NEEL INAMDAR & FUTURE of FISH

BUILDING *A* SUSTAINABLE VALUE CHAIN *FOR* NEW ENGLAND GROUNDFISH

Finance Needs and Opportunities for Investment

EXECUTIVE SUMMARY

This report was prepared for the New Venture Fund's
New England Finfish Finance Needs Assessment project

by **Future of Fish** and **Neel Inamdar**
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Future of Fish is a nonprofit systems change incubator. We work with entrepreneurs, industry players, and investors to create business solutions to ocean challenges. Based on previous work, we continue to engage with several entrepreneurs working in New England fisheries who may be appropriate participants in the opportunities outlined herein. However, all opportunity areas provided in this report are based on new research and analysis and are not designed to benefit any particular business entity.

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Executive Summary

Introduction

The goals of this report are to assess the constraints in the New England groundfish fishery and uncover opportunities for fundable initiatives that might both ensure its economic viability and support the conservation management successes secured through sector management.

The New England groundfish fishery has experienced decades of decline, and the communities that rely on it for economic sustenance have faced continual crisis. In 2010, the New England Fishery Management Council implemented a system of sector management with the intention of reversing those trends. However, achieving overall improvements in stock health and fishers' livelihoods has proved challenging.

The fishery was declared a disaster by the US Department of Commerce in September 2012, and quotas for key stocks were slashed severely in early 2013, further burdening already flailing businesses. Local waterfront landscapes are dotted with vacancies and companies on the verge of bankruptcy. A significant portion of fishers and other seaport business owners—overwhelmed by uncertainty and the prospect of losing their incomes, as well as their only known way of life—show signs of psychological stress disorders. The need for intervention is critical, and the timeline is urgent.

As with any crisis situation, within the desperation also lay creativity and resilience, demonstrated by the actions of key community and industry players fighting to save this iconic fishery. Our research aimed to learn from those stories. We interviewed fishers and seaport businesses (75 total), whose individual tales knit a tapestry of challenge, disruption, and loss; we also spoke with representatives from financial

services institutions (25 total) tasked with the unenviable challenge of finding ways to invest in an industry rife with risk and lacking in capacity.

We conclude that there are a number of opportunities for foundations and financial institutions to engage with the fishery now as it continues to adjust to conditions under sector management, as well as to invest in philanthropic and business initiatives that show promise for bringing the fishery back to prosperity. Among those opportunities, three thematic intervention areas were identified:

- Facilitate the transition to effective quota management at the fisher level.
- Streamline and enhance policies to build more efficient market structures and regulation.
- Support the development of new, innovative, early-stage development opportunities and the establishment of potentially scalable business models.

While there are no easy paths forward, our assessment offers valuable context for any actor interested in creating new opportunities and participating in the next phase of innovation in financing fisheries work.

The following pages summarize key content for each chapter.

Chapter 1—Overview and Current Status

Overfishing in the Western Atlantic is not a contemporary development, as consumers across the globe have been gorging on New England's iconic groundfish stocks for centuries. Yet formal policies to curtail overfishing are fairly new. Beginning in the 1980s and until the early 2000s, fishing was governed largely (and rather unsuccessfully) by command-and-control measures, such as restrictions on vessel size and gear, daily catch limits, finite numbers of days-at-sea, and closed seasons and fishing areas. In 2010, the New England Fishery Management Council (NEFMC) adopted a new regulatory regime for the Northeast multispecies fishery: sector management.

Sector management relies on self-forming cooperatives of permit holders that receive portions of each groundfish species' total annual catch limit based on members' individual permit histories. Sectors were intended to revolutionize how fishers approach their trade by redirecting the competition that tends to drive common-property resource conflicts. In its nearly four-year existence, sector management has redefined the culture and economy for New England's groundfish fishers. Many have had to change their harvesting strategies, purchase different gear, implement new data-collection and reporting systems, accept new monitoring requirements, enter into financial and legal arrangements with other fishers, and create new transaction schemes with buyers.

Compounding those challenges, a combination of environmental, regulatory, and market factors has made it difficult for fishers and port-based businesses to maintain profitability. Severe cuts in quota, decreased local landings, uncertainty over future stock assessments, dock-price fluctuations, competition from foreign imports, high quota lease pricing, and the threat of fleet consolidation are creating economic problems for both the individuals and the waterfront communities reliant on New England groundfish. The long-term sustainability of the fishery is in jeopardy, and efforts to intervene must address the fragile reciprocity between nature and culture so that both may thrive together.

Chapter 2—High-Level Value Chain Analysis

The value chain is defined as the entire suite of activities involved with bringing a product from its origin through to its delivery to the final consumer. In New England, the seafood value chain comprises three primary channels—the high-end consumer market, the midrange consumer market, and the commodity market—which all differ in terms of quality, price, volume, sales method, and level of processing.

Our snapshot value chain analysis outlines the roles, relationships, constraints, and opportunities of key players and entities involved in the Northeast multispecies groundfish fishery, including: sectors; permit banks; small- and large-vessel fishers; port-based vessel services; auctions; processors; distributors; community-supported fisheries (CSFs); specialty distributors; sales outlets; and end buyers. Our summaries and insights are based on interviews with value chain players in each of the major New England ports, and highlight their perspectives on current challenges and potential solutions for a sustainable future in the industry.

That network of interrelated players encompasses local, regional, national, and even international markets. Inputs such as quota availability, as well as fuel and ice, impact the flow of fish through the value chain—and in some cases, the quality of the product itself. To illustrate those dynamics, we examine how players interact within and operate through four distinct marketing channels: CSF, differentiated product, forward contract, and commodity. The majority of fish moves through the commodity channel (~90%); the least moves through the CSF channel (~2%).

Our assessment indicates that certain segments of the market are beginning to capitalize on growing demand for differentiated products—similar to what has been seen in recent years for agriculture—revealing the potential to shift more of the industry away from commodity fish and toward end markets that value local, storied, and/or traceable fish. These channels tend to involve shorter value chains, more balanced power distribution among players, and higher prices for fishers. Further, shifting from middle-chain business models built on margins to models based on fee-for-service could capture the true value added by each player in the chain. Finally, when demand dictates supply, the result is better planning, less waste, and less uncertainty.

Chapter 3—Financial Needs Assessment

The financial needs of the New England groundfish industry vary across regions, ports, and even wharves. Common denominators exist among the challenges these communities face, but individual and business situations are highly specific. Both environmental change and regulatory volatility contribute to business uncertainty, which ripples throughout the value chain and remains a deterrent for the financial sector in providing investment, and for fishers and port-based businesses in seeking investment. The challenges exist within a complex milieu of hostile and strong opinions about the viability of the fishery, along with the predictable human impulse to assign blame for the local economic toll caused by the combination of scarce fish and a shift in fishery management.

The inability to catch ample volumes of fish—whether because of natural causes or falling quotas—was universally listed as the primary challenge by fishers, vessel servicers, auctions, processors, distributors, and financial institutions alike. Other common concerns of fishers included: lack of necessary quota; high cost of leasing quota; high operating costs; unpredictable and insufficient dock prices; competition from imports; vessels in disrepair; poor portside infrastructure and market access; and psychological stress. The challenges of port-based businesses often mirrored those of fishers, especially because their profitability depends on the viability of the fleet they serve. Unlike those that rely exclusively on landings, however, dealers and processors have the option—which they have readily pursued—to offset local fish shortages by abandoning the domestic market in favor of imports, which represent a significant component of the New England supply chain.

Based on interviews with fishers and port-based businesses, we outline some specific initiatives that could help meet their immediate and long-term needs. Given that any intervention will require buy-in from stakeholders, one financing strategy could be to fund initiatives conceived within the communities themselves. Already some New England fishing communities, sectors, and community-based organizations are working to innovate around the most pressing problems posed by the groundfish crisis (see Appendix D).

Chapter 4—Existing Sources of Financing

Due to the nature of the constraints identified in the New England groundfish value chain—and in particular, the immaturity of the opportunities for intervention—we use an intentionally broad interpretation of "financing" and "investment" for the purpose of this report. Although traditional definitions of those terms do not include grant-based instruments, we incorporate grant-based opportunities on a selective basis into our analysis of existing sources of financing to the fishery, in addition to traditional debt and equity options. A representative list of specific financing options available to participants in or related to the New England groundfish value chain can be found in Appendix E.

Debt financing is widely available in the region. While the majority of financial institutions we spoke with accept a variety of collateral, few are able to accept permits, or do so at steeply discounted values. Most require 100 percent of the loan value in collateral. And although some that are more familiar and comfortable with the fishing community accept vessels and other equipment as collateral, the majority accept only more traditional forms, such as real estate and assets.

State and federal loan programs have a strong presence in the region through the Farm Credit System and the Small Business Association (SBA), which made low-interest disaster loans available to groundfish fishers in Massachusetts and New Hampshire in November 2013. Community development financial institutions (CDFIs), such as Coastal Community Capital and the Coastal Enterprise Institute (CEI), are examples of local banks working directly with the fishing community to meet their needs on the best terms possible while encouraging sustainability in the fishery. We include quota leasing through permit banks as a form of debt financing for this assessment, as we found that it is an essential instrument for some fishers.

Finally, we spoke with Wells Fargo, Alaska Commercial Fishing and Agricultural Bank (ACFAB), RSF Social Finance, and the California Fisheries Fund (CFF) to provide perspective from other regions and other fisheries. Although these organizations offer essentially the same terms as others local players interviewed, CFF and ACFAB have a core mission of supporting the regional fishery, while RSF and CFF support only sustainable organizations. Additionally, these organizations are generally willing to use permits as collateral (unlike in New England) and have developed a practice of and familiarity with lending to participants in the seafood value chain.

Other financing instruments are available, but are limited in various ways. Equity investment options remain narrow, compared with debt financing. Although interest exists, the continued flow of equity out of this market and the continued business uncertainty make new equity investments a difficult proposition, except at the higher levels in the value chain or for certain innovators.

Grants and other financial instruments, such as the New Market Tax Credit program, also exist in this market, as do grant programs such as the Saltonstall-Kennedy Grant Program and the National Fish and Wildlife Foundation (NFWF) Innovation Fund. However, those are typically targeted at enhancing collaboration and innovation at a community level, as opposed to at a company or corporate level. As such, they tend to focus on nonprofits, community initiatives, or research programs with limited applicability to the current value chain. In large part, this is driven by a concern regarding private gain from public funds.

Chapter 5—Gap Analysis: Industry Needs, Existing Capital Resources, and Potential for Impact

While we found a good number and variety of existing capital resources, gauging the effectiveness of those resources is confounded by dynamic market conditions and temporal changes: what was well designed for the fishery as it existed two years ago may not be appropriate today. We conclude that barriers to the economic viability of the fishery are attributable to multiple causes, and are not necessarily due to the lack of effective financing.

In fact, biomass decline, uncertainty about the status of groundfish stocks, and stock assessment variability all affect the ability of fishers to land sufficient volume and are significant barriers to offers and acceptance of financing. In fact, they are leading drivers to a self-reinforcing negative feedback loop (adapted from M. Odlin, 2013) constraining the value chain and causing stagnation of capital resources for value chain participants, particularly fishers. Those factors are:

Leading Drivers

Biomass decline and stock health uncertainty. Diminishing populations of certain species and uncertainty about the future health of groundfish stocks remain high in the system, making business planning difficult, if not impossible.

Stock assessment variability. The variability of the stock assessment process, which determines annual quotas, is a key driver of business uncertainty, but also influences stock recovery (if quotas are set too high or too low).

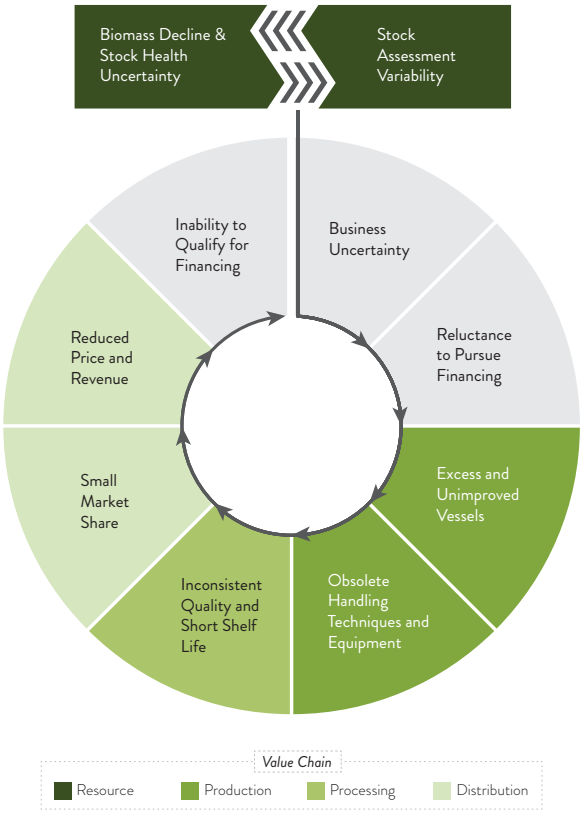
The signals generated by those two elements have created a crisis of confidence in the business community, demonstrated by a high degree of business uncertainty, especially for those most reliant on the resource.

Lagging Indicators

Business uncertainty. Given the challenges with declining biomass and accessing stocks, both fishers and groundfish-related businesses are uncertain about their abilities to generate sufficient volumes to even remain in business,

let alone repay any investments. Business uncertainty, due to the leading drivers, is a key element that perpetuates the feedback loop.

Reluctance to pursue financing. Borrowers or potential borrowers, concerned about the business uncertainty generated by the leading drivers, cannot be confident of a positive cash flow from fishing. Because of previously pledged collateral as well as a conservative approach to financing, most fishers are either unwilling to apply for financing or unable to qualify.



Credit: adapted from Odlin, 2013

Excess and unimproved vessels. The current trend of fleet consolidation and contraction, and de facto capital flight, is expected to continue, and the inventory of inactive vessels for sale has reduced resale prices, depressing the collateral value of active vessels for fishers seeking financing. This depression, along with business uncertainty, means vessel owners are very cautious about investing in vessel upgrades.

Obsolete handling techniques and equipment. Because vessel owners are not investing in vessel or fleet improvements, their equipment and handling techniques have not kept pace with international competition or with sustainability practices.

Inconsistent quality and short shelf life. Older vessels utilizing obsolete techniques and outdated on-board equipment compromise the quality of local, fresh seafood products, placing them at a disadvantage in the local market, where they are considered a commodity. Processors are able to import higher-quality frozen products instead.

Reduced market share. When higher-quality substitutes are available in the market at lower prices, demand declines for the local, higher-priced product and shrinks market share. On a related note, over time the diminishing production of New England fishers reduces their influence on players higher in the value chain, making it harder to negotiate for either market share or better price when quality improves.

Reduced prices and revenues. With the exception of CSFs and specialty distributors operating in the "high value" channel of the value chain, no quantifiable demand currently exists for a differentiated fish product from the Northeast multispecies groundfish fishery, which makes imports ready substitutes for the majority of the market. Landing fish at a cost greater than their value on the market naturally leads to lower revenues and profits.

Inability to qualify for financing. For many fishers, the existing constraints combine to make accessing financing impossible. Risk assessments of their businesses by any financial institution would highlight the preceding factors, and make them ineligible for a loan or equity investment.

Perceived risk of investment is typically determined by location of the applicant within the value chain, with those closest to the resource deemed the riskiest. Vessel owners are subject to variability in regulations, fishing quota, market pricing, and environmental conditions. Whereas port-based businesses typically can insulate themselves from those dynamics, once fish landings and fleet sizes contract below a certain level, even they find it difficult to make a business case for financing.

Given the perceived risks, the debt activity in this market is fairly stagnant. Debt-based financing typically requires proof of positive cash flow in addition to collateral, which is a difficult proposition for most value chain participants, particularly vessel owners. Our interviews with lenders indicated that traditional forms of value chain–based investments such as short-term inventory, contracting finance, or longer-term cash flow finance are available in the market, but may or may not be utilized due to market conditions.

An even more difficult sell is equity financing, although it could be appropriate for a few supply chain innovators with the right investors. The high returns needed in exchange for flexible repayment schedules and lender patience are unlikely to materialize for most value chain participants at this time.

The grant activity in the Northeast fisheries, however, seems rather robust in building enabling environments. We identified several debt programs designed to address the concerns of the fishery, all of which resulted from an initial grant-based approach that either led to or is leading to additional, traditional investment opportunities.

The most readily identifiable environmental consequences relate directly to the lack of ongoing investment in vessels and gear. Upgrading vessels, gear and/or engines could improve (1) fuel efficiency, which would decrease both operating costs and greenhouse gas emissions; (2) fish selectivity, which would reduce bycatch and discards; (3) handling and cold storage, which would reduce waste and increase fish quality; and (4) minimize negative impact to marine habitats.

Due to the low capital activity in New England, and given that we only found one program directly integrating environmental considerations into financing, assessing the influence of capital provisions on environmental considerations is difficult. That said, we think this could be an opportune time to engage the industry and financial community on the topic of sustainable practices with multiple beneficial outcomes. We know that impact lending organizations such as California Fisheries Fund and Conservational International's Verde Ventures Fund have successfully used proactive environmental screens to identify traditional investment opportunities that promote conservation and healthy environments. Permit banks are another mechanism for promoting good environmental practices.

Chapter 6— Opportunity Areas

Based on our assessments of the New England groundfish value chain; the needs expressed by fishers, port-based businesses and financial institutions; and the types of financing available, we have identified eight opportunities for intervention that represent potential solutions to the systemic issues in the value chain, and that target specific factors in the negative feedback loop. Note that some of these opportunities mirror current efforts in the region that are in need of support and scaling.

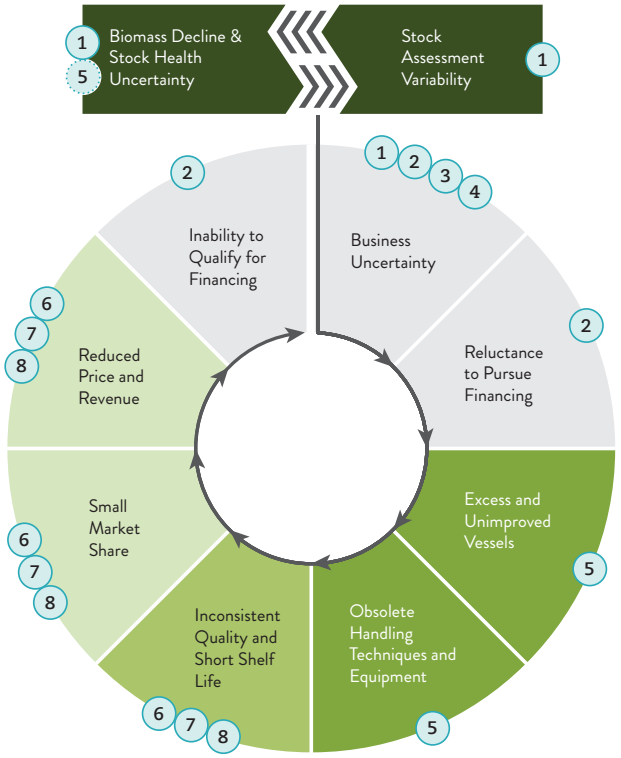
Opportunity 1: Improve stock assessment methodology. The current stock assessment process has had challenges in accurately projecting groundfish species abundance from year to year—a key driver of uncertainty for members of the fishery, as well as for financial institutions in their assessments of risk. Not only have the models used to estimate stock health resulted in highly variable catch limits, but they have failed in their goal of rebuilding overfished stocks according to established timelines, even though fishers are reporting fishing within their set quotas. We recommend that efforts to develop and implement improved stock assessment methodology, with improved monitoring, should be collaboratively developed by the relevant stakeholders, from fishers to NOAA's National Marine Fisheries Service (NMFS) and the New England Fishery Management Council (NEFMC).

Opportunity 2: Promote transparent permit transfer and quota leasing mechanisms. The opaque nature of permit transfers and quota leasing prevents some financial institutions from accepting permits as a form of security, which, in turn, denies fishers access to capital. Currently, because there is no permit registry that records ownership, liens, and transfer history, a financial institution runs the risk of a permit owner transferring a permit without first paying the loan. The lack of quota lease information makes it difficult to calculate a capitalization rate to determine asset value. A transparent permit transfer and quota lease market would build awareness of price fluctuations over the long-term, enabling fishers to more efficiently plan purchases and manage their business practices. Permit and quota price trend information would also be valuable to financing institutions seeking either to collateralize permits or to invest in the fishery. Initial efforts may focus on engaging the relevant financial institutions in

identifying and addressing constraints to financing permits and in promoting a transparent leasing market through grant-based opportunities. This would ideally support the involvement of a network of brokers in the region. It should be noted that while some of financial institutions have encouraged transparency in the quota lease market, fisher resistance to this idea seemed particularly high, and their significant mistrust would need to be addressed. Given the relatively nascent sector management system and the unique regional conditions, more research is needed to explore market-led solutions to enable this opportunity.

Opportunity 3: Recapitalize permit banks. Expanding permit bank capacity—through the purchase of additional permits or by setting up an exchange to reallocate unused quota—is one way to improve access to affordable quota, increase landings, and raise revenues throughout the local value chain. Grants or low-interest loans (with permits serving as collateral) would be utlized to purchase additional permits and/or help permit banks develop new models of quota acquisition and transfer. Cash flow from leased quota would cover loan payments and overhead, and could eventually cover the purchase of more permits or pay monitoring expenses, as appropriate. An analysis of the various permit banks' capital structure, as well as the permit and quota leasing markets (supply and pricing) would be required in order to determine the optimum capital size and the expected cash flow from leasing operations.

Opportunity 4: Help fishers diversify. Stock uncertainty, wildly variable catch limits, and insufficient quota allocation make exclusive reliance on the groundfish fishery a risky business model for many fishers. One way to generate smoother, more stable incomes over the short and the long term is through revenue diversification. Diversifying could take the form of continuing to fish, but targeting other, more abundant species; continuing to captain a vessel, but for purposes other than fishing; or pursuing a new career activity altogether. A few existing financial institutions provide grants, debt, and limited equity to individuals and firms seeking to diversify under a range of conditions. In cases where fishers are considered too risky by the traditional banking community, or are unwilling or unable to take on debt, philanthropic capital may be appropriate for guaranteeing loans or otherwise providing transitional support. Given that a chosen diversification strategy must align with a fisher's skill set, interests, and ability to receive capital investment—and also be appropriate geographically and with respect to the market and stock health—it is possible that participants in a diversification assistance program will require customized solutions. More research is needed to better understand how this opportunity can be implemented effectively in New England.



Credit: adapted from Odlin, 2013

Opportunity 5: Improve gear and fish handling, and reinvest in vessels. This intervention would serve directly to increase fuel efficiency, species selectivity, and fish quality while reducing environmental impacts in the marine ecosystem—factors that are essential for reestablishing financial sustainability and market competitiveness (specifically with imports). Appropriately structured risk mitigation mechanisms—such as irrevocable letters of credit, guarantees (through philanthropic funds), loan loss reserve provisions and insurance options—could put these changes within reach of fishers and financial institutions. A number of fishers could also benefit from working capital, bridge loans, lines of credit, refinancing of existing loans, and debt restructuring. A proper assessment of the level of risk parties are willing to assume would need to be conducted; likewise, the willingness

of the philanthropic community to underwrite this risk is a key component of this transition-related intervention.

Opportunity 6: Support market development and differentiation. The development of differentiated markets for locally landed groundfish should help fishers garner better, more stable prices, and could result in increased demand for catch landed at local ports. If accompanied by increased quality, then branded, storied fish could gain competitive advantage over imports and help shift demand back to local fisheries. Grants or debt could help establish a program or organization to assist with the development of markets or product branding to effectively differentiate the New England groundfish industry from the global commodity supply chain. Debt or equity may help existing businesses grow their brands or market share. Additional work is needed to determine which specific players are interested in this opportunity, and whether it makes sense to expand existing brands or create something new.

Opportunity 7: Facilitate forward contracting marketplaces. Current uncertainty over landing prices and volumes is creating a level of market volatility that makes it difficult for anyone in the industry to plan their businesses. Facilitating the development of forward contracting marketplaces would offer fishers the ability to plan their catches based on market demand from seafood buyers, targeting certain species at prearranged prices. As opposed to being beholden to volatile spot pricing, the price stability offered by forward contracts means fishers know their margins and can decide when to fish, how long to fish, what to catch, and when and how much quota to lease-in before they leave the dock. Capital requirements include debt and risk equity to grow the business of the forward contracting marketplace, and short-term debt to prefinance product purchases from fishers. Due to the nascent nature of the opportunity, this is a high-risk investment, and attracting traditional financing may be challenging. Philanthropic capital could be instrumental in providing startup grants, loan guarantees, or program related invesents, any of which could be tied to sustainability or impact criteria. Players at multiple levels of the value chain must be recruited to build these systems.

Opportunity 8: Build business ecosystems. "Business ecosystem" refers to the network of value-chain players involved in the delivery of a product through competition and/or collaboration. In New England, new business ecosystems could successfully address some of the current problems in the Northeast groundfish fishery by convening around embracing forward contracts, securing a differentiated market for local fish, creating a market for underutilized species, etc. As business ecosystem development requires multiple entities, grants are necessary to support design, convening, and partnership agreements to undertake value chain improvements. Specific pilot projects need to be recognized and businesses need to be aligned to work together. Due to the complexity involved with coordinating agreements among multiple players—as well as the need for a mix of finance vehicles—it is critical to obtain commitments from value chain participants as well as potential funders.

Next Steps

We've identified several opportunities for improving the viability and sustainability of the groundfish industry in New England. And while there are no easy or short-term finance solutions to the challenges in the New England groundfish value chain, nor are there readymade options for the instant deployment of traditional investment capital, that doesn't mean there never could be. In fact, there is an immediate and catalytic role for grants, not only to aid in developing a sustainable groundfish value chain, but also to prepare the fishery for more traditional types of financing and investment.

Given the diversity of the challenges and capabilities of particular fishers, sectors, and ports, we do not expect that every opportunity outlined will be applicable or feasible for every person or business involved in the fishery. Rather, the opportunities are starting points for dialog and for the development of solutions that can be customized to meet specific needs and circumstances. As they stand, the opportunities require further refinement—potentially through convening stakeholders and launching pilot programs—before full pursuit.

Once tested, if the opportunities are to move from proof-of-concept to established business models capable of scaling (and thereby attracting private capital, as has occurred in other markets), they will require grant support. They will also require an unprecedented level of investor collaboration and meticulous deal structuring for the New England markets.