

2013

## Limited Entry in Rhode Island Tracing an Idea from Open Access to License Limitation to Catch Shares

Jonathon M. Peros  
University of Rhode Island, jonathon.peros@gmail.com

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LIMITED ENTRY IN RHODE ISLAND:  
TRACING AN IDEA FROM OPEN ACCESS TO  
LICENSE LIMITATION TO CATCH SHARES

BY

JONATHON M. PEROS

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

IN

MARINE AFFAIRS

UNIVERSITY OF RHODE ISLAND

2013

MASTER OF ARTS IN MARINE AFFAIRS  
OF  
JONATHON MICHAEL PEROS

APPROVED:

Thesis Committee:

Major Professor      Robert Thompson

Dennis Nixon

Carlos Garcia-Quijano

Nasser H. Zawia  
DEAN OF THE GRADUATE SCHOOL

UNIVERSITY OF RHODE ISLAND  
2013

## **ABSTRACT**

For centuries fisheries institutions have shaped Rhode Island's storied fishing tradition, a hallmark of which has been access to marine resources by the residents of the state. In 2001, after a series of moratoriums on commercial fishing licenses, Rhode Island embarked on an extensive public process through the Coastal Institute at the University of Rhode Island to identify fishery management options based on the input of stakeholders. The outcome of that process was the passage of Senate Bill 2771 sub A – otherwise known as Rhode Island Gen. Law 20.2-1 (2002). The legislation ended a moratorium on the issuance of new commercial fishing licenses in the state, and called for the establishment of license limitation programs that accommodate new entry into state waters fisheries. In 2009, the state approved a catch share pilot program, effectively changing how access to the resource is constructed.

This research seeks to better understand the impetus for preserving access to the fishery in 2002, and determine if the catch share pilot program is consistent with the original intent of the Act. A Grounded Theory methodology is employed to illustrate the entire management situation leading up to the passage of Rhode Island Gen. Law 20.2-1 (2002). The results of this research indicate that while access has not been functionally compromised for new entrants through the enactment of a sector pilot program, a normative and cognitive disconnect exists between the intent of the legislation and the catch share pilot program. Moreover, the values and worldviews of fisheries stakeholders in Rhode Island are influenced by a range of regional and international institutions that did not inform the 2002 legislation.

## **ACKNOWLEDGMENTS**

First, I would like to thank my advisor Robert Thompson for his unyielding patience, assistance, and encouragement. I would also like to thank my committee members, Dennis Nixon and Carlos Garcia-Quijano, for their time, flexibility, and input. A special thanks to Judy Palmer, who was instrumental in helping me complete this work, and to Michael Rice, my defense chair. Thanks to Seth Macinko for thoughtful feedback and to Judith Swift, Q Kellogg and the Coastal Institute for supporting my work. I am ever grateful for the support provided by my family. Finally, thank you to Rebecca your encouragement, and for helping me see this project through.

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## CHAPTER 1: INTRODUCTION

The question of access to marine resources is particularly significant in the Ocean State because “Rhode Island has maintained a long tradition of allowing open access to the state’s marine fisheries resources for its residents, and [in 2002] it was only one of two coastal states nationwide to continue to do so” (Petruny-Parker et al., 2002, p.138). In 2002, the Rhode Island General Assembly adopted a new law governing the management of marine resources. Senate Bill 2771 sub A – now Rhode Island General Law 20-2.1 – contains provisions that direct the Department of Environmental Management to continue to preserve opportunity for access to commercial fisheries for residents of the state (**Appendix I**).

In 2009, the Rhode Island Department of Environmental Management expanded its limited entry management program by adopting a catch share pilot program in the summer flounder fishery. This new management regime uses an allocation approach to regulate access to the fishery. With an existing directive to provide opportunities for access codified in Rhode Island General Law, catch share management may be at odds with the goal of preserving new entry into Rhode Island’s commercial fisheries as catch share programs allocate catch among a pre-determined set of entities based on qualifying criteria. Therefore, I hypothesize that the adoption of catch share management is inconsistent with the intent of the 2002 Act and its policy goal of preserving access for new entrants. Taken practically, if inconsistencies exist between new entry provisions of the 2002 Act and catch share management programs, can the two be reconciled? Do the new entry provisions of Senate Bill 2771

sub A (2002) matter to Rhode Island eleven years after the bill was passed? What other fisheries institutions have emerged in Rhode Island that have influence on the collective's thinking around management regimes?

Understanding the intent of the Act entails a more complete understanding on the process that informed the bill. Two years before the bill was passed, the Coastal Institute at the University of Rhode Island was tasked by Governor Lincoln Almond to engage stakeholders and “examine options available for resolving the current moratorium on commercial fishing licenses” (August and Parker, 2001, p.2). This process constituted Phase 1 of the Coastal Institute's two-phase approach. During Phase 1, the CI, “sought the input of members of the commercial fishing industry, the regulatory community, citizens, and academic experts” and “two basic objectives: 1) to develop a list of the different goals that a commercial licensing system should attain, and 2) create the list of different licensing available to the Joint Advisory Working Group on Fisheries Management” (August and Parker, 2001, p.4). To help answer the research question and garner a more complete understanding of the General Assembly's intent of the Act, this thesis reflects on the Coastal Institute process that ultimately led to the passing of the Act.

To situate this work within the broader theoretical context of fisheries management – and to avoid presenting the research situation in a vacuum – Chapter 2 addresses the literature around fisheries management, including the bio-economic rationale for managing fisheries, limited entry in the form of license limitation, catchshares, and resource regimes, and the dichotomy between state and federal fisheries management practices. In Chapter 3, this thesis chronicles the historical,

political, and regulatory context of fisheries management in the Ocean State, beginning with access arrangements that pre-date the King Charles Charter of 1663. The relevance of the Rhode Island Constitution and case law are discussed drawing upon the work of Nixon (2001). Later, the public processes that led up to the passing of RIGL 20.2-1 are outlined, and the operationalization of the subsequent limited entry program by the DEM is examined. Finally, I discuss the management of summer flounder and the sector pilot program that operated from 2009 – 2011, and the decision to pursue the sector program.

Chapter 4 discusses the research methodology of Grounded Theory (Glaser and Strauss, 1967; Strauss and Corbin, 1998; Charmaz, 2006) in detail. Primary source data was generated through semi-structured interviews, and analyzed through the lens of Scott's (1995) analytic framework, and Young's institutional linkages (1996). In Chapter 5, the data is analyzed in three ways. First, the data is reviewed to understand if access and new entry was intent of the Act. Next, I apply Scott's institutional analysis to the Grounded Theory categories. This institutional analysis lends itself to a discussion of local and global fisheries institutions that have shaped management in the Ocean State. Results and recommendations are shared in Chapter 6.

## CHAPTER 2: LITERATURE REVIEW

### Introduction

This chapter begins with a review of the bio-economic rationale for managing fisheries as explained by Gordon (1953, 1954) and Schaefer (1959). Later, Ginter and Rettig's (1978) definition of limited entry is examined as it relates to fisheries utilization, thereby framing a discussion on the common-pool nature of fisheries (Berkes et al., 1989; Ostrom, 1990; Feeny et al., 1990). Bromley and Cernea's (1989) definitions of resource regimes are discussed and then applied to the regulations governing fisheries in Rhode Island. Next, I discuss fisheries management literature around catch shares. Finally, this thesis looks at dichotomy of state and federal fisheries management established through federalism.

### The Bio-economic Rationale For Managing Fisheries

Fisheries resources were once thought to be inexhaustible (Grotius, 1608). The depletion of inland fisheries did little to deter British biologist Thomas Huxley, who was still, "espousing the effective inexhaustibility of oceanic resources," as late as 1860 (Nielsen, 1976, p.15). Huxley's notion of the inexhaustibility of fisheries has been extinguished by the documented decline of fish populations around the world (Mullon et al., 2005; Myers and Worm, 2003; Pauly et al., 2005; Worm, 2006; Costello et al., 2008), and noted regionally in New England's groundfish fishery (Hennessey and Healey, 2000; Holland and McGuire, 2003; Acheson and Gardner, 2011).

Though fishing wields the power to greatly decrease the abundance and biomass of fisheries, "populations of marine fishes are continuously renewed, and the

rate of renewal depends on the size of the populations which is left unharvested to produce new generations.” (Schaefer, 1959, p.100). The utilization of fishery resources unleashes growth of the fish population. Therefore, the amount of fish that are harvested – versus the amount that are left in the sea to reproduce – is a policy question of what society deems most desirable. This situation lends itself to a suite of policy and management options that achieve the long-term sustainability of the resource with varying outcomes for society.

One management choice is maximum sustainable yield (MSY), which is the level of harvest “at which the greatest poundage will be produced, on the average, in perpetuity” (Schaefer, 1959, p.101). While MSY theoretically allows for the maximum amount of removals from the fishery that can be renewed without jeopardizing the health of the resource, the Magnuson-Stevens Act prescribes that we manage toward optimum yield, or OY. Optimum yield is defined in the Act as the level of harvest that:

- (A) will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems;
- (B) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as reduced by any relevant economic, social, or ecological factor; and
- (C) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery. (16 U.S.C. 1892, Sec. 3(33)).

National Standard 1 states that “Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry” (16 U.S.C. 1892, Sec. 301(a)(1)).

Another level of harvest – which could be characterized as OY – is MEY, or maximum economic yield. This is the level of harvest below MSY that yields the largest difference between total revenue and total cost (industry profits). In other terms, this is the highest level of sustainable harvest that can be achieved with the least amount of fishing effort or cost (Iudicello et al., 1999). Still another policy option is open access, which theoretically results in OAY, or open-access yield. Gordon (1954) argues that entry into an open access fishery will increase as long as there is an opportunity for net economic gain. The nature of marine fisheries lends itself to the following situation:

In the sea fisheries the natural resource is not private property; hence the rent it may yield is not capable of being appropriated by anyone. The individual fisherman has no legal title to a section of ocean bottom. Each fisherman is more or less free to fish wherever he pleases. The result is a pattern of competition among fisherman which culminates in the dissipation of the rent of the intra-marginal grounds (Gordon, 1954, p.131)

The fishery “will tend to come to natural stability where the total value of harvest is equal to the cost of taking it, and the average return is equal to the average cost” (Schaefer, 1959, p.102). This level of harvest is referred to as OAY, where total cost equals total revenue. While this approach results in harvests greater than MSY on an annual basis, the yield is theoretically sustainable. This is a policy option that will theoretically maximize employment in the fishery.

#### Limited Entry

Fishery resources are not inexhaustible. Rather, under certain conditions, the unfettered harvest of fish stocks may ultimately lead to severe declines in the abundance of species (Iudicello et al. 41). While the traditional fisheries tool kit of seasonal and area closures, and size and sex restrictions on catch were initially

successful in curtailing the exploitation of fisheries, economists argued for management regimes that would promote efficiencies (Copes, 1986). Limited entry management schemes are intended to constrain harvests to sustainable levels, and to reduce economic waste in the fishery by “curtail[ing] and restrict[ing] the addition of fishermen, fishing vessels, or gear into the fishery. Hence, limited entry is an alternative way of limiting effort” (Rettig and Ginter, 1978, p.158) The goals of limited entry programs may vary considerably, and the structure of these programs can take the form of license limitation, taxes and fees, catch shares, or any combination of the three. License limitation refers to, “direct limitations on the number of licenses or permits to harvest” (Rettig and Ginter, 1978, p.158). The tiered licensing system employed by the DEM in Rhode Island’s state fisheries and discussed later in this chapter is an example of a license limitation program. Another option, such as a tax and fee approach can refer to cost recovery programs or royalty collection schedules run by the state or federal government. The Washington Department of Fish and Wildlife limit entry into their geoduck fishery where “a competitive bid process is used to sell harvest contracts to the highest responsible bidder” (Washington State Department of Fish and Game website, accessed on 12/16/12). Finally, the third distinct form of limited entry is catch shares.

#### Catch Shares

As noted above, catch share management is a form of limited entry. This management approach receives additional consideration in this chapter because the state’s sector pilot program is a form of catch share management. Catch shares have been defined as, “a general term for several fishery management strategies that

allocate a specific portion of the total allowable catch to individuals, cooperative, communities, or other entities” (United State Department of Commerce, Catch Share Policy, 2010, p.i). In federally managed fisheries, some catch share arrangements are considered Limited Access Privilege Programs or LAPPs. Others, such as sector management implemented through Amendment 16 to the Northeast multispecies Fishery Management Plan are not formal LAPPs under the Magnuson-Stevens Act (16 U.S.C. 1892).

In 2010, NOAA Fisheries codified a National Catch Share Policy, which “encourages the consideration and adoption of catch shares wherever appropriate in fishery management and ecosystem plans and their amendments” (United States Department of Commerce, Catch Share Policy, 2010, p.ii). The policy also states that:

Catch shares may not be the best management option for every fishery or sector. NOAA will not require the use of catch shares in any particular fishery or sector, but it will promote and encourage the careful consideration of catch shares as a means to achieve the conservation, social and economic goals of sustainable fishery management. (Catch Share Policy, 2010, p.ii)

The policy also brought forward “criteria for consideration in the design and implementation of catch share programs” which include specific management goals, allocations, transferability, distinctions among fishery sectors, duration, fishing community sustainability, royalties, cost recovery, and review process (United States Department of Commerce, Catch Share Policy, 2010, p.iii).

### Rights-Based Management

The rationale for allocating of a portion of the resource through an access-privilege has roots in rights-based approaches to fisheries management. Scott (1955) reasons that conferring access privileges to a sole owner or discrete set of entities:



It is a commonplace to observe that for natural resources - as for other types of wealth - "everybody's property is nobody's property." No one will take the trouble to husband and maintain a resource unless he has a reasonable certainty of receiving some portion of the product of his management; that is, unless he has some property right to the yield (116).

Costello et al. (2008) argue that resource management by the state aimed at maximizing profits may be ineffective in preventing overfishing:

Even when management sets harvest quotas that could maximize profits, the incentives of the individual harvester are typically inconsistent with profit maximization for the fleet. Because individuals lack secure rights to part of the quota, they have a perverse motivation to "race to fish" to outcompete others. This race can lead to poor stewardship and lobbying for ever-larger harvest quotas, creating a spiral of reduced stocks, excessive harvests, and eventual collapse. (Costello et al., 2008, p.1679)

This logic forms the foundation of rights-based management: ownership promotes stewardship.

#### Common-Pool Resource: The Fishery

Rhode Island's marine fisheries are common-pool resources. The term "common-pool resources" (CPR) refers to, "a class of resources for which exclusion is difficult and joint use involves subtractability" (Berkes et al., 1989, p. 91). The control of access – or excludability – is difficult because CPR systems are "sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use" (Ostrom, 1990, p. 30). Subtractability refers to the idea that "each user is capable of subtracting from the welfare of other users" (Feeny et al. 1990, 78). In fisheries, this means that, "if one user harvests fish, the catch per unit of fishing effort of other fishermen declines" (Feeny et al., 1990, 78).

References to the perceived 'problem' of open access abound in natural resource literature (Hardin, 1968; see also Gordon, 1954; Scott, 1955). In his 1968 article that appeared in the journal *Science*, Hardin describes a, "pasture that is open to

all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons” (1968, p. 1244). Hardin goes on to say that, “Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited...Freedom of the commons brings ruin to all” (Hardin, 1969, p. 1244).

However, Hanna points out that Hardin’s (1968) reference to “freedom of the commons,” never really existed: “The commons was community property subject to community control” (Hanna, 1990, p.159). Rather than the “free-for-all...rights to the common fields, pasture, or woodland took many forms and were associated with both ownership of land and with the person” (Hanna, 1990, p. 159-160). Feeny et al. write that “Hardin has been widely cited as having said resource degradation was inevitable unless common property was converted into private property, or government regulation of uses and user was instituted” (1990, p.77). Despite the emergence of a body of literature that effectively counters Hardin’s claims (Dietz et al., 2002; Hanna, 1990), his argument continues to be upheld into the 21<sup>st</sup> century by prominent fisheries scientists:

Hardin (1968) described a system of governance, the commons, in which individuals maximize their own welfare by a series of decisions that result in overexploitation (the ‘tragedy of the commons’), a societally undesirable result. It is now well established that a similar pattern has been repeated in the majority of unregulated fisheries around the world. (Hilborn et al., 2005, p.47)

Indeed, fifteen years after Elinor Ostrom argued in *Governing the Commons* (1990) that natural resources can be successfully managed through collective action without private property or government regulation, fisheries literature continues to suggest that a lack property in the ‘commons’ results in ‘tragedy’.

Members of the academic community have noted that the terms “common-property” and “common-pool resources” and “open access” have been used

interchangeably (Bromley, 1989; Feeny et al. 1990, Hanna, 1990). For clarity, this research seeks to differentiate between these terms, and supposes that common-property is one of a series of resource regimes that may be used to manage CPRs.

### Resource Regimes of Common-Pool Resources

Achieving socially and biologically desirable outcomes through the management of marine fisheries is inextricably linked to the resource regimes society creates. Bromley defines a resource regime as, “a structure of rights and duties characterizing the relationships of individuals to one another with respect to that particular [marine] resource” (Bromley, 1989: 5). That is, the type of property regime that is employed will effectively allow, limit, or block new entry into the fishery based on the characteristics of the structure of the resource regime. In this thesis, four types of resource regimes are considered in Table 1: private property, state property, common property, and open-access (Bromley and Cernea, 1989):

**Table 1.** Common-Pool Resource Property Regimes

Resource Regime	Definition
State Property	“Ownership and control over use rests in the hands of the state. Individuals and groups may be able to make use of the resources, but only at the forbearance of the state.” (11).
Private Property	“Private property regimes appear to be stable to and adaptive because they have social and legal sanction to exclude excess population, and effectively resist – through the power of the state – unwanted intrusions” (13).
Common Property	“Individuals have rights and obligations in situations of common (non-individual) property, just as in private individual property situations” (14).
Open Access	“The situation in which there is no property [such that] ‘everybody’s access is nobody’s property’” (19).

Under federal and state law the marine resources occurring within three nautical miles of the Rhode Island coast and Block Island are considered state property. However, common-property resource regimes are of particular interest to this thesis because of the structure of the state's catch share program in that state property regime and the feasibility of nesting one resource regime within another.

Regulatory institutions (read State of Rhode Island and Providence Plantations) can create a hierarchy of resource regimes. In practice, the Rhode Island Fluke Sector operated with common-property characteristics under the umbrella of state property.<sup>1</sup> If the state can effectively enforce multiple resource regimes, the design of management programs can accommodate new entry and catch shares programs. At question for this thesis is whether or not the legislature intended for the resource to be managed as both common property and state property.

#### For Whom Shall We Manage?

Fisheries management is an exercise in social engineering. With regard to the goals of managing a fishery sustainably, Gordon notes that, "the economic optimum is not necessarily the human optimum. Under certain circumstances we may well prefer to have an economically 'inefficient' fishery if the other effects of organizing the fishery along economically optimum lines are politically difficult or socially undesirable" (Gordon, 1953, p.443).

Recognizing that OAY creates economic waste in the fisheries, economists have advocated for varying forms of property rights in fisheries (Gordon, 1954; Scott,

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<sup>1</sup> The Fluke sector's membership does not enjoy *legal* ownership (a defensible claim) over an allocation of the state's coast wide summer flounder quota prior to the capture those animals.

1955; A. Scott, 1989; Costello and Deacon, 2007). While Scott (1955) advocates for sole ownership, Gordon (1954) makes the case for private or state regulation of the ocean commons in the following way: “Common-property<sup>2</sup> natural resources are free goods for the individual and scarce goods for society. Under unregulated private exploitation, they can yield no rent; that can be accomplished only by methods which make them private property or public (government) property, in either case subject to a unified directing power (Gordon, 1954, p.135). Similarly, the rationale for limited entry in fisheries is rooted in the notion that open-access to a CPR will yield economic inefficiencies, the overexploitation of the resource, or both (Gordon 1954, Scott 1955, Schaefer 1957, Hardin 1968). To understand the significance of shifting to a catch share approach in Rhode Island’s state fisheries, we must first explore the history of fishing in the Ocean State, as well as the legal decisions that have shaped it.

#### Federalism and Fisheries Management

Ecosystem boundaries do not match political boundaries. Rather, the same animal may be continually transiting in and out of multiple jurisdictions and management areas. Despite this disconnect, the imperative for managing marine fisheries is rooted in the fact that fish swimming within the United State’s Exclusive Economic Zone are, “the property of U.S. citizens” (Macinko and Bromley, 2002, p.7). Moreover, marine resources occurring within the territorial seas of Rhode Island are controlled by the state.

The management of Rhode Island’s territorial waters, as separate and distinct from federal waters, or those of Massachusetts, Connecticut, and New York, is rooted

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<sup>2</sup> In this thesis, Gordon’s use of “common-property” can be understood as “open access” as defined by Bromley and Cerna (1989).

in federalism. As a consequence, both individual states *and* the federal government wield the ability to determine access to fisheries resources. This separation of power is rooted in the work of James Madison, John Jay, and Alexander Hamilton in the *Federalist Papers*. Federalist No. 9, in which Alexander Hamilton writes that:

The proposed constitution, so far from implying an abolition of the state governments, makes them constituent parts of the national sovereignty, by allowing them direct representation in the senate, and leave in their possession certain exclusive, and very important, portions of the sovereign power. This corresponds, in every rational import of the terms, with the idea of federal government (Hamilton et al., in Carey and McClellan, 2001, p.41).

This sovereign power of states to control marine resources in their territorial waters was recognized by Congress through the Rights of States provisions of the Submerged Lands Act of 1953 (43 U.S.C. § 1311).

The Submerged Lands Act provides an important regulative dimension to Rhode Island's fisheries because it "recognizes that States have title or ownership interest in the fish swimming in their territorial waters" (Kalo et al., 2002, p.621). Prior to the passing of the Submerged Lands Act, the power of states to regulate fisheries in their jurisdictional waters had been well documented in case law. In *Manchester v. Massachusetts* (139 U.S. 240 (1891)), the Supreme Court upheld Massachusetts' restrictions on fishing for menhaden with purse seine in Buzzards Bay, stating:

The right of control exists in the State in the absence of the affirmative action of Congress taking such control, the fact that Congress has never assumed the control of such fisheries is persuasive evidence that the right to control them still remains in the State (139 U.S. 240 (1891)).

The rulings in *Manchester* (139 U.S. 240) underscores Rhode Island's ability to manage species within state waters.

Atlantic Coastal Fisheries Cooperative Management Act

As a member of the Atlantic States Marine Fisheries Commission (ASMFC), Rhode Island participates in the collective management of the summer flounder resource with other coastal states, and the Mid-Atlantic Fishery Management Council. Under the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA) of 1993, Rhode Island is bound by federal law to implement and enforce conservation and management measures for state waters fisheries that are consistent with federal law (16 U.S.C. Chapter 71 § 5101 - 5108). After the passage of the passage of the ACFCMA, states were given one year to implement coastal fishery management plans, or face a non-compliance finding from the ASMFC. If Rhode Island was determined to be out of compliance with the mandates of ACFCMA at any time, the state could face severe sanctions from the Secretary of Commerce, including a moratorium on fishing in the state:

Upon making a finding under subsection (a) of this section that a State has failed to carry out its responsibility under section 5014 of this title and that the measures it failed to implement and enforce are necessary for conservation, the Secretary shall declare a moratorium on fishing in the fishery in question within the waters of the noncomplying State. The Secretary shall specify the moratorium's effective date, which shall be any date within 6 months after declaration of the moratorium. (16 U.S.C. Chapter 71 § 5106(c)(1))

The threat of top-down federal control within the jurisdiction of the state raised the stakes for achieving conservation of fisheries resources in state waters in Rhode Island – and up and down the east coast.

## CHAPTER 3: FISHERIES MANAGEMENT IN RHODE ISLAND

### Early History of Rhode Island's fishery

For centuries, the people of Rhode Island enjoyed unfettered access to marine fisheries resources. Historians have speculated that a right of fishery in Rhode Island may have been established as early as 1639 by a general assembly of freemen in Newport: "At the expiration of the six weeks from the time the corn was divided, all the sea banks were declared free for fishing, but whether in consequence of the scarcity of provisions, or as a simple matter of public right, is not stated— probably the latter" (Arnold, 1859, p.142-143). The result of the assembly's vote was that, "Equal freedom was thus granted to all inhabitants of the colony to fish in the waters of the bay and this right was perpetuated and extended to include the shores likewise by the King Charles Charter of 1663 (Field, 1902, p. 393). The King Charles Charter of 1663 explicitly recognizes a right of fishery for the King's subjects, stating:

Provided also, and our express will and pleasure is, and we do, by these presents, for us, our heirs and successors, ordain and appoint that these presents, shall not, in any manner, hinder any of our loving subjects, whatsoever, from using and exercising the trade of fishing upon the coast of New England, in America; but that they, and every or any of them, shall have full and free power and liberty to continue and use the trade of fishing upon the said coast, in any of the seas thereunto adjoining, or any arms of the seas, or salt water, rivers and creeks, where they have been accustomed to fish; and to build and set upon the waste land belonging to the said Colony and Plantations, such wharves, stages and workhouses as shall be necessary for the salting, drying and keeping of their fish, to be taken or gotten upon that coast (King Charles II, Retrieved April 25<sup>th</sup>, 2011 from <http://sos.ri.gov/library/history/charter/>).

Scholars have aptly noted that the Charter provides for the right of fishery to the king's loving subjects in America – not just Rhode Island, and that the Charter applies to finfish, not shellfish (Nixon, 2001).



## Article 17 of the Rhode Island Constitution

For nearly 180 years - from 1663 to 1843 - the people of Rhode Island were governed under the Charter, and enjoyed open access to its marine resources. The “People’s Constitution,” originally adopted in 1843, codified the right of fishery in Article 1, Section 17, which originally read:

The people shall continue to enjoy and freely exercise all the rights of fishery, and the privileges of the shore to which they have been heretofore entitled under the charter and usages of the State. But no new right is intended to be granted, nor any existing right impaired, by this declaration (quoted in Nixon, 2001, p.3 see also: <http://www.rilin.state.ri.us/RiConstitution/>).

Later, the section was, “subsequently amended to further define the term ‘privileges of the shore,’ but the key phrase ‘rights of fishery...under the charter and usages of the state’ remains unchanged” (Nixon, 2001, p.3). The inclusion of this provision in the Rhode Island Constitution is significant because constitutions generally define:

The organic and fundamental law of a nation or state, which may be written or unwritten, establishing the character and conception of Its government, laying the basic principles to which its internal life is to be conformed, organizing the government, and regulating, distributing, and limiting the functions of its different departments, and prescribing the extent and manner of the exercise of sovereign powers. (Black’s Online Law Dictionary, retrieved on 12/22/12).

By guaranteeing the right of fishery to the people of Rhode Island, this document represents a regulatory institution in the state’s history that has influenced residents’ normative and cognitive frameworks. Residents’ expectation that they have an inalienable right to access fisheries in the state is the product of socializing hundreds of years of access.

### Power and Duty of the General Assembly in Respect to Fisheries

While Article 17 recognizes resident’s interest in continued access to the fishery, a reading of Rhode Island case law reveals that this constitutional guarantee is

subject to the regulation of fisheries by the General Assembly. In *Clark v. City of Providence* (16 R.I. 137 (1888)), the court found that the General Assembly's approval of a project to fill a cove that had been formally used for fishing was not unconstitutional. Nixon writes of the Court's decision: "They held, in one of the most absolute statements of the General Assembly's power, that 'these rights of clamming and fishing are enjoyed in subordination to the paramount authority of the General Assembly to regulate and modify, and, to some extent at least, to extinguish them.' A more complete grant of unfettered authority is difficult to imagine" (quoting *Clark v. City of Providence*, 2001, p.4). The 1910 case of *Payne & Butler v. Providence Gas Company* (31 R.I. 295 (1910)), contesting the liability of the gas company in damages to leased oyster beds again raised the question of the power of the General Assembly in respect to fisheries. In *Payne*, the Providence Gas Company argued that it was not liable for damages to the plaintiffs oyster beds caused by the company's discharge of waste oil into Narragansett Bay because the General Assembly's lease statute was not constitutional. Acknowledging the power of the General Assembly, the Court wrote:

Therefore the whole subject of fisheries, floating and shell-fish, and all kinds of shell-fish, whether oysters, clams, quahaugs, mussels, scallops, lobsters, crabs, or fiddlers, or however they may be known and designated and wherever situate within the public domain of the State of Rhode Island, are under the fostering care of the General Assembly. It is for the legislature to make such laws, regulating and governing the subject of lobster-culture, oyster-culture, clam-culture or any other kind of pisciculture, as they may deem expedient. They may regulate the public or private fisheries. They may even prohibit free fishing for a time and for such times as in their judgment it is for the best interest, of the State so to do. They may withhold from the public use such natural oyster beds, clam beds, scallop beds or other fish beds as they may deem desirable. They may make a close time within which no person may take shellfish or other fish, and generally they have complete dominion over fisheries and fish as well as all kinds of game. We find no limitation, in the constitution, of the power of the General Assembly to legislate in this regard, and they may delegate the administration of their regulations to such officers or boards as they may see fit. (31 R.I. 295 (1910))

The Payne case is relevant to this thesis because it tempers the constitutional guarantee of the right of fishery with the power of the General Assembly to regulate the fishery for the benefit of the people. Nixon writes that the *Payne* decision, “seemed to settle the question until 1958, when the Rhode Island Senate requested an Advisory Opinion from the Supreme Court related to the striped bass fishery” (2001, p.4).

In respect to the duty of the General Assembly – and the interests of the people of Rhode Island – in the crafting of fisheries laws, the Court offers in its 1911 decision of *State v. Constantine Kofines et al.* that this “common property [be treated] as a trust for the benefit of the people, and not as prerogative for the advantage of government, as distinct from the people, or for the benefit of private individuals as distinguished from the public good” (33 R.I. 211 (1911)).

In the Opinion to the Senate, the Court concluded that, “the power of the legislature to regulate fisheries in the waters of this state is plenary” (87 R.I. 37 (1958)). As noted by Nixon: “Whether or not the state constitution provides any impediment to the powers of the General Assembly to design whatever type of licensing or management system they deem appropriate is quite clear: it does not” (Nixon, 2001, p.5). With the management of Rhode Island’s marine resources held in trust by the General Assembly, understanding the intent of legislation is central to discerning if management plans are inconsistent with provisions of existing statute. Equally important is the recognition that the will of the General Assembly in regard to a particular means of management is subject to change – that theirs is a dynamic process that builds upon prior experience and reflects on the interest of the people of Rhode Island.

## Commercial Fishing Licensing Act of 2002

Prior to the passing of the 2002 Act, Rhode Island had relied upon a series of moratoriums on commercial fishing licenses to control effort in the fishery. Beginning in July of 1995, the GA enacted a three-year moratorium on the issuance of new commercial fishing licenses and established several committees to advise and evaluate marine licensing programs going forward. When the moratorium lapsed in 1998, 1090 new commercial licenses were issued by the DEM (Valliere and Murphy, 2001).

In July of 2000, against a backdrop of declining fish stocks and continued entry into Rhode Island's commercial fisheries, the GA enacted another moratorium on the issuance of new commercial fishing licenses. Later that year, Governor Lincoln Almond, "requested that the Coastal Institute at the University of Rhode Island serve as a forum to identify and discuss a range of options for reforming the commercial fishing licensing system in Rhode Island" (Petruny-Parker et al., 2002, p.141). As part of a the collective effort to examine licensing in the Ocean State, the General Assembly passed the Marine Fisheries Management Modernization Act of 2001, which directed the DEM to, "undertake studies and analyses that shall evaluate the full reasonable range of options for improving fisheries management in Rhode Island" [RIGL 20-3.1-7 (2001)]. The statute stipulated that, "The Department shall, by October 1, 2001, recommend goals and principles to guide the development and implementation of a restructured marine fisheries management system," and that, "The department shall, by January 1, 2002, recommend options for commercial fishing licenses that address license eligibility, provide for new entrants into fisheries in the state" [RIGL 20.3.1-7.1-2 (2001)]. These legislative mandates were implemented

through the collaborative efforts of DEM, the Coastal Institute, and Intergovernmental Working Group (IWG) on Fisheries Management.

# Timeline of Marine Licensing Revisions

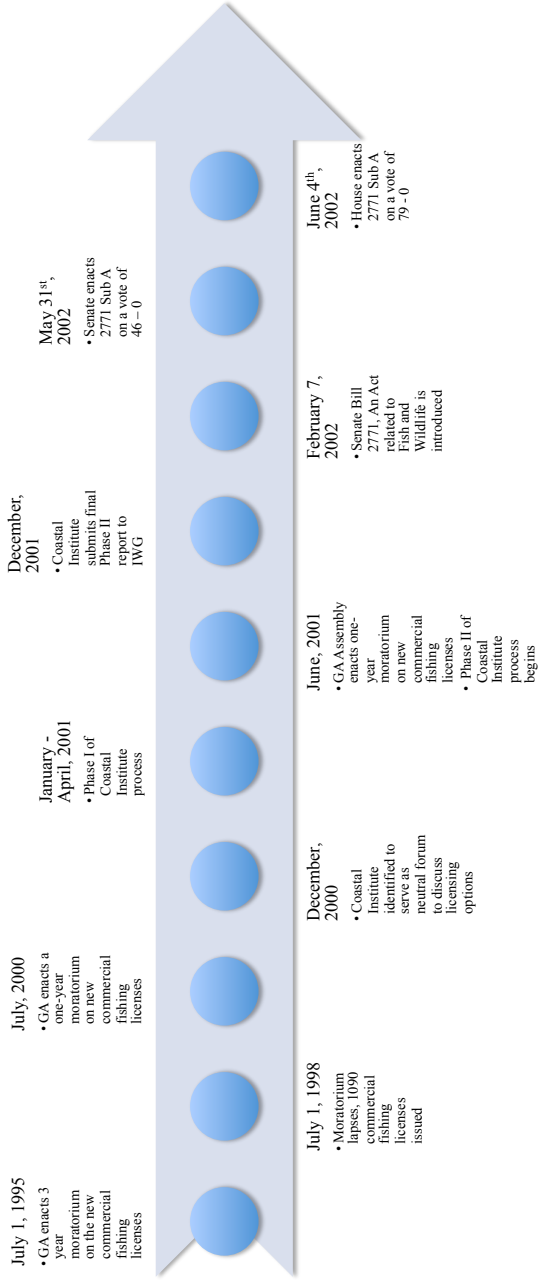


Figure 1. Timeline of Marine Licensing Revisions

Throughout 2001 the Coastal Institute hosted series of stakeholder events, before submitting a report to the IWG in December. Drawing on the work of the CI, on February 7<sup>th</sup>, 2002, Senators Sosnowski, McDonald, Walaska, Bates, and Felag introduced Senate Bill 2771, An Act Relating to Fish and Wildlife. The bill was then referred to the Joint Committee of Environment and Energy. On May 31<sup>st</sup>, 2002, Senate Bill 2771 substitute A moved to the floor of the Senate, where it passed by a vote of 46-0. Four days later the legislation was voted on in the House of Representatives, where it passed on a vote of 79-0. Without a single elected official casting their vote in opposition, it is clear that the GA was satisfied with provisions laid out in the Act.

#### Developing a Licensing Program

After the bill was passed, the DEM was charged with implementing the provisions of the Act for the 2003 fishing year. The Coastal Institute process yields a long list of licensing system objectives, which sparked debate over how to “ensure the long term health of the commercial fish stocks” while “ensur[ing] fair access to the industry and resources to everyone now and in the future” and “the economic health of the industry” (August and Parker, 2001, p.6). In regard to new entry, “Maintaining some degree of flexibility for fishermen to move laterally between fishing sectors, and providing opportunity for ‘new blood’ to move into the fishing industry as other fishermen retire, were identified as commonly held goals” (Petruny-Parker et al., 2002, p.150).

While neighboring coastal states had limited entry into their commercial fisheries, “Rhode Island has maintained a long tradition of allowing open access to

the state's marine fisheries resources for its residents, and at the time of the [2002 License Reform Act], it was only one of two coastal states nationwide to continue to do so" (Petruny-Parker et al., 2002, p.138). The General Assembly's adoption of the Commercial Fishing Act of 2002 was a reflection of the state's interest in continuing to allow new entry into commercial fisheries by providing Rhode Island residents open-access to entry-level commercial fishing licenses. The Act also stipulates that new or replacement multi-purpose licenses (MPLs) and principle effort licenses (PELs) be issued to qualifying residents when deemed appropriate by the Director of RIDEM [RIGL 20-2.1 (2002)].

#### Licensing Structure created through 2002 Commercial Fishing Licensing Act

In response to the legislative mandates of the 2002 Act, in 2003 the DEM adopted a new, tiered licensing program that includes three distinct license levels, and a series of endorsements, which allow license holders to prosecute specific fisheries. Rhode Island's current commercial fisheries licensing program is composed of three commercial harvesting licenses: the MPL, the PEL, and the commercial fishing license (CFL). Fishermen who held commercial fishing licenses in fishing year 2000 were granted MPLs, which allows that fisherman to harvest and land all marine species managed by the state. No specific endorsements are needed, with the exception of lobster. The next level of license is a PEL, which allows fishermen to harvest the full quota of species for which the fisherman has the proper endorsement. Both MPLs and PELs represent limited-access permits. The entry-level license is the commercial fishing license (CFL), which is an open access license and allows fishermen to harvest any non-restricted marine species at half of the state's possession limit. Non-restricted



finfish species include bluefish, menhaden, cod, and monkfish. Moreover, there are no restrictions on the type of gear employed by the holder of a CFL with the exception of gillnets and dredges. Practically, this means that any person who wishes to begin commercial fishing may do so with a hand-line, long-ling, or otter-trawl.

The state offers eight different endorsements, which may be attached to CFL and PEL licenses. Each endorsement confers access to a specific fishery for which harvest is otherwise prohibited for the license holder. Endorsements include lobster, non-lobster crustacean, quahaug, soft-shell clam, shellfish other (for access to all shellfish species except quahaugs and soft-shell clams), restricted finfish, non-restricted finfish, and whelk (RI Commercial and Recreational Saltwater Fishing Licensing Regulations, 6.1-1).

#### Entry-Exit Ratio

Entry into the fishery can occur through upgrading of an existing license. Therefore, new entry provisions of RIGL 20.2-1 are partially manifested in an entry/exit ratio which meters in endorsements upon the retirement or lapse of existing ones. DEM regulations allow fishermen who have at least 75 landings in a two-year period the opportunity to add endorsements through a lottery system and entry/exit ratio. In essence, only individuals who are active in the fishery can upgrade their license. In 2009, the DEM began upgrading the license level (CFL to PEL) with the addition of a restricted finfish endorsement. For restricted finfish, there are three qualifying criteria:

First priority in the issuance of new licenses with applicable endorsement(s) shall be given to (i) licensed resident fishers holding Commercial Fishing Licenses, endorsed in the same fishery sector (see section 5.31) for which a new license/ endorsement is being sought, who have been actively fishing that endorsement, (ii)

licensed resident fishers holding Principal Effort Licenses who have been actively fishing their license, and (iii) resident crew members who have been actively participating in the same fishery sector for which a new license/endorsement is being sought. One-third of the total number of new licenses with applicable endorsements will be made available to each of the three priority categories. (Commercial and Recreational Saltwater Fishing Licensing Regulations, 6.7-6(a), accessed 12/28/12))

Each year, the state’s Industry Advisory Committee (IAC) reviews licensing data for the prior fishing year, and evaluates the state of the resource, and how many fishing licenses were retired (i.e. not renewed). The IAC then determines and entry/exit ratio of how many licenses were retired to how many new PELs with restricted endorsements will be issued. Based on the IAC’s decisions, a fishing license lottery is held, and new licenses and endorsements are awarded to active participants in the fishery. In this way, new entry is metered into limited-access fisheries. In recent years, the IAC has recommended that the exit/entry ratio focus on lapsed licenses with fishing activity in the prior year. DEM licensing regulations codified this practice in section 6.1-10 of the RI Commercial and Recreational Saltwater Fishing Licensing Regulations. **Table 2** shows the number of retired and new<sup>3</sup> PEL licenses with RFF endorsements issued through the entry-exit process over the last 9 years. A ratio of the total number of retired (MPL and REL with RFF licenses with and without landings history) is shown in the far right column:

**Table 2: Issuance of RFF Endorsements through Entry-Exit Ratio: 2003-2012**

Year	New RFF Endorsements	Ratio
2012	6	3.33:1 (1:1 w/ activity)
2011	3	5:1 (1:1 w/ activity)

<sup>3</sup> Technically, CFL licenses are upgraded to MPL licenses through the exit/entry.

2010	3	n/a
2009	3	n/a
2008	3	n/a
2007	0	n/a
2006	0	n/a
2005	13	n/a
2004	0	n/a
2003	9	n/a

Source: IAC meeting minutes from 8/9/11, 7/20/10, and 7/21/09, accessed at <http://www.dem.ri.gov/programs/bnatres/fishwild/mfapidx.htm>

### Riley v. Rhode Island Department of Environmental Management

The most recent court case to shape the management of fisheries in Rhode Island was *Riley v. Rhode Island Department of Environmental Management* (941 A.2d 198, 206 (2008)), in which the plaintiff filed suit against DEM for denying a limited-access permit to harvest restricted finfish, arguing that his constitutional right to the fishery had been violated. While the Court found in favor DEM, the case illustrates a prevailing cultural value of commercial access to the fishery in the state. In *Riley*, the existence of a constitutional provision for the right of fishery in the state effectively shaped the plaintiffs expectations of what is guaranteed to all Rhode Island residents. In this way, *Riley's* “shared definition of social reality,” (Scott, 1995, p.40) led him to believe that all Rhode Island residents should be treated equally as commercial fishermen fishing in state waters. While the Court in *Riley* found that some level of access – not necessarily equal access to all species – satisfied constitutional requirements, the prevailing cognitive and normative institutions that legitimize open access to the fishery represent a challenge to the globalized ideals of rights-based management.

## Management of the Summer Flounder Fishery

The summer flounder “fishery plan is intended to be the equivalent of the fishery management plans produced by the regional councils for the exclusive economic zone” (Nixon, 2001, p.7) Rhode Island’s management plan accounts for total mortality – i.e. natural mortality and fishing mortality – in summer flounder fishery by apportioning the state’s share of the coast wide quota across a series of sub-periods, assigning trip or aggregate landing limits, and closing the fishery when the total allowable catch had been harvested. With Rhode Island managing for total mortality before the implementation of the sector, the pilot program represents a shift in approach to quota management, within the context of limited entry.

### Catch Shares: Rhode Island’s Summer Flounder Sector Pilot Program

In 2009, at the Direction of DEM Director Michael Sullivan, eight Rhode Island commercial fishing vessels began participating in the state’s first catch share program – the RI Summer Flounder Sector Allocation Pilot Program (Final Report on the 2009 Sector Allocation Pilot Program, 2010). In December of 2008, after considering a proposal to create a sector pilot program, the Rhode Island Marine Fisheries Council, moved to postpone the consideration of the program for one year by a vote of 4 – 3:

M Gibson called a vote on the motion to recommend to the Director that any consideration of a sector allocation for summer flounder be postponed for one year, but with continued discussions about the issue. The Council voted (4) four in favor to postpone (S. Medeiros, S. Parente, S. Macinko, R. Hittinger) (3) three opposed (J. King, D. Preble, C. Anderson), the motion to postpone for one year passed. (Rhode Island Marine Fisheries Council Meeting Minutes, December 1, 2008).

Though the Marine Fisheries Council narrowly recommended that the Director postpone the program, after over a month of deliberation, he decided to move forward

and pursue the pilot. In a memorandum to DEM Acting Chief Mark Gibson dated January 25<sup>th</sup>, 2009, Director Sullivan stated that:

I am hereby announcing my decision to move forward with a modified version of the pilot program. I recognize that there was considerable opposition to the proposal expressed at hearing. And I further recognize that on a 4-3 vote, the Council recommended postponing implementation of the program for at least one year. I deeply respect the perspectives and concerns offered by the public and the position taken by the Council. This was, and is, a very challenging issue, and I know that a lot of people put a lot of time and thought into the review process. Indeed, the record furnished many useful insights into how the proposal could be modified to better meet the broad interests of the State's fishermen and the public as a whole. (Sullivan, 2009, p.1)

Director Sullivan continued on to provide statutory guidance and support for his decision, which is of particular interest to this research. As part of his rationale in approving the sector program, Sullivan references the legislative process undertaken by the General Assembly that is the focus of this thesis:

In 2002, the RI General Assembly took a hard look at RI's programs for marine fisheries management and found that they "need[ed] to be brought up-to-date and made adaptable to changing conditions and circumstances." (RIGL 20-2.1-1(7)) In a clear expression of legislative policy and intent, DEM was charged with "establish[ing] principles, for a system of adaptive management, that shall be used by the department in licensure programs and fisheries management." (RIGL 20-2.1-2(6)) DEM responded by promulgating regulations that included a first-ever codification of the term "adaptive management" in state rule: "A formal process for continually improving management policies and practices by learning from their outcomes. As applied to marine fisheries management in Rhode Island, this process will be characterized by rigorous and ongoing analysis of stakeholder values and objectives regarding the fisheries; explicit recognition of uncertainty in the decision-making process; where feasible, modeling of management options and testing of models prior to significant management; and direct feedback between management initiatives or practices and policy development. (RIDEM, Rules and Regulations Governing the Management of Marine Fisheries, Rule 5.3) I view the proposed sector allocation pilot program as a vivid illustration of what the General Assembly had in mind when it called upon DEM to modernize the State's management programs via an adaptive approach. The pilot program is designed to test the viability of a rights-based, catch-share approach to management, an approach that is increasingly being viewed as a promising solution to the vexing problems associated with traditional fisheries governance. (Sullivan, 2009, p.2)

While the aim of this research is to more precisely understand what the General

Assembly intended in achieve through the Act, Director Sullivan’s interpretation is an illustration of institutional linkages at work in Rhode Island in 2008.

In approving the sector pilot program, the DEM also established a control date of December 31, 2009:

As previously noted, the intent of the experimental pilot program is to see if it is workable and beneficial to the overall fishery, in whole or part. I am therefore committed to moving forward not only with the pilot program, but also with the simultaneous development of a broader-based sector allocation program for a larger segment of the fishery, if not the fishery in its entirety. If a broader based program does emerge as a viable proposal, it might draw upon the historical landings of individual sector participants as a primary basis for establishing individual sector allocations. In view of the importance of giving all relevant license holders advance notice of such a possibility and, by so doing, to enable all such license holders to engage or increase participation in the summer flounder fishery during 2009 to possibly better position themselves for participation in a sector allocation program in 2010, if one is adopted, I hereby declare my intent to establish a prospective control date of December 31, 2009 for the commercial summer flounder fishery. (Sullivan, 2009, pp.6-7)

The control date is relevant to this thesis because it captures the DEM’s intent pursue a broader program in the future, and how access for participation in the fluke program may be constructed. The Rhode Island Department of Environmental Management’s Commercial and Recreational Saltwater Fishing Licensing Regulations define control date in section 5.17 as, “A cut off date for potential use in establishing eligibility criteria for future access to a fishery” (2012).

The pilot program was created in regulation as a research set-aside, and evaluated by three criteria: “the economic performance of the sector, safety at sea, and benefits to the resource” (Final Report on the 2009 Sector Allocation Pilot Program, 2010, p.4). Sector participants are assigned a percentage of the state’s

annual allocation based on their landings history from 2004 - 2008. The sector's allocation is the aggregate of each person's percentage of the state quota, or what is commonly referred to in the New England groundfish fishery as one's "potential sector contribution." This allocation is to the collective, not any one individual. In practice, the expectation is that individuals will either be able to harvest the amount of summer flounder they bring to the sector, or lease their contribution to other members of the sector. In this system, a license *and* quota are required to access the summer flounder fishery.

The continuation of the Summer Flounder sector pilot program in fishing years 2010 and 2011 underscored Rhode Island's continued interest in pursuing other forms of limited entry in the management of the state's marine fisheries. It is an appropriate time to revisit the legislative intent of RIGL 20-2.1 as it pertains to access because the pilot program marks an institutional shift in how access to the fishery is constructed.

## CHAPTER 4: RESEARCH METHODOLOGY

### Introduction

The management of natural resources can be complex and nuanced and, as illustrated in Chapter 2, fisheries are no exception. A review of foundational fisheries literature on population dynamics, bio-economics, property regimes, and governance framed the context in which political and management decisions are made. In that Chapter, I suggest in the spirit of Schaefer (1959) that fisheries can be managed sustainably through a suite of divergent management objectives such as MEY, MSY, and OAY, depending on what society deems to be most desirable.

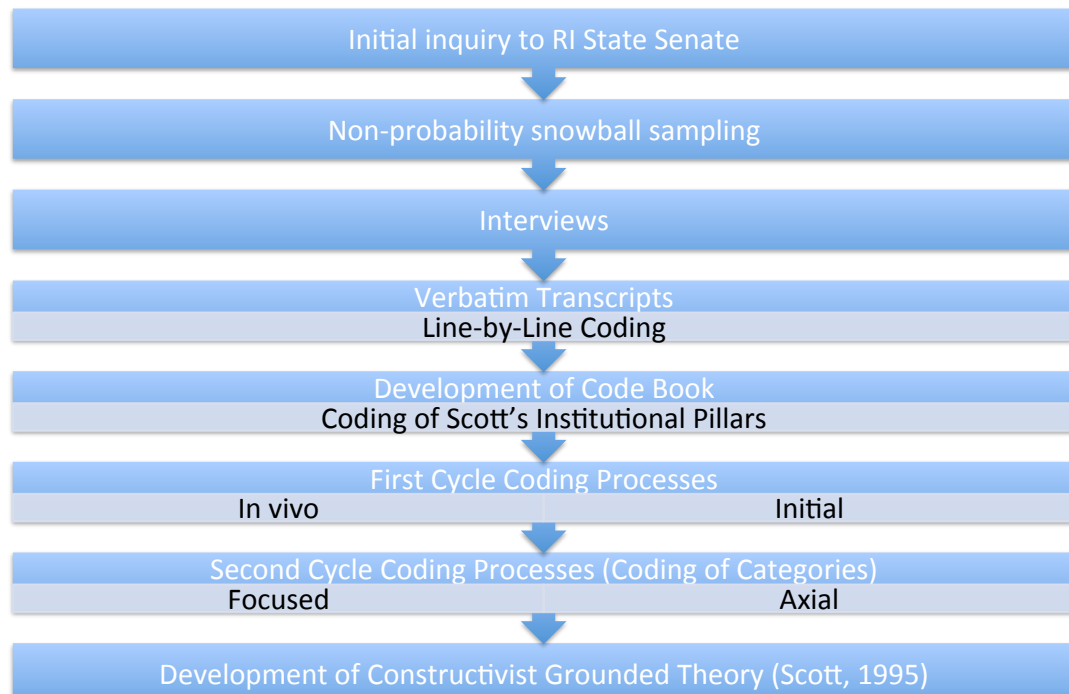
In Chapter 3, this research examines the history of Rhode Island's fisheries through a review of historical accounts, and case law. Later, I illustrate the processes leading up to the passing of the Act, and address how the state operationalized its new licensing program in 2002, and a catch share pilot program that began in 2009. This background discussion outlines the research situation, but does not capture the dimensions of the stakeholder processes or perceptions that form the intent of RIGL 20-2.1.

To understand the how individuals involved in the CI process and/or the authoring of the legislation perceived the intent of RIGL 20-2.1, I conducted a total of eight semi-structured open-ended interviews. In this chapter I discuss the qualitative research methods in detail, with a specific focus on how responses to interview questions were analyzed. With the background outlined in Chapters 2 and 3, these interviews form the basis of the legislative intent of RIGL 20-2.1, and provide insight



into current thinking around access and catch shares. **Figure 2** captures the chronology of research process, from data sampling to the development of grounded theory and discussion of institutional linkages:

**Figure 2. Chronology of Research Methodology**



## Qualitative Research Method: Grounded Theory

The qualitative method of Grounded Theory was used to explore the legislative intent of the 2002 Commercial Fishing Licenses Act (Glaser and Strauss, 1967; Strauss and Corbin, 1998; Charmaz, 2006). With a research objective of discerning the *intent* of legislation that drew upon an extensive public process convened by the Coastal Institute, this qualitative research design allowed for a full range of perceptions and nuances to emerge from the data (Strauss and Corbin, 1998). In this way, grounded theory facilitated an understanding of the research situation itself, in addition to testing the research hypothesis (Rogge et al., 2011). Primary data was collected through open-ended semi-structured interviews. Peer-reviewed papers, reports, and meeting minutes were compiled and reviewed as secondary data sources. Grounded theory has been applied in peer-reviewed research on salient fisheries issues such as catch-shares and ecosystem-based management (Brewer, 2011).

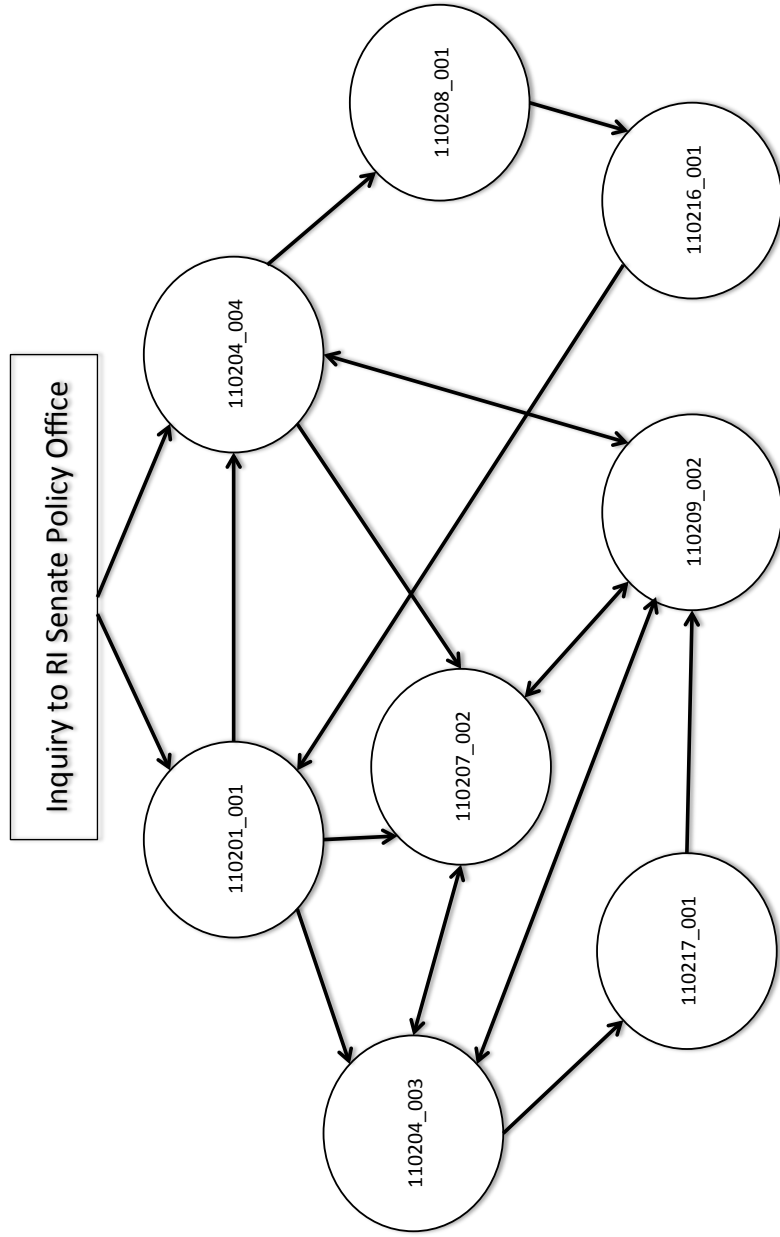
### Data Sampling

The intent of data sampling in grounded theory is to identify a discrete group of participants that will help illuminate the problem posed by the research hypothesis (Creswell, 1998). The specificity of the institutional knowledge sought in this research suggested that a nonprobability sampling technique was appropriate. Snowball sampling was used in the first round of data gathering because of its exploratory nature and usefulness in finding, “members of a special population [that] are difficult to locate” (Babbie, 1998, p.195). Snowball sampling, “refers to the process of accumulation as each located subject suggests other subjects” (Babbie, 1998, p.195).

This approach fosters the emergence of a “whole range of thematically relevant positions in the population” (Rogge et al, 2011, p.335).

The sample began with an inquiry to State Senators who sponsored the Act, and the Rhode Island Senate Policy Office on December 7<sup>th</sup>, 2010. While none of the State Senators agreed to participate in the research – the snowball proceeded with individuals who had participated in the Coastal Institute process that ultimately informed the Act. The Senate Policy Office suggested two people for participation in this research (110201\_001 and 110204\_004). Those individuals suggested a total of four new individuals to interview, with one person being mentioned by each. From there, the snowball began to approach saturation, the juncture in the sampling process when no new individuals are identified (Charmaz, 2006). In total, eight semi-structured interviews were derived from this sampling method, each ranging in length from forty minutes to three hours. **Figure 3** illustrates the progression of the snowball sample from the Senate Policy Office to saturation. Arrows originate with the respondent, and point to the individuals that they suggested. As the sample became saturated, new respondents mentioned individuals who had already been interviewed.

Figure 3. Progression of snowball sample



The small sample size (n=8) at saturation of the snowball sampling method indicates that the fisheries network in Rhode Island is small and closely knit. Even those with diverging perspectives on how Rhode Island ought to manage its fisheries suggested each other. Beginning the snowball with the Senate Policy Office appears to have yielded a saturated sample of those who were intimately involved in the Coastal Institute process and followed the bill through its passage in the General Assembly. To be clear, a large number (n<8) of stakeholders participated in the Coastal Institute process before legislation was introduced at the state house.

#### Interview Instrument:

The interview instrument used in this research contained thirteen total questions. A copy of the interview can be found in **Appendix II**. Interview questions focused on participant's perception of the intent of the 2002 Commercial Fishing Licenses Act, as well as their opinions on new entry into the state fishery. Question one, and the four follow-up questions focused on perceptions of the General Assembly's intent of the 2002 Commercial Fishing Licensing Act. Question two addresses perceptions around Rhode Island's existing licensing structure, while questions three and four addressed catch shares and tradable commodities. Questions five and six addressed respondents' current opinions on new entry and tradable commodities in the Rhode Island state fishery. The decision to specify tradable commodities in the interview was two-fold: State permitted commercial fishing businesses can be bought and sold in Rhode Island, the structure of the Fluke pilot program allows for the transferability of one member's fluke contribution to another member in the sector, and fluke sector landings data made available by DEM showed

that sector members did not catch their exact contribution to the cooperative – some caught more and some caught less (Final Report on the 2009 Sector Allocation Pilot Program, 2010). Moreover, it seemed appropriate to focus on characteristics of the catch share pilot program as currently structured rather than asking interviewees to speak to catch shares broadly applied. The open-ended nature of the interview instrument allowed research participants to say as much or as little they deemed appropriate to answer each question.

#### Developing the codebook

In person interviews were recorded with the consent of each respondent. These audio recordings were used to generate verbatim transcripts. Transcripts were coded by hand, and then reviewed and recoded into an excel spreadsheet to form the codebook. During this the first-cycle coding process, sections of *in vivo* text from the transcripts were identified, and recorded wholesale into the codebook in a separate column for potential use as quotations. As a separate process, each code was reviewed and coded for the institutional pillar (regulative, normative, cognitive) that it most closely represented. Once the codebook had been developed, first cycle (*in vivo* and initial codes) were grouped into categories. Finally, a second tier of grounded theory categories was generated as part of the second-cycle coding process.

#### Coding

Coding is a core process of grounded theory (Charmaz, 2006). For the purposes of this study, “A code is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (Saldaña, 2009, p.3). Unlike quantitative

analyses that apply preconceived codes and categories to the data, the intent of grounded theory is to allow codes to emerge and develop as the researcher begins defining the data (Charmaz, 2006). In this way, “coding is not a precise science; it’s primarily an interpretative act” (Saldaña, 2009, p.4). Coding qualitative data allows the researcher to examine data critically and analytically, as separate from respondents and their worldviews (Charmaz, 2006). For the purposes of this thesis, coding was considered a process that helped to ensure objectivity throughout data collection and analysis.

Coding was conducted in two cycles. In the first cycle, initial and *in vivo* codes were developed. As will be described in further detail in the following paragraphs, the fundamental difference between these approaches is that *in vivo* coding uses respondents own language as the code, while initial coding is a method that allows in which the researcher assigns the code. Initial and *in vivo* coding approaches were employed simultaneously in the first cycle, as initial coding can include elements of *in vivo* coding (Saldaña, 2009).

Methodologically, the process of initial coding is an essential piece of grounded theory because it represents, “a starting point to provide the researcher with analytic leads for further exploration” (Saldaña, 2009, p.81). Charmaz notes that “during initial coding, the goal is to remain open to all possible theoretical directions indicated by your reading of the data” (2006, p.46).

Similarly, *in vivo* coding allows the researcher to “keep the data rooted in the participant’s own language” (Saldaña, 2009, p.6). This approach, “helps to preserve participants’ meanings of their views and actions in the coding itself” (Charmaz, 2006,

p.55). For this study, *in vivo* coding represented a practical way to differentiate between participant's definitions of terms and phrases. By focusing on implicit meanings through respondent's own language, the *in vivo* coding process proved to be a particularly useful in capturing the breadth of perceptions around fisheries management. *In vivo* codes are differentiated from the researcher's language in the codebook by using quotation marks around the term or phrase. In some cases, these coding approaches were combined into a single code to capture the context of the response, as well as the respondents own language.

The coding process of grounded theory does not always pertain to individual codes – the second cycle coding process often works with *categories* that are developed through the first cycle of coding (Salanda, 2009). In this research, the second cycle of coding consisted of focused and axial coding (Charmaz, 2006; Glaser and Strauss, 1967; Strauss and Corbin, 1998). Saldaña notes that “Focused coding, as a second cycle analytic process, is a streamlined adaptation of classic ground theory's Axial Coding” (2009, p.155). Focused coding was chosen as a second cycle coding method because it allows for the comparison of emerging categories with pre-existing categories, and fosters the formation of entirely new categories through continuous analysis (Saldaña, 2009). In practice, this approach allows the researcher to “separate, sort, and synthesize,” the data for further analysis (Charmaz, 2006, p.11). In the analysis, focused coding was used to reorganize first cycle coding categories into a streamlined set of second cycle categories that are referred to as grounded theory categories in this thesis.



Axial coding was employed in this research to understand the relationships among and within grounded theory categories that emerged after second-cycle focused coding. Axial coding allowed the researcher to specify the, “properties and dimensions of a [major] category” while analyzing the data (Charmaz, 2006, p.60). Axial and focused coding methods were used to refine categories for analysis, while constructing a “dense texture of relationships around [major] categories” (Strauss, 1987, p.64).

#### Categories

Categories represent analytic ideas derived from the data (Strauss and Corbin, 1998). In this research, categories were developed using analytic memos, as well as *in vivo* and focused coding. The use of a rigorous coding process proved helpful in identifying properties and dimensions of categories. To develop theory – and answer the research hypothesis – the relationships between categories were diagrammed as part of axial coding, and then sorted as “a means of creating and refining theoretical links” (Charmaz, 2006, p.115). This process yielded axial categories within the grounded theory categories as shown in **Figure 5** in Chapter 4.

#### Memos

In addition to coding the transcripts and secondary source data, analytic memos were produced as part of the grounded theory methodology. Analytic memos reflect upon ideas and categories that develop during the coding process, and serve as a comparative method for theory development (Chamaz, 2006). Informal in nature, memos were produced at all stages of data collection, and during subsequent analysis. As the state of Rhode Island continues to explore catch shares in the state fishery,

memo writing proved to be a useful way to apply relevant, real-time information to the development of a grounded theory.

### Theory

This research adopts a constructivist approach to grounded theory. With the study's research hypothesis examining the compatibility of catch shares in the fluke fishery as structured within existing state law, a constructivist approach to theory development is employed to learn "how, when, and to what extent the [legislative intent of the 2002 Commercial Fishing Licenses Act] is embedded in larger...networks, situations, and relationships" (Charmaz, 2006, p.130). Recognizing that the grounded theory method allows theory to organically evolve, I felt that the application of an institutional framework to the emerging theory would be a useful – and meaningful – way to understand the evolution of fisheries management in Rhode Island.

### Institutional Analysis

Institutions provide stability and meaning to our social behavior. Generally characterized as durable and robust, "institutions are as essential to fisheries as the fish and fishers themselves" (Jentoft, 2004, p.138). While their importance to fisheries is widely acknowledged (Acheson, 2003; Degnbol and McCay, 2007; Holm, 1995; Jentoft, 2004; Ostrom, 1990), the social science literature is effectively devoid of a commonly held definition of institutions (March and Olsen, 1989; Ostrom, 1990; Scott, 1995). In the absence of academic consensus, the intent of the 2002 Commercial Fishing Licensing Act is considered within W. Richard Scott's institutional framework

(1995). Additionally, institutional linkages (Young, 1996) are employed to frame discussion around the interplay of fishery institutions.

#### Analytic Framework: Three Pillars of Institutions

Broadly applied, “Institutional frameworks define the ends and shape the means by which interests are determined and pursued” (Scott, 1987, p.502). In his later work, Scott further defines institutions as, “Cognitive, normative, and regulative structures that provide stability and meaning to social behavior. Institutions are transported by various carriers—cultures, structures, and routines—and they operate at multiple levels of jurisdiction” (Scott, 1995, p.33). Scott’s analytic framework was applied to this research as a means of understanding individual’s perceptions, values, and worldviews as they relate to fisheries management in Rhode Island. **Table 3** is adapted from Scott (1995, p.35).

**Table 3. Varying Emphases: Three Pillars of Institutions**

Three Institutional Pillars			
	<i>Regulative</i>	<i>Normative</i>	<i>Cognitive</i>
Basis of legitimacy:	Legally sanctioned	Morally governed	Culturally supported, conceptually correct
Basis of compliance:	Expedience	Social obligation	Taken for granted
Indicators:	Rules, laws, sanctions	Certification, accreditation	Prevalence, isomorphism
Logic:	Instrumentality	Appropriateness	Orthodoxy

Regulative elements of institutions “constrain and regularize behavior” of individuals (Scott, 1995, p.35). Additionally, normative and cognitive structures round out what Scott describes as the three pillars of institutions (1995). Normative pillars focus on values and norms. While “values are conceptions of the preferred or the desirable together with the construction of standards to which existing structures or behavior can be compared and assessed...norms specify how things should be done; they define legitimate means to pursue valued ends” (Scott, 1995, p.37). The cognitive pillar focuses on “shared definitions of social reality,” (Scott, 1995, p.40). The cognitive model also stipulates that, “the social construction of actors also defines what they see as their interests” (Scott, 1995, p.43).

Another element of institutional theory considered in this thesis is legitimacy. Scott defines legitimacy as the, “condition reflecting cultural alignment, normative support, or consonance with relevant rules or laws” (1995, p.45). Acknowledging that participants may evaluate regulative, normative, and cognitive institutions differently, legitimacy emerged as an important concept to consider in this research.

In addition to applying a grounded theory methodology to Scott’s institutional pillars, this thesis explores the means by which institutions are transported in society. Regulative, normative, and cognitive elements are embedded within *carriers* – the cultures, social structures, and routines present in society (Scott, 1995). In analyzing the data set, particular attention was paid to which elements of institutions the study’s participants emphasized in their responses. **Table 4** is adapted from Scott (1995, p. 52).

**Table 4. Institutional Pillars and Carriers**

	<i>Pillar</i>		
<i>Carrier</i>	<i>Regulative</i>	<i>Normative</i>	<i>Cognitive</i>
Cultures	Rules, laws	Values, expectations	Categories, typifications
Social structures	Governance systems, power systems	Regimes, authority systems	Structural isomorphism

**Institutional Approaches: Linkages and Nested Rules**

Institutions in fisheries exist at varying levels of society (Jentoff, 2004). The concept of institutional linkages – especially nesting – recognizes the interaction among institutions, and the influence that each institution may have on another (Young, 1996). Young writes that, “All institutional linkages involve politically significant connections between or among institutional arrangements that are differentiable in the sense that they have distinct creation stories and ongoing lives of their own” (Young, 1996, p.2). Institutional nesting is defined as:

A matter of linkages in which specific arrangements restricted in terms of functional scope, geographical domain, or some other relevant criterion are folded into broader institutional frameworks that deal with the same general issue area but that are less detailed in terms of their application to a specific problem. (Young, 1996, p.4)

Of interest to this research is the interplay between regional, and global fisheries institutions, as well as institutions in the Rhode Island state fishery. Analysis of

institutional relationships is considered on a continuum, bookended by state fisheries institutions and global fisheries institutions.

#### Limitations of this Method

As stated earlier in this chapter, the focused nature of the research question and limited number of individuals who have first-hand knowledge of the development of the 2002 Act called for a nonprobability sampling technique. By definition this means that segments of the general public are not represented in this research. The decision to begin the snow-ball sample with an inquiry to State Senators who sponsored the Act, and the State Senate policy office was based on my own perception these individuals would be able to direct me to provide me with the GA's intent of the Act, and direct me to individuals who participated in the development of the Act. While the State Senators did not participate in this research, the sampling method generated a small - but what I concluded to be an inclusive - sample of eight individuals based on the repetition of names through the snowball method.

Moreover, the analysis and results chapter focuses on each individual's perceptions about what the General Assembly sought to accomplish through the 2002, and how those intents comport with the evolution of fisheries management in Rhode Island. These interviews were conducted in early 2011, and therefore may not capture the respondents thinking at the time of writing.

## CHAPTER 5: ANALYSIS

### Application of Institutional Pillars

Scott's institutional pillars were applied as an analytic framework in the second cycle of coding (focused coding) as a means of understanding perceptions of fisheries management in Rhode Island. Institutional pillars were used to categorize the *in vivo* – or natural language – codes generated from verbatim transcripts. In doing so, codes were categorized as regulative if they related to rules, laws, governing bodies, or pertained to the policy process itself. Similarly, codes were considered normative if they captured opinions, values, norms, or alluded to social obligations. Finally, codes were interpreted as cognitive if they represented how individual's worldviews, or denoted the frames of reference through which meaning is made (Scott, 1995). Despite being referred to as institutional *pillars*, this analytic framework is fluid in nature as worldviews may influence values and vice versa, all of which can be constrained by regulations. Moreover, single concepts that emerged from the coding process could be categorized as any one of the pillars, depending on the context. For example, the following table is meant to illustrate how context is used in coding. The examples in **Table 5** refer to discussion on “new entry”:



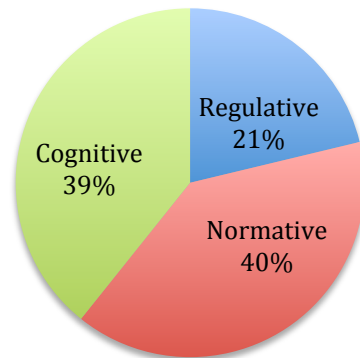
**Table 5: Interpreting Context in Coding For Institutions**

<i>Code</i>	<i>Institutional Pillar</i>
“Moratorium on new entry”	Regulative
“Should not allow new entry into fisheries”	Normative
“Rhode Island had always accommodated new entry”	Cognitive

As previously noted in the methodology chapter, coding is an “interpretative process” (Salanda, 2009, 4). In this thesis the grounded theory methodology is employed to illuminate the entire research situation around new entry and catch shares in Rhode Island. Therefore, the written analysis of this thesis will include the full range of perspectives offered on the topic, irrespective of frequency of mention. While grounded theory is a decidedly qualitative approach to social science research, the following descriptive statistics are meant to capture my coding process from interview transcription to second-stage focused coding.

The first cycle coding process of the interview transcripts generated a total of 788 unique codes. To apply the grounded theory methodology to Scott’s institutional framework, each *in vivo* and initial code was categorized as being regulative, normative, or cognitive (n=772). The interview instrument contained two yes/no questions (n=16 responses), which were not coded as part of the institutional framework. This exercise identified 164 codes as regulative, 305 codes as normative, and 303 codes as cognitive (**Figure 4**).

## Distribution of Codes: Scott's Institutional Pillars



**Figure 4: Distribution of Codes Across Scott's Institutional Pillars**

In vivo and initial codes from the first cycle of coding were evaluated to illustrate the number of codes that contained respondent's own language. For this process, a code that combines initial and in vivo codes (researcher's language and respondent's language) is considered to be an in vivo code. Of the 772 codes generated through the first cycle of coding, 716 (93%) are considered in vivo codes as they contain interviewee's natural language captured in verbatim transcripts. As noted in the methodology chapter, these codes were grouped into categories in order to capture issues that emerged from the coding process. Like the new entry example above, several of the categories were crosscutting, emerging within multiple institutional pillars. The categories that emerged during the first cycle of code are listed in **Table 6**.

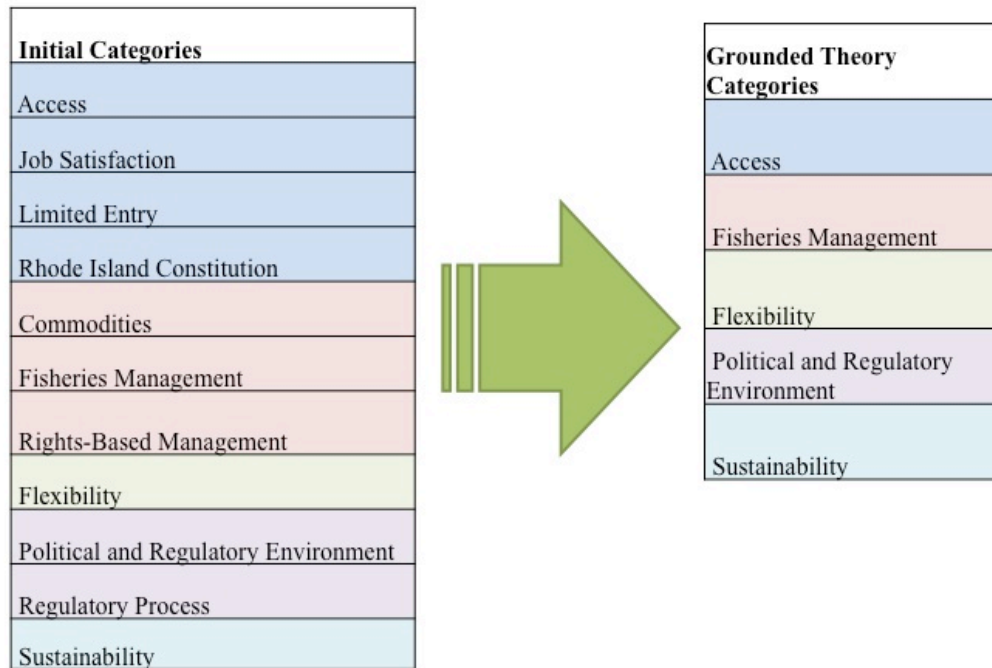
**Table 6. Initial (first-cycle) Categories**

Initial Categories
Access
Commodities
Fisheries Management
Flexibility
Job Satisfaction
Limited Entry
Political and Regulatory Environment
Regulatory Process
Rhode Island Constitution
Rights-Based Management
Sustainability

After reviewing initial categories, it appeared that overlap existed between the twelve categories, as some categories were broader in scope than others. For example, limited entry is an element of access to the fishery. As part of the second-cycle coding process these “first cycle codes [were] reorganized and reconfigured to eventually develop a smaller and more select list of categories” (Saldana, 2009, p.149).

Therefore, the following first cycle categories were condensed: Rights-based management and commodities were brought into fisheries management; job satisfaction, limited-entry and Rhode Island Constitution were folded into the access category (where they previously existed as a second-cycle focused and axial categories); and regulatory process was incorporated into political and regulatory environment (**Figure 5**).

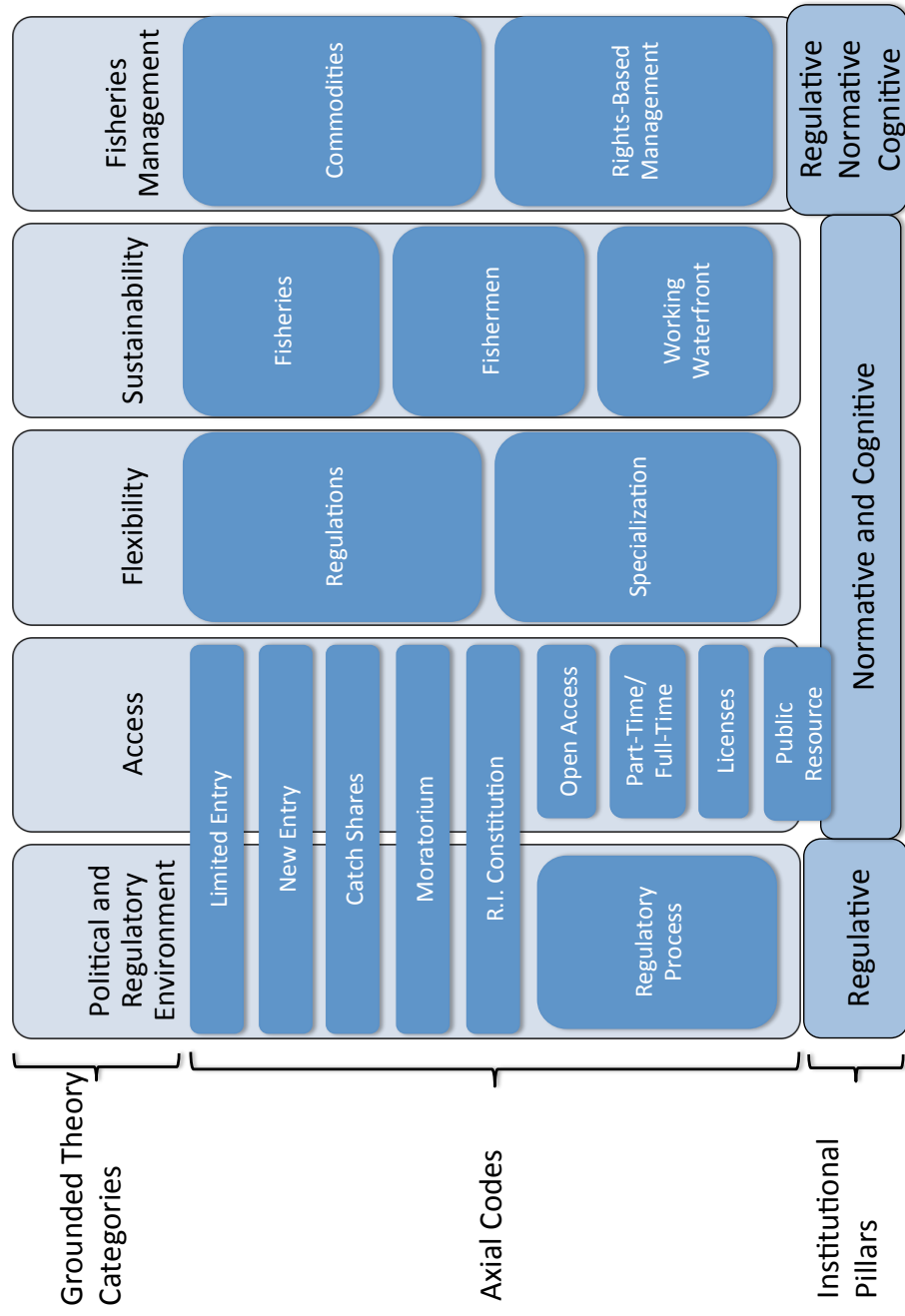
## Grounded Theory Categories



**Figure 5. Grounded Theory Categories**

Using initial categories to inform categories for the second cycle of coding does not truncate the analysis in any way; rather, second cycle coding methods are used to streamline the discussion portion of the analysis, allowing the researcher to bring forward similar issues wholesale rather than piecemeal. The five grounded theory categories form the broad universe in which the research hypothesis is examined, while axial categories capture the essence and dimensions (See earlier discussion in Chapter 3). **Figure 6** captures the relationship between grounded theory and initial categories, with institutional pillars.

Figure 6. Grounded Theory and Axial Codes with Institutional Pillars



## Analytic Approaches

To answer the research hypotheses, data was analyzed in three ways. First, codes from to each interview question were aggregated from all interviews to capture the universe of responses to each question. At their most basic level, responses to Question 1 of the survey instrument form the range of intents of the RIGL 20-2.1, which is the first step in answering the research hypothesis. Said another way, there is no way to know if new entry and catch shares are in conflict without knowing what people think the legislature sought to accomplish with the bill itself. Second, the data was analyzed using the grounded theory methodology to understand institutional perspectives around fisheries management and explore the possibility of reconciling the apparent conflict between new entry and catch share management. Finally, coded responses were analyzed using institutional linkages (Young, 1996). Where *in vivo* and initial codes are used in the analyses, the unique nine-digit identifier for each interview participant (123456\_789), and corresponding code number (1-788) is given as a reference.

Analysis One: Determining the intent of the 2002 Commercial Fishing Licensing Act

Respondents were asked a series of questions about the intent of the 2002 Commercial Fishing Licensing Act (**Appendix II**). To explore the range of intents of the Act, a cross-tabulation of categories and responses to Question 1 of the interview instrument was performed. As categories were developed using *in vivo* – or natural language codes - this proved to be a useful way to broadly capture intents of the Act that relies on interviewee’s own language.

To ensure that these categories were in fact reflected in the interview responses and not created by the researcher in the coding process, each of the categories appearing in the initial cross-tabulation was searched for within the codebook. As the *in vivo* codebook is populated by the respondent's own words, the filter function of MS Excel was used to search for a keywords within the codebook. This exercise yields all *in vivo* codes that contain the keyword. A search of the responses to Question 1 in the codebook using focused categories as keywords yielded the following results, also shown in **Table 7**: New Entry (n=24), Fishermen (n=18), Fisheries (n=16), Licenses (n=12), Limited Entry (n=8), Constitution (n=5), Open Access (n=2), Quota (n=2), Catch Shares (n=1), Commodities (n=1).<sup>4</sup>

**Table 7. Keyword Search of Question 1**

<i>Keywords</i>	<i>Number of codes containing keyword</i>
New Entry	24
Fishermen	18
Fisheries	16
Moratorium	14
Licenses	12
Limited Entry	8
Constitution	5
Open Access	2
Quota	2
Catch Shares	1
Commodities	1

The results of the keyword search simply captures frequency mention for one question (Question 1), and omit the context in which the phrase or word was used. This

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<sup>4</sup> It should be noted that participants began each interview having been briefed on the research questions though an explanation on the signed consent form.

exercise is therefore intended to cross-check the work of the research and illustrate the range of responses to Question 1.

The variance in responses to Question 1 demonstrates that the Act intended to accomplish a range of objectives. Of immediate interest to this portion of the analysis, responses revealed that the General Assembly intended to address the moratorium on new commercial fishing licenses and allow new entry into the state fishery. Five interviewees (n=5) mentioned either “ending” or “lifting” the moratorium, and all respondents mentioned new entry as something that the Act sought to address. As one person noted:

The constitution doesn't necessarily guarantee everybody the right to exploit the marine resources without control or limitation, but there is a certainly a strong feeling in Rhode Island, as the Ocean State, that access to the resource, the ability to become a fishermen, is something that should be accommodated, and the General Laws should reflect that. (110201\_001:65)

Another interviewee stated that the Act: "Mandate[s] that the Division of Fish and Wildlife set up a structure to allow new entrants into the fishery" (110208\_001:409). These viewpoints are substantiated by language contained in DEM's "2012 Management Plan for the Finfish Fishery Sector" which reads: "One purpose of the [2002] Act was to enable new entrants into commercial fisheries; however, provisions providing authority to limit access were included" (Rhode Island Department of Environmental Management, 2011, p.4). This focused analysis affirms that accommodating new entry was an intent of the General Assembly through the 2002 Commercial Fishing Licensing Act. To better understand if this goal can be reconciled with catch share management, as structured in the sector pilot program, a grounded theory approach is employed to analyze data collected through the survey instrument.

Analysis Two: Grounded Theory and Scott's Institutional Framework

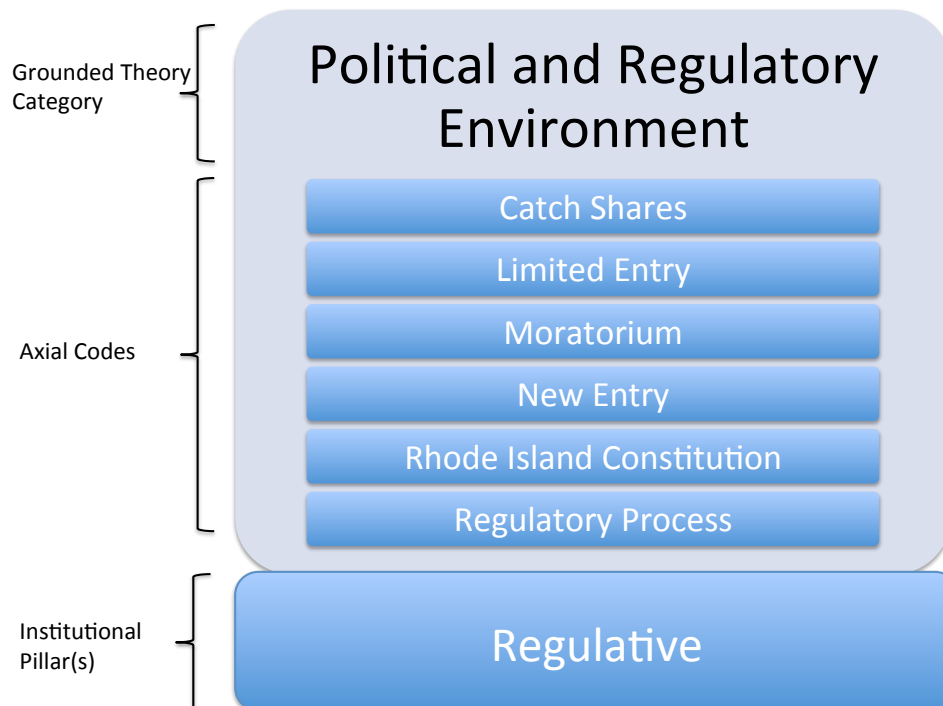


For part two of the analysis, each grounded theory category (five) and their subsequent axial codes are discussed within the context of Scott's (1995) analytic framework. This approach lends itself to understanding the research situation as a whole, though particular attention is paid to new entry and catch shares. This portion of the analysis focuses on answering how the concept of new entry was envisioned through the CI process and by the General Assembly. Did the General Assembly intend to address particular situations or issues that are not explicitly captured in the bill itself? How do the other intents of the Act enable or constraint entry provisions? In this section of the analysis, an attempt is made to parse out and unpack all elements of fisheries institutions that emerged through this the interview process as a way to answer the research hypothesis and address the practical policy implications of a shift to catch share management. As part of this, I attempt to distinguish between individual's perceptions of institutions that informed the CI process in 2001, and their personal values, beliefs, and worldviews at the time of interviews in 2011. As a shift within limited entry to catch shares is fundamentally a policy decision, institutional shifts captured in interview responses are mentioned to illustrate what might be socially or politically acceptable going forward.

#### Political and Regulatory Environment

The responses forming the Political and Regulatory Environment category capture regulative institutions present during the CI process. The category consists of the laws, management regimes, and agencies mentioned by respondents. The mention regulative institutions is relevant to theory development because it illuminates the rules and laws that shaped what individuals thought was possible in during the CI

process in 2001. Whether responses allude to the “King Charles Charter” (110209\_001:482, 110207\_002:251) or the “DEM” (110204\_004:162, 110217\_001:780, 110209\_002:478, 110216\_001:583), the codes forming this category represent the universe of regulative institutions that were present in Rhode Island while the legislation was being developed. The Political and Regulatory Environment is central to this discussion because the totality of regulative institutions in the Ocean State ultimately “constrain and regularize behavior” within Rhode Island’s fisheries (Scott, 1995, p.35). The category of the political and regulatory environment is comprised of 132 codes pertaining to catch shares, limited entry, moratoriums, new entry, the Rhode Island Constitution, and the regulatory process (**Figure 7**).



**Figure 7: Dimensions of Political and Regulatory Environment**

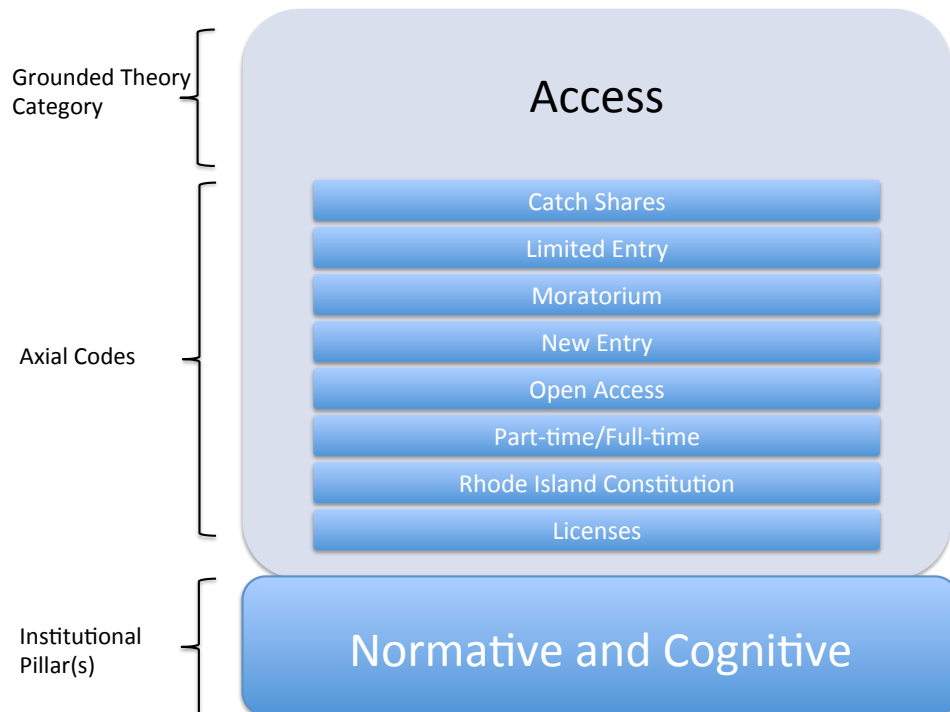
The earliest regulative institution discussed during the interview process was the “King Charles Charter of 1663” (110209\_002:482). Other respondents mentioned “Article 1, Section 17” (110208\_001:365) of the Rhode Island Constitution, noting “The General Assembly’s mandate in the state constitution is to protect the natural resources of the state” (110208\_001:364). As discussed in Chapter 2, Rhode Island was governed under the rules of King Charles Charter until the adoption of a constitution in 1843. The discussion of these early regulative institutions is important because it begins to explain *why* people felt that new entry could be included in the Act. As covered earlier in the discussion of Riley vs. DEM, prior laws and rules shaped what Riley *thought* was possible. In this way, culture as an institutional carrier informs the how and why centuries old laws remain relevant individual’s thinking.

Other regulative institutions that do not specifically apply to ideas of new entry were also discussed. Six (n=6) interviewees mentioned “DEM” as the regulative agency in the state, while two others spoke to the “Magnuson-Stevens Act” (110209\_002:458, 110204\_004:85). The “Atlantic State’s Marine Fisheries Commission” (110209\_002:457) was also included noted. Regulative institutions are not limited to laws or governing bodies, but can also included management regimes. Interviewees spoke to multiple forms of limited entry, including license limitation (n=7), and catch shares (n=5). Some shared a globalized perspective of fisheries, and spoke to catch share systems in Australia, New Zealand, and Iceland (110204\_004:91, 110217\_001:757). Another respondent provided the specific example of “Alaskan Limited Entry Program” (110207\_002:220). In regulating behavior, these governance systems shape what people perceive to be possible.

In regard to the development of the legislation, one respondent stated that the “Coastal Institute [did] the policy development work” (110204\_004:105), while another stated that, “The legislature really doesn't know much about any of this stuff. It is really a question of did the folks that took part in the license restructuring ever think about it” (110207\_002:311). Whether or not the General Assembly is well versed in fisheries management, there was a feeling in 2001 that the licensing program “had to be sorted out legislatively, it couldn't be sorted out by DEM” (110209\_002:478). This statement is significant because it indicates that particular issues needed to be settled in law, not regulation.

## Access

During the coding process, the access category grew out of four initial categories (access, job satisfaction, limited entry, and Rhode Island constitution). Through axial coding, several more dimensions of access emerged from the codebook. One-hundred and ninety-nine (n=199) codes form this category, ranging from open access to catch shares as shown in **Figure 8**.



**Figure 8. Dimensions of Access**

In practice, the compatibility of new entry and catch shares hinges on how access to the fishery is constructed. Devising a management program that reconciles new entry and catch shares requires an understanding of the fisheries institutions and carriers that inform each. Analysis of the codebook revealed that language pertaining to access fit within Scott's normative and cognitive institutional pillars. In this way, the concepts of new entry and catch shares are different from the same topics (axial

codes) within the regulative pillar (catch shares, limited entry, moratorium, new entry, Rhode Island Constitution) because the values, expectations – and ultimately worldviews – of individuals who were interviewed are not necessarily rooted in the political and regulatory environment in Rhode Island in 2001. Instead, it became clear that a wide range of other regimes and typifications – both past and present – informed individual perspectives around access to the state fishery.

Among interviewees, it was widely acknowledged that the legislation “Directed DEM to create a licensing system to allow individuals to enter [the fishery]” (110208\_001:353). However, responses differed on *when* access for new entrants was to be allowed in the fishery. One respondent said that: “The act itself is trying to establish a protocol to allow new entry into fisheries that are stressed” (110217\_001:747). In 2002, this entailed permitting additional entry into the lobster, summer flounder, black sea bass, yellowtail flounder, monkfish, dogfish, tilefish, and whiting fisheries, all of which were either overfished, and/or overfishing was occurring (Valliere and Murphy, 2001). Another respondent suggested that the Act sought, “To establish new entrants, but it does restrict their ability to, for primary effort, to only one or two species” (110208\_001:430).

As noted earlier in this Chapter, responses varied on how the Act intended for the DEM to address access for new entrants after the expiration of the moratorium on new licenses. One interviewee said that the General Assembly “wanted to relax [the moratorium]” (110217\_001:736). This speaks to the establishment of a license limitation program which addresses the cognitive perception that: “We are all going to go under if we don't try to control the floodgates of people coming in to be fishermen”

(110204\_004:123). The idea of “Relaxing” (110217\_001:736) the moratorium seems to suggest that the state (the General Assembly) was not ready to fully re-open the doors to entry, and suggests the intent was to have a gradual shift toward a license limitation program, with provisions for new entry built into a new limited entry management scheme. There also appeared to be some apprehension around speculation in the fishery: "I think the kind of mindset that guided the development of the legislation was to try to keep the fisheries in that kind of access by the individual and not making it attractive to the outside investors and things like that"

(110207\_002:260). This response evokes preference to owner-operators and small business. Even without an explicit linkage in the language, there appears to be an assumption that closing the system and commodifying licenses through transferability provisions in the management plan. Regulators ultimately addressed this concern, as Rhode Island only permits the sale of an entire fishing business (Commercial and Recreational Saltwater Fishing Licensing Regulations 6.7-8). This kind of thinking has implications for how catch share programs and new entry can be reconciled, which is taken up later in the policy recommendations.

Interviewees also discussed the political tension that existed between recognizing the interests of existing fishermen and allowing for new entry into the state fishery. With Rhode Island operating under a quota-based management regime for summer flounder, the perception existed that new entry into the fishery may compromise the viability of existing interests in the fishery as the new fishermen race to catch the state’s total allowable catch. The idea of new entrants racing to fish is more nuanced in the Rhode Island scenario than in “derby” (110204\_004:116)

fisheries in which harvesters remain in direct competition with one another until the total allowable catch is landed. In actuality, “Priority was given to maintenance of a full-time fishery. So, um, and, it recognized that to maintain that, you couldn't just divide a limited level of total catch among an ever-expanding number of participants” (110209\_002:568). Applying the bio-economic rationale discussed in Chapter 2, the question becomes who gets to benefit from the resource? Limiting effort could conceivably yield higher economic rent from the “limited level of total catch,” for those with fishing limited-access licenses, while the “ever-expanding number of participants” scenario would theoretically stop expanding when total cost equals total revenue, at a theoretically sustainable level of harvest beyond MSY. In the above statement, and RIGL 20.2-1, it is clear that the *social* decision was made to give priority to the “maintenance of a full-time [commercial] fishery.” As DEM explains what it views as the consequence of ‘allowing too many people access to the resource’ in the 2012 Management Plan for the Finfish Fishery Sector:

DEM’s interest in limiting participation in the quota-managed fisheries is not based purely on concern for stock dynamics since quotas limit total landings within the State and since these species are migratory, Rhode Island landings account for only a portion of the total. The main concern is with allowing too many people access to the resource, which would impact current license holders through shorter seasons, lower possession limits, and ultimately fewer pounds of fish (Rhode Island Department of Environmental Management, 2012, p.2).

In practice, Rhode Island distributes the state’s fluke quota across three separate sub-periods, and enforces trip limits on vessels (that are not participating in the fluke sector pilot program) to ensure the quota lasts throughout each sub-period and the year. In regard to the perceived impact new entry has on existing interests, this can be calculated by multiplying the daily or weekly trip limit by the number of days or



weeks in each sub-period. This represents the top of a harvest range, given limiting factors such as weather, vessel size, distance to fishing grounds, and the size of the daily/trip limit.

### Flexibility

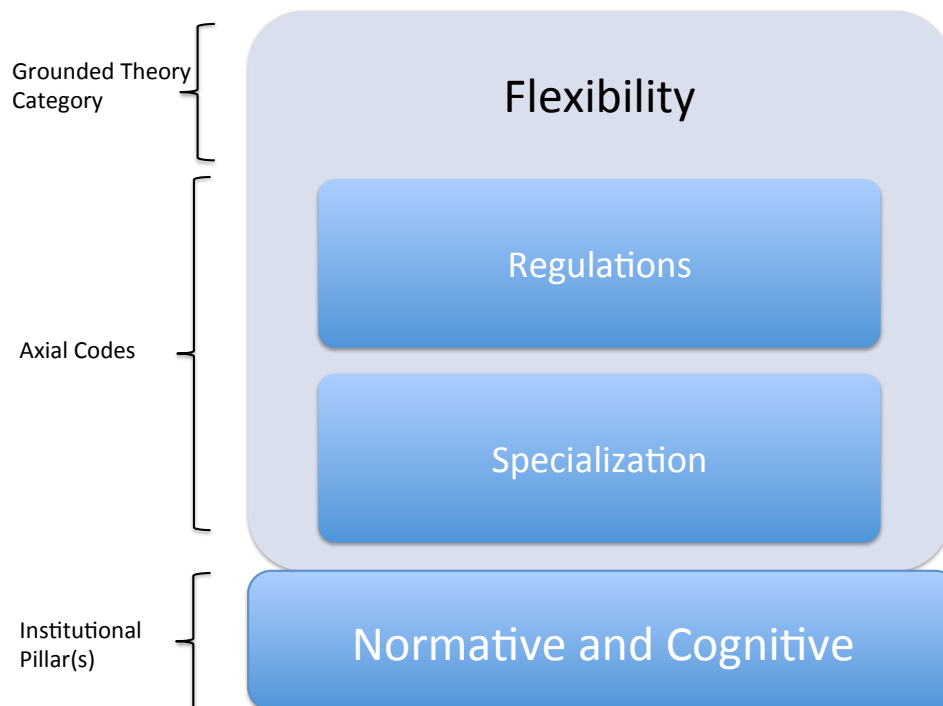
Context matters when discussing the notion of flexibility in fisheries management.

Situated within Scott's normative and cognitive pillars, ideas about what constitutes

'flexibility' vary within limited entry between licensing and allocating fish (catch

shares). Of the 35 codes comprising this category, 12 were coded as normative and 23

were cognitive (**Figure 9**).



**Figure 9. Dimensions of Flexibility**

In regard to the licensing process in 2002, flexibility is the ability (or inability) to participate in multiple fisheries and closely align with ideas around access. With

catch shares, and the commodification of the resource (fish, not licenses), the concept of flexibility is expanded to encapsulate the trading or sale of quota, and the prosecution of the fishery. For example, flexibility could be the creation of an unrestricted market for trading, leasing, or buying quota, or could be manifested in an ability to operate under fewer input controls such as closures or trip limits.

The flexibility discussion focused on the structure of a new licensing program. Some respondents talked about flexibility as a fisherman's ability to participate in multiple fisheries. In this sense, the term does not relate to a fisherman's flexibility to harvest an allocation over the course of a fishing year, as is allowed for in the state's existing sector pilot program. In this analysis, regulatory flexibility relates to the structure of management plans – particularly licensing programs, while specialization is meant to define fisherman's behavior in response to management plans.

The idea of flexibility and specialization in the fishery – especially in respect to the normative and cognitive institutional pillars - is closely aligned with perceptions of opportunity. Opportunity can be understood in two ways: the opportunity to simply participate in the fishery and the opportunity to prosecute a range of fisheries. In practice, this is the difference between obtaining a CFL, or upgrading to an MPL with a RFF or other restricted endorsement. In 2001 there was desire to allow new entrants to prosecute multiple fisheries. As one respondent stated: "[You] don't want to create anything that is too rigid, that doesn't create opportunity" (110209\_002:532). In this way, opportunity is closely related to specialization and the discussion around access. The transition from the flexibility to prosecute multiple fisheries to specialization in a fishery is nicely captured in the following remarks:

One particular gentleman who was out of Apponaug Cove, in my view he was the consummate waterman on the bay. So, in the summer time, he would take his 40 foot boat and go down to the Point and put out 500 lobster pots and he would work those lobster pots probably until September, then he would pull all of his lobster pots, he'd come up in the bay, store those, put winkle pots onboard, and then he'd throw all winkle pots up in the bay catching conchs for snail salad. And he would work those all fall until the first snow. And in the meantime in the fall while he was doing that he was running eel pots. But that would only be usually a couple of weeks, so then he would put those away and still concentrate on conchs for a couple of months until the first snow fall. Then he'd pull the conch pots out, and then he would be bullraking during the colder winter months and then when the waters warmed up in the spring, and the eels started running again, he would do eel pots, and then after that two week period was over he'd go back to his lobster pots, so he would repeat this cycle every year so he was constantly moving around depending upon which fishery was most abundant. And, to me, that's the ultimate flexibility that the multipurpose license offers. But people ended up concentrating more and more on one species and pretty much do that year round. And so, ultimately, what you have now is a system where those people whose primary effort was in that one fishery are the ones right now that basically have access to those resources. (110208\_002:425).

It was noted that the regulations developed by the DEM, "Provided for a methodology for you to get into other fisheries, but it really pushed a lot of restrictions and burdens to enter into another fishery whereas before it had a lot of flexibility"

(110208\_001:430). The same interviewee continued by saying, "Under the existing rules it is difficult for someone to obtain enough different primary effort endorsements to allow you the flexibility to work on certain species like the classic waterman did decades ago, with one license, a multipurpose license" (110208\_001:415). Responses to Question 1 of the survey instrument indicate that flexibility was a core consideration of the 2002 Act, with another interviewee remarking that the Act sought, "to allow flexibility" across fisheries. This is ultimately reflected in the tiered licensing structure designed by the RI DEM in response to the 2002 legislation. While the focus of the CI process and General Assembly may have been on licensing, to reconcile the two, flexibility must be considered in respect to catch share management.

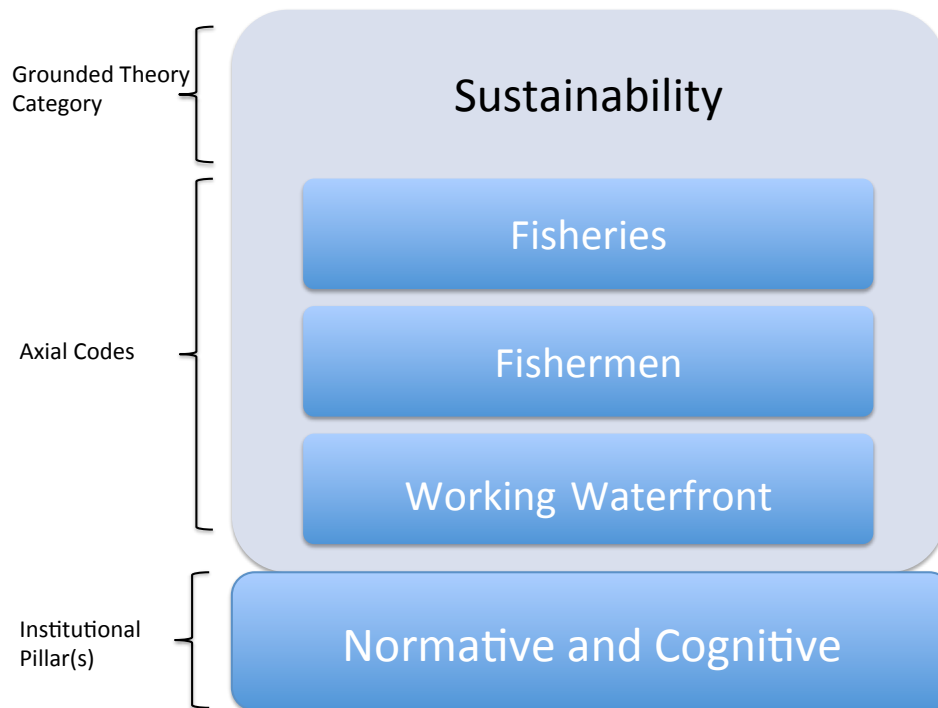
In regard to current norms and worldviews about flexibility in Rhode Island, one person stated:

My leanings are more toward the free and common fishery with a more open access and the ability of license holders to move freely amongst the fisheries that they want to concentrate on, given market conditions, and given the level of sustainable resource available. So clearly that has to be regulated carefully by DEM Fish and Wildlife, as well as the other fishing regulation commissions along the Atlantic Coast (110208\_001:410).

This statement also recognizes that this view may be constrained by a quilt of fishing regulations enacted by states and the federal government.

### Sustainability

The grounded theory category of sustainability emerged from the code book within the normative and cognitive institutional pillars from a total of fifty-nine (n=59) individual codes. Responses indicate that the Act sought to address sustainability on multiple fronts. Of the fifty nine codes constituting sustainability, twenty-four of the codes (n=24) applied to fisheries, while another twenty-eight (n=28) addressed fishermen, and four (n=4) applied to sustaining the working waterfront. Three codes (n=3) spoke to the balancing the interests of the fishery resource with the needs of fishermen, and were not coded into initial categories. In this analysis, sustainability appears to be closely aligned with the access category, particularly as it relates to fishermen (**Figure 10**).



**Figure 10. Dimensions of Sustainability**

As cited in the Chapter 2 discussion of the bio-economic rationale for managing fisheries, “fish populations are continuously renewed, and the rate of renewal depends on the size of the population which is left unharvested to produce new generations” (Schaefer, 1959, p.100). In this way the sustainability of fisheries – summer flounder included – hinges on the limiting overall mortality in the stock to a level that allows for the population to renew.

In discussing the intent on the Act, interviewees noted that the bill was authored against a backdrop of overfishing and overfished stocks (110216\_001:662). This is confirmed in DEM’s Report on the Status of Marine Fisheries Stocks and Fisheries Management Issues in Rhode Island, released in March of 2001 (Vallerie and Murphy, 2001). Language contained in the Act itself (RIGL 20.2-1), and responses to the interview instrument, indicates the legislation sought to address these

issues head on. For example, respondents indicated that, “stocks were being depleted,” and that the Act looked to “protect the health of the resource” (110201\_001:66) and “end overfishing” (110201\_001:67). Others noted that the Act sought to acknowledge that, “Fisheries themselves aren't stable” (110209\_002:570), but that a goal was to “maintain stock status in perpetuity” (110208\_001:450). With stocks like summer flounder being overfished in 2000 – and with overfishing occurring – achieving long-term sustainability of the resource required limiting overall mortality in the fishery (both natural and fishing). To do so, those close to the CI process suggested that that Act sought to curtail fishing effort as a proxy for mortality. Some believed that there was too much fishing effort “prevent[ing] renewal and regeneration of the fishery” (110216:001:660).

In regard to sustainability of the resource – one interviewee suggested that the managers and industry need to, “Understand the balance between harvest capacity and resource availability in order to be sustainable” (110204\_004:208). While harvest capacity is an important measure of the rate at which fisheries can be utilized, I would argue that the sustainability of the resource hinges on limiting the total removals from the population.

In addressing the sustainability of fishermen, it is important to acknowledge “it is biologically possible to have a sustained fishery at any of a wide range of fishing efforts. The problem is to decide which of these is most desirable” (Schaefer, 1959, p.102). In this way, the idea of sustainability in regard to fishermen gets at the heart of the new entry issue, and the challenge presented in the social decision of determining who can access the resource. Data collected through the interview instrument shows

that the Act sought to preserve opportunities for existing fishermen while allowing for new entry. One person noted that it aimed to allow "existing licensed fishermen to continue on with the fisheries that they were engaged in" (110208\_001:442). More specifically, there was a preference to provide for full-time fishermen, which is covered earlier in this analysis. As an interviewee stated: "Priority was given to maintenance of a full-time fishery. So, it recognized that to maintain that, you couldn't just divide a limited level of total catch among an ever-expanding number of participants" (110209\_002:568). This is an important reflection on the *intent* of the Act, and suggests that the preservation of a full-time commercial fleet hinges on yielding some level of economic rent (total revenue – total cost) from the fishery. Maintenance of a full-time fishery also implies the continuation of shore-side services and a working waterfront that can support the needs of the fleet (fuel, ice, offloading facilities, dockage). The same person also said there was a desire to: "maintain Point Judith as a full-time port" (110209\_002:569). This is a notable goal, given the multitude of federal fisheries that are prosecuted by vessels homeported in Point Judith.

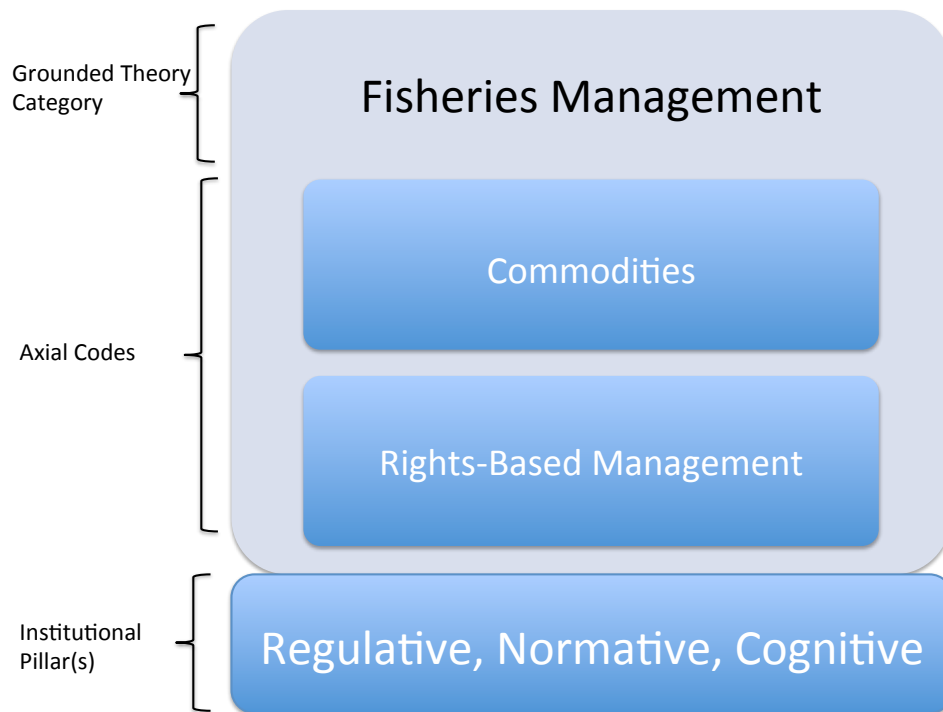
Another key theme that emerged in this category was the perception that the majority of the fishing industry was aging, saying: "We really felt we were getting older" (110217\_001:786). This "graying" (110216\_001:655) of the fleet appeared to be threatening what some people perceived as the very sustainability of Rhode Island's fishing community:

Then you have the thought of a fishery that if there isn't adequate opportunity for new entry you could lose its vibrancy and its strength because it would become sort of top-heavy with his veterans and you needed to be able to mentor and foster new, young, fisherman is what ultimately replace retirees and keep the fishing industry going in a very healthy and vibrant way. (110201\_001:23)

In the licensing program constructed by the state, an exit/entry system allows for ‘new’ and/or ‘young’ fishermen to join the ranks and learn from ‘veterans.’ At question in Rhode Island is whether or not entry mechanisms into a catch share fishery could be constructed to foster the ‘healthy’ and ‘vibrant’ fishing industry that was aspired to in 2001?

#### Fisheries Management: Commodities and Rights-Based Management

Fisheries Management emerged from the data as a grounded theory category, with commodities and rights-based management forming its dimensions and properties. This category is more theoretical than practical in nature, as many responses relate to the perceived advantages and disadvantages of commodifying licenses and quota (**Figure 11**).



**Figure 11. Dimensions of Fisheries Management**



One response portrays the commodification of public resources in two distinct and separate ways:

It is essentially what are society is based on is the notion of tradable commodities. That is free-enterprise, that is the American economic system, on the one hand. On the other hand, we are talking about a very interesting and the more I have dealt with it, the more I have become convinced, a very unique public resource, analogous to trees in a state forest, or birds, or any other living or natural publically owned resource. There is a public trust responsibility to manage those resources in accordance with the public's interest. (110201\_001:34)

From this individual's perspective, there is a tension between creating a tradable commodity from which an individual benefits and managing the resource in the public interest. Responses by those close to the process show that a range of policy options was considered by the GA and in the CI process – including catch shares. One respondent suggested that rights-based management (see Chapter 2) is a way to achieve conservation of the resource:

One of the things that was encouraged was the conservation of the resource, something that they would like to have a long-term value in. So that would, if you privatize it that way, through ITQs, it really says that you don't have open access in any way, you have those with the quotas who have access, all others are precluded" (110209\_002:578)

In doing so, they state that the creation of individual quotas would inhibit others from accessing the resource. Sectors are cooperative-like entities and *not* individual transferable quotas or individual fishing quotas. As Rhode Island operates its fisheries through limited entry, this code captures the essence of the tension between maintaining new entry and allocating shares to a predetermined set of individuals. Ultimately, interviews suggest that the GA's intent was to address licenses – not quota. In terms of creating individual shares of the resource, one interviewee stated:

And again, I don't believe that it was the General Assembly's intent to establish individual shares. I think that was far from their minds quite frankly.

I think that what they really wanted was to just set up a licensing structure to allow new entrants into the fishery and that was it. (110208\_001:431).

While the CI process certainly considered the implications of pursuing rights-based management programs, one interviewee explained that catch shares were “certainly considered, [but] the legislature didn’t want to go there, [and] the decision was made not to go in that direction (110216\_001:629, 110216\_001:630). The decision not to “go there” and pursue catch shares as a form of limited entry in 2002 has left the DEM without explicit policy guidance on how to develop management strategies and regulations should normative or cognitive changes occur over time.

While the General Assembly elected not to explicitly pursue catch shares in the General Laws, provisions for the transferability of a fishing business were included. However, the sale of a business is limited to active license holders only. The thinking in 2001 around this was that: "Well I think the ability to sell things came out of that. You could sell your license. I think what they tried to do, was to recognize it as a business. And allow you to be treated as a business, but also with the idea, that you try to keep the free and common as much as you can." For others, the entry elements of the free and common orthodoxy hold less weight: "A crucial factor is being able to cash out" (110209\_002). For some, the payout can be significant. As detailed in **Appendix III**, a recent of search of Rhode Island Craigslist using the keyword “fishing” yielded a posting offering a MPL with lobster traps for \$25,000 (Craigslist Rhode Island, accessed 12/31/12).

#### Analysis Three: Institutional Linkages

One of the challenges of managing transient finfish is defining where the state fishery ends the federal fishery begins. While an invisible line three nautical miles off

the coast delimits a political boundary, the interplay between state and federal fishery institutions is less clear. The application of Scott's institutional framework (1995) to this research reveals that individual's understandings of the fisheries management situation in Rhode Island in 2002 was based on a series of linked fisheries institutions present regionally and globally. At question is whether or not a globalized set of fisheries institutions is also shaping each individual's understanding and expectations around fisheries management in Rhode Island. To further explore this question, the fisheries institutions captured through this research are examined through Young's (1996) institutional linkages.

Institutional linkages help to illustrate the research situation more broadly, and capture how shifts how paradigm shifts occur. The globalization of fisheries institutions can be viewed as a relatively recent phenomenon in the management of Rhode Island's fisheries. Approached from this perspective, the centuries-old belief in a "right to fish" (110216\_001:604) is not out of touch with state-based fisheries institutions. For the better part of the 20<sup>th</sup> century, the only set of management institutions that applied to Rhode Island fishermen was constructed by the General Assembly and DEM. More formal management measures came to pass through creation of the Rhode Island Marine Fisheries Council in 1976, and later through the Atlantic States Marine Fisheries Commission (Nixon, 2001).

While states retain the right to control fisheries within their territorial waters through the Submerged Lands Act of 1953 (43 U.S.C. § 1311), it is not uncommon for a fisherman or fishing business to possess both state and federal permits. These fishermen are bound by different rules and regulations when operating in state and

federal fisheries – and are therefore subject to a wide range of management regimes that may differ from those in Rhode Island’s state waters fishery. For example, Limited access programs have been in place in the New England Fishery Management Council’s Northeast Multispecies Fishery Management Plan since 1994 (59 CFR 9872, 03/01/94), in the Atlantic Sea Scallop Fishery Management Plan since 1994 (59 CFR 433, 01/19/94).

Similarly, state managers often find themselves engaged in federal fisheries management. Section 302 of the Magnuson-Stevens Act creates a state interest in the management of federal fisheries by providing for a voting seat for “a principle state official with marine fishery management responsibility,” on the regional Fishery Management Council (16 U.S.C. 1852 (b)(1)(A)). In Rhode Island, this duty is carried out by the Department of Environmental Management – the same state agency that manages fisheries in state waters. Rhode Island’s direct involvement in the management of both state and federal fisheries is a means by which regional - and international - fisheries institutions can come to influence fisheries management at the state level.

In this research, responses to interview questions revealed an understanding of fisheries institutions not present in the management of Rhode Island’s state fisheries. For example, multiple respondents spoke to limited entry and ITQ management schemes in Alaska (110207\_002:221), Iceland (110204\_004:91), and Australia (110217\_001:757). Others were witnessing a transition to sector management (catch shares) in the Northeast multispecies (groundfish) fishery (110204\_004:95). Finally, the development and ratification of the Catch Share Policy by NOAA Fisheries in

November of 2010 illustrates a new national approach (NOAA Catch Share Policy, accessed 12/22/12). Therefore, it is useful to describe the apparent dichotomy between state and global fishery institutions, and highlight the blurred sense institutions present in Rhode Island fisheries.

In addition to cultural carriers in Rhode Island, fisheries institutions may also be transported through peer-reviewed scholarly journals. Though one respondent felt that "Whether it was during the licensing restructuring or any other time, there are very few people either in the fishing industry or in the fishery management system, that do much reading about fishery management" (110207\_002:236), Macinko and Whitmore (2010) write in their analysis of groundfish sectors for the Massachusetts Division of Marine Fisheries that "sectors are thus a home-grown concept being debated within a context that is inextricably linked to national events and a half-century of fisheries literature" (p.18). While the Ocean State continues to retain long-standing fisheries institutions that comprise a storied fishing tradition, an ever increasing number of institutional linkages with interstate, federal, and international management regimes have effectively expanded what the collective perceives as being possible.

By one account, the authors of the Act expected further institutional shifts in fisheries management:

Ok, if one set of ideas was reasonable for this point in time, and they continue to be in play although the era that gave rise to them has passed, and if another set of ideas became reasonable at another point in time, and those ideas remain part of it although that era has passed, why should we then think, that the thinking of this moment is not also time limited. And if we can see that the larger course of things is, um, moving at levels that aren't really susceptible to change by current fisheries management, do we have to then adjust what we are doing to reflect that? And that's what you sort of in a way are getting at. We did what we did in 2002 based on the presenting symptoms, and looking

at some underlying value sets and said how do we sustain full time fishery in Rhode Island with its center being the port of Point Judith/Galilee. Right? That's a legitimate thing. But, ah, I have no supposition that it is the answer, in fact I would have been shocked if anyone had said this is, "the answer." I was trying to design something that would work for, you know, a decade, plus? Never did I think it was going to be a long enduring answer.  
(110209\_002:555)

## CHAPTER 6: RESULTS AND RECOMMENDATIONS

Answering what was an ostensibly straightforward research hypothesis proved to be more nuanced than the question would suggest. At the outset of this research I hypothesized that the catch share programs in Rhode Island's marine fisheries are inconsistent with existing state policy regarding new entry in limited entry programs. The research reveals that the licensing approach crafted in response to RIGL 20-2.1 to enable new entry, and the catch share pilot program, appear to be practically compatible, but normatively and cognitively inconsistent. All licensed fishermen could either operate in the common-pool under trip limits, or voluntarily opt into a sector. However, the policy and management decision to pursue catch shares by the DEM does not comport with the norms, values, and expectations that form the intent to the RIGL 20.2-1. This research shows that catch shares were discussed during the development of the Act, but that the General Assembly did not intend to provide for individual allocations or commoditize fish through state law. At the same time, the research revealed that an expanding number of fisheries institutions are present in Rhode Island in 2012, and that there may in fact be a disconnect between what is socially desirable today, and what was decided upon a decade ago. The institutional differences present in Rhode Island's fisheries cannot be reconciled through a management action, and should be addressed through a public process.

At the outset of this research I suggest that catch share management may be at odds with the policy goal of preserving new entry into Rhode Island's commercial fisheries because catch share programs divide the total allowable catch among a predetermined set of entities based on a set of qualifying criteria. Part one of the

analyses clearly illustrates that providing opportunity for entry into the state fisheries was one intent of the Act. The licensing program that the DEM developed as a result of the Act (described in Chapter 2) provides a mechanism for entry into all state managed fisheries. In practice, the licensing program allows for fishermen with PELs and RFF endorsements to harvest at full possession limits. For new entrants who receive upgraded license through the exit/entry lottery (PEL with RFF), there appears to be no intent in the 2002 Act that would preclude them from the same opportunity to use this license as any other active license holder with an equivalent license (MPL, or PEL with RFF). The hybrid approach of sectors and the common-pool (to borrow from the northeast Multispecies FMP vernacular) appears to keep new entrants on par with other equivalent license holders operating in the common-pool under trip limits or in weekly aggregate landings programs. The situation becomes more technical if a new entrant who had gained access to the summer flounder fishery after 2008 were to form a new sector or join the Fluke Conservation Cooperative. Under state sector regulations, that new entrant would have no allocation, having not participated in the fishery between 2004 and 2008. Given the values expressed by some of the interviewees, this may be a perfectly acceptable situation in 2012. For others, this represents the antithesis of what the Act sought to accomplish.

The zero allocation scenario is a situation that the General Assembly did not – and could not – contemplate in 2002. While it was their express intent to develop a licensing program, a decision not to pursue one form of management over another does not condemn it from ever being considered. It would be inaccurate to describe the General Assembly’s decision to not pursue catch share management in 2002 as a flat



and final rejection of that form of limited entry. Interview data suggest that the law was written to address an acute set of issues, and that while a set of prevailing institutions continue to inform Rhode Island's unique approach to fisheries management, these rules, values, and worldviews are now nested within a broader set of global fisheries institutions. Perhaps in future research, a salient policy question to ask and debate in Rhode Island would be, 'who does the Act seek to *benefit*?'

### **Recommendations**

**Preserve the Exit/Entry System into Restricted Fisheries** – I noted at the outset of this research that Rhode Island is one of the last states to continue to provide opportunity for entry into commercial fishing. It is clear that Rhode Island continues to value entry into state fisheries through the annual granting of new endorsements – and as illustrated in the uptick in new RFF endorsements this past year. In the case of upgrading to a PEL with a RFF endorsement, “new” simply constitutes “expanded” access for individuals already running their own vessel or who are employed as crew. These license holders may constitute elements of the full-time fishery that the Act also seeks to protect. As a practical matter, individuals upgrading their licenses to a RFF endorsement constitute a fraction of a percent of *active license holders*. Even so, these are the same individuals that the Act and the *Riley* decision seek to protect.

The established control date in the summer flounder could render access granted through the entry/exit process meaningless for endorsements that are issued after December 31<sup>st</sup>, 2009. If Rhode Island elects to continue to pursue catch share management – with or without new legislation – the state should work to address the

licensing and allocation circumstances of these vested fishermen who have historically migrated from the back deck to the wheelhouse.

**Revisit RIGL 20.2-1** - A shift in management approaches as manifested in the sector pilot program in the summer flounder fishery has raised a new suite of policy issues that were not explicitly addressed in the CI process, by the Act itself, or in *Riley vs. DEM*. Specifically, a vacuum of policy guidance exists around the allocation and commodification of fish. Answering that question entails a policy discussion of who should benefit from the public resource. Diverging institutional perspectives have turned the sector pilot program into a contentious fishery issue that is akin to the adoption of a licensing system that some felt could only be settled by the General Assembly. Rather than hinge management actions on broad legal authority and the discretion of DEM, the state should look to codify a new law that is reflective of the current values, norms, and orthodoxies in Rhode Island. The United States Congress revisits the Magnuson-Stevens Act every ten years, and Rhode Island General Assembly should consider doing the same.

**Rhode Island should expand the criteria for assessing catch shares:** While DEM has asked a series of general questions regarding the feasibility of the pilot program, the State elected to evaluate the catch share pilot program on three criteria: safety at sea, resource issues, and economic performance. Each issue is deserving of evaluation, but the sum of these programmatic elements constitute a fraction of the categories individuals raised in responses to the survey instrument. Beyond considering the full range of intents of existing state statute, the state should also reflect on the guiding principles of NOAA's catch share policy guide. Catch share programs are data hungry,

and costly to implement and sustain – witness the recent experiences of New England’s groundfish sectors.

### Conclusion

Prior to the 2002 legislation, Nixon writes that, “The common perception of fisheries law in Rhode Island is that our unique history has somehow frozen us in time and limited our choices for the future... That is simply not the case; the General Assembly has the power to do whatever it thinks is best in the state's interest” (2001, pp.7-8). This research illustrates that fisheries institutions continue to evolve in the Ocean State. Moreover, the Act itself was not imagined or intended to provide a long-term solution for all fisheries management issues in Rhode Island. A possible outcome of this exercise could be that there is no change to the state law – but there is no way of knowing unless we attempt to understand. Tackling these issues will require continued public deliberation, much like the work being led by the DEM under the Direction of current Director. The Coastal Institute, as a neutral entity, successfully shepherded fisheries reform in Rhode Island ten years ago and should be tapped to lead subsequent policy discussions.

## APPENDICES

### Appendix I – RIGL 20-2.1-2

#### TITLE 20 Fish and Wildlife

#### CHAPTER 20-2.1 Commercial Fishing Licenses

#### SECTION 20-2.1-2

**§ 20-2.1-2 Purposes.** – The purposes of this chapter are, through a system of licensure that is clear, predictable and adaptable to changing conditions, to:

- (1) Preserve, enhance, and allow for any necessary regeneration of the fisheries of the state, for the benefit of the people of the state, as an ecological asset and as a source of food and recreation;
- (2) Provide Rhode Islanders who wish to fish commercially the opportunity to do so and end the moratorium on issuance of new commercial fishing licenses so that new licenses may be issued for the year beginning January 1, 2003, and each year thereafter;
- (3) Allow residents who have fished commercially to sell their vessels and gear in a manner that first, facilitates up-grading license levels among residents already in the fishery; that second, provides lateral movement among residents who are holders of commercial fishing licenses to other types of fishing; and that third, enables new entrants into new commercial fishing;
- (4) Respect the interests of residents who fish under licenses issued by the state and wish to continue to fish commercially in a manner that is economically viable: provided, it is specifically not a purpose of this chapter to establish licensing procedures that eliminate the ability to fish commercially of any resident as of the date of enactment who validly holds commercial fishing license and who meets the application renewal requirements set forth herein;
- (5) Preserve and enhance full-time commercial fishing, with a high degree of participation by owner operated vessels, as a way of life and as a significant industry in Rhode Island;

(6) Establish principles, for a system of adaptive management, that shall be used by the department in licensure programs and fisheries management, which principles shall include:

- (i) The foregoing purposes; and
- (ii) As appropriate, necessary, and effective, the following measures:
  - (A) Regulation of the design and use of gear;
  - (B) Limitations on the amount of gear that may be used by a license holder;
  - (C) Restrictions on when and where commercial fishing may be done;
  - (D) Quotas and limitations on catch or landings; and
  - (E) Restrictions on the number of license holders;

(7) Provide a licensure system that facilitates data collection and management so that marine fisheries can be managed more efficiently and effectively. In accordance with this purpose, the system shall include a firm annual renewal deadline, as established herein, for the submittal of applications to renew licenses or obtain new licenses. An annual grace period, as established herein, shall allow fishermen an additional opportunity to renew their licenses from the immediately preceding year, subject to payment of a late fee; however, after the expiration of the grace period, there shall be no opportunity to appeal the denial of a commercial fishing license unless the applicant can show that the failure to apply during the grace period was due to documented medical hardship.

History of Section.

(P.L. 2002, ch. 47, § 4; P.L. 2004, ch. 8, § 3; P.L. 2004, ch. 16, § 3.)

## Appendix II – Final Survey Instrument

The University of Rhode Island  
Department of Marine Affairs  
Washburn Hall, 80 Upper College Road, Kingston, RI, 02881  
*Limited Entry in Rhode Island:  
Tracing an Idea from Open Access to License Limitation to Catch Shares*

### Semi-Structured Interview Questions:

1. *In your opinion, what was the legislature intending to accomplish through the 2002 License Reform Act?*

*In your opinion, **what** does this act seek to protect?*

*In your opinion, **who** does this act seek to protect?*

*Why do you think the legislature included provisions for making new and additional restricted licenses and endorsements available to Rhode Island residents?*

*Why is the concept of new entry into commercial fisheries important to the people of Rhode Island?*

2. *Rhode Island's existing licensing program seems to create a license hierarchy because fishermen with MPLs can fish for almost all state managed species, while fishermen with PELs and CFLs need endorsements to catch these species, and not all endorsements are available. Does it matter if new entrants cannot fish for the same species as established fishermen? Why/Why not?*

3. *Are you familiar with the concept of "catch shares" in fisheries management? If yes, proceed to question. If no, read the following: "Catch shares are a general term for several fishery management strategies that allocate a specific portion of the total allowable catch to individuals, cooperative, communities, or other entities" (NOAA, 2010).*

*In your opinion, did the legislature consider "catch shares" in Rhode Island fisheries when they were developing this legislation? Why/Why not?*

4. *To what extent, if any, do you think that legislature intended to create tradable commodities through access privileges? Why/Why not?*

*Do you think the legislature intended to create a system where fishermen could benefit from commercial fishing without ever catching a fish?*

5. *In your opinion, should there still be new entry into Rhode Island's fisheries?*

*Should new entry be allowed into all fisheries sectors (Lobster, Finfish, Shellfish)? Why/Why not?*

6. *In your opinion, should Rhode Island's fisheries be allowed to be transformed into tradable commodities? What are the advantages/disadvantages of this approach?*

## Appendix III – Commercial Fishing License Posting



Jonathon Peros <jonathon.peros@gmail.com>

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### RI Commercial Fishing License - \$25000

1 message

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**jonathon.peros@gmail.com** <jonathon.peros@gmail.com>  
To: jonathon.peros@gmail.com

Sun, Dec 30, 2012 at 7:03 PM

[jonathon.peros@gmail.com](mailto:jonathon.peros@gmail.com) has forwarded you this [craigslist.org](http://craigslist.org) posting.

Please see below for more information.

Visit the posting at <http://providence.craigslist.org/bfs/3489113341.html> to contact the person who posted this.

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### RI Commercial Fishing License

Date: 2012-12-19, 12:04PM

RI State waters commercial fishing license with 349 lobster trap allocation. License includes whelk endorsement (no longer available) and restricted finfish endorsement (sea bass, scup, fluke, tautog, striper, weakfish). Also, have lobster traps available that fish great on the beach. Email me with your name and phone number and I will call you back.

- it's NOT ok to contact this poster with services or other commercial interests

Original URL: <http://providence.craigslist.org/bfs/3489113341.html>

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*this craigslist posting was forwarded to you by someone using our email-a-friend feature - if you want to prevent these, please go to:*

<http://www.craigslist.org/cgi-bin/te/U2FsdGVkX18zMjE5MzMyMZ6yDAdZAQloq4mdurkyveCh9b5Cclmq38ug8pUOxlgFWodP89AMvKKDca6RXdxK7w>

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