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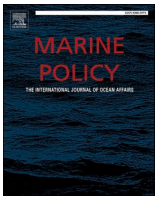

Short communication

Informed selfishness – Practical reflections on building a sustainable ocean economy

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ABSTRACT

In September 2018, a group of 14 Heads of States and Governments from all regions of the world came together to create the High Level Panel (HLP) for a Sustainable Ocean Economy (SOE). The HLP is co-chaired by the Prime Minister of Norway and the President of Palau. Simply put, the HLP seeks to ensure a SOE worldwide. In February 2021, the #VirtualBlueDecade initiative convened a panel of ocean practitioners from both the Global South and Global North to reflect on practical ways to build a SOE. Here, we present a summary of the key issues discussed by the panel, grouped around five topics: (i) words *do* initiate actions; (ii) goal setting is an important step in achieving a SOE; (iii) unsustainable practices are no longer justifiable as necessary evils for funding or obtaining social license for the transformation to a SOE; (iv) scientists must learn to communicate with policy makers; and (v) support South-South cooperation. We conclude that to achieve a SOE, the concept of "Informed Selfishness" should be considered as a guiding principle for developing policies and implementing sustainability actions.

1. Introduction

On 26 February 2021, the authors of this paper gathered for a remarkable meeting of minds, the *North-South Dialogue for a Sustainable Ocean*.[1] This virtual event, co-hosted by the #VirtualBlueDecade initiative and Ocean Networks Canada [19], convened ocean practitioners from four continents and 18 countries representing perspectives of both the Global South (with participants from nine countries in Africa and South America) and the Global North (with participants from nine countries in Europe and North America). Figs. 1–4.

Our dialogue focused on the recent report of the High-Level Panel for a Sustainable Ocean Economy (SOE) (Oceanpanel.org 2021) and the relevance and application of its goals in our respective countries and regions. We grappled with some of the thorny questions that complicate global collaborations toward sustainably managing our shared ocean. We examined the readiness of governments in Northern countries to enable sustainable transformations that would also benefit populations in the South. We considered how knowledge transfer for these aims could flow in both directions. We questioned whether unsustainable practices should be considered as an acceptable necessary evil for financing or obtaining broad social license for the ocean we want, concluding that it should not be justifiable to use unsustainable means to pursue an end. And we asked what true leadership could look like for this effort. This commentary is a fruit of our recorded discussion[1], one which we hope will open a new way of bringing diverse voices into this vital global conversation.

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[1] https://youtu.be/YPNmOdBb8kY. Accessed 26 May 2021

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2. The high-level panel

The High-Level Panel (HLP) for a SOE was formed in 2018, when 14 heads of state (representing Australia, Canada, Chile, Fiji, Ghana, Indonesia, Jamaica, Japan, Kenya, Mexico, Namibia, Norway, Palau, Portugal), together with Peter Thomson, UN Special Envoy for the Ocean, commissioned a series of scientific publications on ocean sustainability. These countries, though small in number, represent 40% of the world's coastlines, 30% of Exclusive Economic Zone areas, and 20% each of fisheries production and the world's shipping fleet.

The basis for the HLP's work stems from an understanding that humanity's well-being is deeply intertwined with the health of the ocean, and that a healthy ocean is key to addressing critical global challenges such as climate change [4,31] and food and nutritional security [13,27]. The outputs from the HLP fall into three baskets: i) 21 peer-reviewed articles (see https://www.oceanpanel.org/ocean-science) and 16 "blue papers" led by over 250 scientists from 48 different countries summarizing the latest ocean knowledge with focus on opportunities for action; ii) a politically endorsed transformative set of recommendations to advance the SOE; and iii) formation of ten multi-stakeholder "action groups" focused on driving change in key ocean sectors. The resulting call to action was a commitment by the 14 heads of state to sustainably manage 100% of their Exclusive Economic Zones by 2025 [20]. Members of the HLP are also committed to encouraging their fellow Heads of States to work towards a SOE.

This call to action rests on what are referred to as the "Five Pillars of a New Ocean Agenda," including ocean wealth, health, equity, knowledge and finance. Ocean Wealth is anchored in sustainable approaches to ocean industry such as low-impact tourism, ocean-based renewable energy and sustainable mariculture. Ocean Health focuses on ocean-based solutions to mitigate climate change and restore damaged coastal ecosystems, including mangroves, seagrass beds and others. The Ocean

concluded in 2020 that none of the twenty Aichi Targets defined under the Convention on Biological Diversity in 2010 would be met, simple narratives of failure were widespread (e.g., [10,18,34]) and sent a disempowering message that obscured the wealth of positive examples and progress from around the world, brought by this shared agenda [3,9,17]. For instance, while the target of achieving 10% protection of marine and coastal areas by 2020 went unmet [10], this statement of purpose led to a doubling of marine protected area coverage, from 13.9 million km^2 to 27.7 million km^2 within a single decade (from 3.84% to 7.65% of the ocean) [8,16]. Such examples are not limited to public policy, as seen, for instance, in the 2006 commitment by Walmart, the world's largest retailer, to only sell fish certified by the Marine Stewardship Council (MSC) by 2010. Although the pledge has not yet been met, this high-profile statement sparked intense interest by other retailers, and there was a five-fold increase within four years in the number of fisheries certified or in assessment by the MSC [5]. Global commitments by the international community and by industry leaders are important for shaping development agendas, and their success should not be reduced to a binary yes/no.

This optimistic approach to understanding the value of words does not, however, extend to severe cases of mixed messaging. A prominent recent example is provided by Norway, co-chair of the High Level Panel for a SOE [26]. While Norway demonstrated strong leadership throughout the process, providing an inspirational example by positioning science at the heart of ocean policy, it followed its December 2020 commitment to place 100% of its ocean area under sustainable management by 2025, with a January 2021 issuance of 61 new offshore oil and gas licenses – a decision at-odds with aspirations of a SOE, and bound to contribute to continued sea-level rise, ocean acidification and increased risk to the world's most vulnerable coastal communities [23].

Concrete actions to enable the building of a SOE need to address the complex challenges arising from the interconnectedness of the Ocean's ecosystem services [9,11], and include a framework for reconciling conflicting uses of the ocean and its resources. A broad ranging and systemic program of actions is essential for ensuring the delivery of the Ocean's contributions to positive economic and biodiversity

Fig. 4. Illustration of the High-Level Panel's Five Pillars of a New Ocean Agenda, from Transformations for a Sustainable Ocean Economy Call to Action [20].

conservation outcomes [21,25], climate change mitigation and adaptation, and sustainable fish stocks [14]. Some of the building blocks identified by the HLP will require development of comprehensive policies and mechanisms, which facilitate sustainable use of the ocean and maximize benefits and value creation for current and future generations. However, this is highly contingent on science and knowledge feeding into evidence-informed decision making. It is necessary for such a database of credible scientific evidence to be drawn from across

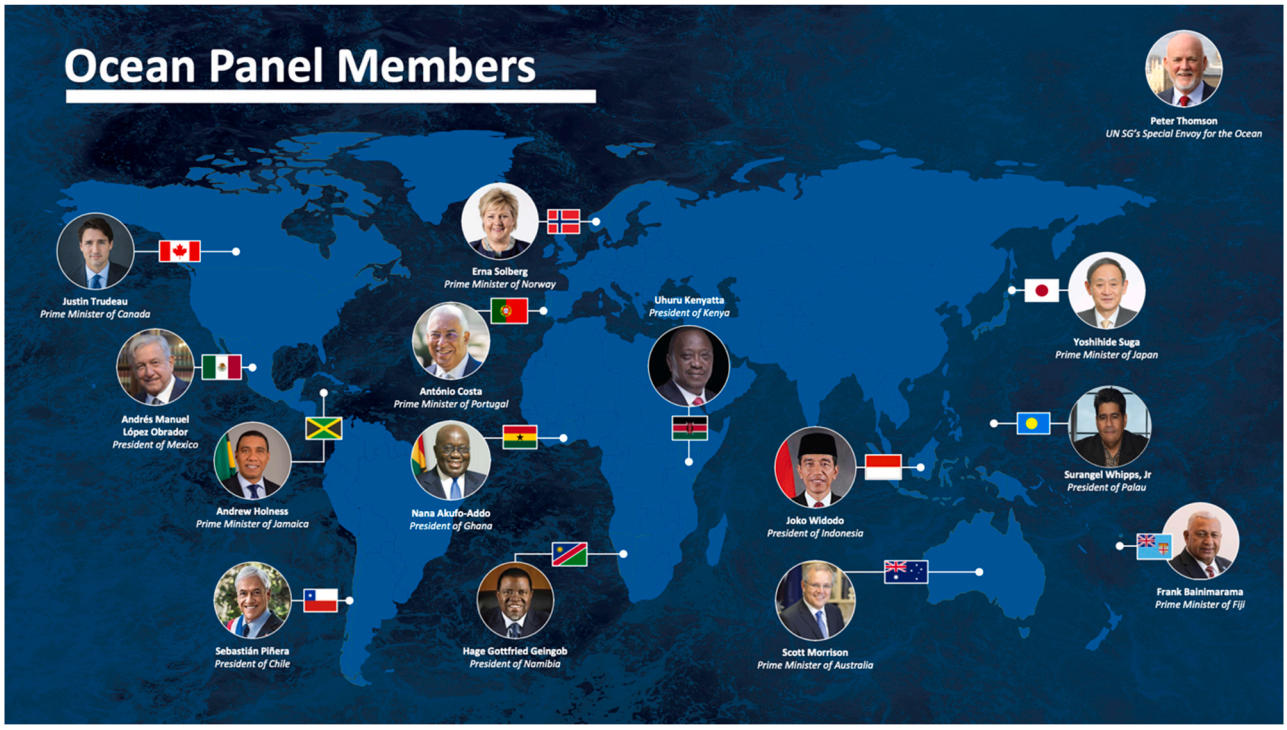

Fig. 3. Map showing the 14 countries and heads of state comprising the High Level Panel, from Transformations for a Sustainable Ocean Economy Call to Action [20].

different regions of the world to make it easier to reach a consensus. Additionally, a comprehensive, and widely accessible research evidence/database will help to bridge the gap between researchers (evidence producers) and policymakers (evidence users). It is, however, also important to clarify that a lack of in-country data is not an excuse for inaction, because of the economic approach known as benefit transfer, whereby evidence and data from a region or country could be adjusted and used for decision making in similar regions. Measures may need to be taken even when some cause-and-effect relationships are not yet fully established scientifically. Some of the mechanisms vital to building a sustainable ocean economy will include [7]:

- Regulatory reforms;
- Strategic investments in emerging sectors;
- Ocean Accounting (measuring production, sustainability and social progress of the ocean economy);
- Marine spatial planning;
- Integrated coastal and watershed management;
- Establishment and implementation of marine protected areas.

3.2. Getting there from here

Contrary to the "business as usual" approach to ocean development, building a SOE requires a shift from the *status quo* to achieve radically different outcomes, inspiring hope for escaping the compounding effects of poverty, inequality, overexploitation, habitat destruction and other socio-economic and ecological challenges confronting the ocean-human ecosystem. Thus, achieving the radical outcomes needed for a SOE will require transformational change ([1].; Ocean Panel, 2020). We must raise our ambitions and transform, for example, maritime trade, food production, job provision, environmental integrity, ocean science, ocean equity, ocean finance, research and development, etc. However, navigating towards fundamental transformation generally requires "attacking the root causes that generate and reproduce economic, social, political and environmental problems and inequities, not merely their symptoms" [33].

The HLP report [20] identifies five entry points that promise to achieve the desired ocean economy transformations at the necessary scale and speed (see Fig. 5). In doing so, it considers the forward-looking expectations for the health of the ocean vis-à-vis the growing global population seeking higher levels of well-being, while seeking to establish sustainable and just ocean economies and normative considerations, such as equity and inclusion (the concept of leaving no one behind). These transformation areas are not peculiar to single or even clusters of ocean needs and opportunities but rather constitute the ocean economy's underlying systems. Because they are all integral elements of a SOE, ignoring connections between these transformation areas — focusing only on ocean finance or equity for example—would imperil progress across multiple dimensions of the ocean economy.

Well-designed inclusive policies are imperative to achieving a SOE, and must consider the needs of both present and future generations [29]. Policymakers will need to be concerned with the potential trade-offs, costs and co-benefits of Ocean Economy policies for near-term growth and employment. In parallel, ensuring the transformation to a SOE at the national, regional, and global levels will require consistent policies aligned with current and future megatrends, planetary change, and addressing development challenges such as population growth, industrialisation, and climate change, reforming fisheries subsidies and/or removing maritime trade barriers that protect pollution-intensive sectors. Achieving this policy alignment will require politically tough reforms in the patterns of marine resource use, management, regulation and investment. Such reforms will not be successful without complex changes in behaviours and social norms. Importantly, ocean policy makers will need to be pragmatic and know when to go for the socio-ecological expedient rather than the economically optimal. Also, whilst careful, case-by-case analysis is needed to identify optimal strategies, near-term negative economic impacts can be minimised through the broad use of well-designed regulations, sustainable investment decisions, and ecosystem-based policy instruments, which promote least-cost means of protecting the environment. A least-cost approach to the Ocean Economy can also provide a pathway to sustainable development by joining the imperative of maintaining economic growth with the urgent need to avoid locking-in unsustainable growth patterns that cause irreversible ecological damage.

Developing and successfully implementing pragmatic ocean economy policy and least-cost approaches will require effective evidence transfer from providers (e.g., researchers) to evidence users (e.g. decision-makers). Examples of evidence-based SOE actions include proper accounting for marine ecosystem services and wealth, mitigating and adapting to the impacts of climate change, and strengthening the status of biodiversity and marine genetic resources. Policy and decision-makers will also need to consider current knowledge and understanding of the human-social-environmental relations when taking actions on the Ocean Economy. Effective evidence transfer to decision makers will require building evidence databases (e.g., [35–37]) to address data standardisation challenges and synthesise large volumes of evidence of varying quality and measured outcomes. According to William et al. (2019), evidence databases are tools designed to overcome or lower barriers within research-implementation spaces and increase the use of evidence in practice and policy making, while enabling practice, research, and policy to influence one another. Integrative frameworks such as the Ocean Accounts Framework[2] become veritable in this regard, as they offer a cross-domain (across social, environmental and economic) structure capable of enhancing consistency, comparability, and coherence of ocean-related data, statistics and indicators.

Meanwhile, ensuring that evidence databases support SOE decision-making will require its own form of capacity building. Evidence providers will need to work with policy actors on high-potential pilot projects to demonstrate the value of data and evidence to successful policy development and implementation. These projects will help fast-track research results to inform policy development while creating innovative and effective ways for relevant ocean policy actors to apply data and research evidence to improve their decision making. Indeed, this will also require building the capacity of scientists to communicate their outputs to decision-makers effectively. Evidence does not speak for itself, and approaches to communicating science for impact to a non-scientific audience are different from communicating science to scientific audiences. In order to adapt communications to decision makers' objectives [12], scientists would benefit from working with communication experts to shape and design effective messaging and narratives, and identify communication opportunities.

Finally, it was pointed out that most ocean research findings originate from the global North, and that making this ocean information more widely available and accessible to all countries and actors was only part of the solution to successful SOE policy development and implementation. As it is becoming increasingly apparent in the global North, SOE policy and actions will also need to draw from Indigenous and local knowledge (e.g., [2]), localized best practices and local scientific capacity. Could this common need represent a starting point for motivating creative North-South and South-North coalitions and partnerships?

3.3. Ocean inequity

Inequitable distribution of access to ocean resources and ecosystem services and even ocean information represents a major risk to achieving a sustainable ocean economy. Österblom et al. [22] authored a High Level Panel Blue Paper that used case studies to illustrate how ocean

[2] https://www.ocean accounts.org/technical-guidance-on-ocean-accounting-2/.

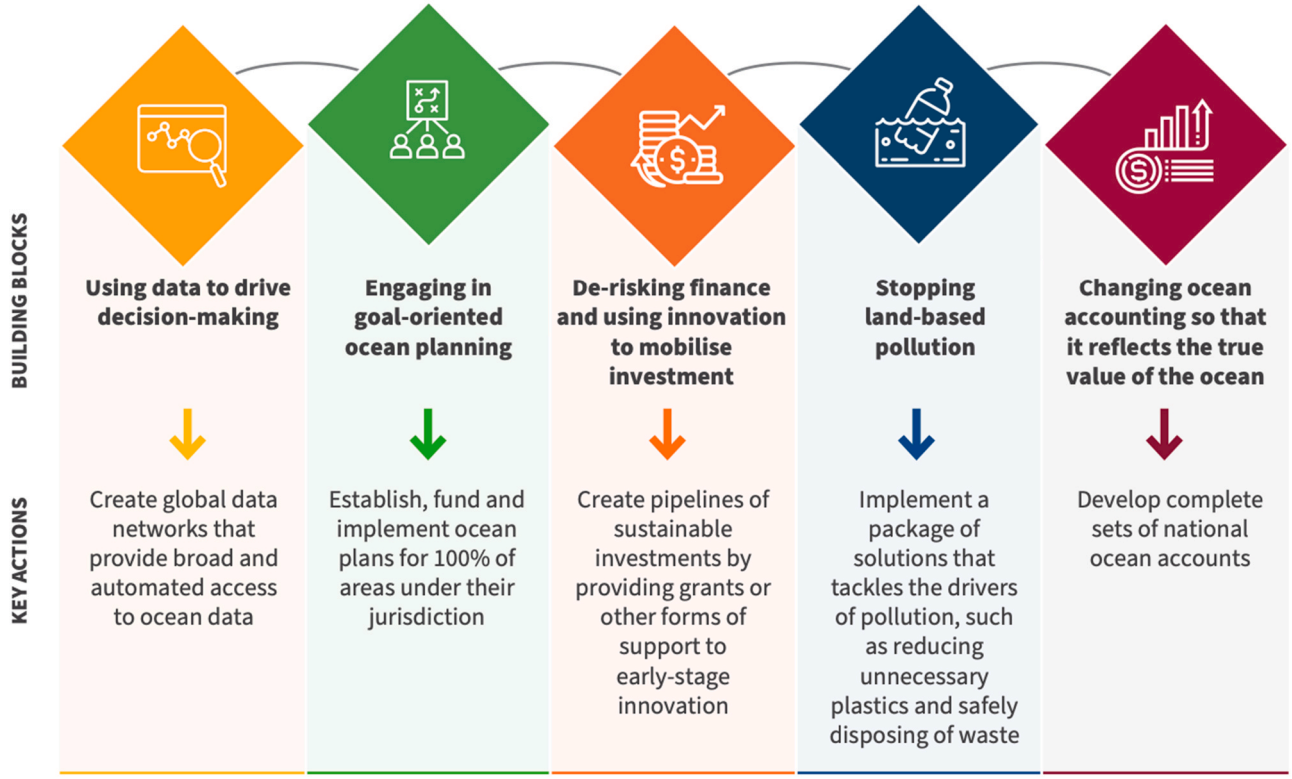

Fig. 5. Five building blocks that can help achieve a sustainable ocean economy [28].

inequity is based in history and perpetuated in current social, economic and political systems. They also identify opportunities for actions to address some of the consequences and underlying causes of ocean inequities. One of their case studies examined unequal access to ocean fisheries and tensions between small-scale fisheries and highly-subsidized industrial fleets. This was also a focus of our discussion around the question of how to accelerate the phasing out of unsustainable and inequitable practices. Panelists pointed out that most fisheries subsidies favour large fishing fleets based in the global North, and disadvantage small-scale fisheries in the global South [24]. This inequity also has gender and age-group implications since there are far more women and youth employed in small-scale fisheries. Panelists were reminded that basic economic theory dictates that subsidies that produce negative externalities such as fish stock depletions and disruption of local livelihoods, are ultimately unsustainable and should be removed or redirected [6].

As mentioned above, inequities in access to ocean information and finance represent obstacles to the development and implementation of evidence-based ocean policy [30,32]. Panelists focused on the need for building ocean knowledge and research capacity in West Africa, pointing out that governments in the region are far more likely to pay attention to issues such as ocean health if they directly fund ocean research themselves. Many ocean research initiatives in the region are led and funded by the global North, so that their results are more likely to end up in academic journals than in policy briefs for West African governments. Panelists recognized the similarity of many ocean sustainability issues along the West African coast and concluded that regional researchers need to collaborate to share data and research infrastructure to address common problems.

4. Concluding points and next steps

4.1. Future activities of the #VirtualBlueDecade

The panel discussion was attended by 79 audience members from 18 different countries across four continents. The live event was followed immediately by a survey (completed by 30% of attendees), in which 92% of the surveyed audience rated the session highly or very highly in terms of their overall satisfaction with the content of the dialogue. A main reason given for the high ratings pointed to the international panel's diversity, which produced "original and interesting insights", while demonstrating an intentional approach to including perspectives from different nations in order to build more informed and internationally coherent perspectives on ocean issues. Key audience takeaways included the idea that collaboration is a non-negotiable aspect of a sustainable ocean, especially in support of vertical and lateral knowledge transfer across communities within and between the Global North and Global South; this knowledge transfer can further have the effect of strengthening a community's or nation's capacity for adaptive management. Eighty percent of the surveyed audience asked to join the #VirtualBlueDecade network and to be informed of future events, providing momentum for subsequent engagements, including a virtual film festival and an ocean art-science panel discussion in June 2021. The interactive approach to audience engagement was well-received, with one attendee commenting, "After being really tired of Zoom meetings, this one was a positive example." We believe the #VirtualBlueDecade's methods of online facilitation are more engaging and rewarding for audience members, and organizers intend to continue developing these methods in future events. This approach has also demonstrated how the simple act of convening a diverse group of researchers can open new avenues for collaborative dialog and research.

4.2. "Informed selfishness" as a guiding principle for influencing leadership and marketing sustainability actions

The processes linking economies and ecosystems are complex. An action taken at one time in one location may have unforeseen consequences elsewhere, often far away and many years later. The COVID-19 pandemic is a powerful example of the societal consequences of a disruption of Nature. The social consequences of deteriorating ocean health and inequitable use of ocean resources are equally stark. Building a sustainable ocean economy will require an approach to economic development that integrates equitable use of the ocean's living and non-living resources with the long-term management and conservation of marine biodiversity, exploited fish stocks and ocean ecosystem function. During our dialogue we coined the term "Informed Selfishness" to describe how humans must begin to act based on knowledge of the long-term consequences of their actions and/or inactions, even if their actions are largely driven by self-preservation. Informed selfishness has parallels in philosophies such as the Seventh Generation Principle [15] that maintains that the decisions we make today should result in a sustainable world seven generations into the future. But informed selfishness is perhaps best seen as a pragmatic marketing strategy rather than a philosophy, a marketing strategy that focuses on long-term economic outcomes in order to influence leaders and engage citizens. How do we redirect our fundamentally selfish nature and increase the number of people who see the big picture, who embrace informed selfishness as a sensible development strategy for the ocean economy? How do we meet the needs of today without diminishing the ability of future generations to continue developing the ocean economy? UN targets, Sustainable Development Goals, and the aims of the current UN Decade of Ocean Science for Sustainable Development raise awareness and have moral and ethical authority. Science education and advocacy are also obvious tools. Panelists also pointed out the need for practicing scientists to use their stature to inform governments and the public of the importance of ocean health to our long-term well-being. Shifting to the long-game approach to ocean economic development will also require strong leadership. In the near term, we will need sincere and sustained support from the 14 heads of state who established the High Level Panel. And they will need help from their friends and neighbors. The 14 heads of state could begin by engaging neighboring states in regional demonstration projects around issues such as marine food security — where the long-term returns from informed selfishness are more immediately evident.

The final minutes of our dialogue were spent considering a growing awareness that we have reached a critical fork in the road of human development, where we must choose between being guided by a realization of our common humanity and interconnectedness with the natural world, or continuing to build walls and taking care of self and thereby creating conditions for major collapse of elements of our planetary life support system. Let us not be forced by Nature to make drastic choices.

CRediT authorship contribution statement

U. Rashid Sumaila: Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Kwasi Appeaning Addo:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Olanike Adeyemo:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Ibukun Jacob Adewumi:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Robert Blasiak:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **S. Kim Juniper:** Conceptualization, Methodology, Supervision, Writing – original draft, Writing – review & editing. **Dwight Owens:** Formal analysis, Project administration, Visualization, Writing – original draft, Writing – review & editing. **Tessa Owens:** Data curation, Formal analysis, Visualization, Writing – review & editing.

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