense of coastal nations necessitates a focus on the maritime areas of jurisdiction and maintaining the rule of law even when the greatest threat

## END NOTES

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## ABOUT THE AUTHOR

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**DANIEL SCHAEFFER**

Daniel Schaeffer leads Pew's work on maritime security and military engagement by addressing illegal fishing where it intersects with other maritime crimes. Before joining Pew, Schaeffer served in the U.S. Coast Guard, where he reached the rank of commander and led the service's fisheries and marine protected enforcement program. Schaeffer's Coast Guard experience spanned the full range of fisheries enforcement efforts, including operational planning and oversight, policy development, intergovernmental cooperation, drafting of regulations, and boarding vessels. He worked on international fisheries enforcement and took part in multilateral meetings and treaty negotiations. Schaeffer holds a bachelor's degree in government from the U.S. Coast Guard Academy, a master's in marine affairs from the University of Rhode Island's College of Environment and Life Sciences, and a professional diploma from the U.S. Naval War College.

