

UNITED STATES
DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Region
State, Federal & Constituent Programs Division



COMPLETION REPORT

Grantee: **CAPTAIN KEVIN M. MCCORMICK**

Project No: **94-FIG-015**

Grant No: **NA56FK0093**

Project Title: **NON-EXPLOITIVE ALTERNATIVE EMPLOYMENT OPTIONS FOR
MEDIUM SIZED FISHING VESSELS**

Period Covered: **02/01/95 - 01/31/97**

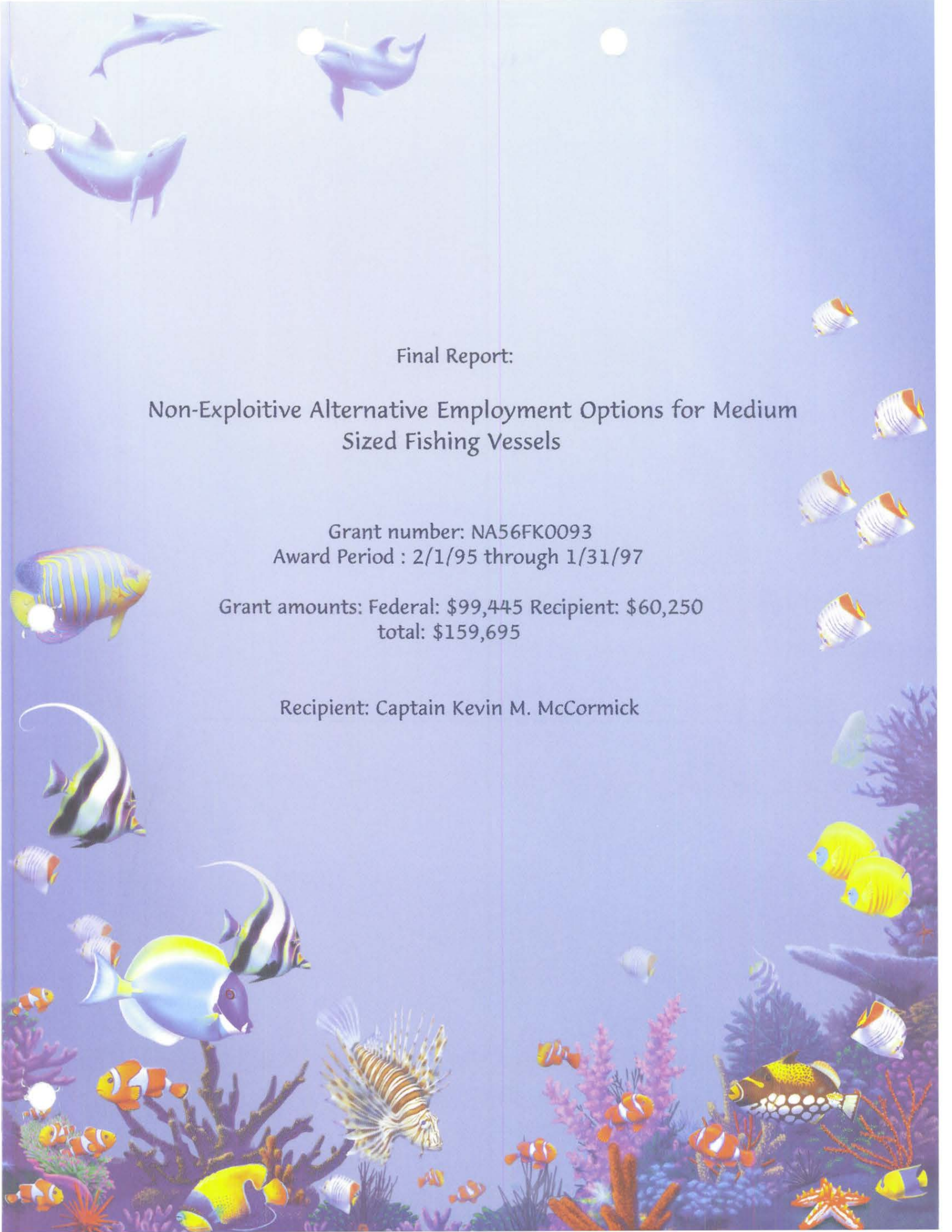
Prepared by: _____

Approved by: _____

Date: **APRIL 28, 1997**

Statutory Funding Authority: Anadromous Fish Conservation Act
(P.L. 89-304)

- Chesapeake Bay Studies
- Endangered Species Act
- Interjurisdictional Fisheries
Act (Title III of P.L. 99-659)
- Magnuson Act
- Oyster Disease Research
- Saltonstall-Kennedy
- ☒ Unallied Industry Projects
- Unallied Science Projects
- ACFCMA



Final Report:

Non-Exploitive Alternative Employment Options for Medium
Sized Fishing Vessels

Grant number: NA56FK0093

Award Period : 2/1/95 through 1/31/97

Grant amounts: Federal: \$99,445 Recipient: \$60,250
total: \$159,695

Recipient: Captain Kevin M. McCormick

Final Report: Project NA56FK0093

"Non-Exploitive Alternative Employment Options for Medium Sized Fishing Vessels"

Executive Summary:

Faced with declining stocks, increasing conservation regulations and diminishing returns on effort and investment, New England's Fishing Industry needs alternative employment for its vessels and crews. This report identifies these problems and through its research, offers non-exploitive employment options for medium sized fishing vessels. Accomplishments, impediments, problems and triumphs will be discussed, as will the methodologies used for investigation and implementation.

Introduction:

This document serves as the final report for project no. NA56FK0093, "Non-Exploitive Employment Options for Medium Sized Fishing Vessels", a project funded under the first round of the Fishing Industry Grants of the Dept. of Commerce and administered by the National Oceanic and Atmospheric Administration through the National Marine Fisheries Service. Originally started in March of 1995 for one year, this project was granted a one year no-cost extension, making the final date of administration January 31 of 1997. Principle Investigator is Capt. Kevin M. McCormick of 68 Wethersfield St., Rowley, Mass 01969. Federal Program Officer is Ms. Joyce Lacerda, NMFS, one Blackburn Drive, Gloucester, Mass. 01930.

Purpose of Project:

a. Description of Problem:

The New England Fishing Industry, and the people who rely on it for their living, are in an overwhelming state of economic depression. Two years ago, this project was conceived as a way for vessels to be employed in alternative arenas while fish stocks rebound. At the time of this writing, the main fisheries of cod, haddock and flounder are undergoing the implementation of Amendment 7 to the Fisheries Management Plan, severely curtailing these fisheries through further landing reductions, quotas and days-at-sea schemes. (Most vessels are limited to 88 days at sea, beginning May 1, 1997). The problem this project was meant to address two years ago has, sadly, gotten worse; alternative employment for vessels and crews, relieving pressure on fish stocks, is imperative now more than ever.

The problem that all primary fish producers face is that they possess certain skills used in conjunction with the ownership and operation of a sophisticated and specialized piece of equipment, namely, a fishing vessel. Vessel owners and crews do not have the resources at hand, (i.e.,

time and venture capital), to effectively implement the diversification needed to market their skills and equipment through changing and very challenging times. Most industries, at some point, undergo a diversification process that eventually is born from economic necessity. As daunting as it may seem, it is now the New England fisherman who is put to the task.

b. Objectives of the project

- 1) To convert a medium sized, (44'), fishing vessel to be able to carry passengers as well as be easily convertible back to its fish producing status, should regulations or stocks allow it." Passengers" can be private individuals or scientists, researchers, students, or anyone who would hire a boat for business or pleasure.
- 2) To determine the needs of potential customers in the general public, or research and industry, and install, retrofit or rig the vessel to accomplish these tasks. This should also be done without compromising the ability to be a fish producer when conditions warrant.
- 3) To determine what business oportunities/employment potential are available to this vessel and apply this knowledge to vessel owners and displaced crews.
- 4) To develop a marketing plan(s) targeting different customers and industries who may have need of the unique services offered by this conversion.
- 5) Finally, operate the vessel in all these capacities, document the results, and present the findings to the fishing industry via as many avenues as possible.

Approach:

a. Work performed in implementing project:

Initially, the project began with two separate activities being implemented simultaneously, 1, vessel conversion and 2, office operations consisting of administration and marketing research.

1. Vessel Conversion:

At the beginning of the project, the vessel was drydocked for retrofit. The wheelhouse was extended aft in such a manner as to accomodate the dry lab area, but in a unique "split" arrangement that left 3 ft. of deck space adjacent to the port rail. The trawl winch was left in its normal

installation, but "fairleads" were added to insure that the house extension did not compromise its use. The net reel/gantry was fashioned in a series of bolt-on pads so that it could be lifted from the stern of the vessel with the gear still in tact. The base for the gantry then was made to accomodate benches for passengers. Rails were fabricated to satisfy the Coast Guard requirements of passenger safety -these too were built so that they could unbolt and be removed from the vessel for fishing. A topmast with observation platform, ("crowsnest"), was fabricated and installed to facilitate birdwatching, and ultimately became a favored tool in our sea kayak whale watch charters. The fo'c'sle was remodeled to create a place where the galley table could also be used as a small desk for researchers working on a particular project. The microwave oven and refrigerator were installed to upgrade the "creature comforts" of the vessel. The boat's color was changed from workboat black and beige to the more public-friendly colors of blue and white. Finally, the name was changed to "Mariah and Megan", after the two daughters of the owner, so that those who knew the boat wouldn't think of it as the same fishing boat.

2. Administration and Marketing:

Office equipment, including computer/printer, copy machine, fax, etc. were purchased and put into immediate use. Many potential customers were contacted either by phone/fax or by one of the direct mailings that were implemented. Advertising was purchased in several major magazines, as well as local newspapers. Our efforts were profiled in various newspaper articles, also creating positive exposure. An assistant was hired to help in the vessel conversion, then to stay on as a deckhand in vessel operations. A mailing list was created and constantly amended through library research, literature search of agencies and institutions conducting coastal research, customers and contacts, newsletters and publications. Two versions of brochures were published to utilize this mailing list, as well as having information on hand for any inquiries. Due to the demand of teachers and academia, a complete teacher's guide linking the classroom to oceanographic programs aboard the boat was produced in conjunction with the University of New Hampshire.

The academic intern program was also instituted, proving to be a success in the two years that the project was in operation. By applying the experience gained in the first year, the second year's intern not only provided a hand on the boat, but also performed his own independent study project, with our help and guidance. Branden Webber, a senior biology

major from Indiana State University, Indiana Pennsylvania, earned a 12 credit "A" for his efforts in the summer of 1996 . It is our hope that the program can expand further and encompass more independent study programs and coastal problem solving.

Operating and marketing the vessel, hand-in-hand, became the major focus of the project once the initial setup and conversion phases were complete.

b. Project Management

Vessel conversion was accomplished by the Principle Investigator, (PI), Capt. Kevin McCormick, working in conjunction with deckhand Robert Foster. The vessel was situated in Capt. McCormick's yard, with his workshop, welding facility and tools in close proximity and in use constantly until complete. Mobile welding gear owned by the PI was used onboard the vessel after launching to fabricate the rails and topmast.

Marketing, recordkeeping, advertising and general office chores were carried out by PI McCormick and his wife, Susan McCormick. The office was, and still is, located in a designated room of their house. Keeping the office at home reduced overhead and made it more accessible since there was always more than one task at hand. Many times, work was performed on, or operating, the vessel during the day and in the home office at night.

Accounting was performed by Grady Financial Service, Low St., Newburyport, Mass., 01950. Jack Grady also was a great help in marketing, since he is also a licensed Captain and grew up in a family owned party boat business, the Clipper Fleet of Salisbury, Mass.

Consultants, (unpaid), were Capt. Fred Littlefield of Salisbury, Mass and Capt. Paul Pelletier, director of Marine operations for UNH. Capt. Littlefield provided practical support and guidance through all phases of the project and even acted as alternate skipper. Capt. Pelletier assisted in the conversion phase and subsequent operation phases. His input was of great value, since he is also Captain of the UNH research vessel, "Gulf Challenger".

Rollie Barnaby of UNH Sea Grant was instrumental in this project from conception to end. Rollie's support and guidance was evident in many cases, even by referring work to us in one of our first paying voyages. Also

at UNH, B. Sharon Meeker of the UNH Docents provided a great service to the project by collaborating on the teacher's guide produced in response to market demand by academia.

Findings:

a. Actual Accomplishments and Findings :

1a. Vessel Conversion:

Vessel conversion was accomplished without any major obstacles. The layout of the boat has proved to perform in all the anticipated endeavors that was envisioned for it. The split wheelhouse arrangement maximized the available deck/house space and made the boat applicable to many arenas, including the ability to convert back to fishing in approximately an hour. The modular arrangement, for example, enabled us to run sea kayak whale watches, (with kayak storage on the long roof), to a funeral party, (spreading ashes over the ocean), to a school ecology class, all in one week, with no configuration changes whatsoever. The extension of the house, (we call it the "lab"), was well recieved and utilized by our customers-the open, weather exposed, deck space of a dragger would have severely curtailed our activities and marketability. A specific part of the conversion process was to obtain Coast Guard certification as a "T" boat, in other words, a Coast Guard "certificated" passenger vessel. A compromise solution was reached and this will be discussed at length in the problems section following.

2a. Marketing Survey:

The initial marketing survey was of an interview basis with various members of academia, private industry and local businesses. Many of the persons contacted expressed a desire to utilize our services, and the general feeling was that the vessel would fill a genuine need within these entities. Academicians felt that a reasonably priced research vessel would enable them to offer their students a practical experience that was formerly not possible. Private industry, in particular the marine construction industry, showed promise as customers for the vessel's capability in support and survey. Environmental concerns such as the Audubon Society were pleased that their "green" concerns would be highlighted by a research/tour vessel. The general feeling of all of these entities was that they had been in need of these services for quite some time and we genuinely would solve this problem. As the project progressed, our marketing directions changed as new avenues were

uncovered. A marketing specialist was consulted in conjunction with the formulation and printing of the second round of brochures.

3a. Vessel in Service:

The vessel was put into service after its retrofitting and found a variety of endeavors to engage in. Much of the research gear installed aboard was a direct result of the contact of potential customers. Many of the people originally surveyed in the preliminary marketing phase were invited to an introductory cruise so that our services could be previewed, and hopefully, hired in the future. Constructive criticism was encouraged from the people onboard and was incorporated into our activities. The fact that the vessel performed its tasks beyond all expectations, even though some needs were not envisioned at retrofit time, led to one of the main accomplishments of the project.

b. Problems Resulting in Unsatisfactory Results:

1b. Vessel Conversion:

The major problem encountered in this area was not one of construction or logistics, but one of bureaucracy. The process of obtaining Coast Guard "certification" of the boat was a long, arduous task that ultimately led to a compromise solution as to the number of passengers that can be carried. A "certificated" vessel is one that is inspected for passenger carriage and contains a myriad of built-in extras required by the Coast Guard. Most certificated vessels are built to these exacting specifications from the keel up, as modifying an existing vessel is, though not impossible, in most cases, (including ours), cost-prohibitive. Certification allows the greatest flexibility in numbers of passengers and carrying situations, i.e. walk-on customers vs. charter customers, but also is the most difficult to obtain. (Our vessel needed to be literally dismantled and rebuilt to Coast Guard specifications to establish certification). Over the two years this project was underway, the Coast Guard was contacted by phone or correspondence at least twenty times. Many documents, schematics and drawings were produced and submitted and four on-board site visits by Coast Guard inspectors were conducted. The dogged persistence to convert this vessel finally led to the following options for passenger carriage:

"Six-Pack": Coast Guard regulations allow that six passengers can be carried on any vessel with a licensed captain as long as it is equipped with the standard complement of safety gear. All fishing vessels are required to have more safety gear than is needed, so this is not a problem.

Six people can be carried as walk-on trade or as a charter trade. Our attempts at cultivating a walk-on trade for six people met with unsatisfactory results and was not considered an economically viable option. A six passenger charter is very common around the waterfront and can be moderately lucrative, but there are two major drawbacks, namely, the six people are paying what amounts to a premium price for them, but a break-even price to you, the operator. Most "six-pack" boats are pleasure boats that exist for the entertainment of the owner and also function as a seasonal business for tax purposes. A charter helps to pay some of the expenses of the boat and provides a day at sea for the owner as well, consequently these people, by and large, do not depend on their vessels for their living and charge accordingly. We met our greatest success under this realm by running multiple environmental trips in one day.

"Bare Boat" Charter, under the Passenger Vessel Safety Act of 1993: This option was where we met our greatest success, as a total of thirteen passengers can be carried, but only on a charter basis. Technically, the act allows for the charter of a vessel with the Captain designated by the charterer and may carry up to twelve people besides the aforementioned "charterer". Though we had to provide a list of recommended captains, (thus the term, "bare-boat"), from which to choose, the owner/operator was always, with no surprise, chosen. Our all-day sea kayak whale watches were run under this option.

In both of the above options the vessel is considered "uninspected" by the Coast Guard and does not come under such rigorous inspection as a certificated, or inspected, vessel.

2b. Marketing

The major problem encountered in this area was one that all fledgling businesses face: generation of a customer base. Compounding the problem was the fact that we literally had to create an industry in which to operate the business. An analogous situation would be that of the whale-watch phenomenon; the first boat to try it wasn't even taken seriously, but when the idea caught on, more boats in different ports led to the birth of a new industry.

Many of the people contacted in the initial marketing survey were surprised to hear we were on line and were open for business. Some cases of missed revenue vs. market potential seem to have been a case of a "bluff" being called. For example, many teachers were eager to try

"expeditionary learning" experiences on the boat, and even pleaded for a classroom guide to tie all of the components together. Once all of these elements were in place, however, they had a hard time parting with the convenient familiarity of a classroom. Though we were successful in some area schools, we did not tap a significant market share of them. (When the amount of students within an hour's drive is contemplated, the market potential is enormous- just ten percent of that could create quite an industry for quite a few boats in varying geographical locations.) We did, however, garner some significant educational business, which by and large gave us some excellent exposure in the newspapers.

Construction industry business didn't quite pan out to expectations, with two major discernible reasons. Firstly, many construction companies are union affiliated and required that our vessel be union to be hired for their research needs. This would be no problem were the revenues there to warrant this, but the second problem, that of competing with disadvantaged business enterprises or women's business enterprises left the construction dollar being awarded to them. The other similar FIG project administered by the Ryther group seemed to be in this forefront and while losing business to them was a disappointment, it was at least nice to know they were fellow FIG grant pioneers.

Advertising is costly and its results are hard to gauge. It seemed that we created more business by word-of-mouth and by being visible to the public, than by the ads that were placed in magazines and trade journals. We seemed to find our niche with local institutions, agencies and businesses that were familiar with us by viewing our operations or reading about us in a newspaper article. We found that high-visibility dock space was better advertising than a high-visibility magazine ad. Our first brochure was improved upon and a marketing consultant designed our second direct mailing, hoping to make our operation appear to have a greater sense of longevity. This did serve to increase revenues. *A blanket statement would be to report that marketing the vessel was the hardest part of the project.*

3b. Vessel in Service:

Operating the vessel was actually the easiest part of the whole project. There were no major problems in this arena, other than learning how to deal with the general public. We found that people looking for environmental tours or education were very well informed and genuinely enjoyed the experience aboard the vessel. School groups of adolescents

were also remarkably well behaved.

Evaluation:

a. Original Project Goals and Objectives and Benefit to the Fishing Industry:

1. Original Goals and Objectives:

The July 8, 1994 Federal register announced the availability of Federal assistance in the form of a Northeast Fishing Industry Grant program. The diversification for vessels and crews developed by this project directly met the published funding priorities, including "benefitting a broad range of fishermen; be a demonstration project; and, develop projects to provide alternative employment or new business opportunities for fishermen affected by the decline of the traditional Northeast fisheries." The spin-off effect of positive environmental awareness and the heightening of the general public's perception of the fishing industry furthers these original goals and objectives:

Original Goals:

- 1) To convert a medium sized (44') vessel from being exclusively a fishing boat to a charter/research/survey vessel and investigate and document the economic opportunities available.
- 2) To use the experience, education and certifications of the Principle Investigator, Captain Kevin McCormick to operate his vessel in a profitable atmosphere that does not exploit fisheries.
- 3) To operate a fishing vessel generating knowledge and data that enhances fisheries.

Original Objectives:

- 1) To convert the vessel from an uninspected six passenger vessel to a "T" boat classification so that the vessel will be able to carry up to twenty passengers.
- 2) Determine and install the research equipment needed onboard the vessel to be effective and profitable as a research/charter/survey vessel.
- 3) Determine what business opportunities are available to a converted fishing vessel.
- 4) Develop a marketing plan and market the vessel in as many different capacities as possible.
- 5) Operate the vessel as a research/charter/survey vessel for ten months,

document the results and present these findings to the industry at large.

2. Quantification, Modification and Attainage of Goals and Objectives: The goals of the project were definitely attained. The conversion of the vessel proved to be a multi-purpose layout which served the needs of the customer base, while never compromising the ability to be a fishing vessel at a moment's notice. The economic opportunities available were investigated and documented. Many of the charters that the boat sailed on weren't conceived at the time of the project proposal's writing, but were discovered and investigated during the project itself. Though we were, from time to time, asked to run fishing charters, we referred these inquiries to fishing operators who, in turn, referred environmental business to us. This preserved the original goal of being "non-exploitive", however, there could be revenues generated here too, were the proper gear, (rods, bait, etc.), installed on the boat for rental. This could also be another sideline for other fishermen.

Goal number three, "to operate a fishing vessel generating knowledge and data that enhances fisheries", was one of the most rewarding areas of the project. Fishermen presently suffer a very low public opinion as the media has painted the fishing industry as a group of self-centered "eco-terrorists". Having our converted fishing vessel represent the industry as a solution to some of the ecological problems facing the coastal zone has been a small help in boosting the industry's image. As our charters have run, invariably the conversation shifts to the depletion of the fisheries, but pointing out that the vessel is/was an active member of the fleet, and its skipper has nearly twenty years of experience brings a new-found respect to the one sided debate.

Our educational charters sail with the express purpose of "generating knowledge and data that enhances fisheries" by virtue of the fact that a healthy coastal zone, (that 75% of the commercial species rely upon), is the focus of the lesson. (Having fun learning about it is all the better). { Please refer to the "Coastal IQ" test in the addendum section. We use these as conversation builders during the return trip of our full-day voyages. The purpose of them is to point out that we, as a society, affect the coastal zone, and in turn, effect the health of the fisheries. People pass the time and have fun with these, but there is an ulterior motive. }

The objectives of the project were also met with a high success rate. Though we had to compromise on the passenger carriage objective, the

number of people we can now take, (13 vs. 20), and the manner in which they can be carried is a perfectly workable solution. The research equipment installed aboard the boat was used more for educational research than for industrial applications, but still proved to be a good compliment of gear for many endeavors.

Many business opportunities were unearthed and investigated, some being better than others, but all led to a greater understanding of the market potential. A market plan was developed and expanded on, including bringing in a marketing consultant who helped design our second brochure and produced our video. Jim Somers, of Sonora Marketing, was originally hired to print brochures, but was so enamored with our project that he gave a wealth of marketing information to us at no cost. He helped to provide a more public oriented approach and create an image of longevity and success.

By and large, our customers who are interested in the environment tend to be well educated, they plan their trips well in advance and are a total opposite of the stereotypical party boat customers featured in so many "horror stories" that party fishing skippers tell. They like the fact that they are part of the learning and research that the vessel stands for.

b. Specific Accomplishments:

1. Products and Services Produced by this Project:

A listing of the charters and jobs performed by us during the project:

Floating Arts Festival- Friday afternoon, 3 hr., art lessons combined with the boat trip. July and August, 1995. 5 trips.

American Underwater Search and Survey- Hydrographic research mapping a 1910 locomotive involved in a train wreck and subsequent sinking, July, 1995

Open Houses-(2)- to showcase the vessel and its services, August, 1995

Isles of Shoals introductory trips-(3)- to build business to this destination, July and August, 1995.

School introductory trips-(2)- Local teacher orientation trips to foster education programs. Sept., 1995.

Audubon Society- 1 introductory trip aboard our vessel, one trip for 35

passengers aboard vessel leased for the day. August and Sept., 1995.

Family Environmental trips-(4)- to assess family needs and to promote business, July, Aug., Sept., 1995.

Gordon College- one introductory plankton study with undergrads. (Lab class), Sept., 1996.

Marine Education Ctr. of Cape Ann- one introductory trip to promote programs. Sept., 1995.

Teacher orientation cruises-(3)- More trips to familiarize area teachers with us. October, 1995.

Middle School oceanography trips-(15)-Newburyport 7th and 8th graders, 3 trips a day for 5 days, performing oceanography in the Merrimack River. Oct., 1995.

Sixth Grade wildlife trips-(3)- Newburyport 6th graders, wildlife observation as an after school activity. Oct., 1995.

Merrimack Valley Watershed Commission, one introductory cruise, Oct., 1995.

Girl Scout Field trips-(2)- Field trips of Girl Scouts, culminating in awarding of "water wonders" merit badges. Oct., 1995.

NMFS site visit and cruise, Oct., 1995.

Gordon College, Benthic sampling lab. One introductory trip utilizing a benthic dredge that we built in our welding and gear shop. November, 1995.

Family environmental trips-(2)- To assess the "seal watch" market and cold weather cruise potential. Nov., 1995.

Video of boat conversion and services produced, December, 1995.

Ipswich Rotary Club- speaking engagement, Dec., 1995.

UNH Marine Docent Program- speaking engagement, Dec., 1995.

Coastal Resource Manual and Teacher's Guide- 200 page manual produced for oceanographic programs aboard the boat. February, 1996. Delivered to 15 area schools and 10 agencies.

Consultant to Mayor of Newburyport, concerning siting of docks for charter and fishing boats. March and April, 1996.

Mass Division of Marine Fisheries- Introductory trip to assess presence of smelt larvae in the Merrimack River. May, 1996.

Triton High School- day trip, marsh and estuary labs. May, 1996.

Salem State College- introductory cruise to assess vessel and services. May, 1996.

Adventure Learning, Inc.- Sea kayak whale watches-(8)- and Isles of Shoals tours-(4)- June, July, August, Sept., 1996.

Pine Grove School, Rowley, Ma.- Day long seminar on coastal ecology and oceanography, held in the school, May, 1996.

Mass Audubon Riverfest- two days, 5 trips per day-coastal ecology trips, June, 1996.

Boy Scouts- Seminar concerning merit badge in oceanography, June, 1996. Boat trips-(2)- in conjunction with seminar, August, 1996.

Birthday Parties-(2)- Oceanographic birthday parties aboard boat for young children. June, 1996.

Walk-on cruises-(5)- Limited success with tourist trade walk-on business, June, July, August, 1996.

Funeral Trip-(1)- Family of deceased and minister, to spread ashes over the ocean, October, 1996.

Middle School, Newburyport. Ten days, 2 trips per day, coastal ecology classes. October, 1996.

Mooring/workboat job-(1)- Moving moorings for end of season in Merrimack River, November, 1996.

Another specific product of our efforts includes the Academic Intern Program, profiled earlier in this report. Also of note was the participation of the Principle Investigator in the Maine Fishermen's Forum, March 1997. NMFS sponsored a seminar on the FIG Grant Program and the PI presented findings to the industry members present.

All introductory cruises were run gratis or for a very minimal fee in an attempt to increase exposure of our vessel and services. As mentioned before, "we not only had to build a business, we had to create an industry in which to operate the business".

Vessel bookings for the 1997 season, our third year, as of February 1st, 1997: 17 days booked with Adventure Learning, 5 school speaking engagements, 2 natural history tours and 2 fireworks cruises. This will be the third year of operation, where most business analysts say the market will be supportive of our presence and will tend to seek us out more. (Approximately \$8,000. in revenue is expected from these charters alone).

2. Relationship/Match of Products and Services:

All products and services generated by this project directly relate to and match the goals and objectives as stated in the initial proposal. The vessel was converted to a multi-purpose operation; market research and experimentation was exhaustively carried out and the vessel was operated with the results documented and presented via speaking engagements, newspaper articles, quarterly reports, etc. All activities dovetailed to

each other in that the alternative employment opportunities uncovered were non-exploitive, and in fact, worked to better the coastal zone environment for all US citizens. Our services produced good will for the fishing industry as well as tangible results of cash flow. Our activities also were carried out with the express purpose of keeping boats and crews employed with no exploitation of the fragile fishing resource. Up to now, the only alternative employment has been to switch fisheries, which ultimately keeps the problem growing.

3. Value of Products and Services:

Establishing a unit cost for an unknown service was a challenging part of the project. Three marketing and/or business books were researched, as were conversations with members of SCORE, (Service Corps of Retired Executives), and our unpaid consultant, Capt. Fred Littlefield. There was a general catch phrase that came out of this research, "charge whatever the market will bear". But, what would the market bear ?

Pricing Strategy:

It was found that the vessel's size, 44', partly established the basis for pricing due to the fact that other boats of this size were the aforementioned "six-pack" boats. In the Newburyport area, these vessels, on average, charge \$350. per day. This figure was low and too nebulous, i.e. how many hours is in "a day" ? It was decided to use a format from other industries and establish a unit cost per hour, based on the equipment's cost. (For example, in the construction industry, a backhoe worth \$48,000. would rent for \$48./hr., which includes the operator. We then began to charge \$48./hr. for the vessel and its operator, making an 8 hour day worth \$384. This was a good place to start, but produced relatively low revenues, especially since, at that time, a deckhand was onboard. With the advent of the intern program, it was found that the paid deckhand could be replaced by an intern who is compensated with free education. This made the bottom line look better, but like all businesses, progress requires constant re-inventing.

This coming year, with the passenger increase and by factoring in our experience and good name that we have built up, we will be basing our 8 hour day on \$484., or \$60.50/hr. In combination with lower overhead via the intern program, it appears that the vessel will now be sailing to profitable waters. Our customers didn't balk at the price increase for this year, so we feel confident that we have built a demand for our unique type of charters, and we now know, "what the market will bear".

Program income for the project amounted to \$5,437. It should be noted once again that many of the voyages noted as "introductory" were not run as moneymakers, but literally, to get people aboard the boat. This investment in time and resources has now created a fledgling industry that other fishermen can take advantage of. As mentioned before, the 1997 season already has \$8,000. of charters booked at the end of February.

{I like to use the "Beatles analogy" in this case- The musical band known as the "Beatles" broke down the door for many bands that came behind them. Someone had to make that hardest initial effort to get established, so that the rest of the musical acts in the same gendre could become successful as well. Once the door was opened, even the music of the Beatles improved by the exchange of new ideas. }

c. Benefits of the Project to the Fishing Industry:

1. Industry Access to Products and Services:

The industry had/has full access to any product, service, concept, idea, publication or notion that was concieved within the bounds of this project. We held two open houses along the Newburyport waterfront which attracted a fair share of curious fishermen as well as the general public. The local industry was constantly made aware of our activities via the news media coverage that we favorably received. UNH Sea Grant was in communication with us on a regular basis and could disseminate any information available at any time. NMFS was in possession of all our quarterly reports, which not only kept them, but the industry as well, abreast of the project's unfolding advancements. Some of our reports were, in fact used by others through this agency. Speaking engagements outlined our project and the PI participated in the Maine Fishermen's forum, as detailed earlier. This final report will also be made available to the fishing industry via UNH Sea Grant.

2. Use of Products and Services by Fishing Industry and Others:

Members of the fishing industry have expressed interest in the program, and some of our personal contacts in other ports indicate they would like to pursue some of the options we have capitalized on. It seems that the option of party fishing may be more realizable to some of these operators since that would make the easiest use of their vessel and expertise. Other parties using our products and services are detailed in the aforementioned section regarding specific products and services. Please

note the diversity of the educational institutions and agencies that made use of our programs.

3. Likely Industry Use of Project Results in the Future:

The likelihood of the industry looking for alternative employment is certainly sure to increase in the future. With many boats held down to 88 days of fishing, these operators will need to diversify their revenue base. Other fisheries, i.e. shrimp, scallops, sea urchins, etc., cannot be charged with holding industry revenues solvent while the groundfish recover, lest they "go down the tubes" also.

It would seem that the next generation of operators who would like to pursue a similar option could pick up the momentum we have created. By the use of this report, our quarterly reports, the teacher's guide and adding to that the wit and wisdom of a fisherman, many should be able to go through the door that we have beaten down. The eco-boat industry is in such a state of infancy that if more boats in different ports join the eco-fleet, they would actually add legitimacy to each other port's operation. Referring back to the whale watch analogy, when one boat in one port tried the idea, it wasn't met with much success, but when whale watch boats sprang up in different ports, the public patronized an industry, not an isolated idea. At this point in time, other boats would not be competitors, but rather, they would be galvanizing the concept in much the same way.

4. Use of Results by Others to Benefit the Fishing Industry:

Other institutions, businesses or agencies using these results will surely benefit the industry. The education institutions will use this as a model for "expeditionary learning", and as demand for outdoor education increases, the vessels need to be there to service this demand. As word catches on that economical research platforms can be obtained, coastal research will benefit the industry in the short term, by hiring vessels, and in the long term by enhancing the coastal zone's health. One of our greatest products is environmental stewardship fostered by the educational programs, which increases awareness of the fragility of the coastal zone, and therefore creates a lasting benefit to fisheries. Good press for fishermen would be a plus in these troubled times as well.

Demonstrable Economic Benefits:

The previous sections have outlined the hard cash aspects of the operation, but any economic analysis must also include the overhead of the

operation. Fishing vessels, in general, are notorious for the amount of overhead they create in their quest to stay productive. We found many ways to cut the overhead of vessel ownership within this project; it is always the bottom line that is the final analysis of productivity.

Crew: The crew needed aboard an eco boat is less than a fishing boat. We found that one intern could handle the chores with no capital outlay, but operators should bear in mind that using their existing crew changes the self-employment status of the crewmembers.

Insurance: The insurance business is one of statistics. Fishing boats are one of the biggest risks in their industry, therefore the premiums are very high. Passenger vessels are, by comparison, relatively safe and the premium outlay reflects this. Our insurance bill was 1/3 of the bill when we were fishing.

Maintenance: Carrying passengers is relatively easy on the wear and tear of the boat. Our maintenance costs were, again, 1/3 of the amount spent when we were fishing.

Fuel: Fuel consumption was about 1/4 of our former occupation of coastal dragger.

Gear: Torn nets, lost doors, gear conflicts resuing in lost gillnets, new main wire, etc. are virtually eliminated for the period the vessel is in its eco-realm.

Other intangible but important benefits include a shorter workday, reducing wear and tear on the body and increasing at-home time, which is definitely at a premium in fishing families. Just the simple act of changing the vessel's routine, much like looking forward to changing fisheries, can be a welcome diversion increasing the quality of life.

e. Actual Need for Government Assistance:

At the time that the original proposal for this project was formulated, the fishing industry was in the intermediate stages of a major reorganization due to the failure of the stocks of fish off our shores. It is now two years later and the situation is worse. The original reasons for government assistance are more pertinent now than ever:

- 1) Fishermen do not have sufficient venture capital to launch a venture of this magnitude.
- 2) The decline of the fisheries has created a decline in equity value of vessels, creating a loss of reserve to borrow against for venture capital.
- 3) The depressed housing market has led to a decline in equity value in homes leaving a shortage of collateral to borrow against.

Conclusions:

a. Conclusions derived from work performed:

- 1) A medium sized fishing vessel can be converted to perform a myriad of tasks without compromising the ability to be a fishing vessel.
- 2) A converted fishing vessel can provide alternative employment, either part-time or full-time, without actually harvesting fish.
- 3) A converted vessel can contribute to the rebuilding of the fisheries by fostering knowledge and research within the coastal zone.
- 4) A converted vessel can attain a workable passenger carrying rating.
- 5) The ground floor of the eco-industry is large enough to accomodate more such vessels in various ports along the coast.
- 6) Were more vessels to engage in similar endeavors, the industry would be an established entity, creating further stability in the marketplace.

b. Project Success:

The project was successful in meeting its goals and objectives with many types of alternative employment opportunities discovered and developed. The products and services are demonstrative and are adaptable to basically any boat in any New England port and the written aspects of the project are easily understood by a cross section of educational backgrounds, ages and abilities. All citizens of the United States can benefit from the increased environmental awareness that the project has fostered. This project offers solutions to present day problems and leaves a legacy for the future.

c. Further Work to be Done:

- 1) Increase the dissemination of information from this project to create more interest within the fishing industry.
- 2) Publicize the products and services of this project to more educational institutions, agencies and businesses to increase market demand.
- 3) Encourage fishermen to believe that they are more adaptable than they think they are. Fishermen are resourceful individuals who can simultaneously withstand frustration and long hours, can fix mechanical failures, can predict and function in terrible weather and can handle just about any other hardship that the world can throw at them. These are marketable traits and should be used as indicators of the employability of displaced crewmen and vessel owners.
- 4) Restore the fishing industry's status to that of a noble profession through any means possible. Hopefully, this will be one of the lasting legacies of not only this project, but the FIG Grant Program as well.

Thank you for enabling me to bring this project to fruition.

A handwritten signature in black ink, appearing to read "Capt. Kevin M. McCormick". The signature is stylized with a large, bold "K" and "M".

Captain Kevin M. McCormick, Principle Investigator
April, 1997

Additional Information

ENCLOSURE (1)
TO
NAVIGATION AND INSPECTION
CIRCULAR NO. 7-94

GUIDANCE ON THE
PASSENGER VESSEL SAFETY ACT
OF 1993 (THE ACT)

Prepared By
Merchant Vessel Inspection and
Documentation Division
U. S. Coast Guard
Washington, D. C.
September 1994

COMPARISON OF OLD LAW TO THE PASSENGER VESSEL SAFETY ACT

CHART: A

VESSELS UNDER 100 GROSS TONS		
VESSEL	OLD LAW	THE ACT
Not more than 6 passengers, <u>1 of whom is for hire</u> whether chartered or not	UPV	UPV
More than 6 passengers, <u>1 of whom is for hire</u> whether chartered or not	SPV	SPV
Chartered <u>with crew provided</u> , Not more than 6 passengers	UPV ¹	UPV
Chartered <u>with crew provided</u> , More than 6 passengers	SPV ¹	SPV
Chartered with NO crew provided, Not more than 12 passengers	REC ²	REC
Chartered with NO crew provided, More than 12 passengers	REC ²	SPV
Submersible vessel, at least 1 passenger for hire	UPV	SPV
Not chartered, carrying any number of passengers, <u>no passengers for hire</u>	REC ³	REC

REC = Recreational Vessel

SPV = Small Passenger Vessel

UPV = Uninspected Passenger Vessel

stances or arrangements warrant such departures as per 46 CFR 175.25. To facilitate future inspections the OCMi should document both equivalencies and special considerations by clearly noting them in a vessel's file and entering them as an inspection note in the Marine Safety Information System.

- C. **Charters** - Whether a vessel is chartered is a key element in the application of various sections of the Act. Many owners refer to their vessel(s) as "charter boats" or operations as "charter operations." Although this is common terminology on the waterfront, for the purposes of the Act a charter is an agreement where the charterer has the use of the vessel and may take on legal obligations, to the vessel owner, the crew, passengers carried, and others. If the purported charter operation is not controlled by a written charter agreement, or if consideration is received for the carriage of individuals on board, the vessel should be considered as carrying "passengers for hire."

The Act references two different types of charters, one with the crew provided or specified by the owner or owner's representative and one with no crew provided or specified by the owner or owner's representative. If the charterer pays the crew, has the option of selecting the crew, and retains the authority to dismiss the crew for cause, the charter may be considered to be one with no crew specified or provided by the owner. Provided the above conditions are met, the owner of the vessel may offer suggestions to, and furnish the crew, and the charter may still be considered as one with no crew specified or provided by the owner. The owner of the vessel may require minimum general levels of proficiency for whatever crew is retained based on federal statute (i.e., licenses, merchant mariner documents, etc.) in the interest of ensuring the vessel is manned by a competent crew, and not be considered as specifying or providing the crew. Valid bareboat charters meeting the conditions identified below may be considered as charters with no crew provided or specified by the owner.

Although, vessels that are bareboat chartered are now subject to inspection for certification if carrying more than twelve passengers, such vessels may still be considered pleasure yachts or recreational vessels for other purposes, i.e., International Convention for the Safety of Life at Sea (SOLAS), load line, vessel documentation, and admeasurement. A valid bareboat charter is one where the incidents of ownership have been transferred to the charterer. When necessary to determine if a valid bareboat charter exists, the OCMi should discuss the vessel's operations with the vessel owner and make a determination if the vessel's charter is a valid bareboat charter. The elements listed below are indicative but not conclusive of a valid bareboat charter

arrangement. Conversely, a valid bareboat charter may exist where one or more of the listed elements is not met. In any particular case, each arrangement must be evaluated on its own merits.

1. The charterer must have the option of selecting the crew. Although a master or crew may be furnished by the owner, full possession and control must be vested in the charterer. This does not preclude the charterer from taking advice from the master and crew regarding hazardous conditions such as, inclement weather, navigational obstructions, etc.
2. The master and crew are paid by the charterer.
3. All food, fuel, and stores are provided by the charterer.
4. All port charges and pilotage fees, if any, are paid by the charterer.
5. Insurance is obtained by the charterer, at least to the extent of covering liability not included in the owner's insurance. A greater indication of full control in the charterer is shown if all insurance is carried by the charterer (of course, the owner retains every right to protect his or her interest in the vessel).
6. The charterer may discharge, for cause, the master or any crew member without referral to the owner.
7. The vessel is to be surveyed upon its delivery and return.

Any provision that tends to show retention of possession or control of the vessel such as the owner of the vessel being aboard during the charter of the vessel contradicts the claim that a valid bareboat charter exists.

- D. Documentation and Admeasurement** - Although the Act amended the definition of passenger for vessel inspection purposes, it has not been construed to affect vessel documentation or admeasurement requirements. U.S. flag vessels operating on a valid bareboat charter, and used solely for recreational purposes, may operate on a Certificate of Documentation endorsed solely for recreational purposes and not require readmeasurement, even if required to be inspected under the Act. Vessels of five net tons or more that carry one passenger for hire, or that are chartered with a crew provided or specified by the owner must be documented with a coastwise endorsement if operated on a coastwise route, or with a registry endorsement if operated on a foreign route or on a "voyage to nowhere." If these vessels are over 24 meters (79 feet) in length they are required to be admeasured under the formal

What's your "Coastal IQ" ?.....

Take the "Coastal IQ" Test, and find out-

- 1) Last year, there was an oil spill equal to sixteen times that of the "Exxon Valdez" disaster. Where did this occur?
 - a. In the Chechnyan province of Hydrocarbonoff.
 - b. At a runaway oil well in the Kuwait desert.
 - c. At storm drains that American do-it-yourself oil changers use for their oil disposal.
- 2) A watershed is..
 - a. One of those blue tarps that boat owners use for the winter.
 - b. The entire land area draining to a particular body of water.
 - c. The first outhouse to have indoor plumbing, patented in 1901.
- 3) Every day in America, how many gallons of water do we use to flush our toilets ?
 - a. 100 million
 - b. 250 thousand
 - c. 6.8 billion
- 4) Phragmites are....
 - a. Limestone deposits that hang from the ceiling of the Artichoke caverns.
 - b. Undesirable plant species that invade a marsh area that suffers from restricted tidal flow.
 - c. Small mites that burrow into roses and petunias.
- 5) The towns of Rowley and Ipswich recently installed "Stormtreat systems". What are these ?
 - a. A sophisticated type of "catch basin" that protects the environment by trapping pollutants from street runoff.
 - b. The new weather website system, located at /// www.rain.com
 - c. A splinter group of Welcome Wagon volunteers who deliver pastries to people in times of stormy weather.
- 6) Why are local shellfish beds closed in times of high rain ?
 - a. Shellfish processors can't afford the extra cost of shucking clams who are now wearing raincoats.

b. Runoff from these rainstorms carry pathogens, ("bacteria"), that the clams eventually ingest, creating a public health concern .

c. The bill to erect a roof over these areas was killed in congressional committee.

7) What percentage of the coastal waters from the New Hampshire border to Boston harbor are open for shellfishing ?

a. 85%

b. 99%

c. 36%

Ready for the answers?

1) C- Americans dump 175 million gallons of oil into storm drains every year. This finds its way to the coastal waters .

2) B- It's not only water that is draining, it's also everything the water carries, including oil from street runoff, sewage and bacteria from man and animals, fertilizers, pesticides, chemicals, etc. The watershed area of the Merrimack river, for example, is 5,000 square miles.

3) C- Think how much water we could save with some very simple measures. Put a couple of bricks or a milk jug full of water in the tank of your toilet to displace some of the area, thus flushing less every time.

4) B- The Parker River Clean Water Association has just finished its Tidal Crossing research project. Simply stated, their findings have shown that when roads are built restricting the flow of tidal water, gradually the marsh located beyond the restriction changes from a salt to freshwater ecosystem . Phragmites are tall plants resembling sticks with "tassles" attached, and are a good indicator of this ecosystem shift.

5) A- Stormtreat is an innovative, technological system that catches and treats polluted runoff water before it enters the watershed. (See questions 2 and 6).

6) B- Fecal Coliform is the bacteria that is the general indicator of pathogen presence. Many animals can contribute to this problem -man, geese, cows, ducks, dogs, cats, etc. Clams, being filter feeders, constantly pump water through their bodies, therefore any pathogens present via watershed runoff is filtered out and concentrated in their stomachs. It usually takes five to ten days to clear themselves to a legally safe level.

7) C- Sadly, only 36% of the available clam beds are open. In 1991, Ipswich alone lost \$500,000 to closed beds. Newburyport , Gloucester, Salem, etc. also have considerable tracts of unproductive acreage, just to

name a few.

Score: 5-7 correct: You're an eco-hero. 2-4 correct: Free trip to the Artichoke caverns, (should they ever be discovered). Less than 2 correct: seek employment at a toxic waste site.

The "Coastal IQ" was written by Capt. Kevin M. McCormick, Rowley representative to the Eight Towns and a Bay Committee.



SITE VISIT, NOAA AWARD NA56FK0093,
"Non-exploitive Alternative Employment Options for Medium-sized Fishing Vessels," Newburyport MA,
10/20/95. *Joyce Lacerda & Bob Klauke*



Capt. Kevin McCormick and the
"MARIAH and MEGAN," Newburyport
MA.



Capt. McCormick at the wheel.



While difficult to see, each piece of equipment is labeled for identification.



Side view of pilot house. The pilot house was lengthened and enclosed.



The back end of the pilot house can be unbolted very quickly, and the vessel can be converted for fishing within an hour's time.



On the inside of the back wall of the pilot house, a sink has been installed. The sink drains into a large pail, so there is no plumbing to disconnect if the back wall is removed for fishing.



A box holds science equipment and other fishing tools used during "eco tours."



A bench holds a microscope for viewing sediment samples. Coffee and soup are available to those on board for cruises which last about three hours.



Bob Klaucke views some copepods through the microscope.

Students are asked to lower the pictured sediment sampler into the water, gather sediment, and pull it back on board for viewing.





Two pictures of the foc's'cle, which features a mahogany interior.



Pictured here are the manuals available to students during eco tours, and which Capt. McCormick has used to structure his tour narrative.



Capt. McCormick and the charter vessel CAPTAIN'S LADY II refer business to one another based on the size of the charters. Docking space used by

"MARIAH and MEGAN" is pictured along with the CAPTAIN'S LADY II.