

Implementing Collaborative Community-based Conservation by Applying Stewardship
Contracting in Coastal Marine Systems

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Abstract

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On a planet where humans and nature are inextricably connected, solutions to coastal marine conservation problems should incorporate community-based conservation strategies which acknowledge the co-existence of people and nature. Modeled after the United States Forest Service's stewardship contracting authority and subsequent programs, this thesis proposes a new statutory program, the Community-Based Coastal Zone Restoration Program. This program applies the stewardship contracting terrestrial restoration tool on coastal marine landscapes. This program can address a lack of trust among stakeholders, declining local economic conditions, and need for coastal marine restoration. Integrating stewardship contracting within coastal marine restoration efforts presents an opportunity to encourage ecological, economic, cultural, and social sustainability concurrently. The proposed program does this by incorporating collaborative multi-party engagement in its development, implementation, and monitoring; awarding contracts for restoration work on a best-value end-result basis; authorizes the agency of jurisdiction to trade the value of goods for service; and allows the agency of jurisdiction to retain receipts of excess byproduct value to reallocate to additional restoration projects. By leveraging local resources with national or state funds, this program can increase the flexibility in contracting for the restoration of coastal marine systems, build local capacity, and increase local economic and workforce capture.

Introduction

Coastal marine restoration is particularly urgent at a time when we face intensifying threats to our marine environments such as species loss, pollution, acidification, and climate change. Restoration – “an effort to repair, replicate, and protect a coastal marine landscape” (Lawrence et al., 2015, p. 1–1) -- can be beneficial to ecological function and economic growth in coastal and marine environments, for example, by increasing food sources and their reliability, providing protection from storms and erosion, contributing to the mitigation and adaptation to climate change, and increasing tourism and cultural activities (Bayraktarov et al., 2016; Bunting, 2013). Coastal restoration can also support rural businesses and help develop new education and workforce opportunities (Lawrence, 2015).

Conservation, of which restoration is a strategy, demands the co-existence of both humans and nature. The health and endurance of coastal marine communities – including coastal watershed counties, coastal zone counties, and the nearshore (Colgan, 2004) – are tied directly with the health of the natural coastal marine environment. Estimated costs for the restoration of coastal marine habitat range widely and real total costs may sometimes be multiples of original estimates (Bayraktarov et al., 2016); rural communities are not equipped to adequately fund these projects alone, so often outside entities take the lead. It is, however, critically important to include local communities and businesses in restoration projects to demonstrate that restoration benefits not just the environment, but also the economies of rural communities (Kellon and Hesselgrave, 2014).

Stewardship contracting, a form of community-based conservation that is being practiced on federal forest and range lands is a promising approach to addressing these challenges of marine restoration in nearshore environments and communities might benefit in tandem (Berkes, 2004). Here, I review stewardship contracting’s opportunities for the coastal marine environment, provide examples of its success on terrestrial landscapes, provide hypothetical applications of coastal marine stewardship contracting, and introduce proposed statutory language for a pilot program. Restoration managers can use the stewardship contracting mechanism in places where political or economic challenges prevent the successful application of current restoration programs (Manning, et al., 2006). Serving initially as a small pilot project, a new program could be used to launch a larger-scale program focused

on rural coastal marine economies and ecosystems within the United States, thus creating a new tool for restoration economies for rural, marine communities.

This thesis aims to identify how existing innovative terrestrial community-based conservation solutions can be used as funding models, discerning where they have been successful, and where they may be applied by agencies in coastal and marine projects for maximum benefit by balancing local decision-making with large-scale priorities (Adame et al., 2015; Bennett et al., 2017; France, 2016).

Stewardship Contracting

The United States Forest Service (USFS) originally employed stewardship contracting as a response to the declining health of the nation's forests, which had resulted in increasingly frequent wildfires and declining economic conditions in rural America (Hemphill, 2015; Moseley and Charnley, 2014). These challenges are closely analogous to those of declining marine ecosystem health and rural economic conditions in coastal human communities (Colgan, 2004).

Before stewardship contracting was authorized and funded by Congress, the USFS would make appropriation requests to Congress to restore a forest landscape after years of wildfire suppression. This process was lengthy, costly, and often excluded the affected local communities and stakeholders (Hausbeck, 2007, p. 34). Revenue from any forest byproduct sales from the restoration project was deposited into the general United States Treasury account, consequently sending revenue out of the local economy that otherwise might have been used to fund additional restoration projects on nearby or adjacent landscapes (Hausbeck, 2007; White, Davis, and Moseley, 2015).

Prior to stewardship contracting the USFS only had two types of contracts to engage private businesses in managing forests; service contracts and timber contracts (Hausbeck, 2007, p. 35; Mattor and Cheng, 2015). These contracting mechanisms were rigid as to what activities the contractor had to perform on behalf of the USFS (Hausbeck, 2007, p. 36). These contracts focused solely on the particular activity detail contractor planned to perform and the manner in which it was to be performed. Stewardship contracting, however, offered greater flexibility in contracting by shifting the focus from controlling the means in which the contractor performed the work – such as detailing

only the manner in which a contractor would buy, pay for, harvest, and remove the timber - to evaluate the “end result” of a project (Hausbeck, 2007, pp. 35–36). The end result would be evaluated not just on price but on factors such as (but not limited to) contractor experience, past performance, quality of work, and benefits to the local economy such as workforce development (Hausbeck, 2007, p. 41; United States Department of Agriculture, 2016).

Stewardship contracting received its initial authorization in 1999 when Congress authorized the USFS to develop a pilot program (Mattor and Cheng, 2015). The pilot program was initiated as a reaction to devastating wildfire, declining budgets, and a way to mitigate the challenges that rural timber-dependent communities faced at the time (Mattor and Cheng, 2015). And what started as a pilot project is now a multi-year authorization to restore USFS and Bureau of Land Management (BLM) lands.

Stewardship contracting brought four new innovative restoration tools (see section 347 of Public Law 105-277, the Omnibus Consolidated and Emergency Appropriation Act, 1999) that might be applied by a government agency to a coastal marine landscape, two required and two optional.

Required Tools:

- Best-Value:

Contracts could be awarded by the agency of jurisdiction on a *best-value* basis, rather than merely lowest-cost. This is one of two required tools when utilizing stewardship contracts. Bid selection would now evaluate the greatest overall benefit to a landscape -- the end result -- by incorporating values such as employment opportunities, local economic capture, and the quality of restoration in the awarding of contracts (Daly and Flathead Economic Policy Center, 2006).

- Multi-Party Monitoring:

The other required tool for stewardship contracting is *multi-party monitoring*. This tool creates a collaborative process, through boundary analysis and stakeholder surveys, in which previously opposing groups “propose, implement, and evaluate” restoration projects, and can allow for local communities and stakeholders to have input in the project.

Optional Tools:

- Retained Receipts:

An optional innovative mechanism stewardship contracting authority added was *retained receipts*. The regional USFS office can now retain the timber sale revenue from the restoration project and reinvest it in additional stewardship or restoration projects within the region rather than transferring the money back to the U.S. Treasury.

- Trade Goods for Service:

Congress gave the USFS the ability to trade *goods for service*. This is the real innovation. The USFS could now compensate contracted businesses with a forest byproduct, such as small-diameter timber or woody debris, itself as a trade for the value of the stewardship and restoration services the company rendered, or a portion thereof. It allowed restoration projects to help pay for themselves. In cases where the restoration project produced no byproduct, or one of little to no value, the USFS could then concentrate on applying the *best-value* and *multi-party monitoring* tools of the stewardship contracting authority, as trading goods for service is not required (National Forest Foundation, 2014).

Congress eventually granted permanent authorization to stewardship contracting in The Agricultural Act of 2014 (Pub. L. 113-79 (2014)).

Facing a fractured relationship between management agencies and the local communities and stakeholders, stewardship contracting helped facilitate a collaborative solution for these local community and stakeholders, encouraged local innovation, improved the economic health of the local community by reinvesting and retaining financial resources in the area, reduced the timeframe to achieve restoration, and allowed for the agency to accomplish more restoration and stewardship for the same net cost (Hausbeck, 2007; Hemphill, 2015; Moseley and Charnley, 2014).

Terrestrial Collaborative Restoration Programs

Stewardship contracting is one example of a larger trend in environmental management: a marked increase in collaborative techniques. These approaches are now playing a key role in addressing complex natural resource management on terrestrial landscapes for problems that include multiple stakeholders (Garnett, Sayer, and Du Toit, 2007) in ways that can readily be applied to coastal restoration.

The following programs were designed by lawmakers to be applied on and within lands managed by the Department of the Interior through the Bureau of Land Management (BLM) or Department of Agriculture through the U.S. Forest Service (USFS) and the Natural Resource Conservation Service (NRCS). They are examples where the stewardship contracting authority is being exercised along with their implementation;

Collaborative Forest Landscape Restoration Act

As a part of the 2009 Omnibus Public Lands Act, Congress created the Collaborative Forest Restoration Act, which established the Collaborative Forest Landscape Restoration Program (CFLRP). The purpose of the Act is to “encourage the collaborative, science-based ecosystem restoration of priority forest landscapes” (Omnibus Public Land Management Act of 2009 Pub. L. 111–11, H.R. 146 [Title IV], 2009). This program gave local communities and stakeholders the opportunity to participate by requiring eligible projects be developed through a collaborative process that includes “multiple interested persons representing diverse interests and be transparent and nonexclusive” (Omnibus Public Land Management Act of 2009 Pub. L. 111–11, H.R. 146 [Title IV], 2009, secs. 4003 (b)(2)(A-B)) This group along with agency land managers would then seek public funding, along with opportunities for matching funds, through a competitive bidding process to implement large-scale restoration programs (Pinchot Institute for Conservation, 2016, 2017; Schultz, Jedd, and Beam, 2012). The CFLRP sets primary objectives to promote, in tandem, the ecological, economic, and social benefits. The collaborative leverages and captures local resources to achieve forest restoration goals. The ecological goals of selected projects include “improvement of fish and wildlife habitat, improvement of watershed conditions and water quality, and control of invasive species” (Schultz et

al., 2012, p. 382). Additionally, the Act outlines in Title IV that selected projects must also monitor for the social, ecological, and economic outcomes for at least 15 years after the implementation of the restoration work (Schultz et al., 2012, p. 382) and funds this ongoing activity through a multi-year awarding process. Not later than five years after the first awarded fiscal year, the Secretary must submit a report to the appropriate congressional oversight committees (See section 4003 (h) of the original authorizing statute.). The selection process can include up to ten new projects and the funding can only provide for a maximum of 50 percent of the restoration implementation costs (Omnibus Public Land Management Act of 2009 Pub. L. 111-11, H.R. 146 [Title IV], 2009).

Joint Chiefs' Landscape Restoration Program

The Joint Chiefs' Landscape Restoration Program (JCLRP) is a program started by the USDA in 2014 and coordinated by the USFS and the Natural Resource Conservation Service (NRCS). The JCLRP selects projects across the country as an effort to coordinate restoration efforts between public and privately-owned land within the United States. The program highlights increasing collaboration between the USFS, NRCS, state and local governments, non-governmental organizations, Tribal, and private landowners. The program's "objectives are to (1) reduce and mitigate wildfire threats to communities and landowners, (2) protect water quality and supply for communities and industry, and (3) improve habitat quality for at-risk or ecosystem surrogate species" (NRCS, 2018). Since the start of the program, there have been 63 projects selected located within 38 states and Puerto Rico, with \$207 million of public funds allocated to treat over 300,000 acres of USFS lands to reduce wildfire risk (USFS, 2018). Additionally, the program has restored over 29,000 acres of watershed areas providing for the increased resiliency of ecosystem services and has improved over 200,000 acres of wildlife habitat and 724 miles of streams treated to habitat for aquatic species (USFS, 2018).

Existing or previously funded stewardship contracting projects within the USFS' CFLRP program, or through a program of similar goals like the JCLRP, highlight core elements of publicly funded community-based conservation for restoration projects. The result is lasting and effective restoration projects for ecological and local economic benefit while allowing for nested accountability (Brooks et al., 2013). It is important to note that varying restoration projects, either forest or rangeland, carry a

wide variance in restoration costs, and, therefore, result in a wide range of total costs depending on the characteristic of the landscape and scope and specific goals of the restoration project.

The following projects have received public money with a focus on terrestrial ecological restoration and economic health of the local economies and communities in tandem. These projects were selected to show geographic diversity and are often cited as successful examples of the implementation of both stewardship contracting and the CFLRP. They are examples of stewardship contracting and of former foes – e.g. industry, environmentalists, local communities, Tribes, and government agency managers – recognizing mutual interests to create new opportunities for restoration. These collaborative groups were brought together by the USFS, however, some previously existed prior to the USFS participation.

The USFS is directed in the Forest Stewardship Handbook (2016) to “(s)eeK early involvement of Federal, State, and local government agencies; tribal governments; non-governmental organizations; local communities; and interested groups or individuals, including resource advisory committees, fire safe councils, resource conservation districts, and watershed councils. Local or regional contractors representing a cross-section of businesses, including timber industry representatives should also be part of the collaborative group.” (United States Department of Agriculture, 2016)

The Clearwater Basin Collaborative – Idaho

This forest restoration effort, in 2015, which utilized stewardship contracting, through CFLRP, on the Nez Pierce and Clearwater National Forests resulted in the restoration of nearly 40,000 acres. It “leveraged local resources with national and private resources, re-established natural fire regimes, established ecological and watershed health objectives and promoted the use of forest restoration byproducts” thus benefiting the local rural economy. In addition to treating forests with prescribed fire regimens, the project improved wildlife habitat, addressed noxious weeds, restored native vegetation, and has created local jobs and included promotion of the emerging technologies of biomass energy. The federal portion of this project was around \$1.6million in 2015 (Clearwater Basin Collaborative, 2011) and required collaborative planning to complete the overall strategy. The collaborative, as of 2015, had

generated 157 part- and full-time jobs and contributed to over \$4.5 million in total labor income within the area (United States Forest Service, 2015). As a direct result, this project has also improved trust between the USFS and the collaborative's members ("Clearwater Basin Collaborative: Collaboration," n.d.). The Nez Perce tribe participates in the collaborative along with representatives from the local economic development group, conservation organizations, motorized recreation, hunters and anglers, wood products industry, and county and state governments (Nez Perce and Clearwater National Forests Clearwater Basin Collaborative, 2010).

Lakeview Stewardship CFLRP – Oregon

After the allowable capacity for sustainable timber yields diminished in the 1990s along with drought and insect infestation, the rural communities that depended on the Fremont-Winema National Forest in Oregon hit an economic wall (White et al., 2015). Their mills were closing, and the local economy took a significant hit, and a partnership between the rural communities and environmentalists emerged. In 2008, the Lakeview Stewardship group was awarded a 10-year stewardship contract to implement new watershed, forest, and rangeland restoration projects, as well as provide byproducts from those projects to feed the local mill and a biomass cogeneration plant (Ecotrust and Resource Innovations, 2008). When the plant opened, it provided steam power to the sawmill and enough electricity for 10,000-18,000 homes (Ecotrust and Resource Innovations, 2008, pp. 17-19; Iberdrola Renewables, 2011). Additionally, the estimated cost of contracted services was \$22 million and the value of commercial material was \$21,320,000 (Ecotrust and Resource Innovations, 2008, p. 19) thereby taking advantage of the goods for services and the retention of receipt tools within stewardship contracting authority to help cover restoration costs. More recently, in 2017, annual public investment in forest restoration work, through CFLRP, on the Fremont-Winema National Forest, including matching funds, resulted in the creation of 60 full- or part-time jobs and \$3,225,770 in total labor income as a result of the restoration project (USFS Fremont-Winema National Forest, 2017a, p. 5). This investment by USDA/NRCS, the State of Oregon, and the USFS targeted the restoration of nearly 18,000 acres of terrestrial habitat in southern Oregon (forest and rangeland) (USFS Fremont-Winema National Forest, 2017a, p. 11). The local economic capture

and work type targeted the use of local equipment, labor, and technical expertise resulting in an economic boost to an area with an 18.7% poverty rate (White et al., 2015, p. 17).

The Tapash Sustainable Forest Collaborative – Washington

The Tapash Sustainable Forest Collaborative (“The Tapash”) needed a mechanism for increased invasive species management, improved access for recreation, recovery of endangered or threatened species, elevated public education and outreach, and enhanced resiliency to fire. The Tapash utilized stewardship contracting in restoring fire-adapted ecosystems, developing ecosystem-service markets, and converting woody biomass into energy woody biomass to help address these issues. (Olson and Van Horne, 2017, p. 121). The Yakima Nation, along with community leaders leads the collaborative with decision-making authority. The Tapash is a good model of joint and matched funding of large-scale restoration projects with the federal government making up approximately 50 percent of the funding required to maintain and execute the goals of the collaborative (tapash.org). The result of the public investment and contracting mechanism allowed for this project, in 2015 alone, to create or maintain 136 full- or part-time jobs with a total labor income to over \$7.3 million (USFS, 2015, p. 5). In a 2015 report, the project had also accomplished the removal of 3,966 acres of invasive plants and noxious weeds and restored 17,800 acres of wildlife habitat (The Nature Conservancy, 2016b). The Tapash continues today with ongoing collaborative restoration projects focused on a 2.3-million-acre landscape.

Southwestern Crown of the Continent – Montana

The CFLRP funded Southwest Crown of the Continent project has created or maintained 157 full or part-time jobs and provided more than \$5.36 million in total labor income to the community (White, Davis, and Moseley, 2015). In addition to the economic improvement impacts, there were significant ecological improvements.

“(O)ver 130 miles of stream (were) restored; over 14,000 acres of fuel reduction completed within the wildland-urban interface; over 20,000 acres of forest restoration through prescribed fire, planting, and thinning; over 46,000 acres of weed abatement with emphasis on roads and concentrated use areas; over 240 miles of road upgrades

and improvements and over 90 miles of road decommissioning” occurred. (“Flathead National Forest - News and Events,” n.d.)

This project has brought together residents, business enterprises and conservation organizations and openly encourages participation by all interested parties (see also swcrown.org) (United States Forest Service and Flathead, Lolo, Helena-Lewis and Clark National Forests, 2017b).

Challenges and Solutions for Coastal Marine Environments

Facing threats like their terrestrial counterparts, coastal marine environments – near-coastal waters and the adjacent land areas, including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches (Garten, 2016) – are in peril due to pollution, development, acidification, and climate change. The scale of restoration needs and value to human communities are analogous to the above terrestrial examples. As an example, in the five years between 2004 and 2009, it was estimated that U.S. coastal wetland environments were lost at an average rate of about 80,160 acres per year (Dahl, 2013; Fleming et al., 2018). Concurrently, rural communities are often faced with persistent limited economic opportunities and could likely benefit from additional entrepreneurial options (Henderson, 2002).

Although large-scale coastal marine conservation is beneficial for protecting critical habitat, targeting many species within their home ranges, protecting highly mobile species, and enhancing fishery productivity in adjacent waters, it has the potential of failing to include local communities and stakeholders or ignore the local economic or cultural impacts (Christie et al., 2017, 2018). Furthermore, large-scale coastal marine conservation is becoming more important although increasingly difficult and frequently politically unfeasible (Jacquet and Pauly, 2008; Manning, Lindenmayer, and Fischer, 2006; Smith et al., 2016). Even though short- or medium-term conservation goals can be achieved in this way, one key to long-term scaled-up success and permanency of the conservation action is the buy-in of the community and participation by stakeholders in the project (Lubchenco et al., 2016; Ockendon et al., 2018).

Coastal marine restoration and a local community and economy are connected in two main ways. First, restoration projects create jobs across a wide range of occupations such as surveyors, consultants, designers, construction workers, and project planning (Lawrence, 2015, p. 1–3). Second, restoration projects support associated industries such as tourism, recreation, and fishing (Lawrence et al., 2015, p. 2–1). For example, in order to highlight this connection, the economy of rural communities on the southern coast of Washington are deeply dependent on the razor clam fishery through tourism (Ayres and Washington Department of Fish and Wildlife, 2016). As a result of harmful algal blooms, that could close the razor clam fishery a full year, the economic impacts to the communities are significant. It is estimated that a full year closure would result in the loss of 339 full-time-equivalent jobs and \$10.6 million in labor income for the two largely rural counties, Grays Harbor and Pacific (Dyson and Huppert, 2010). Adding a new programmatic tool to existing programs, to further include local communities and stakeholders, with a new innovative contracting mechanism can further increase restoration and conservation of these imperiled coastal marine environments and overcome remaining local neglect.

Existing Marine Programs

While restoration funding and community-based conservation programmatic solutions certainly do exist within the coastal marine sphere and have led to significant coastal marine restoration, there could be added value with new contracting options. By incorporating new ways to approach restoration contracting and collaboration by adding, at a minimum, *best-value* and *multi-party monitoring* tools to coastal marine restoration, new projects could emerge.

For example, existing granting programs under the Coastal Zone Management Act (CZMA) are critical restoration tools. In 2017 alone, the National Oceanic and Atmospheric Administration (NOAA) invested nearly \$70 million in grants through CZMA programs (NOAA, 2018). Programs such as Administrative Grants within section 306 (16 U.S.C. § 1455), the Coastal Zone Management Fund found in section 308 (16 U.S.C. § 1456a), and section 309 Coastal Zone Enhancement Grants (16 U.S.C. § 1456b), as well as the National Coastal Resilience Fund, which is administered by the National Fish and Wildlife Foundation (NFWF), are all examples that help achieve landscape-scale restoration

into the future. Overall, the CZMA has been mostly successful in establishing pollution controls and coastal land-use regulations to protect natural resources and by increasing opportunity for public recreation access to the coasts, but it could be strengthened (Garten, 2016), by providing best-value end result contracting options targeting local business and inclusive multi-party monitoring.

Managers can incentivize change by creating tools and spaces where rural communities can benefit by shifting behavior (Lubchenco et al., 2016, p. 14512), and through stewardship contracting's multi-party monitoring tool, incentives may help do this. Agency managers can use collaboratives to help resource users recognize "how they can benefit, see their role in realizing those benefits, and be more likely to engage in behavior that leads to win-win outcomes" (Lubchenco et al., 2016, p. 14512). The existing granting programs, while they encourage public participation and input, such as the public participation opportunities outlined in 16 U.S.C. § 1456b, may lack defined statutory requirements that demand collaboration similar to the Collaborative Forest Landscape Restoration Program. The inclusion of this collaborative obligation in a new funding mechanism would promote building trust, understanding, and influence the realization of the long-term economic, social, and cultural benefits of restoration in places where trust and understanding could be improved (Hausbeck, 2007). Moreover, coastal restoration contracting award programs may omit best-value contract awarding and an opportunity to trade value for services or retain receipts from product value in contracting requirements, thereby neglecting the additional opportunity for local economic capture that could empower communities and incentivize businesses and provide funding for additional projects more quickly.

Increasing investment in rural restoration projects through new procedural and contracting processes, could provide opportunities for better outcomes for people and natural ecosystems. These opportunities may help address "buffering storm surges; safeguarding coastal homes and businesses; sequestering carbon and other pollutants; creating nursery habitat for commercially and recreationally important fish species; and restoring open space and wildlife that support recreation, tourism, and the culture of coastal communities" (Conathan, Buchanan, and Polefka, 2014). Economists with NOAA have found that \$1 million invested through the American Recovery and Reinvestment Act (ARRA) of 2009 in coastal restoration created on average 17.1 jobs. This impact

compares to job growth from coastal industrial activities, such as oil and gas development, in which \$1 million of investment created an average of just 8.9 jobs (Conathan et al., 2014; Edwards, Sutton-Grier, and Coyle, 2013). Edwards et al. (2013) underscored this point by adding that “restoration has longer-term economic benefits, including future job creation in rebuilt fisheries and coastal tourism, and benefits to coastal economies including higher property values and better water quality” (Edwards et al., 2013, p. 65).

Applying Terrestrial Models to the Marine Environment

While terrestrial landscapes have a variety of characteristic differences with coastal marine landscapes, such as land ownership, extraction value, local labor skills, among others, there are core collaborative and contracting awarding structures that could be learned from terrestrial restoration programs. More specifically, coastal marine landscapes aren't often owned by federal or state governments, and therefore this land-ownership structure poses a unique challenge to force a contracting mechanism on non-government lands or waters. These programs and authorities would need to be broadened to apply to this different land-ownership scheme and be available for not only publicly-owned land and water, but private, State and Tribal lands and waters, as well. Additional public investment in targeted community-driven coastal marine restoration projects could materialize into a similar economic boost for rural coastal communities, through local employment numbers and organizational capacity building, as they did for rural terrestrial communities, including for many vulnerable populations, and the overall U.S. economy (Conathan, Buchanan, and Polefka, 2014). This investment could simultaneously restore ecological functions and increase habitat for threatened and endangered species while helping to establish sustainable economic drivers to coastal communities, including recreational and commercial fisheries and assist in creating a more direct link between two policy silos – terrestrial and coastal marine management.

Terrestrial policy programs could be the basis for a new coastal marine restoration program and tools where there is a “positive transformation in the relationship between people and nature through conservation, rather than solely on (either) human development (or conservation)” (The Nature Conservancy, 2016a). A new authority could function in “[n]atural systems such as forests, woodlands, grasslands, rangelands, wetlands, and coastal and marine zones (to) yield resources which are used

directly to generate income and subsistence, sometimes as a community's sole livelihood source and often in combination with other production systems. These natural resources tend to be particularly important for poorer households and at times of stress, and often provide the ultimate safety-net when other sources of subsistence and income fail” (Emerton, 2009). Community-based approaches and incentive-based tools such as stewardship contracting offer flexibility for restoration projects and improvement for local economic capture compared to the capacity limits of other methods, especially in situations where political feasibility and limited resources make the creation of classical protected area models unlikely (Rechlin et al., 2008).

Learning from the above terrestrial case studies, coastal and marine management agencies could utilize stewardship contracting tools within the marine environment to attain similar results. Creating pathways where the of incentives motivate an entity to maximize the collective benefit (Lubchenco et al., 2016, p. 14508) is core to the goals of stewardship contracting. The following are hypothetical coastal marine applications to assist in solving policy impediments, generate ecosystem goods and services, build local capacity, develop new markets, increase financial resources, and restore natural functions (Bennett and Dearden, 2014; Kelly and Caldwell, 2013).

Kelp Forest Restoration and Sea Urchin Management in California

Kelp forests are vital as a food source for now-threatened abalone, and as habitat for a variety of ocean species, including the sea otter. Kelp forests also help reduce coastal erosion and provide significant short-term carbon capture. Purple sea urchins, however, can clear vast expanses of the already imperiled kelp forests (Claisse et al., 2013). The recent, but slow, recovery success of the sea otter populations (California Department of Fish and Wildlife, 2018), which prey on sea urchin in coastal waters of California along with the increasing impacts of climate change, have resulted in high densities of purple sea urchin population. The California Department of Fish and Wildlife (CDFW) estimates that purple sea urchin density in northern California is now 60 times their historic density (Catton et al., 2016). Applying stewardship contracting, the State of California could lead a partnership to offer stewardship contracts by trading sea urchin bag limits or harvest zones for the restoration

value of kelp forests with urchin harvesters. A stewardship contracting mechanism can encourage managers and a diverse multi-party monitoring collaborative to develop innovative restoration plans, help create and establish new purple sea urchin markets, increase carbon capture, and aid in the habitat restoration for threatened and endangered species like the abalone and sea otter.

Traditional Subsistence Fishing Areas in Hawai'i

By establishing customary fishing areas and facilitating a catch to market mechanism, stewardship contracting can increase cultural ecosystem services in historically traditional fishing areas, as designated by State or Federal entities, along with establishing sustainable fishing practices in restricted fisheries. Providing opportunities for participation in land-sea connected communities in Hawai'i, for example, stewardship contracting can allow for local inhabitants and other interested parties to sustainably support the consumptive needs of an area through culturally-rooted community-based management with best-value contract awarding and multi-party monitoring to ensure the stability of nearshore ocean. (Division of Aquatic Resources, Hawai'i Department of Land and Natural Resources., 2016). In Hawai'i, a program like this could preserve and protect nursery habitat for juvenile reef fishes; recognize and protect customary and traditional native fishing practices and facilitate the substantive involvement of the community in resource management decisions for the area (Division of Aquatic Resources, Hawai'i Department of Land and Natural Resources., 2016, p. 18). Through this structure, the local community would have increased its food security and reliability (Vaughan and Vitousek, 2013, p. 335) and be assisted with an entry into a local or regional market. With additional funding through the proposed Community-based Coastal Zone Restoration Act [this thesis], this local community and partnership's capacity would grow to lead the restoration of additional small-scale restricted traditional fishing areas, resulting in a more reliable food source and income.

Restoration Trade for Minor Development Acton

Modeled after local shoreline-management incentive programs, or development exactions, public agencies could offer, in trade, stewardship contracts to companies or landowners, to

allow for reductions in development requirements, such as setbacks or height limits, in exchange for ecological restoration actions, such as the removal of armored bulkheads (Patterson et al., 2014, pp. 184–188). The ratio of restoration to development would need to outweigh the development impacts substantially for the exaction to result in a net-gain in restoration (Patterson et al., 2014, pp. 184). These types of allowances or trades could allow for smaller-scale native riparian habitat enhancements, culvert replacements, removal of derelict piers, or enhancement of aquatic vegetation such as sea grass. By providing streamlined flexibility at a federal or state partnership level, large-scale restoration activities could be achieved by keeping development impacts low, thereby, increasing the economic and ecological value of nearshore habitats.

A Legislative Proposal

By creating a contracting mechanism to expand and capture new restoration opportunities, managers and practitioners can then implement “incentive-based conservation policies to stimulate people’s economic interests and mobilize individual and collective behavior toward the formalization of conservation-oriented actions” (Ruiz-Mallén, et al, 2015, p. 1). Community-based conservation is the future of conservation success and has seen successes on a variety of scales, locations, and governance (Pagdee, Kim, and Daugherty, 2006). The proposed legislation below draws heavily from the Collaborative Forest Landscape Restoration Program (CFLRP), which was developed with stewardship contracting tools in mind and must implement a collaborative community-based conservation process to develop a management plan for a particular project to receive funding.

The proposed Community-Based Coastal Zone Restoration Program (CCZRP) (See Appendix I) is a framework for a pilot program that is constructed as a federal program but could potentially be model language for a state-based program. Providing legislative language is intended to be used in the development of a new authority and associated fund to function alongside the existing authorities or be incorporated as new contracting authorities and funding mechanisms outlined within the CZMA, to strengthen and broaden opportunities for restoration.

Full text of the proposed draft legislation is found in Appendix I. It should be noted that sections may be omitted or amended to fit within the contracting authorities' needs, responsibilities, and current restrictions, e.g. the establishment of an additional Federal Advisory Committee (FACA) in section 1003(e); or the specific office (federal or state) to where this authority may rest. What follows is the bill summary.

Community-based Coastal Zone Restoration Act

This bill is to encourage the collaborative and science-based restoration of ocean and coastal ecosystems and to establish an innovative landscape-scale restoration program through additional contracting options by providing financial and programmatic assistance for coastal or marine restoration projects.

This Act directs the Secretary of Commerce, through the Assistant Administrator for the National Ocean Service of the National Oceanic and Atmospheric Administration (NOAA), and within the Office of Coastal Management, whose office “covers the decisions and actions taken to keep the natural environment, built environment, quality of life, and economic prosperity of our coastal areas in balance” (<https://coast.noaa.gov/about/>), to establish the Community-Based Coastal Zone Restoration Program to select and fund collaborative ecological restoration treatments for priority coastal marine landscapes through new contracting authorities and abilities.

The program shall simultaneously encourage ecological, economic, cultural, and social health.

The program could also have other specific objectives, including to:

- facilitate the reduction of damage and loss of marine habitat and restore natural functions;
- restore threatened and endangered species habitat;
- increase food security for local human populations;
- leverage local resources with national and private funds;
- benefit the local economies; and
- reasonably increase the flexibility in contracting decision-making.

Requires the Secretary to establish an advisory panel to evaluate, and provide recommendations on, any proposal. Requires the panel to include:

- 1) experts in:
 - a. ecological restoration,
 - b. marine ecology,
 - c. economic development,
- 2) commercial users of the coastal marine landscape,
- 3) relevant tribal representatives, and
- 4) local community representatives.

The Act establishes the ‘Community-Based Coastal Zone Restoration Fund,’ to be used to pay up to 60 percent of the cost of carrying out and monitoring ecological restoration treatments on land or waters for each proposal selected

Authorizes appropriations for the Fund and to carry out this title.

Conclusion

Innovative incentives can help spur additional restoration activities on a variety of landscapes. Stewardship contracting may be a tool that could be adapted for coastal marine landscapes. Like many new programs and innovations, challenges to utilize one tool for a different purpose most certainly will arise. Some of these mechanisms may not be a perfect fit, nor even ideal to jump-start a restoration project. Stewardship contracting, however, warrants further consideration and may be an option to address a lack of trust among stakeholders and declining local economic conditions where there is a need for coastal marine restoration. By way of this concept introduction, and legislative proposal, it is not the intent to set the perfect course forward, but rather to encourage new ways to accomplish multiple goals. Integrating stewardship contracting within coastal marine restoration presents an opportunity to encourage a discussion and possibility to make progress toward finding new tools for ecological, economic, cultural, and social sustainability to exist concurrently.

APPENDIX I | FULL-TEXT OF PROPOSED LEGISLATION

The Community-based Coastal Zone Restoration Act

TITLE – OCEAN AND COASTAL RESTORATION

SEC. 1001. PURPOSE.

The purpose of this title is to encourage the collaborative, science-based ecosystem restoration of priority ocean and coastal landscapes, as defined by the National Ocean Service, through a process that--

- (1) encourages ecological, economic, cultural, and social sustainability;
- (2) leverages local resources with national and private resources;
- (3) facilitates the reduction of damage and loss of marine habitat, increases food security for local populations and restores threatened and endangered species habitat; and
- (4) demonstrates the degree to which--
 - (A) various ecological restoration techniques--
 - (i) achieve ecological and coastal health objectives; and
 - (ii) decrease coastal erosion and increase coastal protection to address sea level rise and increase climate change impact resiliency; and
 - (B) the use of coastal restoration products can offset restoration treatment costs while benefitting local rural economies, enhance local and traditional practices, and improving overall ocean health.
- (5) considers the best available scientific information to maintain or restore ecological integrity, including maintaining or restoring structure, function, composition, and connectivity; and
- (6) is developed and implemented through a collaborative process that—
 - (i) includes multiple relevant interested persons representing diverse interests; and
 - (ii) is transparent and non-exclusive relating to the participation of appropriate and affected stakeholders.

SEC. 1002. DEFINITIONS.

In this title:

- (1) PRODUCT- The term 'product' means any permitted and sustainably harvested natural living or non-living marine resource described in section 1001(4)(B).
- (2) FUND- The term 'Fund' means the Community-Based Coastal Zone Restoration Fund established by section 1003(f).
- (3) PROGRAM- The term 'program' means the Community-Based Coastal Zone Restoration Program established under section 1003(a).
- (4) PROPOSAL- The term 'proposal' means a collaborative coastal zone restoration proposal described in section 1003(b).
- (5) SECRETARY- The term 'Secretary' means the Secretary of Commerce, acting through the Assistant Administrator for the National Ocean Service of the National Oceanic and Atmospheric Administration (NOAA).
- (6) STRATEGY- The term 'strategy' means a coastal restoration strategy described in section 1003(b)(1).

SEC. 1003. COMMUNITY-BASED COASTAL ZONE RESTORATION PROGRAM.

- (a) In General- The Secretary, in consultation with the Secretary of the Interior, Secretary of Defense, and others as appropriate shall establish a Community-based Coastal Zone Restoration Program to select and fund ecological restoration projects for priority coastal landscapes and marine habitats in accordance with--
 - (1) the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.);
 - (2) the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.);
 - (3) the Coastal Zone Management Act (16 U.S.C. 33 1451 et seq.)
 - (4) the Marine Mammal Protection Act (16 U.S.C. 31 1361 et seq.), and
 - (5) any other applicable law.
- (b) Eligibility Criteria- To be eligible for nomination under subsection (c), a community-based coastal zone restoration proposal shall--
 - (1) be based on a coastal restoration strategy that—
 - a. is complete or substantially complete;

- b. identifies and prioritizes ecological restoration treatments for a 10-year period within a landscape that is
 - i. at least five acres;
 - ii. comprised primarily of coastal land and marine water, including submerged land, and may also include area under the jurisdiction of state or federal agency partners, e.g., the National Forest Service, Bureau of Land Management, land under the jurisdiction of the Bureau of Indian Affairs, or other Federal, State, tribal, or private land;
 - iii. in need of active ecosystem restoration; and
 - iv. accessible by existing or proposed infrastructure.
- c. incorporates the best available science and scientific application tools in ecological restoration strategies;
- d. fully maintains, or contributes to the restoration of, the structure and composition of marine and coastal landscapes and species diversity according to natural conditions of the coastal habitat type, considering the contribution of the area to food security and local economic health including, but not limited to, the provision of ecosystem services;
- e. be developed and implemented through a collaborative process that is transparent and nonexclusive for the purpose to improve collaborative relationships and to provide advice and recommendations to the land and coastal management agencies, both state and federal, consistent with the purposes of this Act, that—
 - i. includes multiple interested persons representing diverse interests as appropriate to the proposed project, that may be drawn from but is not limited to, the types of interests of;
 - 1. representatives of relevant federal agencies;
 - 2. representatives of relevant Tribal governments;
 - 3. representatives of relevant states' Governor's offices and appropriate designated agencies;
 - 4. citizens from the project site's nearby coastal community;
 - 5. representatives of coastal commercial fishing;
 - 6. representatives from a coastal conservation organization;
 - 7. representatives from a coastal economic development organization;

8. representatives from an academic institution;
9. representatives from a coastal recreation group or organization;
10. representatives from a coastal recreational fishing group or organization;
11. representatives from coastal shellfish aquaculture (if applicable);
12. representatives from the coastal shipping industry (if applicable);
13. representatives from a coastal port (if applicable); and
14. representatives from a science-based organization.
15. may also include other invited, state, tribal, local governments, federal agencies, scientific experts, and others with responsibility for the study and management of coastal and ocean resources or regulation of coastal and ocean activities.
16. may also include other national governments, when appropriate, as non-voting members and advisors; and

(2) describe plans to—

- (A) reduce the risk of uncharacteristic impact and pollution;
- (B) improve fish and wildlife habitat, including for endangered, threatened, and sensitive species;
- (C) maintain or improve water quality and coastal watershed function;
- (D) prevent, remediate, or control invasions of exotic species;
- (E) maintain, decommission, and rehabilitate roads and unused trails;
- (F) report annually to the public, through public notices, on the implementation of the strategy, including utilizing performance measure to track progress; and
- (G) take into account any applicable community restoration, cultural practices and sites, food security needs, local critical habitat protection planning, and appropriate economic development plans (if available);
- (H) analyze any anticipated cost savings over the long-term as a result of the reversal of coastal land and marine habitat loss (e.g., coral, seagrass, kelp), restoration of critical natural infrastructure, and the mitigation and protection from rising seas, decreased storm vulnerability; or a decrease in the unit costs of implementing ecological restoration treatments over time;

(3) document—

- a. the annual Federal funding necessary to implement the proposal, not to exceed 60 percent of total annual project costs; and
 - b. the dollar amount of new non-Federal investment for carrying out the proposal that would be leveraged;
- (4) describe the collaborative process through which the proposal was developed, including a description of—
 - a. participation by or consultation with State, local, and Tribal governments; and
 - b. any established record of successful collaborative planning and implementation of ecological restoration projects on nearshore or coastal or marine land or waters and any other land included in the proposal by the collaborators; and
- (5) generates benefits to local economies by providing local employment or training opportunities through contracts, grants, or agreements for restoration planning, design, implementation, or monitoring with—
 - a. local private, nonprofit, or cooperative entities;
 - b. Federal or State Conservation crews or related partnerships, with State, local, and non-profit youth groups;
 - c. existing or proposed small or micro-businesses, clusters, or incubators; or
 - d. other entities that will hire or train local people to complete such contracts, grants, or agreements; and
- (6) be subject to any other requirements that the Secretary, determines to be necessary for the efficient and effective administration of the program.

(c) Nomination Process-

(1) NOMINATION-

(A) IN GENERAL- The Assistant Administrator for the National Ocean Service may nominate for selection by the Secretary any proposals that meet the eligibility criteria established by subsection (b).

(2) SUBMISSION- A proposal shall be submitted to the NOAA National Ocean Service - acting as the lead managing agency.

(3) DOCUMENTATION- For each proposal that is nominated under paragraph (2)—

(A) the Assistant Administrator for the National Ocean Service shall-

- (i) include a plan to use Federal funds allocated to the nominated project to fund the costs of planning and carrying out ecological restoration treatments on coastal or marine land, consistent with the strategy; and
- (ii) provide evidence that amounts proposed to be transferred to the Secretary from the Fund during the first two fiscal years following selection would be used to carry out ecological restoration treatments consistent with the strategy during the same fiscal year in which the funds are transferred to the Secretary;

(B) if actions under the jurisdiction of the Secretary of the Interior are proposed, the nomination shall include a plan to fund such activities, consistent with the strategy, by the appropriate--

- (i) State Director of the Bureau of Land Management; or
- (ii) Regional Director of the Bureau of Indian Affairs; or
- (iii) other officials of the Department of the Interior.

(C) if actions on land not under the jurisdiction of the Secretary or the Secretary of the Interior are proposed, the appropriately designated project lead within the National Ocean Service shall provide evidence that the landowner intends to participate in and provide appropriate funding to carry out the actions.

(D) if actions on land, in water, or over submerged land under the jurisdiction of a State, local or regional municipality, or Tribal government, the appropriately designated project lead within the National Ocean Service shall provide evidence that the authority of jurisdiction intends to participate in and provide appropriate funding to carry out the actions.

(d) Selection Process-

(1) IN GENERAL- After consulting with the advisory panel established under subsection (e), the Secretary, in consultation with the Secretary of the Interior (if applicable), shall, subject to paragraph (2), select the best proposals that—

(A) have been nominated under subsection (c)(2), and; (B) meet the eligibility criteria established by subsection (b).

(2) CRITERIA- In selecting proposals under paragraph (1), the Secretary shall give special consideration to--

(A) the strength of the proposal and strategy;

- (B) the strength of the ecological case of the proposal and the proposed ecological restoration strategies;
- (C) the strength of the collaborative process and the likelihood of successful collaboration throughout implementation;
- (D) whether the proposal is likely to achieve reductions in long-term natural resource management costs;
- (E) the strength of expected benefits to local economies by providing local employment or training opportunities or increased tourism benefits;
- (F) the strength of the proposal's impact on increasing empowerment of women;
- (G) the strength of the proposal in its mitigation of climatic threats;
- (H) whether the proposal would increase the value of ecosystem services provided;
- (I) the strength to which the proposal would assist in the revitalization of traditional and cultural institutions; and
- (J) the level of non-Federal investment that would be leveraged in carrying out the proposal.

(e) Advisory Panel-

(1) IN GENERAL-

The Secretary shall establish and maintain an advisory panel in accordance with the Federal Advisory Committee Act (FACA) 5 U.S.C. § 5, comprised of not more than 15 members to evaluate, and provide recommendations on, each proposal that has been nominated under subsection (c)(2).

(2) REPRESENTATION-

The Secretary shall ensure that the membership of the advisory panel is fairly balanced concerning the points of view represented and the functions to be performed by the advisory panel. (See 5 U.S.C. §§ 5(b)(2) and 5(c))

(3) INCLUSION-

The advisory panel shall include experts in ecological restoration, marine and coastal ecology, rural economic development, strategies for ecological adaptation to climate change, fish and wildlife ecology, and social science.

(f) Community-Based Coastal Zone Restoration Fund -

(1) ESTABLISHMENT-

There is established in the Treasury of the United States a fund, to be known as the ' Community-Based Coastal Zone Restoration Fund ', to be used to pay up to 60 percent of the cost of carrying out and monitoring ecological restoration treatments on for each proposal selected to be carried out under subsection (d)(2)(J).

(2) INCLUSION-

The cost of carrying out ecological restoration treatments as provided in paragraph (1) may, as the Secretary determines to be appropriate, include cancellation and termination costs required to be obligated for contracts to carry out ecological restoration treatments for each proposal selected to be carried out under subsection (d) and criteria evaluated as outlined in subparagraph (d)(2)(J).

(3) CONTENTS-

The Fund shall consist of such amounts as are appropriated to the Fund under paragraph (6).

(4) EXPENDITURES FROM FUND-

(A) IN GENERAL- On request by the Secretary, the Secretary of the Treasury shall transfer from the Fund to the Secretary such amounts as the Secretary determines are appropriate, under paragraph (1).

(B) LIMITATION- The Secretary shall not expend money from the Fund on any one proposal—

- (i) for more than ten fiscal years; or
- (ii) in excess of \$TBD in any one fiscal year.

(5) ACCOUNTING AND REPORTING SYSTEM- The Secretary shall establish an accounting and reporting system for the Fund.

(6) AUTHORIZATION OF APPROPRIATIONS- There is authorized to be appropriated to the Fund \$TBD for each of fiscal years 2019 through 2029, to remain available until expended.

(g) Program Implementation and Monitoring-

(1) WORK PLAN- Not later than 180 days after the date on which a proposal is selected to be carried out, the Secretary shall create, in collaboration with the collaborative, an implementation work plan and budget to implement the proposal that includes—

- (A) a description of the manner in which the proposal would be implemented to achieve ecological and community economic benefit, including capacity building to accomplish restoration;
- (B) a business plan that addresses the projected local economic benefits of the proposal;
- (C) documentation of the non-government investment in the priority landscape, including the sources and uses of the investments; and
- (D) a plan to decommission any temporary roads or infrastructure established to carry out the proposal.

(2) PROJECT IMPLEMENTATION- Amounts transferred to the Secretary from the Fund shall be used to carry out ecological restoration projects that are—

- (A) consistent with the proposal and strategy; and
- (B) identified through the collaborative process described in subsection (b)(2).

(3) AGREEMENTS OR CONTRACTS. --

- (A) The Secretary, via an agreement or contract as appropriate, and consistent with the collaborative recommendations, may enter into stewardship contracting projects with private persons or other public or private entities to perform services to achieve management goals for the project that meet local and rural community needs.
- (B) PROCUREMENT PROCEDURE.—A source for performance of an agreement or contract shall be selected on a best-value basis in the bids from service contractors, including consideration of source under other public and private agreements or contracts.

(C) TERM.—

- (i) IN GENERAL.—Except as provided in subparagraph (A), the Director may enter into a contract under subsection (b) in accordance with section 3903 of title 41, United States Code.
- (ii) MAXIMUM.—The period of the contract may not exceed ten years.

(D) OFFSETS.—

- (i) IN GENERAL.—The Secretary may apply the value of products removed as an offset against the cost of services received under the agreement or contract described in subsection (A).
- (ii) METHODS OF APPRAISAL.—The value of the natural resource used as an offset under subparagraph (i)—
 - 1. shall be determined using appropriate methods of appraisal commensurate with the number of resources to be removed; and
 - 2. may—
 - a. be determined using a unit of measure appropriate to the contracts; and
 - b. may include valuing products on a per acre basis.

(E) CONTRACTING OFFICER.—Notwithstanding any other provision of law, the Secretary or the Secretary of the Interior may determine the appropriate contracting officer to enter into and administer an agreement or contract under subsection (A).

(4) RECEIPTS.—

(A) IN GENERAL.—The Secretary may collect monies from an agreement or contract under subsection (A) if the collection is a secondary objective of negotiating the contract that will best achieve the purposes of this section.

(5) USE.—Monies from an agreement or contract under subsection (A)—

- (i) may be retained by the Secretary; and
- (ii) shall be available for expenditure without further appropriation at the project site from which the monies are collected or at another project site.

- (6) ANNUAL REPORT- The Secretary, in collaboration with the Secretary of the Interior and other interested persons, shall prepare an annual report on the accomplishments of each selected proposal that includes—
- (A) a description of all acres (or other appropriate units) treated and restored through projects implementing the strategy;
 - (B) an evaluation of progress, including performance measures and how prior year evaluations have contributed to improved project performance;
 - (C) a description of community benefits achieved, including any local economic benefits;
 - (D) the results of the multiparty monitoring, evaluation, and accountability process under paragraph (4); and
 - (E) a summary of the costs of—
 - (i) projects; and
 - (ii) relevant and related activities.

- (7) MULTIPARTY MONITORING- The Secretary shall, in collaboration with the Secretary of the Interior (where appropriate) and interested persons, use a multiparty monitoring, evaluation, and accountability process to assess the positive or negative ecological, social, and economic effects of projects implementing a selected proposal for not less than 10 years after project implementation commences and should be included within the project funding request.

(h) Report-

Not later than five years after the first fiscal year in which funding is made available to carry out ecological restoration projects under the program, and every five years thereafter, the Secretary, in consultation with the Secretary of the Interior (where applicable), shall submit a report on the program, including an assessment of whether, and to what extent, the program is fulfilling the purposes of this title, to—

- (1) the Committee on Energy and Natural Resources of the Senate;
- (2) the Committee on Commerce, Science, and Transportation of the Senate;
- (3) the Committee on Appropriations of the Senate;
- (4) the Committee on Natural Resources of the House of Representatives; and

(5) the Committee on Appropriations of the House of Representatives.

SEC. 1004. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary such sums as are necessary to carry out this title.

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