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## WE ARE OCEAN PEOPLE: INDIGENOUS LEADERSHIP IN MARINE CONSERVATION

CINDY BOYKO &amp; 'AULANI WILHELM, GUEST EDITORS

# Unsettling marine conservation:

## *Disrupting manifest destiny-based conservation practices through the operationalization of Indigenous value systems*

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### ABSTRACT

Indigenous Peoples have stewarded marine environments since time immemorial. Due to colonialism, Indigenous Peoples suffered impacts to their rights and abilities to holistically manage ocean systems. We situate the value systems embedded within manifest destiny and colonialism as the root systems that generated a plague of conservation issues that impact Indigenous Peoples today (e.g., fortress and green militarized conservation praxes). This paper is written by Indigenous scholars using Two-Eyed Seeing, reflexivity, and decolonizing methods (e.g., symbology, storytelling, and Indigenous beading) to unsettle the ways that marine conservation should be facilitated. Our framework operationalizes Indigenous value systems embedded within “the seven R’s”: respect, relevancy, reciprocity, responsibility, rights, reconciliation through redistribution, and relationships. This framework underlines the need for marine conservation efforts to center Indigenous voices and futures and Tribal management of marine systems. Marine system managers can use this paper as a guide for decolonizing marine conservation approaches, operationalizing Indigenous value systems in marine management, and building decolonial relationships with Indigenous Peoples and waters.

**Keywords** marine conservation, Indigenous, value systems, decolonization, manifest destiny

### INTRODUCTION

Indigenous Peoples sustainably exist(ed)<sup>1</sup> in good relations with lands, waters, plants, and other animals located within the so-called United States and have done so since time immemorial (Dunbar Ortiz 2014; Jacobs et al. 2022). Many of these good relations were/are honored by Indigenous Peoples through a plethora of Indigenous epistemologies (ways of knowing) and ontologies (ways of being) that maintain(ed) and operationalize(d) Indigenous value systems (e.g., relationship, responsibility, reciprocity, redistribution through reconciliation, respect, relevancy, rights, etc.) through cultural, spiritual, and other types of Indigenous practices. However, as European settlers arrived in these lands and waters, they brought new value systems, epistemologies, and ontologies that were/are enacted and operationalized through the violent concept of manifest destiny.

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Manifest destiny is a God-sanctioned movement and ideology which permits the spatial motion, control, colonization, and ownership of Indigenous lands, waters, and “natural resources”<sup>2</sup> by European settlers for the development and maintenance of “civilization” (Merchant 2010: 201; Czarnezki 2011). Whereas Indigenous Peoples possess(ed) relational and sustainable value systems with all functions of the environment, European and Judeo-Christian settlers pride(d) themselves on defeating their surroundings, held/hold biases against undeveloped areas, and associate(d) uncivilized areas with evil (Czarnezki 2011; Nash 2014). On an environmental scale, manifest destiny upholds value systems of commodity-based utilitarianism (e.g., the extraction of “natural resources,” forest products, marine fisheries, etc.) and capitalistic praxes that quickly became the dominant hegemony for settler colonial land and water relations (Czarnezki 2011). This hegemony dramatically contrasts with many Indigenous Peoples’ realities of living in a good way, holistically, within ecosystems, and underlines the relationship between manifest destiny and settler colonial relations with lands and waters.

Settler colonial relations and the colonization of Indigenous lands and waters initiated an onslaught of detrimental impacts to Indigenous Peoples and the environment. Impacts to Indigenous Peoples include their forced removal from their homelands (land and water displacements), slavery, the establishment of genocidal boarding schools (wherein countless children died and survivors were expected to unlearn their cultures, languages, etc., and adopt Western epistemological and ontological norms), and US policies leading to the largest genocide in global history (Dunbar Ortiz 2014; Stevens 2014; Koch et al. 2019; Fisk et al. 2021; Jacobs et al. 2021). An estimated 60 million Indigenous Peoples existed before 1492 in North America. A century later, due to violence and disease, 90% of them (approximately 55 million people) had died, causing the population of Indigenous Peoples to decline to about six million (Koch et al. 2019). Additionally, settler colonialism violently disrupts the possibilities of good human relationships with the environment (Whyte 2018), which manifests as epistemological, ontological, and cosmological forms of violence (Tuck and Yang 2012). These connect directly to the colonization-driven settler violence to lands (Maracle 2015), waters, plants, and animals.<sup>3</sup>

Colonization is not conceptualized here as just a historical event, but a specific and continuous process that requires maintenance and infrastructure to support the continuation, ideological embodiments, and ongoing organizations and forms of violence of settler colonialism that pervade political and social structures (Anguksuar 1997; Wolfe 1999; Grande 2015; Pasternak 2017; Bacon 2018; Liboiron 2021). These processes occur through the continuous occupation and appropriation of Indigenous Peoples’ lands, waters, and environments, settler-colonial value systems that maintain harmful relationships with and access to Indigenous lands and waters, governmental “natural resource” management policies, and modern conservation and environmentalism (Paperson 2014; Whyte 2017; Bacon 2018; Dhillon 2018; Ericson 2020; Cannon 2021; Eichler et al. 2021; Liboiron 2021). We focus on the problematic aspects of settler value systems in maintaining manifest destiny ideologies of colonial control, harmful relations, and Indigenous erasure in marine conservation praxes.

#### VALUE SYSTEMS:

##### MANIFEST DESTINY CONNECTIONS TO MARINE CONSERVATION

We define “marine conservation” as a settler construction that was created and needed only due to the value systems embedded within and enacted by manifest destiny (e.g., control, colonization, and ownership of Indigenous marine “natural areas” for the maintenance of civilization, utility and extraction of “natural resources,” and capitalism). We conceptualize the value systems embedded into marine conservation as the actualization of manifest destiny, which creates interlocking root systems that perpetuate settler forms of violence against Indigenous Peoples and marine systems, colonization of Indigenous Peoples’ lands and waters, capitalistic notions that drive individualism over Indigenous values centered on the common good,<sup>4</sup> and white supremacy (e.g., preferencing Eurocentric value systems, practices, and peoples)—all factors that obtain their legitimacy from European and Judeo-Christian settler constructions of the “natural”<sup>5</sup> world (Brechin 1996; Purdy 2012, 2015; Rudd et al. 2012; Cannon 2021; Kashwan et al. 2021).

Western marine conservation includes value systems that protect “wilderness” and “natural” areas from human-based impacts, and restoration efforts or objectives to bring marine ecosystems to more “natural” states of existence (Cannon 2021).



Marine conservation efforts may be enveloped into conservation biology—the scientific and objective exploration of measures that preserve and improve biological diversity. However, marine conservation and conservation biology are heavily rooted in and guided by settler hegemonic and biased value systems that dictate access rights (e.g., who has authorized access to specific areas versus who does not), sacrificial objectives (e.g., the preferencing of utilitarianism-based practices over the rights of animals, plants, waters, and lands), the maintenance of cultural normativity (e.g., preferencing European and Judeo-Christian culture norms over Indigenous norms), Western epistemologies that normalize valuing “nature” as pristine and distinct from humans (in contrast to Indigenous epistemologies that locate humans as animals and as integral parts of ecosystems), and biases about what specific “nature”-based aspects are deemed worthy of protection (Soule 1985; Nelson 2003; Cannon 2021).

We conceptualize many types of marine conservation praxes as what Tuck and Yang (2012) describe as a “settler move to innocence.” In this conceptualization, environmentally conscious settlers relieve their guilt over the destruction of Indigenous lands and waters through habitat restoration, species conservation, etc., without rectifying the harms of manifest destiny, including Indigenous land and water dispossessions, which remain at the heart of most conservation-based problems. Conservation efforts and environmentalism practices uphold the notion that settlers have access to Indigenous spaces (Liborion 2021). Conservation projects typically work under Western geographical boundaries and management paradigms that locate power and responsibilities with colonial governing institutions. This reinforces colonial and manifest destiny-related praxes of Indigenous erasure and underlines the ownership of these areas with colonial governing structures. This problem is magnified at different managerial scales because Indigenous Peoples are often denigrated to stakeholder positions in conversations with parks and protected area staff (Jacobs et al. 2021). Indigenous governments are rarely, if ever, given co-managerial or sole management powers over marine areas outside of their reservations, including areas in which they have Treaty Rights to use for subsistence purposes (e.g., Usual and Accustomed Areas), nor in other lands and waters that Indigenous Peoples have been in relations with since time immemorial (Jacobs et al. 2021).

## EMBODYING MANIFEST DESTINY VALUE SYSTEMS THROUGH FORTRESS AND MILITARIZED MARINE CONSERVATION

We connect the value systems embedded within manifest destiny to two problematic forms of conservation that are enacted in marine conservation efforts: fortress and militarized conservation praxes. Fortress and green militarized conservation practices embody manifest destiny value systems by enacting harmful, control-oriented conservation objectives that prioritize certain species, orient control over marine systems with colonial institutions, maintain human and animal dichotomies, and uphold and center European/Western scientific ideologies and objectives. Fortress conservation is defined as a model for conservation that operationalizes the philosophy that (1) local populations are irrational and destructive to local ecosystems and serve as drivers of biodiversity loss and environmental degradation; (2) the best way to achieve biodiversity is through the creation of protected areas that exist in isolation from human disturbance (Robbins 2007). Fortress conservation embodies manifest destiny ideologies that situate humans as external to “nature” and as propellers of impacts that threaten ecosystems and species, thus driving reasons for defense mechanisms and violence to be embedded within conservation practices (Adams 2004). Additionally, fortress conservation supports the notion that human activities and local communities should be excluded from specific areas (Siurua 2006), which resembles similar conceptualizations upheld by manifest destiny that led to Indigenous Peoples’ removals from their ancestral lands and waters. Fortress conservation maintains a priority for ecosystems at the expense of local and Indigenous Peoples’ basic human rights, which parallels the operationalization of manifest destiny in prioritizing Indigenous Peoples’ removals and the stripping of their basic rights to lands, waters, animals, and plants (Siurua 2006).

It is therefore not surprising that fortress conservation defense measures often take place against local peoples (including Indigenous Peoples) in ways that are forceful and sometimes include coercion in order to protect marine habitats, animals, and plants (Büscher 2016). Though many researchers have voiced opposition to defense-based conservation praxes (Hutton et al. 2005; Dressler et al. 2010), these ideas and practices are still maintained through protected area governance (Holmes 2013; Kepe 2014; Harris 2014; Büscher 2016), including in marine systems



that are managed in ways that involve human rights abuses (De Santo et al. 2011; Sand 2012; Singleton 2018). The de-prioritization of human rights issues also intersects with green militarized conservation techniques (Hutton et al. 2005; Lunstrum 2014). Lunstrum (2014) describes green militarization as a process that incorporates military practices and values into conservation efforts. Militarized approaches are increasing in conservation efforts under the guise of a “war for biodiversity”—a phrase and praxis used to justify repressive and coercive management policies (Duffy 2014). These policies are similar to those embedded within manifest destiny ideologies that situate control, power, etc., with colonial governments at the expense of Indigenous Peoples.

The “war for biodiversity” is ongoing today as exemplified by governmental actions taken to meet the requirements of the United Nations Convention on Biological Diversity. Signatory countries committed to conserving 10% of the oceans by 2020, which resulted in the creation of large marine protected areas, including in some instances with military involvement (De Santo 2019). Motivations for the creation of such vast protected areas stem from biodiversity objectives fitting into geopolitical objectives that maintain security and resource-extraction possibilities (De Santo 2019), upholding the value systems embedded within manifest destiny. Such conservation efforts tie directly to the need to control and maintain access to marine lands and water and the lengths to which colonial entities, including the US, will go to maintain that control (e.g., militarized violence). Control is connected to the operationalization of manifest destiny value systems that have been used for years in imperialism efforts. The same need for control is embedded within the frameworks of white supremacy, colonization, eugenics, and racism—elements tied deeply to the value systems that drive Western-based conservation efforts and ideologies.

The purpose of this paper is to unsettle the ways that manifest destiny is operationalized by marine conservation. In this manuscript, we employ multiple methods, including Two-Eyed Seeing, reflexivity, and decolonization to dismantle the problematic value systems connected to manifest destiny and marine conservation that uphold fortress and green militarized marine conservation efforts. We recognize a need for Indigenous-centered marine conservation practices, so we counteract manifest destiny value

systems by using Indigenous storytelling, symbology, and Indigenous value systems. In the next sections, we discuss our methods and then define multiple Indigenous value systems by using storytelling, symbology, and textual definitions. Then, we operationalize many Indigenous value systems to help shift marine conservation values from manifest destiny into Indigenous-centered frameworks. Implementing this process into conservation frameworks may create more equitable conservation practices and center the sustainable stewardship of marine areas that Indigenous Peoples have conducted since time immemorial. This is important because global conservation efforts may not be successful without Indigenous Peoples’ governance (Artelle et al. 2019) and although Indigenous Peoples represent merely 5% of the global population, they collectively protect 80% of the world’s biodiversity (Garnett et al. 2018).

## METHODS

We employ a multi-method approach to interject Indigenous value systems into marine conservation. We draw from Two-Eyed Seeing, reflexivity, and decolonizing methods to bring Indigenous value systems into a more central and critical position for the value systems that guide marine conservation praxes.

### Two-Eyed Seeing

This paper is written by Indigenous People from different communities/Tribes. We use our cultural backgrounds, Indigenous Knowledges, and Western scientific training to engage in a form of Two-Eyed Seeing in which we use reflexive and decolonizing methodologies to integrate our Indigenous Knowledges through one lens and our Western-born scientific training through another. Two-Eyed Seeing provides a space for the integration of multiple Indigenous ways of knowing to be bridged with Western knowledges in a way that benefits everyone and everything, including humans, plants, animals, lands, and waters (Hatcher et al. 2009; Iwama et al. 2009; Hatcher and Bartlett 2010; Bartlett 2011; Bartlett et al. 2015). We use our Indigenous Knowledge lenses to operationalize and reflect on Indigenous value systems; whereas our standard scientific lenses are used to conceptualize how marine conservation is facilitated generally.

### Reflexivity

We also operationalize critical reflexivity in this



manuscript to challenge and reveal inequalities from Indigenous perspectives, focusing specifically on how Western value systems do not create room for Indigenous perspectives (Friere 1968; Schon 1987; Mirza 2008). Reflexive methods allow us to dismantle power and privilege (Arday 2018) and negotiate the problematic aspects of value systems driven by manifest destiny and the centrality of whiteness in marine conservation (Delgado and Stafancic 2001; Bergerson 2003). We use reflexivity to guide our understanding of the Seven R's (listed and defined below), and how they should be centered in the value systems that guide marine conservation.

### **Decolonization, Symbology, and Storytelling**

Decolonization takes many forms and has a wide variety of purposes on a global scale (Liboiron 2021). For this paper, we center the notion of decolonization that focuses on Indigenous Peoples' rights, including their inherent rights to lands and waters (Tuck and Yang 2012). Decolonization cannot happen within colonial institutions (Jacobs et al. 2021) but must be facilitated through Indigenous leadership and with Indigenous perspectives (Smith 2021). We incorporate a decolonial framework into this paper by focusing on how marine conservation value systems can be shifted to support Indigenous Peoples' rights to marine areas. We also use decolonization by centering Indigenous stories and symbology, which provide the opening section for each of the seven R's operationalized below. The stories and symbology were created specifically for this manuscript after deep reflections on marine systems, manifest destiny, and how Indigenous value systems have sustainably remained within the long history of Indigenous Peoples and marine areas for millennia. They do not reflect specific Tribal stories, nor should they be considered sacred origin stories.

Additionally, each figure in this paper represents a specific symbol that is associated with each story. Symbols were constructed by the authors of this paper to work in tandem with the stories as visual illustrations and reminders of the stories. These are modern Indigenous symbols created specifically for this paper. Figure patterns were created by the authors of this paper and digitized through the desktop application BeadTool 4. Printed instructions of the digitized patterns were used to physically construct the figures through bead looming techniques using various Miyuki Delica size 11/0 beads,

Beadsmith Wooden Bead Looms, beading needles, and Beadalon Wildfire Thermal Bonded Beading Thread. Photographs of the beadwork are provided as the figures for this paper.

### **DEFINING THE SEVEN R'S THROUGH INDIGENOUS STORIES, SYMBOLOGY, AND TEXT**

Four R's (relationship, responsibility, reciprocity, and redistribution) were previously operationalized by Jacobs et al. (2021) to provide a reflective framework for decolonizing US federal land management agencies. The current paper generates new branches of that framework by incorporating three additional R's (respect, relevancy, and rights) and merges redistribution with reconciliation. Below, we define the Seven R's in three ways: (1) storytelling; (2) symbology; and (3) text. Each section opens with a story that does not represent actual Indigenous origin stories but is used as a helpful illustration of how Indigenous value systems are tied to Earth systems. These modern and non-traditional stories were created by the authors to describe how the Seven R's are connected and remain distinct from one another. After the stories, we provide information about the symbology of the associated beadwork. The symbology sections are followed with textual definitions of each R.

### **RIGHTS: STORYTELLING, SYMBOLOGY, AND DEFINITION**

Indigenous rights are similar to the story within Figure 1 about water, in that they are inherent rights, granted to Indigenous Peoples from the Earth and its water sources. Indigenous Peoples' rights may be outlined specifically by treaties signed with occupying governments (e.g., the US); however, these specifications are not the end-all for how Indigenous Peoples conceptualize rights as a value system, nor are they the only rights that Indigenous Peoples deserve. We fundamentally conceptualize Indigenous Peoples' rights in similar terms as described by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP):

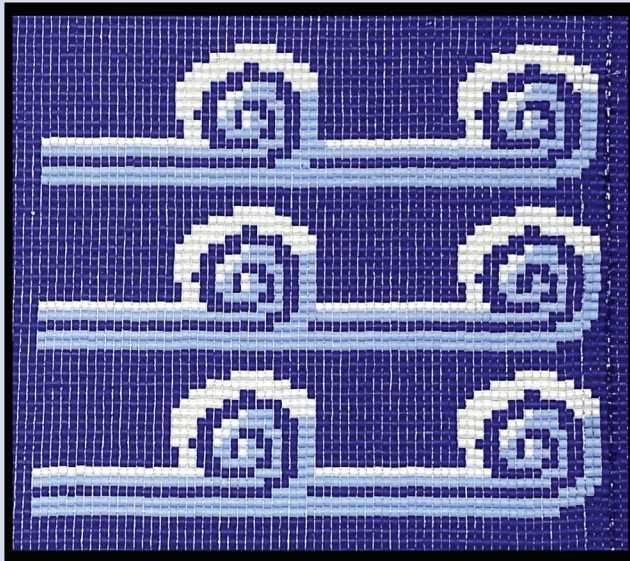
Indigenous Peoples have the rights to the lands, territories, and resources which they have traditionally owned, occupied or otherwise used or acquired... Indigenous Peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired (United Nations 2007: 19).



**Figure 1: Rights**

**Storytelling**

After the Earth's body of land was formed, the blood from its body seeped out through the cracks in its skin. Slowly, water droplets seeped to the surface, creating puddles. The water puddles trickled quickly over the Earth's skin until slowly, veins of water were created. More water seeped from the Earth, continuing to fill the veins of rivers that started to form lakes, and later created the oceans. The transmission of watered blood on the Earth's skin set the stage for all life to be created. As the Earth grew trees and plants, animals, and many other creatures, it grew lungs and started to breathe. With each breath that



Earth inhaled and exhaled, it created wind. As the Earth's lungs filled the planet with wind, it rippled through the waterways, creating waves. Every wave was a promise of life and oxygen: two gifts for all Earth's creations. Earth and water are life and they provide the rights and abilities for all creatures to live on Earth's body in harmonic balances.

**Beadwork Symbology**

The waves in this bead work represent the movement of ocean water, guided by Earth's breath. The spirals in the waves represent the promise of life and oxygen for all of Earth's creations. The spirals also serve as a repetitive and connecting pattern between the Indigenous value system of Rights with the rest of the 7 R's. Light blue beads represent the promise of life, the color of water, and the rights for all creatures to live. White colored beads represent air and oxygen that guide the waves to crash over the ocean's surface. White also represents peace and harmonic balances.

We extend the UN's rights to include the rights for Indigenous Peoples to exist in harmony and without conflict on the original lands and waterways that sustained their peoples since time immemorial. Additionally, we extend the UN's definition of Indigenous Peoples' rights to lands to cover their rights to oceans and marine systems. Rights also extend to data sovereignty (wherein Indigenous governments and communities control how data are collected, owned, and applied; Snipp 2016) and data governance (wherein Indigenous governments and communities govern the ways that Indigenous data are used and reused by auxiliary and external parties; Rainie et al. 2017; Tsosie 2019).

Beyond rights for Indigenous Peoples, we support the notion that waterways, lands, animals, and plants also have essential rights that are typically not honored by Western governments and peoples. In 2019, the Yurok Tribe passed a resolution that declared the

rights of the Klamath River to secure protections for the body of water as a response to the long-standing health impacts it has endured through colonization, including non-point source pollution, rises in temperatures because of dams and climate change, and toxic algae blooms (Thompson 2020). In 2018, the White Earth Band of Ojibwe and the 1855 Treaty Authority established the Rights of Manoomin, which provided for on- and off-reservation protections of wild rice and the surrounding resources and habitat, including clean waters, a stable climate, and other factors (Thompson 2020; 1855 Treaty Authority). In 2004, the Ninth Circuit Court of Appeals found rights are not limited to humans, and Congress and other legislative entities could authorize legal rights and standings for other animals (Thompson 2020; 9th Cir. 2004). However, thus far, Congress has not passed laws that guarantee rights for non-human living entities. According to Thompson (2020), communities are now advocating for nature-based



rights in laws and legislative bodies are finding creative solutions to protect the environment. Therefore, using an Indigenous lens, we extend our definition of rights to cover the essential rights of plants, animals, lands, and waters to personhood, which equates to the rights to live and flourish in abundance, and the rights for all living beings to be protected and evolve naturally.

### RESPECT: STORYTELLING, SYMBOLY, AND DEFINITION

Figure 2's story aligns with the reflections in Whitt et al. (2001) about respect as a value system that honors the interrelationship and indebtedness that species have with one another and their responses and behaviors that respect those connections. Respect is "the central and perhaps single most widely shared moral principle among Indigenous Peoples. Everything is appreciated for what it does and what it shares to sustain the cycles of Creation—the world will be in balance and life will continue" (Whitt et al. 2001: 13, citing Barreiro 1992: 28).

Respect is also defined as understanding that no part of the world is expendable (Jamieson 2001). Realizing and honoring this fact requires intimate knowledge and familiarity with the world and all of its functions, as exemplified by Indigenous Peoples. "Respect consists of a continuum of behaviors informed by such knowledge, and ranges from avoiding inappropriate treatment of something to responding to it in ways that actively maintain its ability to continue performing its vital function" (Jamieson 2001: 13). Respect is tied very directly to other Indigenous value systems; however, the main difference is that respect is the driving motivation behind why positive behaviors and interconnections occur between humans, other humans, animals, plants, lands, and waters. Respect operationalizes the understanding that all elements of the world are needed and connected and should be protected from harm. In this same line of thinking, we extend respect to cover Indigenous Peoples as functioning, interconnected, and indispensable elements of the world. Therefore, we expand

**Figure 2: Respect**

#### Storytelling

As the water filled the Earth's surface, creating lakes and rivers, a large landmass emerged called Turtle Island. Turtle Island was surrounded by ocean waters and its skin was covered in veins of water that all flowed to the oceans. After a long time, animals and plants covered Turtle Island, and every creature lived in good connection and harmony. When Earth created animals, they were given careful instructions to respect everything on Turtle Island, including all the waters that trickled through its surface and the bodies of waters that surrounded it. When humans came out from the Earth's belly, they lived in



respectful balance that maintained all life systems. These first humans were Indigenous peoples who represented thousands of distinct cultures and Knowledges. All creatures thrived during these times on Turtle Island.

#### Beadwork Symbology

The turtle figure contains different types of symbology. The four legs of the turtle represent many different factors, including the four primary parts of human existence (1) the physical body; 2) knowledge; 3) emotion; 4) spirit), the four seasons, the four directions, and four sacred medicines. The head of the turtle points upward, suggesting a focus on the future and guidance from Creator, while the tail points downward representing connections to the ground (Earth's body), the past, and all of our ancestors. The yellow spiral represents the energy of the present, the spiral of life that circulates this planet, and deeply rooted respectful connections between humans and other creatures with lands and waters. The spirals also serve as a repetitive and connecting pattern between the Indigenous value system of Respect with the rest of the 7 R's.



the definition of respect to parallel the regulations in UNDRIP that apply to what helps honor and maintain Indigenous Peoples' livelihoods: the proper and positive treatment of Indigenous Peoples' customs, traditions, land tenure, and water systems (United Nations 2007). As highlighted by Figure 2, this extension emphasizes that Indigenous Peoples' lives, customs, traditions, stewardship of lands, waters, and animals, are just as important and integral as every other element of the Earth to its capacity to function.

### RESPONSIBILITY: STORYTELLING, SYMBOLOLOGY, AND DEFINITION

Similar to the story within Figure 3, responsibility has been defined as the communal obligations to care for and protect relatives, including Indigenous kin such as plants and animals (e.g., non-human animals and human community members; Harris and Wasilewski 2004). These responsibilities are often embedded within Indigenous Peoples' origin stories, which define their roles and responsibilities with other living systems and their responsibilities to specific

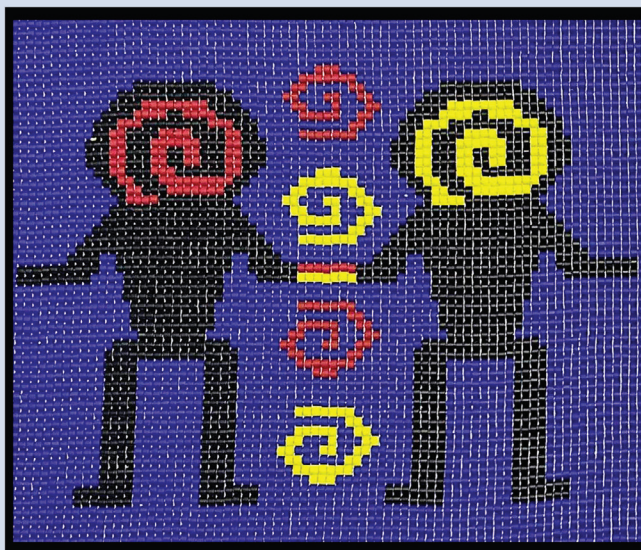
animals, plants, Earth processes, etc., via clanship relations (Whitt et al. 2001; Harris and Wasilewski 2004; Jacobs et al. 2021). The responsibilities between Indigenous Peoples and their associated clan systems are protected by data sovereignty and not available for public disclosure; however, many Indigenous Peoples honor sacred and specific rules through responsibility principles relating to how they interact with and relate to their associated clans.

Clarkson et al. (1992) expand on the idea of responsibility being connected to origin stories by discussing the original law for Indigenous Peoples to be the caretakers of everything on Earth, and their responsibilities to take care of life systems as if they were parts of themselves. This process is transmitted generationally through each Indigenous generation holding responsibility for the survival of the next seven generations (Clarkson et al. 1992). The original law combined with Indigenous understandings of life and death is reflected through Indigenous clan systems,

**Figure 3: Responsibility**

#### Storytelling

As Indigenous peoples began their lifeways on Turtle Island, they enacted the instructions that were given to them by the Earth to live responsibly with other creatures, plants, lands, and waters. When they were hungry, they gathered and hunted for food, making sure to honor the gifts that each subsistence provided and never taking more than what they needed. This action ensured that other creatures, both big and small, had enough to maintain life. These first peoples demonstrated responsibility to live within their ecosystems without creating harmful impacts to other creatures, plants, lands, and waters. They were also responsible for creating deep relationships between themselves, their human communities, and all elements of the ecosystems in which they lived and traveled.



#### Beadwork Symbolology

Two humans are connected through red and yellow bonds. The red and yellow bonds bind them together as responsible stewards for Earth, water, plants, and animals. The color yellow represents the knowledge of rights and responsibilities given to humans by Earth. The color red represents the love for all creations that is an essential element for why Indigenous peoples enact their responsibilities. The shared yellow and red bonds between the two humans show that they carry both knowledge and love. The spirals inside the humans shows that these elements are carried within us, whereas the outward spirals that float in the ocean of waters between each human represent how love and knowledge for our responsibilities are transmitted through our behaviors, activities, stewardship, and relations to all living beings and ecosystem elements. The spirals also reflect deep rooted connections between other value systems in this manuscript.

decision-making processes that occur via community consensus, divisions of labor, family structure, customs, beliefs, institutions, and other factors that embody an ethos of responsibility between Indigenous Peoples and other Earth life systems (Clarkson et al. 1992). Therefore, we emphasize responsibility as a system deeply rooted in the caretaking practices of Indigenous Peoples who have, since time immemorial, taken care of all life systems through responsible practices that honor the relational aspects between beings.

However, as Liboiron (2021) points out, though many Indigenous cosmologies uphold the idea that all things are related, this does not mean that all relational obligations are the same. So, not all Indigenous Peoples, even within the same Indigenous communities, hold the same types of responsibilities and obligations as others. Responsibilities may be delegated through Indigenous communities by

ceremonial obligations, customs, cosmologies, origin stories, clan systems, gender roles, and many other factors. Specificity of responsibilities varies between Tribes and within Tribal communities. So, we leave open the possibilities of Indigenous responsibilities existing at the micro (e.g., individuals and clan systems) and macro levels (Tribal communities and Indigenous Peoples in general, etc.) in distinct manners that may vary based on a myriad of factors. We do not attempt to define responsibilities in such specificity because these details would fall under Tribal data sovereignty.

#### RELATIONSHIPS: STORYTELLING, SYMBOLOGY, AND DEFINITION

See Figure 4 for the storytelling and symbology that explain Relationships as an Indigenous value system. We emphasize the Harris and Wasilewski (2004) definition of relationships as the connections between kinship systems, the interrelationship of all lifeways, and the inclusion of others into relational

**Figure 4: Relationships**

##### Storytelling

As animals and plants were created on Turtle Island and in the oceans, all creatures flourished. The oceans were abundant with creatures and plants, and the water was clean from the surface to the bottom of the ocean floors. Relationships between beings developed instantly, as all creatures were given instructions from the Earth to live in harmony and take care of one another. Seaweed grew abundantly in plentiful ocean forests, providing food and protective habitat for other species,



including crab. In good relations, crab took care of the seaweed forests, making sure that the forests were able to thrive and not harm other elements of the ecosystem by growing in too much abundance. This relationship of caretaking other species, symbiotic reliance, and harmony was shared by all creatures on Turtle Island in the surrounding oceans.

##### Beadwork Symbology

The seaweed rises to the surface of this figure, symbolizing strength, power, and resilience. The crab stretches its claws upward in celebration of the relationship between itself and seaweed. The crab and seaweed are juxtaposed together, which underlines the symbiotic relationship between the two species. The yellow spiral on the crab's belly represents its knowledge of rights and responsibilities to take care of the seaweed and other species. The crab's red body illustrates the love and care work it maintains in its relationship with the seaweed. The green seaweed colors represent harmony within the relationship.

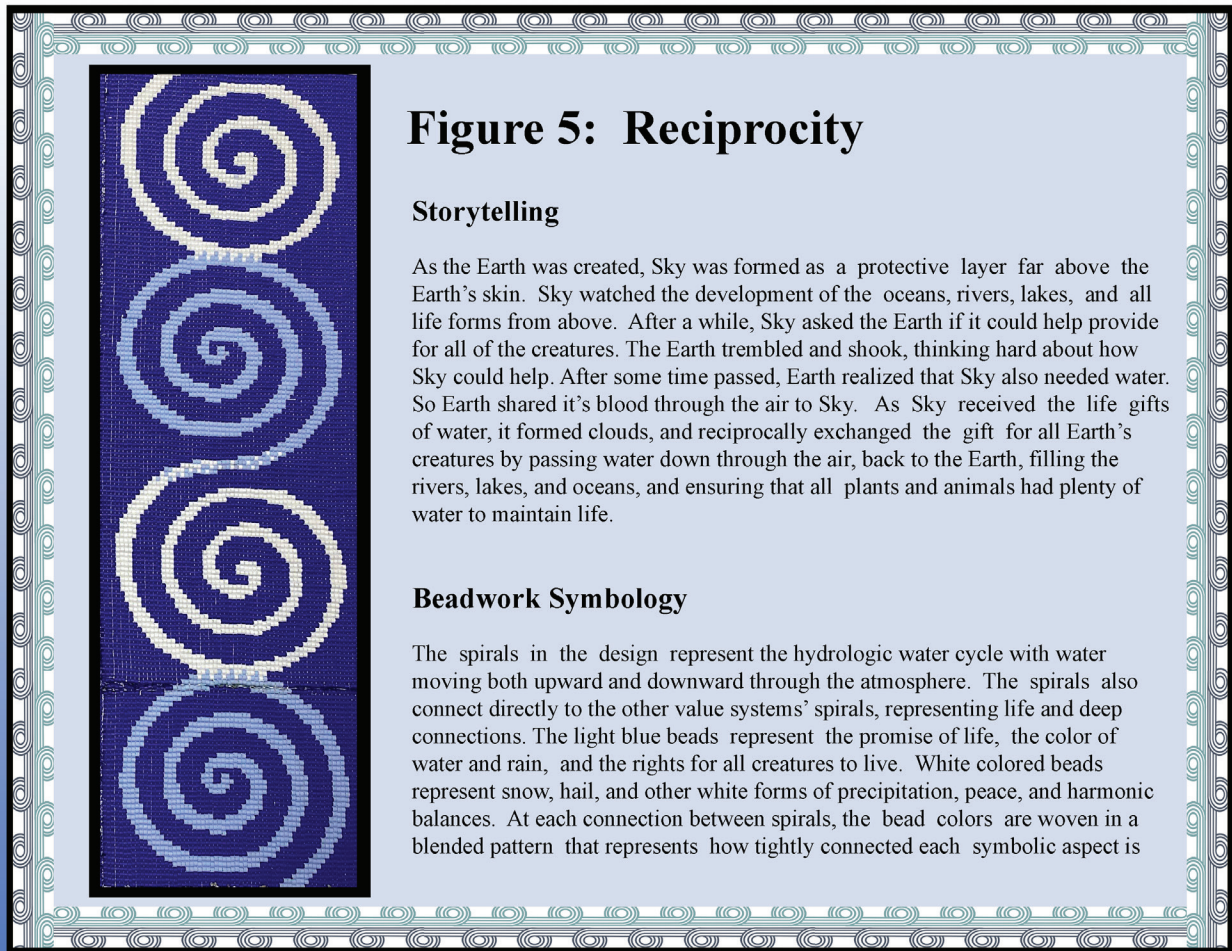
ways of being. We also expand this definition to include relationships that embody intergenerational accountability (Clarkson et al. 1992) and accountability frameworks that incorporate pasts, currently lived realities, and futures. Similar to the Indigenous value system of responsibility, we do not attempt to define all relationships that might exist on micro and macro levels for Indigenous Peoples because many of these relationships are sacred and the related information belongs solely within Tribal communities. This is especially relevant because of the ways that many Indigenous Peoples demonstrate relations to all of creation (e.g., physically, ideologically, and personally) and follow implicit instructions prescribed by their creation stories, oral histories, and understandings of the surrounding world (Hiller and Carlson 2018; Dennis and McLafferty 2020).

We underline the fact that relationships can be used as guiding methodologies between peoples, lands, waters, and other lifeways. Relationships can also

be used as a methodological practice for scientists, researchers, and others who are invested in conservation and environmentalism-based practices. Liborion (2021) outlines a framework for employing relationships as a methodological practice through critical reflections on how power structures influence human and land relations, questioning accountability to lands and waters, and reflections on relational ethics. To operationalize this type of methodology, it's important to conceptualize land and water as complex fields of relationships that contain an epistemology of experiencing and relating to the world and its myriad of life (Coulthard 2014).

#### RECIPROCITY: STORYTELLING, SYMBOLOGY, AND DEFINITION

See Figure 5 for the storytelling and symbology that explain Reciprocity as an Indigenous value system. Reciprocity is defined as the exchange practices that hold cyclical and mutual benefits from one life form<sup>6</sup> to another. Reciprocity is reflected deeply by cyclical



obligations within lifecycles and the cyclical dynamics of relationships (Harris and Wasilewski 2004; Jacobs et al. 2021). Reciprocity principles integrate Indigenous understandings of socioecological, ceremonial, cosmological, and spiritual connections within Indigenous communities, kinship systems, lands, and waters. In the previous definition of responsibility, we mentioned the obligations that Indigenous Peoples hold to lands, waters, plants, and animals. Corntassel (2012) reinforces this notion and underlines how these obligations provide the scaffolding for sustaining reciprocal relationships with the outer world. In return, the world and all of its lifeways provide the basis for human survival (Corntassel 2012). This explanation shows the connections between reciprocity and responsibility and reinforces how Indigenous responsibilities are part of a sacred relationship with all lifeways that maintain balance between living beings through systems of reciprocity.

Reciprocity also covers the sharing of knowledges throughout all phases of educational processes (Corntassel 2012) and in other endeavors such as environmental projects and community planning. However, reciprocal sharing of knowledges and shared learning practices equate to Indigenous and non-Indigenous Peoples participating in both together (Corntassel 2012). These types of reciprocity-based knowledge and learning opportunities foster deeper and more reciprocal relations between entities and individuals and support the valuing of Indigenous Knowledges and Indigenous participation. Therefore, reciprocity is very deeply rooted in relationships and the obligations of humans to take care of one another and all lifeways.

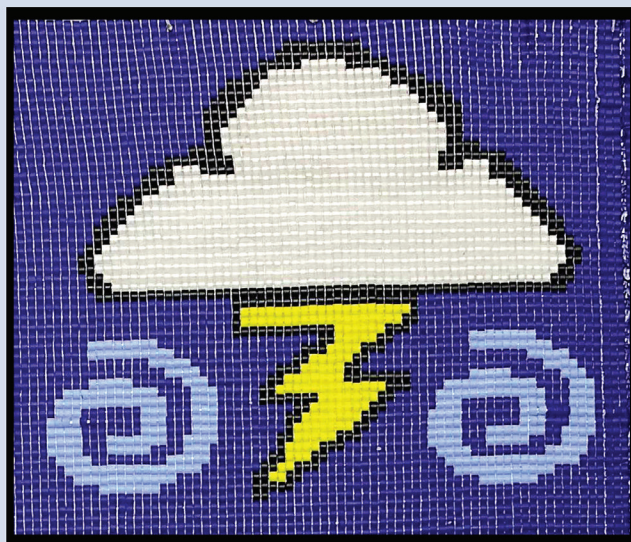
#### RELEVANCE: STORYTELLING, SYMBOLOGY, AND DEFINITION

Figure 6 provides the storytelling and symbology that explain Relevance as an Indigenous value system. We define relevance as the dynamic and meaningful

**Figure 6: Relevance**

#### Storytelling

Sky ignited the water cycle to provide the continued promise of life for all living creatures. As water rose from the Earth to Sky, white fluffy clouds danced on Sky's atmospheric body, creating dynamic and meaningful visual connections between Earth and Sky. Instantly, as Earth and Sky connected for the first time, Sky rejoiced in a thunderous display of rumbling energy that resonated above Turtle Island.



Thunder became the musical soundtrack of the deep connections between Earth and Sky and lightning struck from clouds to Earth and provided Indigenous peoples with fire and tools to manage their lands.

#### Beadwork Symbology

The white cloud figure represents the clouds forming on Sky's body and the relevance that clouds hold in providing life and water to Earth. The lightning bolt symbolizes the connections between Sky and Earth and all of the thunderous music that Sky provides for all Earth's creatures. The light blue spirals represent the transmission of water from Sky to Earth and connect to other Indigenous value system's symbologies. The light blue beads also represent the promise of life, the color of water and rain, and the rights for all creatures to live. White colored beads represent peace, harmonic balances, and deeply relevant connections. Yellow beads signify knowledge, meaning, and life.

connections that Indigenous Peoples have with every aspect of the environment, including the connections they hold between other humans, animals, plants, waters, lands, climatic processes, seasons, etc. Relevance can be held philosophically, physically, emotionally, spiritually, behaviorally, traditionally, historically, ceremonially, and relationally, through transformation and many other modes of connection between Indigenous Peoples and their surrounding worlds. Relevance provides the connective tissue between Indigenous Peoples and their traditions, beliefs, actions, relationships, practices, epistemologies, and ontologies.

Indigenous Peoples hold distinct knowledges and interests that vary from culture to culture and person to person. Therefore, relevance can be defined at the micro and macro levels. Relevance reflects the need to ensure that Indigenous Peoples’ interests are respected and considered in the development of

policies, actions, programs, services, communications, planning, etc., that impact Indigenous Peoples (Cull et al. 2018). Relevance also underlines the importance of understanding epistemological and ontological differences that exist between Indigenous Peoples and other cultures, and the need for relevance to be situated at the forefront of every matter that involves Indigenous Peoples. Additionally, relevance means including Indigenous Peoples in projects that pertain to them, valuing their knowledges, and centering culturally appropriate outcomes whenever possible (Cull et al. 2018).

### RECONCILIATION THROUGH REDISTRIBUTION

See Figure 7 for the storytelling and symbology that explain Reconciliation through Redistribution as an Indigenous value system. Reconciliation may be considered as a healing process that re-solidifies the structures of relationships that have previously been harmed. Stanton (2011) expands this definition of

**Figure 7: Reconciliation through Redistribution**

**Storytelling**

From a distance, Sun and Moon watched Earth grow from its infancy and through all stages of its development. Sun and Moon watched as Sky filled Earth’s body with rain and made Earth tremble with floods. Over time, Earth and Sky grew tired and needed help balancing their relationship. Sun and Moon mediated their relationship needs and provided the balance that Earth and Sky were seeking. Sun brought rays of light to Earth that helped life systems grow during the day. Moon brought darkness and night, providing opportunities for rest and rejuvenation. Sun and Moon were also in relation to Earth’s waters, especially the oceans. Sun heated the waters and helped them evaporate and move to Sky’s body. As Sun warmed Earth’s surface waters, cooler waters moved in and created currents. Moon controlled the tides of the ocean, making the water breathe in and out as it rose to the shores of Earth’s lands and then receded, twice a day. Sun and Moon also created the seasons on Earth, which provided a time for work and harvest, and seasons for rest and rejuvenation for all of Earth’s life forms. Sun and Moon promised to always provide a balance for Earth’s systems. Even as Earth grew older, Sun and Moon never broke their promises.



**Beadwork Symbology**

Sun is in the background, displaying orange, red, and yellow rays of light. A blackened moon phase eclipses the sun. The moon shape in this figure represents a cup that is holding water, which signifies periods of time when rains are halted by Sky. The blue spiral in the middle of the image represents the mediating relationship that Sun and Moon have with Earth, its waters, and Sky. It also reinforces the connections between other Indigenous value systems. The orange beads symbolize the warmth of spring and fall, and mediated relationships. The red beads illustrate the heat of the summer season and the love and care work between kinship systems. Yellow beads signify the color of the sun, knowledge, meaning, and life. Black beads represent nighttime, periods of growth and rejuvenation, power, strength, and the darkness of winter.

reconciliation by underlining the implied understanding that for a relationship to be reconciled, at one time the relationship must have been whole. However, this is not an accurate representation of the relationships that exist between Indigenous Peoples and colonial structures due to historic and ongoing oppressions and marginalization (Stanton 2011). Relationships between Indigenous Peoples and their colonial oppressors have never been whole. Stanton (2011) suggests that in these colonial contexts, reconciliation must refer instead to transformation. We recognize the need for transformation and have merged the Indigenous value system of redistribution with another Indigenous value system, called reconciliation, to generate possibilities for transformation to occur. Redistribution is defined as a sharing obligation that ensures the balancing and rebalancing of relationships (Harris and Wasilewski 2004; Jacobs et al. 2021).

We take a micro and macro approach in viewing how reconciliation through redistribution works at the individual and community levels (micro), and also within structural and institutional levels (macro). At the micro level, reconciliation through redistribution translates to the obligation to maintain balances between peoples and communities, and with lands, waters, and other kin (animals and plants). At macro levels, these merged value systems address the balancing of structural oppressions related to the distribution of land, water, resources, and other factors for Indigenous Peoples (Vizinia and Wilson 2019).

### THE SEVEN R'S

Figure 8 emphasizes the connections between all of the Indigenous value systems in this paper. There is no hierarchical ordering of importance between all Indigenous value systems, and each one works to



reinforce and weave together practices, principles, and connections between the others. Figure 8 represents a symbolic framework for how Indigenous value systems can be understood in marine systems contexts. Parks and protected area managers can use this framework to understand how Indigenous value systems represent Indigenous epistemologies and ontologies that guide how Indigenous Peoples live, connect with others, and understand their places as land and water stewards.

### OPERATIONALIZING THE SEVEN R'S

In this section, we operationalize the Seven R's to decolonize marine conservation practices deeply rooted in manifest destiny value systems. Operationalizing the Seven R's presents a reflective framework for marine area managers, conservation project leaders, and similar entities to use in transforming their practices to be more in line with Indigenous value systems.

#### Rights

In 2010, a marine protected area (MPA) was created by the government of the United Kingdom (UK) around the Chagos Archipelago in the Indian Ocean, which became the world's largest no-take MPA (De Santo et al. 2011). This MPA provides a good case study of how seemingly positive conservation intentions through the establishment of MPAs can ultimately result in poor outcomes for local and Indigenous community members' rights. We examine some of the harms of the Chagos MPA related to fortress governance structures and counter the current framework with Indigenous value systems of rights, which may lead to a more equitable and sustainable managerial strategy.

Many critics focus on problems related to how the Chagos MPA was developed, including the lack of clear management and enforcement frameworks and the MPA designation that occurred before a legal decision could be finalized on Native Chagossians' rights to live on the islands (De Santo et al. 2011). Before the creation of the MPA and following over 40 years of human rights violations, the European Court of Human Rights received a case with complaints about the illegalities behind Native Chagossians' removal from their homelands on the islands (Lunn 2013). The UK government contested the case, and in 2021 the European Court ruled that the Native Chagossians' application was inadmissible due

to a settlement that had previously been reached in a different court (Lunn 2013). Therefore, the Native Chagossians lost their rights to their original marine areas. The MPA was created under the guise of environmental protection; however, the establishment of the MPA reinforced the need for the removal of the Archipelago's Indigenous Peoples. This example shows how marine conservation can lead to many violations of Indigenous Peoples' rights to their ancestral lands.

Chagossian peoples are not the only Indigenous Peoples who have been negatively affected by the establishment of MPAs. Researchers have documented how some groups within fishing communities are negatively affected by the creation of MPAs (Mascia et al 2010), while others highlight the trend of "ocean grabbing" that strips local communities' rights (Ban 2018; Bennett et al. 2015). Additionally, Indigenous Peoples face extensive social, economic, and political consequences from the establishment and management of protected areas (Reimeron 2015). Therefore, it's important to recognize that (1) hegemonic discourse surrounding conservation-based establishment of protected areas can be used to silence challenges to colonizing entities' authority over Indigenous Peoples' lands and waters (Reimeron 2015); and (2) when MPAs violate human rights, they are upholding the same harmful values embedded within manifest destiny ideologies and colonial practices. These two functions are deeply connected and work together to maintain power, authority, and control of Indigenous Peoples' territories and rights within colonial systems.

However, when Indigenous value systems of rights are considered in parallel with marine conservation strategies, removals from lands and fortress praxes are not necessary. Therefore, when Indigenous rights are implemented as a conservation strategy, then manifest destiny values can be removed from the equation. This is exemplified by MPAs that are managed by Indigenous Peoples and local community members. For example, the articles of UNDRIP stipulate the rights that Indigenous Peoples have to live in their original ecosystems and use their traditional foods (United Nations 2007). Some countries honor these rights by situating power with Indigenous and local communities. Therefore, colonial governing systems have other and arguably



better rights-oriented options when it comes to creating MPAs for conservation purposes.

Around the world, Indigenous Peoples are involved in state and community-based governing arrangements for MPAs (Ban 2018). Locally managed marine areas (LMMAs) and Indigenous Peoples' and Community Conserved Territories and Areas (ICCAs) exist around the world, including in Fiji (149 LMMAs, approximately 1.77 million hectares), Madagascar (16 LMMAs, approximately 394,000 hectares), Kenya (several inshore reef areas are managed by fishing communities), Japan (more than 1,000 community protected areas and 387 no-catch MPAs), Costa Rica (many marine areas for responsible fishing protected by fishing communities), Spain (ICCAs managed by 230 Cofradías, or religious fraternities), and many other areas (Day et al. 2015).

ICCAs and LMMAs dismantle the harms of colonial governance by situating power and control with the local and Indigenous Peoples whose lived realities are influenced by their marine systems. Additionally, when conservation management powers are placed with Indigenous Peoples, then cultural goals that are made by local communities can be emphasized in management strategies and dictate markers of success (Ban 2018). Such cultural foci in management strategies disrupt the value systems embedded within manifest destiny by placing a focus on the needs and desires of local populations instead of colonial governing systems.

In areas such as Papua New Guinea and the Solomon Islands, ownership of lands is not situated within national governing institutions (Day et al. 2015). Instead, power is situated with clans and Tribes through varying degrees of customary ownership that are recognized under federal laws (Day et al. 2015). These types of Indigenous-led frameworks have not yet been enacted in the MPAs that are geopolitically tied to the United States. However, moving in a similar direction would ultimately uphold the inherent rights of Indigenous Peoples in marine systems, actualize the #LANDBACK movement, and potentially support the rights of all other living beings in the associated marine areas. To operationalize Indigenous value systems of rights within marine areas, federal governments should create frameworks that actualize Indigenous Peoples' inherent rights as land and water stewards and create pathways for local

ownership and management of MPAs. This type of operationalization of rights would ultimately promise the continuation of Indigenous lifeways, cultures, and norms in marine areas and rebalance the promise and right to life (as outlined in Figure 1) for all marine species through the re-establishment of Indigenous Peoples' marine management practices.

### Respect

The Biden-Harris administration of the United States signed an Executive Order that calls for the conservation of 30% of US lands and waters by 2030 (Exec. Order No. 14008 2021). Approximately 26% of marine waters are already listed in conservation and protected statuses in this country (NOAA, n.d.). Though on the surface, the 30% objective seems like a good approach to protecting ecosystems, we argue that this approach may follow a long legacy of land and water grabs that were used to maintain the forcible removal of Indigenous Peoples from their homelands, which underlines a lack of respect for Indigenous cultures, traditions, and lifeways.

However, in the US, MPA managers must respect and recognize the sovereign rights of Tribes that have federal recognition and uphold government-to-government consultation guidelines and Indigenous Peoples' rights to areas that are operated with fortress conservation methods (NOAA, n.d.). US-based MPAs are not required to respect and recognize the sovereignty of Indigenous Peoples who have only state-level recognition, nor those without either federal or state recognition. There are currently 574 Tribes that possess federal recognition and more than 60 Tribes with state-level recognition (Saenz 2020). More than 200 Tribes are not recognized by federal or state governments (O'Neill 2021). Therefore, we argue that using federal recognition status to determine which Indigenous Peoples' sovereignty will be respected in MPAs only upholds the harmful colonial value systems within manifest destiny that continue to dispossess non-recognized Indigenous Peoples and their rights to their ancestral territories.

To overcome this issue, federal MPA management entities should broaden the umbrella of respect that covers what types of Indigenous communities are acknowledged and whose rights are upheld in situations where conservation practices are necessary. We suggest for MPA entities to consult the many articles of UNDRIP and work with legislators to





broaden the legal umbrella of respect granted to Indigenous Peoples. This umbrella of respect must cover how Indigenous Peoples' inherent rights to their ancestral lands are upheld and respected by colonial governments. On a global scale, many nations do not have respect for Indigenous Peoples, nor their ancestral marine homelands. In these circumstances, we suggest for those nations and protected area managers to reflect on the articles of UNDRIP and create laws that honor the respectful relations that Indigenous Peoples have demonstrated with their homelands since time immemorial as stewards.

Additionally, we argue that MPAs should operationalize respect for all Indigenous Peoples no matter their recognition status by the federal government. Respectful relationships between MPAs and Indigenous communities should also be generated and nurtured. However, the first step to creating such managerial frameworks is to ensure that respect is given to Indigenous Peoples and their rights. Once this step is realized, then Indigenous Peoples can push forward the need for societies and governments to honor and respect the waters, animals, plants, and other ecosystem elements and functions that humans rely on for survival. Until Indigenous Peoples' cultures, Knowledges, and rights are fully respected, recognized, and honored, then the lands they caretaker and the ecosystems in which they have evolved will never be treated with the respect that they deserve. We argue that Indigenous Peoples are extensions of the lands and waters of their ancestral terrains, and that respecting one element of that ecosystem requires the full respect of all other parts. Therefore, conservation of full ecosystems is impossible without the implementation and actualization of respect for Indigenous Peoples and their long legacies of land and water stewardship.

### Responsibility

Indigenous conservation practices were generated through Indigenous Peoples' careful environmental observations and culturally transmitted learning practices (e.g., Traditional Ecological Knowledge, or TEK), the apportioning of ocean spaces for specific peoples and uses, and the inherent understanding that humans are functioning elements of their environments (Berkes et al. 2000; Berkes 2006; Salesa 2014; Martin et al. 2019). However, Indigenous marine management was disrupted by the effects of colonialism, including the introduction of new laws,

governing systems, and traditions by colonial systems (Wadewitz 2012).

Though Indigenous Peoples on a global scale are impacted by the structures and violence of colonialism, many continue to engage in their cultural traditions to be responsible Earth stewards. In this context, we conceptualize the Earth as a living body that contains waters, lands, and other living systems. Using an Indigenous lens, we view the Earth as a functioning body with all waters connected through Earth's body and sky. What happens upstream to freshwater ecosystems can largely impact the marine ecosystems to which the freshwater flows. Salmon and steelhead navigate the connections between waterways and spend parts of their lives in freshwater and marine environments (Bley and Moring 1988). Similarly, Indigenous Peoples rely on the health and functions of fresh- and saltwater systems and understand the delicate balances at play in how both water systems function independently and connectively. This may be why Indigenous Peoples enact their responsibilities through activism in times when the rights of lands and waters are not upheld by others (e.g., colonial governments, corporations, etc.).

Fortress conservation can disrupt how Indigenous Peoples enact their responsibilities to care for ecosystems. Scholars have documented how Pacific Islands may become uninhabitable for local and Indigenous Peoples due to climate change (Bradley and Hugo 2010; Hugo 2010; Farbotko 2018). Alterations of the climate are linked to settler colonialism and create a fortified future for Indigenous and local peoples in which, at some point, their ancestral homelands may not be occupiable. We argue that climate change can be considered as another fortress operation of the colonial state that may realize some of the values embedded within manifest destiny (e.g., land and water dispossession of Indigenous Peoples). However, many Indigenous Peoples and local island communities in the Pacific resist such discourse that settles on the inevitability of their relocations (Goodyear 2017; McNamara and Farbotko 2018).

The Pacific Climate Warriors (PCW) group is a good example of how these resistances unfold while honoring Indigenous Peoples' sacred responsibilities to protect their marine systems. PCW consists of Pacific Island peoples who collectively work to peacefully protect their homelands from climate



change impacts (McNamara and Farbotko 2018). In October 2014, PCW physically blocked Australia's largest shipping port for coal and thereby challenged the extractive practices of Pacific Rim countries (Goodyear 2017). As land and water protectors, PCW demanded that fossil fuel companies and countries with a high emittance of greenhouse gases must be held responsible for the harms of their actions (McNamara and Farbotko 2018). PCW drew from their cultural responsibility values by renewing (1) connections with lands and waters; (2) intergenerational pathways of connecting to *waterly bodies* (e.g., human, lake, river, marine, etc.); and (3) resistance to growing narratives that support the inevitability of Pacific Island communities' relocations (Goodyear 2017; McNamara and Farbotko 2018).

The PCW example emphasizes that when we view water and land as life and activate our Indigenous responsibilities to take care of Earth's body, then we can generate better connections and resistance frameworks that can be used in marine conservation efforts. Additionally, when water protectors apply decolonial pressures via activism, they can challenge the settler colonialism violence embedded within manifest destiny value systems and construct new decolonial futures for the Earth and its waters (Privott 2019). Marine managers can operationalize these two functions by providing pathways for Indigenous Peoples to actualize their responsibilities in their ancestral homelands (e.g., via the #LANDBACK movement and/or through the creation of co-equal management regimes between Indigenous communities and federal managers; Jacobs et al. 2021).

### Relationships

Disrupting the manifest destiny value systems that drive harmful conservation practices requires a careful reflection on Indigenous value systems of relationships. Fortress conservation philosophical frameworks erase the essential relationships that Indigenous Peoples have honored as mainstay species of lands and waters since time immemorial. This disruption started a chain reaction of issues in marine systems that never existed before colonial contact, including overfishing, pollution, global warming, harmful toxins (e.g., pesticides and chemicals), etc.

Indigenous Peoples have always lived in good relations with their surrounding ecosystems, and in

many marine areas, Indigenous Peoples sustainably nurtured the health of their marine kin (e.g., clams). For example, many Indigenous Peoples in the Pacific Northwest created and sustained healthy populations of clams through sustainable clam gardening practices (Goresbeck et al. 2014; Deur et al. 2015; Neudorf et al. 2017; Moss and Wellman 2017). However, manifest destiny and the ensuing removal of Indigenous Peoples' rights to their ancestral marine areas disturbed some of these long-standing relationships. Subsequently, the compounding effects of manifest destiny opened the door for the realization of capitalism which has been linked to many ecological consequences in marine areas (Clausen et al. 2005). However, disrupting capitalistic and manifest destiny frameworks in marine conservation can be done by integrating Indigenous value systems of relationships. This integration may provide the medicine needed to prevent future ecological consequences from occurring in marine ecosystems, but it is something that needs to be facilitated through an intergenerational accountability framework.

LaDuke (2021) reflects on intergenerational accountability, a mainstay of Indigenous relationships to the past and future, and asks the question, "How do I account for my behaviors and decisions to my ancestors and to my descendants?" (p. 14). This question isn't often asked by those who operationalize manifest destiny value systems, especially those who employ fortress and green militarized conservation praxes. However, it is a primary focus for many Indigenous Peoples who uphold the value system of relationships with their ancestral territories. Everyone, including non-Indigenous Peoples, have ancestral homelands to which their families were at one time rooted. Yet, as LaDuke (2021) points out, many folks have "historical amnesia" in which they forget their deep ties to lands, waters, and ancestral homelands.

Historical amnesia allows them to escape the ills of the past—the products of colonialism—as a coping mechanism that permits them to become "ecological slave holders" (LaDuke 2021: 14). This form of historical amnesia is what LaDuke terms "ecological amnesia," which occurs when individuals forget what once existed and thus sever the relationships they should have with ecosystems (LaDuke 2021). This process is convoluted by *transience*—not fully understanding, connecting to, or loving a place or ecosystem, and subsequently transitioning or



actively searching for greener pastures (LaDuke 2021). We argue that LaDuke's concept of transience is operationalized by fortress and green militarized conservation practices by forcing local peoples to seek other ecosystems for relations. At the same time, the severing of ties between humans and their ancestral and current lands leads to situations where humans create environmental impacts in sensitive areas because they do not understand the need to have relations with the lands they navigate. Therefore, fortress conservation may generate less harms in preserved areas, but shift the spatial activities and rights of people to new areas they have not yet formed deep relationships with, and therefore potentially lead to new environmental impacts.

However, the idea of searching for greener pastures is a luxury that many Indigenous Peoples are not afforded due to rights that are dictated by their treaties with colonial institutions. For example, Indigenous Peoples cannot search for greener pastures that extend beyond the colonial borders of their reservation and Usual and Accustomed Areas. Their rights and relationships as Indigenous Peoples are often limited by colonial geopolitical borders. This proves even more problematic when areas within their ancestral territories are managed through fortress and green militarized practices. Contrary to others who can seek greener pastures and maintain a state of transience, Indigenous Peoples' relationships with lands and waters generate more care and love work for ecosystems because they are rooted in accountability frameworks that necessitate a past, current, and future mindset. This mindset is not possible through transience practices. Ecological amnesia coupled with transience diminishes human relationships with lands and waters and minimizes the number of humans who protect these elements (LaDuke 2021).

In a historical context, environmentalism focuses on the present and future, without asking questions and addressing the issues that have led up to the current problem, nor intersecting these historical issues and future planning with Indigenous Peoples' rights. Many environmental solutions encompass settler colonialism ideologies that arrogate access and control over Indigenous lands and waters (Whyte 2017; Gilio-Whitaker 2019; Liboiron 2021). For example, US MPAs may offer protections to fish, animal, and plant populations while minimizing or

disallowing extractive activities (e.g., mining). On the surface, these protections seem beneficial; however, they only consider current and future settler-based objectives. They do not account for Indigenous Peoples' relations with those ecosystems, animals, plants, and fish. They restrict access and maintain settler colonialist power dynamics through the establishment of protected area boundaries, laws, and permits, and thereby sever how Indigenous Peoples can protect and maintain relationships with waters, lands, animals, and plants within the so-called sanctuaries.

Bacon (2018) builds on previous work by Brook (1998), Fenelon (1998), and Coulthard (2014) to effectively name the structures that disrupt Indigenous Peoples' relationships with the environment, and that present additional issues for them to navigate, as a form of *colonial ecological violence*. This type of governmental-based environmentalism and conservationism does not account for the historical root of what causes any of the current issues: settler colonialism and byproducts of capitalism. Therefore, it reinforces ecological amnesia in a way that works to erase the root structure and reinforce the lack of relationships that continue to manifest as environmental issues in marine areas.

Marine conservation practitioners should reflect on how their practices are rooted in manifest destiny and capitalism, and how such practices negatively influence the possibilities of beneficial relationships between humans and marine systems. Using Indigenous relationships values as a model, marine conservation practices would not include fortress and militarized techniques. Instead, conservation practices would shift to educational objectives that bring humans into better relationships with marine ecosystems. However, we argue that such an extensive change in marine conservation would require a managerial paradigm shift in which Indigenous Peoples maintained sovereign authority over marine conservation practices in their ancestral and current homelands. In such a situation, Indigenous Peoples could potentially provide educational resources for external governing institutions, local community members, and tourists about how to live, act, and be in good relations with lands, waters, animals, and all living things. This type of managerial and educational shift would negate the need for fortress and green militarized conservation practices because humans would be better equipped to understand their impacts in sensitive areas and



be inspired to build relationships with those areas in ways that do not propagate transience or further the prevalence of ecological amnesia.

### Reciprocity

For thousands of years, the cultural continuity of Indigenous communities has been maintained through the activation of Indigenous value systems. This includes value systems of reciprocity, which enable Indigenous Peoples to harness reciprocal methods for relating to life ways on Earth (e.g., selective and limited harvesting practices) that maintain the health of ecosystem functions and species, while these ecosystem elements provide reciprocal gifts of life to humans in return (Berkes 1999; Cisneros-Montemayor et al. 2016; Eckert et al. 2018; Jacobs et al. 2021). Systems of reciprocity between Indigenous Peoples, other communities, and our more-than-human relatives have been disrupted by the value systems of manifest destiny and subsequent impacts of colonialism. This is especially relevant to how marine areas may be managed through fortress conservation and other types of harmful conservation measures. Manifest destiny and colonial value-based legacies continue to plague marine management practices and are often weaponized against Indigenous water protectors who seek to maintain and reinforce reciprocal relationships with marine systems and all interconnected waterways. We argue that reciprocity and other Indigenous value systems can disrupt the harms of manifest destiny and colonialism because they are seeded in communal obligations (e.g., kinship systems) of care, love, and respect for all lifeways (Harris and Wasilewski 2004; Jacobs et al. 2021).

To emphasize how reciprocity works in Indigenous contexts, we underline the significance of salmon being recognized by many Indigenous Peoples and MPA managers as important species that require protection. However, many Indigenous Peoples consider salmon to be far more than a “natural resource.” For example, the Nu-chah-nulth First Nations of Canada ground their worldviews in the concepts relating His-shuk-nish-t’sa-waalk (everything is one) and Iisaak (respect with caring; Atleo 2011; Bingham et al. 2021). In their traditional stories, the Nu-chah-nulth learn of the Salmon People who are considered to be their blood relatives and possess sacred epistemologies (Atleo 2011). The Nu-chah-nulth Peoples possess reciprocal relationships with these Salmon People in which the

salmon offer themselves as food and the Indigenous Peoples celebrate that gift through ritual and offer guardianship and caretaking for the salmon’s waters (Atleo 2011; Bingham et al. 2021). The Nu-chah-nulth harness this reciprocal relationship through their traditional governance practices and political oversight of salmon management (Bingham et al. 2021). In doing so, they ensure that policies uphold (1) Indigenous value systems; (2) their ontologies which support philosophies of His-shuk-nish-t’sa-waalk and Iisaak; and (3) their traditional practices (Atleo 2004; Atleo; 2011; Bingham et al. 2021).

In areas managed through fortress conservation, these types of reciprocal relationships are not possible between species because the rights of Indigenous Peoples to traditionally take care of waterways must disappear. This is concerning because Indigenous conservation efforts are guided by value systems, ontologies, and epistemologies that show more effectiveness over long periods and through the benefits they provide to local human communities and biodiversity in general (Artelle et al. 2009). However, when reciprocity is operationalized by Indigenous Peoples in conservation and land management practices, more holistic and regenerative relationships between species may occur. Therefore, we suggest for parks and protected area managers to reflect on Indigenous value systems of reciprocity and consider what types of policies and practices they uphold that support the severing of reciprocal relations between Indigenous Peoples and the functional elements of their ancestral terrains. Before colonization, salmon and Indigenous Peoples lived in good abundance. We argue that flourishing populations of peoples and marine animals are still possible today, but require significant changes in how MPAs are managed (e.g., the integration of Indigenous value systems into management practices and the unsettling of manifest destiny value systems in MPA praxes).

Successful integration of Indigenous value systems requires Indigenous leadership to operationalize Indigenous practices. However, we do not argue for the inclusion of only Indigenous Knowledges (e.g., TEK) into marine management frameworks. Instead, we envision an alignment or blending of Indigenous and Western epistemologies as the way forward. This type of blending is impossible without disrupting



the ways that manifest destiny has formed Western understandings of marine management, human relations with lands, and possibilities of reciprocal relations between humans and other living systems. We must recognize how white supremacy and other legacies of colonialism maintain systems of harm, inequity, and trauma by invalidating, erasing, appropriating, and devaluing Indigenous Knowledge systems and associated value systems. When approached respectfully, for the equitable benefit of parties, Indigenous and Western epistemological approaches may regenerate kinship systems and reciprocal bonds that can be used as tools for overcoming modern and future challenges within marine management.

### Relevance

Scientists and park and protected area managers have recently been pushing for the inclusion of Indigenous forms of knowledge that are relevant to the environment (e.g., TEK; Henn et al. 2011; Hosen et al. 2020). TEK is defined as an Indigenous form of knowledge that (1) requires knowledge holders to be Indigenous; (2) does not include non-Traditional Knowledge sources; (3) is passed down through generational transmittal; (4) covers place- and species-based understandings of local ecosystems; (5) is based on observations and experiences; and (6) accrues over multiple lifetimes (Berkes 1993; Stevenson 1996; Huntington 2000; Johannes et al 2000; Dudgeon and Berkes 2003; NOAA 2007; NAFA, n.d.). Other forms of knowledge exist for non-Indigenous peoples that are similar to TEK (e.g., Local Ecological Knowledge), but TEK is inherently an Indigenous epistemology. Because TEK is a place- and culture-based epistemology, it varies on micro and macro scales, between Indigenous communities, within Tribes, and at different ecosystem spatial scales. We emphasize that understanding, application, and relevance of TEK to local ecosystems are only possible through Indigenous leadership and Indigenous management practices.

In 2021, the White House Office of Science and Technology Policy (OSTP) and the White House Council on Environmental Quality (CEQ) issued a memorandum that announced plans to develop a framework for federal governmental entities on “Indigenous Traditional Ecological Knowledge” (ITEK; Lander and Mallory 2021). This framework will provide federal entities with (1) guidance on

incorporating TEK and Tribal/Native community input into federal scientific and policy decisions; (2) best practices on collaborating with Tribal Nations for mutually beneficial outcomes; (3) strategies for addressing federal challenges to including ITEK; and (4) guidance on how to respect knowledge holders’ rights to decline collaboration (Lander and Mallory 2021). Though we see the benefits and incredible progress being made by the Biden administration to include Indigenous ways of knowing in federal management practices, especially in those that pertain to marine areas, we caution that we must consider the relevance of this inclusion and the methods through which such inclusion will occur.

The push towards the inclusion of TEK into Western management and scientific practices may potentially reinforce manifest destiny value systems and colonial ideas of extraction if it is not facilitated in meaningful ways that integrate Indigenous leadership, application, and relevance of TEK. One of the most important parts of the OSTP–CEQ memorandum was a section that underlines how the federal government would ensure that the ways in which Indigenous Knowledges are applied benefit Native communities, the United States, and Earth alike (Lander and Mallory 2021). We question how current managerial frameworks and paradigms are able to fully benefit Indigenous communities when such frameworks continue to reinforce existing value systems within manifest destiny and colonialism, especially those that situate power and control of marine and terrestrial areas with colonial governments. Therefore, we pose the following question: how relevant will TEK inclusion in federal management practices be for Indigenous communities when their leadership and management of their ancestral lands are not currently realized?

We emphasize the importance of seeing “inclusion” as an extractive mechanism that may prove harmful for Indigenous communities in situations where their leadership and application of their knowledges are not paramount to the proposed processes. For example, the memorandum hinges on Tribal community collaboration, but does not offer a pathway for Indigenous Peoples to be lifted into managerial roles to oversee the relevance behind how their knowledges are implemented. Instead, federal frameworks still work under stakeholder processes that prove problematic for Indigenous communities for a multitude of reasons (Fisk et al. 2021; Jacobs et al. 2021). Current



frameworks based on inclusion and collaboration focus on gathering TEK from Indigenous communities and incorporating it into management processes instead of questioning how TEK-based management may be used as an alternative paradigm that can uproot the harmful existing structures and practices of colonial management entities (Nadasdy 2005). Nadasdy (2005) suggests that such processes automatically lead to the bureaucratization of Indigenous Peoples and communities who agree to participate in such “collaborative” processes, and, instead of empowering them, prevent the changes they ultimately desire and thus extend tools of colonial power further into these communities. Furthermore, working within and beside colonial institutions requires Indigenous communities to adhere to the colonial rules and processes that they had no role in creating and that may constrain what they are able to do (Nadasdy 2005).

Though marine systems could surely benefit from the inclusion of Indigenous Knowledges, we argue that such inclusion cannot be applied relevantly without Indigenous communities being uplifted out of mere stakeholder and participatory roles. This requires Indigenous communities to be moved into co-equal managerial roles or for federal entities to provide pathways for Indigenous communities to have the sole responsibility to manage their ancestral territories without federal oversight and colonial structures. Additionally, Indigenous leadership is not enough if TEK will be applied in an irrelevant way, especially if only a few Indigenous communities are represented in the developmental process to realize the objectives set forth by the OSTP-CEQ memorandum. Micro and macro relevance with regard to the diversity of Indigenous Peoples, ontologies, and epistemologies must be considered. We therefore argue that the use of TEK in marine management must be led by Indigenous Knowledge holders to maintain relevance to the various epistemologies and ontologies of Indigenous Peoples.

Putting managerial responsibilities back into the hands of the ancestral stewards of marine areas will prevent harmful practices, including Western scientific analytical methods that can be dehumanizing to Indigenous epistemologies (Simonds and Christopher 2013; Proulx et al. 2021). Additionally, ethical protocols that are created and enforced by Indigenous Peoples may ensure that Indigenous Knowledges and any knowledges co-produced with Western

institutions remain relevant to Indigenous relations. The anti-colonial feminist scholar, Dr. Max Liboiron, recommends that good relational practices between Western scientists and Indigenous communities should include early engagement, consensual relationships, ethical conduct, reciprocity, and research result distribution (Memorial University 2020; Proulx et al. 2021). We agree with and expand on these items by underlining that TEK inclusion in managerial and scientific practices should extend beyond stakeholder approaches and move into action-oriented directions that intentionally disrupt the colonial frameworks and management paradigms that are currently in place. This is important because the relevance of Indigenous Knowledges cannot be fully realized under current colonial structures.

#### RECONCILIATION THROUGH REDISTRIBUTION: MANAGEMENT IMPLICATIONS

Manifest destiny and settler futurity require Indigenous Peoples to be contained, removed, and eradicated (Goodyear 2017). Settler futurity is realized through settler colonialism that dispossesses Indigenous communities from their lands and waters and the futures they imagine (Harjo 2019). We argue that settler futurity is enacted in MPAs through fortress conservation and green militarized conservation praxes. Baldwin (2012) outlines that specific logics arrogate and pre-empt Indigenous futures. We extend this notion to the logic and practices contained within fortress conservation and green militarized praxes because they create power differentials between cultures and peoples and uphold the normative hegemony of Whiteness.

However, Indigenous futurities provide a contrasting framework in which Indigenous lands are not foreclosed to others but instead foreclose the epistemologies and colonial frameworks encapsulated by settler colonialism (Tuck and Gaztambide-Fernandez 2013). Indigenous futurities provide an avenue for Indigenous Peoples to transform the violence and exclusion enacted within settler colonial systems, including harmful marine conservation practices, through community futurity work that reimagines and realizes Indigenous futures as familiar geographies that Indigenous Peoples can capably and familiarly navigate (Goodyear; 2017; Harjo 2019). In these terms, community futurity relates to realizing the approaches that Indigenous Peoples take to understand and actualize what Indigenous commu-



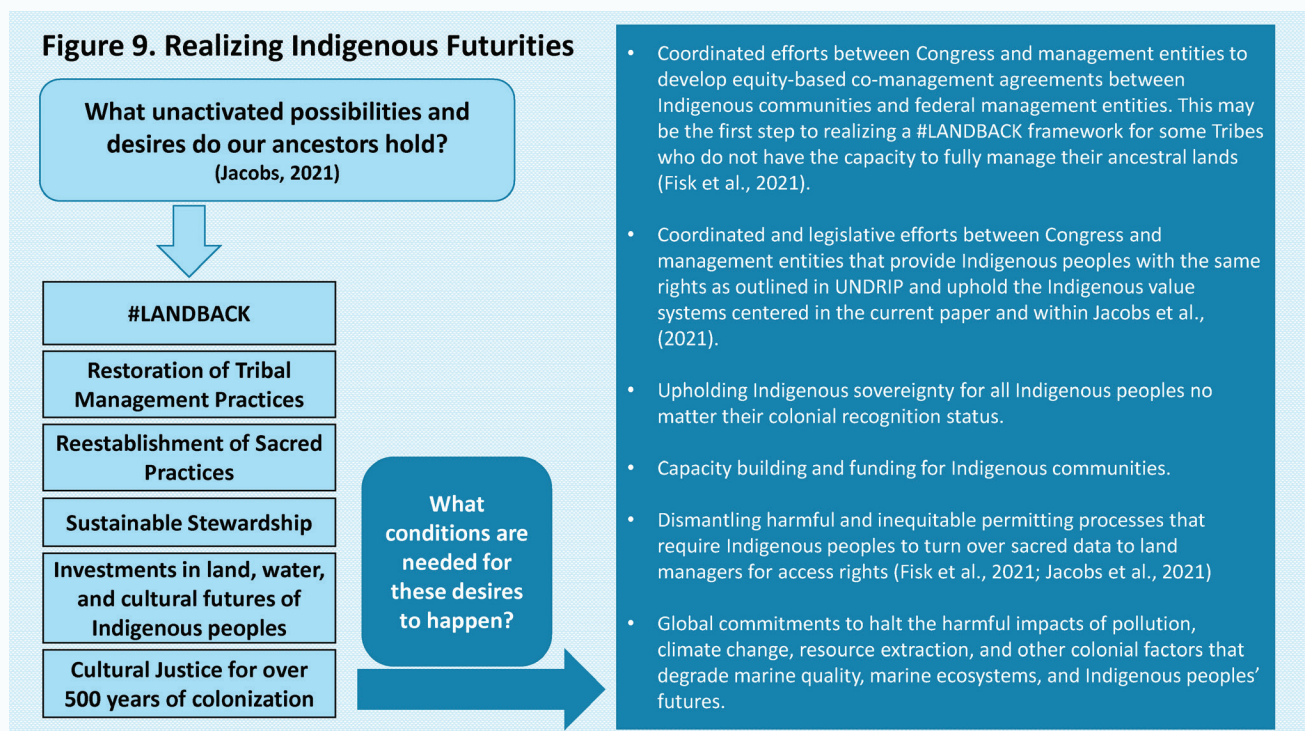
nities desire (Harjo 2019). In a marine conservation lens, Indigenous futurities “hold promise for recuperating the unactivated possibilities of our ancestors whose lives and imagined worlds have been cut short by the accumulation of violences, large, small, and micro-, produced by the ongoing structures of settler colonialism” (Harjo 2019: 11).

Connecting Indigenous futurities to reconciliation through redistribution is possible by ruminating on the factors that Indigenous communities and their ancestors desire for their marine ecosystems. We are careful not to speak for all Indigenous Peoples and therefore do not attempt to address what every Indigenous community desires in specific ways. However, we provide our ruminations in Figure 9 as a guiding example of what unactivated possibilities our ancestors may have held and the conditions that are needed to realize those possibilities. The conditions section of Figure 9 should be considered as the management implications of operationalizing these Indigenous value systems because Indigenous futurities can focus on how to reconcile relationships through the redistribution of lands. Centering these

desires requires Indigenous Peoples and others to create conditions for these futures to happen and for Indigenous Peoples to live the futures they imagine (Harjo 2019). In doing so, Indigenous Peoples can maintain a future, past, and present for their communities, which is integral to enacting Indigenous futurities (Harjo 2019).

We suggest that the strongest way forward to actualize reconciliation through redistribution is through the development of equity-based co-management practices that lead to the realization of the #LANDBACK movement. The #LANDBACK movement “embodies centuries of land reclamation activism ... [and] demands colonial entities and settler occupants establish actionable, reparation-based steps toward returning Indigenous lands” (Fisk et al. 2021). It also operationalizes the basic tenets of decolonization, as outlined by Tuck and Yang (2012). Furthermore, the movement holds promise for dismantling the harmful value systems embedded with manifest destiny which are actualized through fortress conservation and green militarized conservation practices.

▼ Figure 9. Realizing Indigenous Futurities. This flowchart represents how Indigenous futurities can be realized. The first step is to reflect on the unactivated possibilities and desires from our Ancestors. These items are contained within the light blue boxes on the left side of the chart. The second step is to assess what conditions are needed to actualize the desires. The conditions are listed in the darker blue box.



We recognize that due to the ongoing harms of colonization, not all Indigenous communities and Nations will be able to manage their lands through quick legislative changes and may need federal support to build the capacity required for this to happen (Fisk et al. 2021). We suggest that in these situations, federal land and marine management entities reflect on all of the Indigenous value systems within this paper to create equity-based co-management frameworks with Indigenous Peoples. Other factors that should be considered when working collaboratively with Tribes for marine area co-management require nation-to-nation relationships to (1) develop mutually-agreed-upon definitions and frameworks for conservation objectives; (2) embrace the complexity of Indigenous-conservation alliances; (3) reflect regularly and collaboratively on all factors of the relationship between co-managerial entities and the work that is being conducted; and (4) negotiate which indicators of effectiveness in marine conservation planning may be aggregated across scales (Austin et al. 2018). Figures 1–9 can also be used as a guiding framework for parks and protected area managers. When these suggestions and frameworks are operationalized together, a more Indigenous value-centric logic can be fulfilled in MPAs.

## CONCLUSION

Manifest destiny drove the dispossessions of Indigenous Peoples from their lands and marine areas all over North America. Today, manifest destiny is enacted through modern conservation practices that continue to maintain Indigenous territorial dispossessions. However, Indigenous value systems can be operationalized to unsettle and disrupt these practices and generate more meaningful and holistic caretaking of marine ecosystems.

The pathway for operationalizing all Indigenous value systems together in marine conservation requires the dismantling of current managerial frameworks that uphold settler colonialism and conservation value systems that functionalize the hallmarks of manifest destiny. Operationalizing Indigenous value systems of rights requires situating control and land and water ownership with Indigenous Peoples and creating frameworks that actualize their rights as stewards. However, respect must be integrated into this process by expanding the types of Indigenous communities who are respected and acknowledged as sovereign entities. Responsibility value systems necessitate governing and managerial frameworks that are resis-

tant to manifest destiny and activate Indigenous caretaking of the Earth's body. Operationalizing relationships requires shifting managerial paradigms to a place where Indigenous sovereignty and authority over conservation practices is realized. Reciprocity can be generated through disrupting the many ways that manifest destiny, colonialism, and white supremacy are used as tools in marine conservation that maintain systems of harm. This process extends to how relevance may be operationalized through the uplifting of Indigenous communities out of stakeholder positions and into managerial leadership. Moreover, to operationalize reconciliation through redistribution, MPA managers and federal entities can rectify the harms of the past by creating co-equity-based management practices that lead to #LANDBACK realities for Indigenous communities.

All of the Indigenous value systems operationalized in this paper lead to two clear paths forward: (1) the generation of equity-based co-management frameworks in which Indigenous communities/sovereign Nations are provided with respect, authority, and rights to enact their traditional practices and sustainable relationships with marine ecosystems; and (2) pathways to actualize the #LANDBACK movement, which upholds Tribal sovereignty, Indigenous Peoples' rights, and maintains the long history of Indigenous reciprocity- and responsibility-based relations with ecosystems. Both of these options help realize Indigenous relevancy and create possibilities for reconciliation through redistribution to be actualized.

Additionally, these transformations offer opportunities for Indigenous and non-Indigenous peoples to work together and deliver more meaningful conservation efforts to marine ecosystems that continue to be plagued by the harmful byproducts of settler colonialism. Such management transformations would help the US begin to align managerial foci with UNDRIP and essentially push this country to become a global leader in reconciling the harms of the past through redistribution efforts. These efforts may impact the trajectory of the current climate crisis and increase biodiversity levels at micro and macro scales. Land and marine management entities should use this paper as a call to action and an action-based framework for reparations-based decision-making that can ultimately eject manifest destiny values from marine conservation practices.





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## ENDNOTES

1. We recognize that using past tense to describe Indigenous Peoples and their practices is a form of Indigenous erasure. We use both past and current tenses in the Introduction to this manuscript to underline how Indigenous Peoples have historical and current relationships, responsibilities, etc., with environments.
2. The Western-based term “natural resources” does not represent many Indigenous Peoples' understandings of the relational importance of lands, waters, plants, and other animals. We use quotation marks around this phrase throughout this text to situate the conceptualization of “natural resources” as a Western epistemology, and underline its relational roots as extractive and utilitarian.
3. The term “animal” includes human animals. We do not elevate humans into a non-animal category nor situate humans on a hierarchical scale with more importance than other animals.

Doing so would not maintain the significance of good relations between all animals.

4. Through an Indigenous lens, the “common good” refers to what is best for all elements of an ecosystem without giving preference to humans over plants, other animals, waters, and lands.
5. The terms “wilderness” and “natural” are Western notions and do not represent Indigenous Peoples' understandings of humans' places within environments nor Indigenous Peoples' long histories of existing as mainstay species of lands and waters. Because of this, we use quotation marks around these words throughout this manuscript to situate the possession of these words within settler colonial mindsets and to disconnect them from Indigenous worldviews.
6. We use “life form” as an all-encompassing term that recognizes all lifeways, including sentient and non-sentient beings. Some Indigenous Peoples' understandings of what constitutes life may differ dramatically from Western understandings. For example, some Indigenous communities understand objects (e.g., rocks) as life forms. Therefore, “life form,” as used in this manuscript, represents all epistemological understandings that define characteristics of living beings and does not discriminate between the distinctions.
7. We do not support the usage of the term “ITEK” because it implies the existence of other forms of TEK that are not Indigenous. TEK is inherently an Indigenous form of knowledge so the letter ‘I’ in this acronym is unnecessarily redundant. Local and non-Indigenous epistemologies have been differentiated from TEK by different terms, such as “Local Ecological Knowledge” and “Fishers' Ecological Knowledge” (NOAA 2007).

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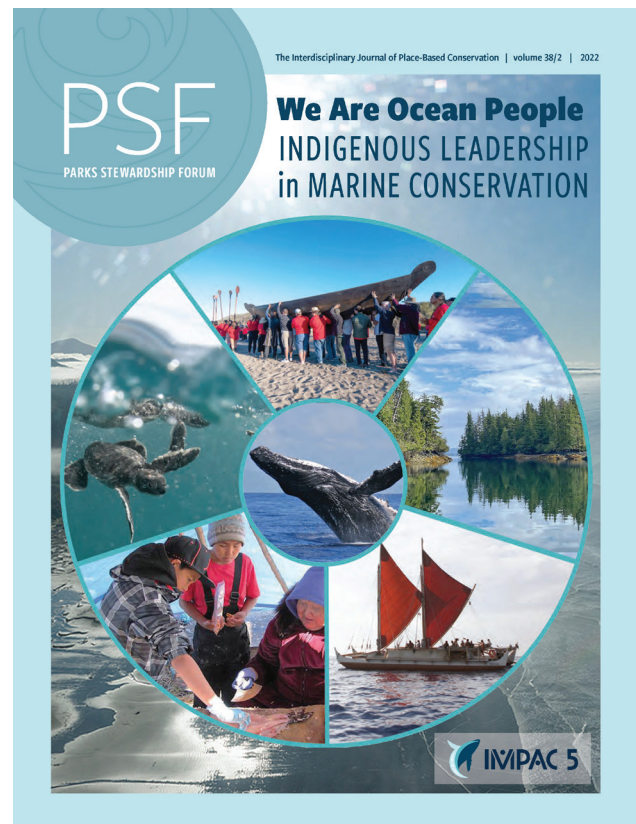
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CIRCLE DESIGN, clockwise from top:

- Northern Chumash ceremony | [ROBERT SCHWEMMER](#)
- Haida Gwaii | [CINDY BOYKO](#)
- The Polynesian Voyaging Society's voyaging canoe Hōkūle'a | [NOAA](#)
- Elder teaching youths, northern Alaska | [US FISH AND WILDLIFE SERVICE](#)
- Baby Honu (sea turtles), Papahānaumokuākea Marine National Monument | [NOAA](#)
- Center: Humpback whale, Papahānaumokuākea Marine National Monument | [NOAA](#)

Background: Pacific Rim National Park Reserve | [PARKS CANADA](#)